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VIA E-MAIL & OVERNIGHT DELIVERY

Honorable Mayor Garcia and Council Members
City of Long Beach
333 W. Ocean Boulevard
Long Beach, CA 90802

Re: **Appeal of CEQA Determinations by Board of Harbor Commissioners
re Pier G – Metropolitan Stevedores Operating Agreement and
Oxbow Coal Barn Lease**

We submit this letter brief on behalf of Oxbow Energy Solutions, LLC, regarding Agenda Item 14-0613 on the City Council's agenda for August 19, 2014. On June 9, 2014, the Long Beach Board of Harbor Commissioners unanimously approved a lease with Oxbow of a coal storage barn on Pier G, as well as an operating agreement between the Port and Metropolitan Stevedore Company for multiple facilities on Pier G. The Commission determined that the California Environmental Quality Act (CEQA) did not require preparation of an environmental impact report (EIR) prior to approving the lease and operating agreement. The Commission concluded that there had been prior environmental review of the facilities and activities, and that the new approvals were categorically exempt from CEQA. The CEQA aspects of the Commission's decisions have been appealed to Council. We respectfully request that you deny the appeal and uphold the decision of the Commission, because it is the correct outcome under CEQA.

Oxbow is an interested party in this appeal because the Harbor Commission's actions include approval of a lease between Oxbow and the Port for 5.9 acres, including an existing coal barn, associated conveyor and other equipment. The existing barn and other equipment are currently being used for the very purposes envisioned under the new lease. The Oxbow coal barn lease and Metro operating agreement authorize continued operation of existing equipment and facilities by the people who have been operating them for years. As discussed in greater detail below, the Commission correctly concluded that its approvals of these documents did not require environmental review.

This brief is accompanied by a declaration from Digran Khalili of Oxbow Energy Solutions, and a CD containing the Oxbow Exhibits cited herein.

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I. THE HARBOR COMMISSION'S APPROVALS SIMPLY ALLOW LONGSTANDING OPERATIONS TO CONTINUE

The coal exports that pass through Pier G are an important activity at the Port of Long Beach. Oxbow and Metro are both longstanding tenants. Coal and other dry bulk materials handled at Pier G account for substantial revenues to the Port, and contribute to cargo diversity that enhances the stability of Port economics. The approval of the Oxbow coal barn lease and the Metro operating agreement will not change the equipment, the products, the activities or the people operating equipment on Pier G. The agreements simply extend the parties' existing relationships with the Port on new commercial terms.

A. Background on Pier G and the Coal Barn

Metro has provided general stevedoring operations in the Port of Long Beach for 75 years. Metro commenced operations on Pier G in 1961, handling a variety of bulk products including coal, petroleum coke, soda ash and potash. By 1981, the combined throughput of these products was over 5 million metric tons per year, including approximately 2 million metric tons of coal, 3 million metric tons of petroleum coke. In 1981, the Port approved extensive modifications at Pier G to support an increase in coal export volumes to 5 million metric tons per year, without reducing the export volumes of petroleum coke and other products.

Prior to the mid-1990s, the bulk of the coal shipped through Pier G was loaded directly from trains to ships at berth. This system presented logistical challenges, as the capacity of a single ship exceeded the capacity of a single unit train. There are substantial costs associated with having a ship idle at berth; therefore, to load the ship as quickly as possible upon arrival at berth, trains would be scheduled to arrive in quick succession. Often, one train would be unloading into the ship while another train queued with its engines idling on a siding in a nearby residential neighborhood while it waited its turn.

Construction of a "coal storage shed" was completed in 1994, and on March 20, 1995, the Board of Harbor Commissions approved the final acceptance of the structure and related equipment. (The historical documents variously refer to the coal storage shed as the coal barn or the Metro Shed; it will be referred to here as the "coal barn".) The coal barn is an enclosed structure designed for the temporary storage of coal and other dry bulk products. With the new, on-dock storage, the coal trains could arrive and unload with regularity, independent of the ship arrival schedule, and the ship could be loaded from the material accumulated in the coal barn. Trains no longer backed up on sidings waiting to unload.

The coal barn was initially constructed for operation by Metro. One-half of the coal barn was subleased to TOSCO in 2000, and the other half was subleased to Applied

Industrial Materials Corporation (AIMCOR) in 2001. Both subleases were subject to approval by the Port and subsequently reflected in the Second Amended and Restated Preferential Assignment Agreement between Metro and the Port dated November 1, 2002 and subsequent revisions thereto. Oxbow acquired AIMCOR on December 3, 2003, and thereby assumed AIMCOR's rights and responsibilities under the sublease.

Oxbow currently receives coal via rail deliveries from mines in Colorado and Utah. The coal is off-loaded using fully enclosed rotary rail car dumpers that dump the coal into hoppers, from which conveyors move the coal into the coal barn for temporary stockpiling. When a ship arrives at berth, the coal is removed from the barn using reclaimers, and moved by conveyor to the ship's holds. Train unloading and ship loading can be conducted independent of one another, including simultaneously or at different times. The facility operates seven days per week. Trains and ships may arrive any day of the week. It typically takes half a day to unload a unit train, and it typically takes two and a half days to load a ship.

The unloaders, conveyors and loading equipment are subject to the strict air emission control requirements of the South Coast Air Quality Management District rules and regulations. (*See* Oxbow Ex. 1, SCAQMD Rules 403 and 1158.)¹ Emission control equipment and strategies include operating water sprays at the rail car dumpers, keeping the coal moist when handling, and enclosing the conveyor transfer points. The coal barn itself was constructed in large part to allow stockpiling of coal between ship arrivals, without the risk of excessive dust that could be generated by open storage piles.

Oxbow also supports the Port of Long Beach efforts to reduce air emissions associated with Port activities. In May of this year, the Port recognized Oxbow's commitment by awarding it the Green Ship award. This program was created in 2012 to encourage vessel operators to assign the cleanest, lowest-emission ships to Long Beach. (Oxbow Ex. 2.)

Currently, the coal that passes through the coal barn is destined for Japan and Mexico. Oxbow Exhibit 3 includes the Electronic Export Information that Oxbow was required to file with the United States Department of Homeland Security, Customs and Border Protection, documenting coal exports for 2014 year-to-date.

¹ The Oxbow exhibits are included in the CD filed with this letter brief. We expect that electronic exhibits will be most convenient for the Council and the parties. However, Oxbow is fully prepared to provide paper copies of any or all exhibits, in the event the Council prefers.

B. The Oxbow Lease²

The Project at issue in this appeal includes a lease between Oxbow and the Port of Long Beach for the use of a 5.9 acre land pad occupied by the coal barn.³ The Oxbow Lease also includes associated conveyors and other equipment. The Oxbow Lease is directly between the Port and Oxbow and will replace the existing relationship whereby Metro has been leasing the coal barn from the Port, and subleasing to Oxbow. The new Oxbow Lease is for a term of 15 years.

Under Paragraph 5 of the Lease, Oxbow must pay two forms of rent to the Port. Paragraph 5 states:

Lessee shall pay to City, as rental for the use of the Premises ... (i) monthly rent for land and improvements; plus (ii) one hundred percent (100%) of all charges set forth in City's Port of Long Beach Tariff No. 4.⁴

The base monthly land rent is \$484,458.00 per month, or \$5,813,496.00 per year.⁵ Under Port Tariff No. 004, two separate charges apply to Oxbow: (1) a wharfage fee; and (2) a shiploader fee.⁶ Both wharfage and shiploader fees are calculated on a per-metric-ton-basis. For coal, the wharfage fee is \$1.20 per metric ton of coal passed through the Port facilities. (Oxbow Ex. 4, Item 306.)⁷ The shiploader fee is \$0.45 cents per metric ton. (Oxbow Ex. 4, Item 515.) Accordingly, the charge to the lessee under Tariff No. 4—in addition to the fixed rent for the real property—is \$1.65 per metric ton of coal moved through the Pier G facilities.

Paragraph 5 of the Lease also states that “Lessee guarantees, during the first five-year segment of the Lease, that it will ship from the Premises, the following quantities of coal per lease year (‘Guaranteed Minimum Annual Throughput’)” of 1.7 million metric tons of coal per year.⁸ The GMAT is a purely economic term that places no penalty on

² As noted above, this letter brief will focus on the lease of the coal barn to Oxbow. The Metro operating agreement is described in detail in the materials submitted by the Port and Metro.

³ The Oxbow Lease approved by the Board of Harbor Commissioners on June 9, 2014 is Attachment 5 to the August 19, 2014 Port of Long Beach Report to the City Council (“Port Report”).

⁴ The rent terms are “subject to the provisions of subparagraph 5.1 and paragraph 7”, which are annual adjustment factors not at issue here. (Oxbow Lease, Port Report Att. 5, at ¶ 5.)

⁵ *Id.*

⁶ *Id.*

⁷ Relevant excerpts from Tariff No. 4 are included as Oxbow Ex. 4.

⁸ Oxbow Lease, Port Report Att. 5, at ¶ 5.

shipping an amount of coal less than the GMAT through the coal barn. Read in the context of the whole of the Lease, it is simply a second mechanism for setting minimum rent and guaranteeing the Port a reliable and certain return on its investment. It does not require Oxbow to actually ship the minimum volume—it only guarantees payment of a certain amount of fees for certain Port services. These include minimum payment for “wharfage”, which is a standard usage fee charged by a port for use of a wharf or pier, and payment for use of the Port’s “shiploader” equipment, which is used to load dry bulk materials onto ships. If the Lessee ships less than the GMAT of 1.7 million metric tons a year, it must make a “GMAT Payment” to the Port, which is defined in the Lease as follows:

If Lessee has not, by the end of a given lease year, shipped quantities of coal from the Premises at least equal to the applicable Guaranteed Minimum Annual Throughput for the lease year, *Lessee shall pay to City, within thirty (30) days after the end of said lease year, a sum calculated by multiplying the difference in quantity between the applicable Guaranteed Minimum Annual Throughput and the actual quantity shipped for that lease year times the then-current applicable wharfage and shiploader charges established in Tariff No. 4, which sum would have been paid to City had such quantity of coal been shipped from the Premises during said year (“GMAT Payment”).*⁹

In other words, if the Lessee ships less than 1.7 million metric tons of coal through the coal barn in any given year, it will have to pay the City an amount equal to the wharfage and shiploader fees for the amount of coal constituting the difference between 1.7 million metric tons and whatever amount was actually shipped. The Lease calls the guaranteed payments “rent,” and once the formula is followed to calculate the minimum guaranteed sum of wharfage and shiploader fees, the GMAT has the same effect on the company’s decision-making as the portion of the rent term that specifies monthly payments of \$484,458. Money is fungible, so it doesn’t matter to the lessee which category a dollar is in, except that the \$484,458 is paid monthly, the wharfage and shiploader fees are paid per vessel loaded (per Tariff 4 Item 708(b)), and the GMAT Payment is made annually, if required.

To illustrate the GMAT Payment, we present two different scenarios. First, we assume that, one year, Oxbow ships 1.5 million metric tons of coal through the coal barn, i.e., 200,000 metric tons less than the GMAT:

⁹ Oxbow Lease, Port Report Att. 5, at ¶ 5 (emphasis added).

Scenario 1: Annual Throughput of 1.5 Million Metric Tons of Coal	
Base Rent:	\$5,813,496.00
Wharfage and Shiploader Charges (Wharfage and Shiploader fee of \$1.65 per metric ton of coal x 1.5 million metric tons)	\$ 2,475,000.00
GMAT Payment (Wharfage and Shiploader fee of \$1.65 x [1.7-1.5 million metric tons])	\$330,000.00
TOTAL RENT PAYMENT TO CITY:	\$8,618,496.00

Next, we assume a scenario in which Oxbow will ship exactly the GMAT amount of 1.7 million metric tons of coal through the coal barn in a year:

Scenario 2: Annual Throughput of 1.7 Million Metric Tons of Coal	
Base Rent:	\$5,813,496.00
Wharfage and Shiploader Charges (Wharfage and Shiploader fee of \$1.65 per metric ton of coal x 1.7 million metric tons)	\$ 2,805,000.00
GMAT Payment:	\$0.00
TOTAL RENT PAYMENT TO CITY:	\$8,618,496.00

Under both scenarios, Oxbow pays the identical total rent to the City. This outcome holds true across any amount of coal that gets shipped through the coal barn under the GMAT. The total sum that the Port can count on being paid for wharfage and the shiploader is the same regardless whether Oxbow ships 1.7 million metric tons or any amount less. There is no penalty for shipping less than the throughput specified in the GMAT formula. There is no enhanced per ton fee that must be paid on the shortfall. And a shortfall does not entitle the Port to unilaterally terminate the lease for cause. In short, there is only a guaranteed payment of money regardless of quantity shipped.

The lease is for a structure initially built to handle coal, and the lease terms reflect this. Only coal and petroleum coke may be shipped through the barn during the initial five years of the lease term, and the petroleum coke throughput during this period is restricted to no more than 100,000 tons per year.¹⁰ Thereafter, the lease allows the

¹⁰ *Id.* at ¶ 4.

Executive Director of the Port to lift the volume restriction on petroleum coke and the exclusion of other products.¹¹ However, the volumes of petroleum coke (if any) moved through the coal barn do not count toward the GMAT throughput.¹²

II. THE BOARD OF HARBOR COMMISSIONERS COMPLIED WITH CEQA IN APPROVING THE LEASE AND OPERATING AGREEMENT

The Board of Harbor Commissioners determined that the Oxbow coal barn lease and the Metro operating agreement were exempt from CEQA based on two categorical exemptions set forth in the CEQA Guidelines. In addition, the Commission found that CEQA review had previously been completed for the coal barn, and so CEQA precluded requiring a subsequent or supplemental EIR for the Oxbow lease. These decisions were properly substantiated at the time with facts and legal analysis. Subsequently, the Port staff located additional prior CEQA documents applicable to additional areas and equipment on Pier G. For purposes of this letter brief, Oxbow is focused on the coal barn which is the subject of the Oxbow Lease. Oxbow concurs in the reports, letters and briefs submitted by the City Attorney and the brief submitted by Metro. To avoid unnecessary repetition, we will not go into detail here on matters unique to the Metro operating agreement and the maintenance items required in that agreement.

A. CEQA Does Not Require an EIR for Leasing the Coal Barn to Oxbow Because CEQA Review Was Already Completed for the Barn Prior to Its Construction

1. Public Resources Code Section 21166

Public Resources Code Section 21166 provides that, once an agency approves a negative declaration or certifies an EIR for a project, no subsequent EIR is thereafter required unless there are substantial changes in the project, substantial changes in the circumstances surrounding the project, or there is new information regarding significant environmental impacts. CEQA Guidelines Section 15162 sets forth in detail the standards for applying Public Resources Code Section 21166. (*Benton v. Bd. of Supervisors*, 226 Cal.App.3d 1467, 1479 (1991).) Guidelines Section 15162(a) provides:

When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

¹¹ *Id.* at ¶ 4.

¹² *Id.* at ¶ 5.

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

(14 CCR § 15162.)

When determining whether subsequent CEQA review is required, the proper scope of analysis is only the “incremental” additional impact created by the new project or modifications; cumulative effects and impacts created by the original project do not need to be analyzed. (*Temecula Band of Luiseno Indians v. Rancho California Water District*, 43 Cal.App.4th 425, 429 (1996).) “[S]ection 21166 comes into play precisely because in-depth review has already occurred, the time for challenging the sufficiency of the original ... negative declaration ... has long since expired, and the question is

whether circumstances have changed enough to justify repeating a substantial portion of the process.” (*Citizens For a Megaplex-Free Alameda v. City of Alameda*, 149 Cal.App.4th 91, 103 (2007) (internal cites and quotations omitted).)

The coal barn was previously reviewed in a Negative Declaration prepared by the Port under CEQA. The Harbor Commission concluded that no additional environmental review in the form of a subsequent EIR is required for the Project because none of the triggering events set forth in Public Resources Code Section 21166 have occurred.¹³ This conclusion is correct, as further described below.

2. **Pier G Has Been Reviewed in Multiple Prior CEQA Reviews, Including a 1992 Negative Declaration for the Coal Barn**

As noted above, coal has been handled at Pier G for more than three decades. By 1982, coal throughput at Pier G was approximately 2.1 million metric tons per year. This volume was documented in a 1982 negative declaration prepared by the Port for a proposed project to upgrade and expand the Pier G facilities.¹⁴ The Project Description for the 1982 EIR stated the “Port of Long Beach proposes to increase coal handling capabilities at its bulkloading facility on Pier G ... to 5.1 million metric tons (mmt/y) over the existing 2.1 mmt/y.”¹⁵ The purpose of the project was explained as follows:

Now and in future years, the demand for coal is expected to steadily increase. There is great demand in Pacific Rim countries for steam coal as an alternative fuel source to oil... In order to satisfy the near term demand for coal in the Pacific Rim, the Port of Long Beach plans to expand its short-term export capacity at its existing terminal on Pier G. With some modifications, this dry bulk facility will have the capacity to export 5 mmt/y of coal by 1983 in addition to the existing level of coke and white bulk exports.¹⁶

The throughput increase was accomplished through various facility upgrades, including a second shiploader, conveyors connecting the storage areas to the car dumps and the shiploader to increase reclaiming flexibility, re-routing streets to eliminate grade

¹³ Port of Long Beach Harbor Commissioners Agenda Packet, May 27, 2014, “Alternative Findings Relating to the Pier G Coal Shed” (“Harbor Commission Staff Report”), Port Report Ex. 6, at pp. 2-3.)

¹⁴ 1982 Negative Declaration, Port Report Ex. 9, (“Pier G—Permits, CEQA & Coastal Determinations.”)

¹⁵ *Id.* at p. 1, Port Report Att. 9 (“Pier G—Permits, CEQA & Coastal Determinations.”)

¹⁶ *Id.* at p. 2, Port Report Att. 9 (“Pier G—Permits, CEQA & Coastal Determinations.”)

crossings, and dredging to increase allowable ship draft.¹⁷ No enclosed storage was constructed as part of this project.

The coal barn was proposed in 1992 to address the logistical challenges of matching ship arrivals to train arrivals, and to comply with SCAQMD Rule 1158. On November 23, 1992, the Port adopted a negative declaration for the “Dry Bulk Handling Improvements Project” (“1992 Negative Declaration”).¹⁸ It states: “The Port of Long Beach is proposing to build a coal storage shed on a five-acre site at the junction of Pier A and Pier G... The shed would have a capacity of 150,000 metric tons and would be used by the Metropolitan Stevedore Company (Metro).”¹⁹ The project offered substantial benefits regarding efficiency as well as reduction in some environmental effects of the then-current operations:

The proposed project would increase the efficiency of bulk material handling and would also greatly increase the efficiency of train movements in the Port area. The project would also eliminate the necessity of storing loaded rail cars on sidings in the Long Beach area. The 150,000 ton storage capacity of the shed would enable a ship to be loaded entirely from material on site rather than, as at present, waiting for additional closely spaced train deliveries. Loading ships entirely from on-site storage will permit regular scheduling of trains and will reduce costs and air emission associated with ship standby times.²⁰

The Port conducted a CEQA Initial Study that concluded that the Project would have no significant environmental impacts, though it did have the potential to cause minor, temporary, adverse impacts during construction.²¹

The Initial Study examined the project’s impacts on 15 different categories of impacts: **(1) atmospheric resources** (project would reduce fugitive emissions and ship loading materials would be electric powered with no emissions, and emissions from construction vehicles would be temporary) (*id.* at pp. 4-6); **(2) water quality** (drainage would be contained and treated by existing system, no discharges to the harbor, minor impacts to water absorption and drainage due to paving over unpaved land, no impact to groundwater or water quality) (*id.* at p. 6); **(3) earth resources** (no change to earth

¹⁷ *Id.* at p. 1, Port Report Att. 9 (“Pier G—Permits, CEQA & Coastal Determinations.”)

¹⁸ 1992 Negative Declaration, Port Report Att. 6.

¹⁹ *Id.* at p. 1, Port Report Att. 6.

²⁰ *Id.* at p. 1, Port Report Att. 6.

²¹ *Id.* at p. 4, Port Report Att. 6.

conditions or geologic substructures, disruptions to soil not significant, no change to unique geologic or physical features, beneficial impact on soil erosion, no impact on beaches, no expose of people to hazards) (*id.* at pp. 6-7); **(4) vegetation and animal life** (no potential for adverse impacts to terrestrial or aquatic biota) (*id.* at p. 7); **(5) Noise** (temporary impact during construction that would reduce to ambient once the project is operational) (*id.* at p. 7); **(6) visual quality** (in the industrialized setting of the Port, the shed and shiploader were not expected to have a significant adverse visual impact) (*id.* at pp. 7-8); **(7) cultural resources/ recreation** (project could not affect any buildings or structures that could be considered significant cultural or archaeological resources) (*id.* at p. 8.); **(8) land use** (proposed use consistent with the Port Master Plan and City zoning requirements) (*id.* at p. 8); **(9) transportation** (project will have beneficial impact on train trips) (*id.* at p. 8); **(10) utility systems** (project included relocation of water line, does not involve substantial alterations of or demands on utility systems) (*id.* at p. 9); **(11) Public Services** (no impact) (*id.* at p. 9); **(12) risk management** (project conforms to Port Risk Management Plan) (*id.* at p. 9); **(13) economic considerations** (no impact) (*id.* at p. 9); **(14) energy** (no impact) (*id.* at p. 9); **(15) social considerations** (no impact).²²

Neither the 1982 Negative Declaration for expansion of coal handling capacity nor the 1992 Negative Declaration for construction of the coal barn was challenged. The statute of limitations for challenging these CEQA documents expired long ago. (Pub. Res. Code § 21167.) Appellants may no longer challenge the contents of these documents or raise matters that could have been addressed at those points in time.

3. There Have Been No Changes in The Project or Surrounding Circumstances that Would Trigger the Requirement to Prepare a Subsequent or Supplemental EIR

a. The Coal Barn Operates Consistent with the 1992 Negative Declaration

Since subleasing, Oxbow has had first-hand knowledge of the operations of the coal barn. These operations are consistent with the description in the 1992 Negative Declaration. As anticipated in 1992, the storage capacity of the coal barn allows train deliveries to be spread out and regular rather than concentrated during the time a ship is at berth. There is no need for trains to idle on sidings outside the Port waiting to load directly into a waiting ship. Train arrivals have been consistent with the description in the 1992 Negative Declaration. (Oxbow Ex. 5.) Also, the total amount of coal shipped

²² *Id.*, Port Report Att. 6.

through Pier G in recent years has not exceeded the 5 million metric tons per year estimated in the 1982 Negative Declaration.²³

b. The GMAT Is Not a New Term Causing Significant Impacts

Appellants make much of the GMAT term of the Oxbow Lease—arguing that it creates new environmental impacts by requiring a certain minimum amount of coal to be shipped through the coal barn where no such limitation existed before. (*See, e.g.*, Appeal, pp. 2-4.) Appellants misunderstand or misrepresent the history, meaning, and function of the GMAT.

The GMAT is not a new term. Similar terms, with higher minimum guarantees, were included in prior Pier G agreements between Metro and the Port. Previously, there has been no direct lease between the Port and Oxbow for the coal barn, and the coal barn throughput was attributed to the collective Pier G GMAT in the Port/Metro agreements. Even so, the quantities specified in the collective GMAT applied to coal handled through the coal barn.

The 1992 agreement between Metro and the Port, entitled the Amended and Restated Preferential Assignment Agreement (“1992 PAA”),²⁴ included the following requirement for “Tonnage Guarantee and Compensation Renegotiations”:

The parties agree that the minimum tonnage of dry bulk commodities to be shipped through the premises and bulkloading facility during the five (5) year portion of the term commencing April 1, 1991 and ending March 31, 1996 shall be fifteen million (15,000,000 metric tons (*‘Guaranteed Minimum Tonnage’*)) . . . 7.1. The Guaranteed Minimum Tonnage shall be subject to adjustments upon completion of the [coal barn]”²⁵

Thus, prior to the construction of the coal barn, the GMAT for dry bulk commodities such as coal for the Pier G facility was an average of 3 million metric tons per year for each year from 1991-1996, with a provision that the term would be renegotiated when the coal barn was constructed. In 1992, the Port completed the Negative Declaration and approved construction of the coal barn. Construction was completed in 1994. Accordingly, in 1995, the Port and Metro renegotiated the GMAT

²³ See Port Report, at p. 5.

²⁴ The Amended and Restated Preferential Assignment Agreement (“1992 PAA”), Port Report Att. 9 (Metro’s PAA & Related Documents.)

²⁵ 1992 PAA, at p. 13, ¶ 7, Port Report Att. 9 (Metro’s PAA & Related Documents) (emphasis added.)

per paragraph 7.1 of the 1992 PAA, to account for the addition of the coal barn. The 1995 renegotiation cover letter stated the following:

Under the terms of Paragraph 7 of the amended and restated Preferential Assignment Agreement HD-5000 as amended, the guaranteed minimum tonnage will be increased from the current 15,000,000 metric tons to 17,476,000 metric tons for the period April 1, 1991 through March 31, 1996.²⁶

The cover letter attached a computation indicating that the five year GMAT throughput value for the coal barn was 12,380,000 tons, or an average of 2,476,000 metric tons per year. Thus, the original assumption underlying the 1992 Negative Declaration was that the coal barn project would increase the GMAT by an average of 2.476 million metric tons per year, well in excess of the 1.7 million metric ton GMAT now included in the Oxbow Lease.

The 2002 agreement between Metro and the Port for Pier G, entitled Second Amended and Restated Preferential Assignment Agreement (“2002 PAA”)²⁷ states the following regarding GMAT:

The parties agree that the minimum tariff charges to be paid by [Metro] pursuant to the provisions of paragraphs 5, 6, and 7 during the (5) year portion of the term commencing April 1, 2001 and ending March 31, 2006 shall be the dollar-value equivalent of twenty-two million two hundred fifty thousand (22,250,000) metric tons (‘Guaranteed Minimum Tonnage’).²⁸

Thus, for the 5 year period between 2001 and 2006, the GMAT for Pier G was set at an average of 4.45 million metric tons per year. This, again, is significantly higher than the 1.7 million metric ton GMAT provided for in the Oxbow Lease. The 4.45 million metric ton per year average GMAT was continued through the 2006 First Amendment to Second Amended and Restated Preferential Assignment Agreement,²⁹ and

²⁶ April 12, 1995 Letter from S.R. Dilenbeck to Albert J. Garnier, Port Report Att. 9 (Metro’s PAA & Related Documents.)

²⁷ Second Amended and Restated Preferential Assignment Agreement (“2002 PAA”), Port Report Att. 9 (Metro’s PAA & Related Documents.)

²⁸ 2002 PAA, at p. 18, ¶ 8, Port Report Att. 9 (Metro’s PAA & Related Documents.)

²⁹ First Amendment to Second Amended and Restated Preferential Assignment Agreement, at pp. 2-3, ¶ 8, Port Report Att. 9 (Metro’s PAA & Related Documents.)

the 2008 Second Amendment to Second Amended and Restated Preferential Assignment Agreement (“2008 PAA” at pp. 2-3).³⁰

The Appellants are simply wrong when they assert that the GMAT provision of the Oxbow Lease creates a new and different requirement on the Pier G facilities, including the coal barn. GMAT was included in the agreements for Pier G even before the coal barn was constructed. Indeed, the additional GMAT initially attributed to the coal barn alone was an average of 2.476 million metric tons per year. The GMAT of 1.7 million metric tons per year in the Oxbow Lease is substantially less than the GMAT that has historically applied to the Metro Pier G facilities, and less than the amount by which the GMAT was adjusted in 1995 when the coal barn was completed. Accordingly, there has been no change to the 1992 coal barn project that would require preparation of a supplemental or subsequent EIR at this time.

Even if the GMAT were a new term or was calculated using a higher throughput, the \$1.65 per ton GMAT Payment is too small in comparison to the price of coal to cause Oxbow to ship coal through the Port of Long Beach that would not otherwise be shipped.

The coal handling and export facilities at Pier G are part of a much larger export market. According to the United States Energy Information Administration (EIA), in 2012, the United States exported 125.7 million short tons³¹ of coal to other countries. In 2013, the United States exported 117.7 million short tons of coal. The projected volumes of coal exports for 2014 and 2015 are 98.7 million and 94.8 million short tons, respectively.³² The U.S. exported coal to roughly 74 countries in 2013. The EIA tracks coal prices as well as volumes shipped to different international markets. The top destination countries and approximate volumes are summarized following table.³³

2013 U.S. COAL EXPORTS TO THE TOP 20 DESTINATION COUNTRIES		
Country	Volume (Approx. Short Tons)	\$/Short Ton
United Kingdom	13,500,000	\$80.91
The Netherlands	12,700,000	\$85.27
Brazil	8,600,000	\$115.44

³⁰ Second Amendment to Second Amended and Restated Preferential Assignment Agreement, pp. 2-3, Port Report Att. 9 (Metro’s PAA & Related Documents.)

³¹ A short ton is 907.2 kilograms—92.8 kilograms short of a metric ton.

³² Oxbow Ex. 6 (<http://www.eia.gov/forecasts/steo/report/coal.cfm>).

³³ See *id.*

2013 U.S. COAL EXPORTS TO THE TOP 20 DESTINATION COUNTRIES		
Country	Volume (Approx. Short Tons)	\$/Short Ton
South Korea	8,400,000	\$72.73
China	8,200,000	\$110.18
Canada	7,100,000	\$75.29
Italy	6,500,000	\$100.87
Mexico	5,600,000	\$78.34
Germany	5,400,000	\$92.18
Japan	5,300,000	\$107.85
Turkey	4,900,000	\$112.90
France	4,100,000	\$102.20
India	3,900,000	\$101.96
Morocco	3,000,000	\$84.81
Ukraine	2,800,000	\$138.38
Chile	2,600,000	\$68.65
Belgium	2,000,000	\$104.19
Spain	1,500,000	\$125.90
Switzerland	1,400,000	\$52.33
Croatia	1,000,000	\$122.52

The EIA data shows that in 2013 the price of coal ranged from \$52.33 to \$138.38 per metric ton, depending upon a number of factors including the type of coal, the exporting port and the importing country. Only a tiny portion of this market fell below \$75 per metric ton, and the large majority was between \$80 and \$110. It is not reasonable to expect that a company would unnecessarily ship product of this value in order to avoid a fee of \$1.65 per metric ton minimum guaranteed wharfage plus shiploader fees.

c. The “Executive Officer Discretion” Lease Provision Does Not Create a New or Greater Environmental Impact Requiring CEQA Review

Appellants also argue that additional CEQA review is required because it is reasonably foreseeable that coal throughput at the Port could actually be far greater than 1.7 million metric tons per year. Their concern appears to be based on the flawed premise that the Oxbow Lease vests the Executive Director of the Long Beach Harbor Department (the “Executive Director”) with “unfettered discretion” to *require* additional coal to be shipped through the Port, such that Oxbow would be mandated to ship

potentially voluminous amounts of additional coal through the coal barn. (Appeal, at pp. 4, 6, Appellants' June 9, 2014 letter at p. 6.) However, this argument is based on a fundamental misreading of the Lease, in several material ways.

First, the Oxbow Lease does not allow the Executive Director to "require" anything to be shipped through the Port at all, let alone a certain amount of material. Lease paragraph 4 does vest some discretion in the Executive Director, but only to *allow*, starting in year six, the shipment through the Port of a different mix of commodities that are initially capped or excluded in years one through five:

"Lessee is authorized to use the Premises for the operation of a handling and storage facility for coal. The City further agrees that the Premises may also be used for the operation of a handling and storage facility for petroleum coke but only to the extent that the *throughput for petroleum coke through the Premises shall be limited to 100,000 tons per year*. For the first five years of the Lease, the Premises shall not be used for any other purposes and the limitation on petroleum coke throughput shall not be modified. For years six through fifteen of this Lease, the Premises shall not be used for any other purposes without the prior consent of the Executive Director . . . , who in his sole and absolute discretion, may approve in writing a greater amount per year of *petroleum coke or any other commodity*."³⁴

In other words, although petroleum coke is capped at 100,000 metric tons per year and other non-coal commodities are excluded in years one through five, the Executive Director may alter those prescriptions beginning in year six. But neither this language nor any other provision in the Oxbow Lease permits the Executive Director to require the shipment of any commodity in any amount, much less any amount that is relevant to the GMAT on which the rental charges are based.³⁵ The fact that the Executive Director has discretion to allow a different mix of commodities to be handled in the coal barn does not

³⁴ Oxbow Lease, Port Report Att. 5, at ¶ 4.

³⁵ Paragraph 5 of the Oxbow Lease establishes that only the tonnage of coal and other commodities would be included in GMAT, but petroleum coke would not:

"For purposes of the [GMAT], only the tonnage of *coal and any commodity approved by the Executive Director* consistent with his discretion as delineated in paragraph 4 above *shall be counted*. For the avoidance of doubt, the tonnage of *petroleum coke shall not* at any time during the term of this Lease count towards the [GMAT]."

(Oxbow Lease, Port Report Att. 5, at ¶ 5, emphasis added.)

foretell an increase in the volumes shipped, and the appellants offer no evidence that shipments will exceed the coal volumes evaluated in 1982 or the coal barn volumes expected in 1992. The restrictions imposed for the first five years of the new Oxbow lease only define activities that are already expected to have no greater or different impacts than what was studied previously. There is no evidence whatsoever that the Executive Director's discretion to ease the restrictions on types of product would cause throughput to increase, since there would be no physical increase in the capacity of the coal barn, or the unloading, reclaiming or loading equipment.

The terms used in the Lease to describe the materials passing through the Port also belie Appellants' argument that the Executive Director can mandate shipment of a particular volume of coal. As explained above, paragraph 4 provides the Executive Director with discretion to loosen restrictions on petroleum coke and "any other commodity." However, paragraph 5 of the lease identifies both "coal" and "any [other] commodity" as separate components that count towards GMAT, thereby implying that coal and an "other commodity" are different things. Because the Executive Director's discretion relates to lifting restrictions on petroleum coke and "any other commodity," coal shipments are not subject to Executive Director discretion. Nothing in the Oxbow Lease, including the GMAT provisions or the discretion vested in the Executive Director can reasonably be read to establish a minimum or maximum requirement on the amount of coal shipped through the coal barn.

Under the first and second factors of CEQA Guidelines Section 15162—regarding substantial changes to the project and its surrounding circumstances—no such changes exist in this case. As stated, the Oxbow lease and Metro operating agreement do not directly alter or cause the alteration of the physical environment in any way. Nor do they increase the throughput capacity or demand of the Pier G facilities, including the coal barn. Because there are no substantial changes to the original project analyzed in the 1992 Negative Declaration or the circumstances surrounding the original project, The Harbor Commission was correct to conclude a subsequent EIR was not required.

d. The Appellants Fail to Identify Any "New" Information that Would Warrant the Creation of a Subsequent EIR

Regarding the third factor under CEQA Guidelines Section 15162, Appellants assert that "new" information now exists regarding Greenhouse Gas ("GHG") emissions. This contention lacks merit. As analyzed in the Harbor Commission Staff Report, the issue of GHG emissions is not "new"—knowledge of GHG's potential contribution to global warming was known well before 1992.³⁶ On this point, the Harbor Commission

³⁶ Harbor Commission Staff Report, Port Report Att. 6, at p. 3.

Staff Report correctly cited *Citizens for Responsible Equitable Environmental Development v. City of San Diego*, 196 Cal.App.4th 515 (2011) (*CREED*).³⁷

In *CREED v. City of San Diego*, 196 Cal.App.4th 515 (2011) the Court of Appeal upheld the City of San Diego's 2008 adoption of a CEQA addendum analyzing the impacts of a water supply assessment for a residential development. The addendum added to a 1994 EIR for the original residential development project. The lawsuit argued that a subsequent EIR was required under Public Resources Code Section 21166 and CEQA Guidelines Section 15162 because the 1994 EIR did not analyze the development project's GHG impacts. They alleged that subsequent to the 1994 certification of EIR, new information had emerged on the nexus between GHG emissions and climate change. (*CREED*, 196 Cal.App.4th at 530.) The Court of Appeal disagreed, citing case law and other sources from prior to 1992 referencing the nexus between GHG emissions and climate change, which indicated that the issue was not "new" as it was well known at the time of the original 1994 EIR. In particular, the court cited *Massachusetts v. EPA*, 549 U.S. 497, 507 (2007) in which the United States Supreme Court noted "[i]n the late 1970's, the Federal Government began devoting serious attention to the possibility that carbon dioxide emissions associated with human activity could provoke climate change. . ." (*CREED*, 196 Cal.App.4th at 531.)

Based on this and other pre-1992 information, the court ruled that "CREED adduced no competent evidence of new information of severe impact, and thus it did not meet its burden of showing the City's reliance on an addendum to the 1994 FEIR is unsupported by substantial evidence." (*Id.* at 532.) The Court went on to state that the "effect of greenhouse gas emissions on climate could have been raised in 1994 when the City considered the FEIR. A challenge to an EIR must be brought within 30 days of the lead agency's notice of approval." (*Id.*) Similarly, in our case, under the third CEQA Guidelines Section 15162 factor, the GHG issue is not "new," and any ability to challenge the failure to raise it has long since been foreclosed by the statute of limitations. (Pub. Res. Code § 21167(c).)

The Appellants attempt to distinguish the Oxbow and Metro approvals from CREED. Appellants argue that the issue in *CREED* was not about whether there was new information relating to climate change, but what "threshold" to use when analyzing GHG impacts based on new information. (Appeal, at p. 8.) Appellants' alleged distinction is factually meaningless and incorrect. Nowhere in the discussion of the GHG emission issue in *CREED* is the word "threshold" used or any similar concept such as "baseline" discussed. (See *CREED*, 196 Cal.App.4th at 530-532.) Quite to the contrary, the issue in the case raised by the challenger was whether the City of San Diego had to do

³⁷ *Id.* at p. 5.

a subsequent EIR because “new” information regarding GHG emissions had surfaced. (*Id.* at 530 (“CREED also contends reversal is required because new information on the nexus between greenhouse gas emissions and climate change require an SEIR.”).) The claim by the challenger in *CREED* is the identical claim made by Appellants here: new information on the nexus between greenhouse gas emissions and climate change require a SEIR. This claim was rejected by the *CREED* court and should be rejected by the Council for the same reasons.

Similarly, coal dust is not a new issue, and appellants offer no reason why this could not have been raised in comments on the 1982 and 1992 Negative Declarations. Appellants' own documents demonstrate that dust from coal in transit has been investigated and then regulated since as early as the 1960s. For example, Appellants' Attachment H, pdf p. 195 *et seq.*, is a report produced in 1977 recounting field work done in 1974 and 1975. The references cited by that report go back as far as 1964. (See Attachment H, pdf p. 211.)

Much has changed in the handling of coal since the 1960s and 1970s, and so the investigations and findings from 50-60 years ago are not relevant to the appeal before the City Council. Car loading equipment and protocols have changed. In addition, through control rules like the South Coast Air Quality Management District's Rule 1158, rail loading, unloading, handling and storage equipment and activities include designs (such as enclosures) to minimize fugitive dust, and added control equipment such as water sprays. These are the very sorts of measures that were advocated by the early reports. To the extent there is fugitive dust in transit, the SCAQMD evaluated this issue in 2008 and concluded that the dust is dispersed early in the journey and therefore there are no fugitive emissions from the trains in transit in the air basin. (Oxbow Ex. 1, pdf p. 66.) With respect to the potential for fugitive dust to occur when the load is disturbed through dumping, the SCAQMD determined that water sprays function as effectively as covering the rail cars to control fugitive dust. (*Id.*) Accordingly, Section (k)(9) of Rule 1158 exempts rail cars originating outside of California from the requirement to be covered, so long as the coal is moistened at the point of entry to the Port facility. (*Id. at pdf p. 38.*)

In addition to obsolete information, appellants include many documents that do not relate to the coal handled in Long Beach. Appellants' Attachments C, F, G, H, M, N, O, and P all concern exclusively coal from the Power River Basin in Montana and Wyoming.³⁸ Coal from this region appears to have unique issues that have not been

³⁸ The rest of appellants' attachments regarding coal dust are either clearly irrelevant to the issues before the Council, or do not provide sufficient information to be able to determine relevance. For example, the reports and presentations from the Commonwealth of Virginia that are included in Appellants' Attachment H concern outdoor coal storage piles. In contrast, as required by SCAQMD Rule 1158, the coal at issue here is enclosed in the coal barn precisely to avoid the issues discussed in Virginia.

experienced elsewhere, and nothing in appellants materials shows that these issues extend to coal arriving in Long Beach from Colorado and Utah.

Finally, Appellants generally claim that “significant new information is now known about health and safety issues related to the export of coal by train.” (Appeal, at p. 8.) The Appellants fail to identify what this alleged new information is and explain whether and how it was unknown in 1992. Appellants also crucially fail to explain what causal connection exists between the Project and an alleged increase in the export of coal by train. In actuality, coal train trips are completely unaffected by the Project. Accordingly, the Appellants fail to identify any “substantial new information” warranting preparation of a subsequent EIR.

For all the foregoing reasons, the Harbor Commission correctly found that no subsequent EIR is required for the Project under Public Resources Code Section 21166 and CEQA Guidelines Section 15162. Due to lack of changes to the physical environment and surrounding circumstances related to the Oxbow lease, reliance on the 1992 Negative Declaration is proper under CEQA.

B. The Harbor Commission Properly Applied the Class 1 and Class 2 Categorical CEQA Exemptions to the Project

The Oxbow Lease and Metro operating agreement also fit within the plain language of the Class 1 and Class 2 categorical exemptions from CEQA. Categorical exemptions apply to “projects which have been determined not to have a significant effect on the environment and [are] exempt from CEQA.” (Pub. Res. Code § 21084(a).) If an agency determines that a categorical exemption fits and applies to a project, no further environmental review is required. *City of Pasadena v. State of California*, 14 Cal.App.4th 810, 819 (1993). An agency is required to afford the fullest possible protection to the environment when applying a categorical exemption, but a categorical exemption will apply when a project fits within the reasonable scope of its language. *Dehne v. County of Santa Clara*, 115 Cal.App.3d 827, 842 (1981) (*Dehne*).

The Harbor Commission relied on two separate, yet closely related CEQA categorical exemptions for the Project: CEQA Guidelines Section 15301 for “existing facilities” (Class 1) and Section 15302 for “replacement or reconstruction” (Class 2). (Harbor Commission Staff Rpt. at p. 1.) The Class 1 categorical exemption “consists of the . . . leasing . . . or minor alteration of existing . . . structures, facilities [or] mechanical equipment. . . involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.” (CEQA Guidelines § 15301.) The key consideration is whether the project involves negligible or no expansion of an existing use. (*Id.*) The Class 2 categorical exemption “consists of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same

site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced.” (CEQA Guidelines § 15302.)

The Oxbow Lease does not alter or cause the alteration of the physical environment in any way. Nor does it increase the throughput capacity or demand of the Pier G facilities, including the coal barn. Thus, these actions are squarely within the purview of Class 1 exemption for leases that result in no expansion of existing facilities.

The Class 1 and 2 categorical exemptions were properly applied to the Project by the Harbor Commission. The Appellants fail to raise any viable arguments otherwise.

C. The Class 1 Categorical Exemption Applies to the Oxbow Lease

The Class 1 categorical exemption was properly applied to the Project by the Harbor Commission. By its plain language, the Oxbow Lease qualifies under the Class 1 exemption because it is the “leasing . . . of existing . . . structures . . . involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.” (CEQA Guidelines § 15301.) The lease does nothing to alter the size, scale, facilities, or throughput capacity of the coal barn. Furthermore, as stated above, the GMAT provision of the lease is simply an economic lease term—it does nothing to increase the coal barn's throughput capacity and does not demand any actual increase in the amount of coal throughput.

Appellants assert that approval of the Oxbow lease involves a substantial expansion of the facility, and they point to three things. First, they assert that the GMAT is a new term that mandates a new and higher volume of coal be handled in the coal barn. Appellants are wrong on this point for the reasons discussed above. Second, appellants assert that Paragraph 4 of the new lease could result in the Executive Director mandating that Oxbow ship even higher minimum volumes of coal and other products. This assert also is groundless. As explained above, Paragraph 4 allows the Executive Director to ease the restrictions on product mix, but does not impose or authorize the Executive Director to impose any mandate with respect to minimum volumes.

Third, relying upon a report prepared for the Port by TranSystems, appellants claim that the parties are interested in increasing the volumes of coal shipped in the future. This argument fails as well. Oxbow was not consulted in the preparation of the TranSystems report. In addition, the Oxbow Lease does nothing to implement the ideas explored in the TranSystems report. The lease merely allows Oxbow to continuing conducting the same activities in the same manner as it has for many years under sublease from Metro. *See Lucas Valley Homeowners Association v. County of Marin*, 233 Cal.App.3d 130, 1610162 (1991) (prior statements of project proponents regarding dreams of future expansion do not determine the scope of environmental review where no permission for future growth is requested as part of the project); *see, also, City of Maywood v. Los*

Angeles Unified School Dist., 208 Cal. App. 4th 362, 397-398 (2012) (“In assessing the types of projects that should be included in a cumulative impacts analysis, our Supreme Court has clarified that an EIR need not discuss future action “that is merely contemplated or a gleam in a planner’s eye. Mere awareness of proposed expansion plans or other proposed development does not necessarily require the inclusion of those proposed projects in the EIR. Rather, these proposed projects must become ‘probable future projects. Where future development is unspecified and uncertain, no purpose can be served by requiring an EIR to engage in sheer speculation as to future environmental consequences.” (internal cites and quotations omitted).)

Finally, even if the TranSystems recommendations were to be implemented, appellants have not presented any evidence that the coal barn use would expand beyond the volumes encompassed by the 1982 facility modification or the 1992 construction of the coal barn, as reviewed in the 1982 and 1992 negative declarations. Efficiency improvements would simply assist the Pier G facilities in operating as originally intended, designed, reviewed and constructed.

D. Neither the Oxbow Lease or the Metro Operating Agreement Present Unusual Circumstances Which Would Preclude Application of the Categorical Exemptions

CEQA Guidelines Section 15300.2 (c) provides that a categorical exemption may not be used where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances. Appellants claim that this exception precludes the Port’s reliance on the CEQA categorical exemptions for the Oxbow lease and Metro operating agreement. (Appeal at p. 5.) For the unusual circumstances exception to a categorical exemption to apply, two questions must be answered in the affirmative: (1) is there a causal connection between the alleged unusual circumstances and a reasonable possibility of a significant effect on the environment; and (2) are the circumstances actually “unusual” within the meaning of the CEQA Guidelines? *Santa Monica Chamber of Commerce v. City of Santa Monica*, 101 Cal.App.4th 786, 800 (2002). The answer to both questions is no.

Appellants claim that the possibility of train derailments and greenhouse gas emissions are “unusual circumstances” that prevent use of the categorical exemptions (Appeal p. 6). But Appellants have not demonstrated a causal connection between the Project and either of the two claimed “unusual circumstances”. (*Magan v. County of Kings*, 105 Cal.App.4th 468, 476-77 (2002) (Categorical exemption use upheld against claim of unusual circumstances exception because plaintiff failed to carry burden to establish that alleged unusual effects of project would actually occur as a result of the project at issue).) The Project here is merely a lease and operating agreement with different financial terms and legal relationships between the parties and no expansion of operations or capacity, along with some minor maintenance and repair work. It does

nothing to affect the operation of trains at locations remote to the Port or increase the amount of coal coming into or out of the facility.

Unusual circumstances under the CEQA Guidelines are “judged relative to the *typical* circumstances related to an otherwise typically-exempt project.” *City of Santa Monica*, 101 Cal.App.4th at 802. Thus, what is unusual is based on the circumstances of the typical type of project being exempted. In *City of Santa Monica*, the “unusual circumstances” claimed by the challengers were the size, time restrictions and the diverse mix of land uses to which the permit parking restriction project applied. The court held that the allegedly unusual circumstances for the project at issue actually “involve the ‘normal and common considerations’ any city might face when operating its public parking facilities and deciding how best to allocate its limited curbside parking in an area with competing user interests.” (*Id.*) Accordingly, in the case of the consideration of whether to impose a permit-only parking zone, no unusual circumstances were identified.

Fairbank v. City of Mill Valley, 75 Cal. App. 4th 1243 (1999) involved a CEQA exemption for the construction of a 5,855 square foot office building in an urban area. The challengers asserted that there were “unusual circumstances” because the building did not include parking facilities, which would increase demand on parking and traffic in the surrounding area. The court rejected the challengers’ argument, stating there “is nothing about the proposed 5,855-square-foot retail/office building that sets it apart from any other small commercial structure to be built in an urbanized area.” (*Id.* at 1260.) Again, there was nothing unusual about the project in the context of the typical construction of a commercial structure in a dense, urbanized area. Similarly, coal train arrivals and departures from a coal export facility, the export of coal by ship, and the ultimate use of coal to produce energy is not unusual for an industrial port facility constructed for that very purpose. As the appellants have failed to show the Oxbow Lease increases the likelihood of train derailments or the amount of greenhouse gases emitted, they have failed to substantiate their claim of unusual circumstances or any causal connection between such circumstances and the effects of the Project. The Harbor Commission correctly found the Project is exempt from further CEQA review.

III. THE VARIOUS OTHER TOPICS FOR REVIEW MENTIONED IN THE APPEAL DO NOT HAVE TO BE REVIEWED UNDER CEQA

A. Even if a Supplemental EIR Were Prepared, as Advocated by Appellants, it Would Show No Environmental Impacts

Even if a subsequent or supplemental EIR were required for the Project, the EIR would show no environmental impacts because the proper CEQA “baseline” for the Project would be Pier G historical and current operations. In any CEQA analysis the “baseline” is the starting physical setting against which the Project’s impacts are measured. Applying relevant caselaw to this project, the baseline conditions are the

existing facilities and activities at Pier G -- not a “no coal barn” scenario. Because the Oxbow Lease does nothing to change the existing physical conditions or operations at the Pier G facility and the coal barn, a subsequent EIR would show no environmental impacts from the Project.

"To decide whether a given project's environmental effects are likely to be significant, [a lead] agency must use some measure of the environment's state absent the project, a measure sometimes referred to as the 'baseline' for environmental analysis." (*Communities for a Better Environment v. South Coast AQMD*, 48 Cal.4th 310, 315 (2010) (“*Communities*”).) In *Communities*, the California Supreme Court stated the general rule that CEQA baseline from which impacts of a project are to be measured should reflect “the existing physical conditions of the affected area.” The Court went on to state this means the baseline is to reflect “real conditions on the ground . . . rather than the level of development or activity that *could* or *should* have been present according to plan or regulation.” (*Id.* at 320-21.) Where a business experiences fluctuations in markets or activity levels, the approving agency has the discretion to set a baseline reflecting conditions over a range of time. (*Id.* at 327-328.)

The proper CEQA baseline for the Project should be levels of activity achieved at the coal barn and other Pier G facilities included in the Metro operating agreement—and not a “no coal barn” scenario that existed prior to 1992 or a “no-coal” scenario that existed decades ago. This is true even where the facility is facing a lease renewal, that is, where the lessee would have no right to continue the activity absent the discretionary approval at issue. For example, in *Citizens for E. Shore Parks v. California State Lands Com.*, 202 Cal.App.4th 549 (2011) (“*East Shore Parks*”), the Court of Appeal held that the baseline for a lease renewal of a waterfront fossil fuel storage and transport facility was the existing activity at the time the lease was renewed, and not a “no facility” alternative. In *East Shore Parks*, Chevron operated a waterfront pier terminal for the storage and shipping of oil that was first constructed in 1905. The port facility was connected to Chevron’s Richmond refinery through a pipeline. Chevron inherited the pier facility lease from its predecessor, Standard Oil. Standard Oil obtained a 50-year lease for the facility from the State Lands Commission (“SLC”) in 1947. (*Id.* at 554-55.)

With the 1997 expiration date for Chevron’s 50-year lease approaching, SLC decided that it would prepare an EIR, because no CEQA review was conducted when the terminal was first constructed in 1905 or when the lease was first signed. (*Id.* at 554.) SLC ultimately determined the proper CEQA baseline for the EIR was Chevron’s operations at the terminal as they existed in 1997. The initial study concluded that Chevron’s continued operations would create various potentially significant environmental impacts, particularly from the risk of oil spills (*id.* at 554-55), but using a 1997 baseline in the EIR, the agency ultimately found the risk of oil spills was the only

potentially significant impact that could not be mitigated, and adopted a statement of overriding considerations in approving the project. (*Id.* at 555.)

The petitioners, a local citizens group, asserted that the proper baseline was a “no-pier” alternative, arguing: (1) the purpose of CEQA to engage in broad environmental review would be undermined if no review of the entire project set against its non-existence was ever conducted; and (2) that the approving agency could eliminate the existing conditions by refusing the lease renewal, so their non-existence should be the baseline. (*Id.* at 560). The court denied the petitioners’ argument, citing to cases that “make clear the baseline must include existing conditions, even when those conditions have never been reviewed and are unlawful.” (*Id.* at 561 (citing *Riverwatch v. County of San Diego*, 76 Cal.App.4th 1428 (1999) [baseline properly included illegal developments around project area] and *Fairview Neighbors v. County of Ventura*, 70 Cal.App.4th 238, 242-43 (1999) [baseline properly included already-existing mining facilities]).)

Similarly, if an EIR were to be prepared for the Oxbow Lease, the proper baseline should reflect the coal barn and associated equipment as it exists in 2014, with the operations previously achieved. Indeed, the case here on this point is much stronger than the ones in *Citizens* and *Riverwatch* because the coal barn project was subject to prior CEQA review in the 1992 Negative Declaration, and was lawfully constructed. Finally, the same “conditions as they currently are” baseline analysis applies to the application of CEQA exemptions. (*See Citizens*, 202 Cal.App.4th at 560 [citing *Bloom v. McGurk*, 26 Cal.App.4th 1307, 1312-1316 [“Existing Facility for categorical exemption purposes means a facility ‘as it exists at the time of the agency’s determination.’”]].)

B. CEQA Law Confirms that an EIR Is Not Required to have the Broad Scope of Analysis Asserted by the Appeal

Appellants urge the City to undertake an inflated environmental analysis of not only the physical impacts of renewing the Lease (of which there are none), but also of highly speculative effects of a long change of independent transactions by many parties spread across the world associated with coal production, transport and use. Among the impacts Appellants would like to see analyzed are such unknowns as the creation and expansion of railway corridors (including blasting of earth formations), increased delays in emergency response as much as thousands of many miles away from the Port where coal-bearing trains traverse at-grade crossings, and increased emissions (including greenhouse gas emissions) from coal burning in overseas locations far from the U.S. However, appellants present no evidence that the Oxbow lease would affect any such activities at off-site locations.

CEQA does not require a “cradle to grave” analysis of purported impacts that are so remote from the project that they cannot reasonably be linked to the approval at issue. The California Supreme Court has expressly rejected the argument that CEQA requires a

detailed analysis of “life cycle” impacts that, no matter how attenuated from an actual project, could be associated with the project in some way. (See, e.g., *Save the Plastic Bag Coalition v. City of Manhattan Beach* (2011) 52 Cal. 4th 155, 172-175.) Stressing that courts must apply “common sense” when determining how far afield a lead agency must look to review a project’s supposed impacts, the Supreme Court held:

“When . . . increased use of the product is an indirect and uncertain consequence, and especially when the scale of the project is such that the increase is plainly insignificant, the product ‘life cycle’ must be kept in proper perspective and not allowed to swamp the evaluation of actual impacts attributable to the project at hand.”

(*Id.* at p. 175.) Where impacts are indirectly related to the project under review, are uncertain and are difficult to predict, the lead agency is not required to guess at the significance of such impacts, particularly where those impacts would occur far from the site of the project itself. (*Id.*, at 175.)³⁹

Similarly, when the California Resources Agency adopted new amendments to the CEQA Guidelines in 2010, the agency deleted previous guideline references to “life cycle” analyses of energy-related emissions. In its *Final Statement of Reasons* explaining the rationale behind the 2010 amendments, the Resources Agency specifically noted that such an analysis would not be consistent with CEQA if it would require an analysis of emissions impacts beyond those that could be considered indirect effects of a project. (Oxbow Ex. 7, *Final Statement of Reasons*, at p. 71.) The Resources Agency also explained that in many industries, products may be manufactured for many different uses as a result of general market demand, regardless of whether one particular project proceeds. (*Id.*, at pp. 71-72.)

With respect to the proposed Oxbow Lease, the impacts Appellants would like the City to study can hardly be predicted, much less ascribed to the Lease. To the contrary, the activities involved in the production, transportation and use of coal are independent of the Lease. As discussed above, in 2013, the United States exported coal to approximately 74 countries, and the coal exported through the coal barn went to Japan and Mexico.

³⁹ Subsequent cases have confirmed this same rule of law applies even where the lead agency has determined that the project at issue qualifies for a categorical exemption from CEQA. (*Save the Plastic Bag Coalition v. County of Marin* 218 Cal.App.4th 209, 222-223 (2013); *Save the Plastic Bag Coalition v. City and County of San Francisco* 222 Cal.App.4th 863, 880-881 (2014).).

The majority of U.S. coal exports go through ten port complexes, as reflected in the following table.⁴⁰

2013 U.S COAL EXPORTS FOR THE TOP 10 PORTS	
REGION/ CITY	VOLUME (short tons)
Norfolk, VA	49,741,368
New Orleans, LA	19,878,721
Baltimore, MD	15,056,151
Mobile, AL	12,164,163
Seattle, WA	4,502,803
Houston/ Galveston, TX	3,256,746
Cleveland, OH	2,758,228
Los Angeles/ Long Beach, CA	1,718,577
Minneapolis, MN	1,716,929
San Francisco/ Oakland, CA	1,341,492

The above ten ports accounted for approximately 95% of the 2013 exports. The balance moved in smaller quantities through another twenty export terminals distributed around the United States. Appellants' Attachment P lists seven ports in the Pacific Northwest (including Canada) capable of shipping coal.

The international market for coal and U.S. coal exports will continue on regardless of the Project. International demand for coal will remain unaffected by what happens at the Pier G coal barn. There are as many as 30 ports in the United States through which the coal could move and roughly 74 countries to which the U.S. exported coal in 2013. Regardless the outcome of this appeal, coal will continue to be mined, transported and shipped for use around the world in substantial amounts. Consistent with how the Resources Agency and the courts have viewed such issues, the impacts from the production, transport and usage of coal will not be affected by, much less ascribed to, the proposed Lease, and CEQA does not require that the City speculate about those impacts.

⁴⁰ See Oxbow Ex. 6. Additionally, these figures were found using the EIA's interactive "Coal Data Browser," which can be found at:
http://www.eia.gov/beta/coal/data/browser/#/topic/41?agg=2,1,0&rank=ok&linechart=COAL.EXPORT_QTY.TOT-TOT-TOT.A&columnchart=COAL.EXPORT_QTY.TOT-TOT-TOT.A&map=COAL.EXPORT_QTY.TOT-TOT-TOT.A&freq=A&ctype=map<ype=pin&rtype=s&pin=&rs=0&maptype=0

It also should be noted that the appellants' argument implicitly assumes that there has been no environmental review of the independent projects and activities relating to coal production, transportation, etc. Appellants present no evidence of this unstated assumption, and the facts demonstrate that it is unfounded. These activities often are subjected to extensive environmental review, which would affect the scope of CEQA review, if any were required. See CEQA Guidelines § 15277.

For example, Oxbow's Elk Creek mine operates on two coal leases on federal lands managed by the federal Bureau of Land Management (BLM) and the United States Forest Service in Colorado. The BLM is the primary mineral lease administrative agency. The Elk Creek mine has been reviewed in one federal environmental impact statement and numerous environmental assessments for the federal coal leasing actions and surface occupancy. (Oxbow Ex. 8.)⁴¹ At the state level, all coal mine activities are permitted through the Colorado Division of Minerals and Geology (CDRMS). Additional environmental permits or reviews are issued or conducted the Colorado Department of Public Health and Environment (for air emissions, surface water and groundwater quality, drinking water, etc.) and others. The federal Office of Surface Mining, Reclamation and Enforcement (OSMRE) has oversight over the Colorado surfacing mining regulatory program and also renders mine plan approvals for the mining of the federal coal. OSMRE also conducts a NEPA review for its state mine plan approval activities. Pursuant to surface mining laws, reclamation bonds are provided to the approving agencies to ensure reclamation of the site.

C. Appellants' Proposed No Coal Alternative Would not be Analyzed Under CEQA

Appellants assert that the Port must evaluate an alternative in which the Port ceases all export of fossil fuels. (Appeal, pp. 22-23.) As an initial matter, an alternatives analysis is only required in the context of an EIR, and since a subsequent EIR is not required here, an alternatives analysis likewise is not required at this time. (CEQA Guidelines § 15126.6.) But if an EIR were required, appellants assert that it analyze the complete phase-out of fossil fuel exports. This scenario would not be included in a subsequent EIR, however, because it does not fall within a “reasonable range of alternatives”. It would not achieve any of the project objective, and it would completely undermine the projects fundamental underlying purpose. (*In re Bay Delta Programmatic Environmental Impact Report Coordinated Proceedings*, 43 Cal.4th 1143, 1164, 1165-66

⁴¹ Documents relating to the most recent environmental assessment can be found at:
http://www.fs.usda.gov/wps/portal/fsinternet!/ut/p/c5/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gDfxMDT8MwRydLA1cj72BTUwMTAwgAykeaxRtBeY4WBv4eHmF-YT4GMHkidBvgA16EdIeDXIvfdRAJuM3388jPTdUvyA2NMMgyUQQAyrgQmg!!/dl3/d3/L2dJQSEvUUt3QS9ZQnZ3LzZfS000MjZOMDcxT1RVODBJN0o2MTJQRDMwODQ!/?project=41525

(2008) (“an EIR need not study in detail an alternative that is infeasible or that the lead agency has reasonably determined cannot achieve the project's underlying fundamental purpose.”).)

IV. CONCLUSION

The appeal is not well grounded in either the facts or CEQA law. The petition is part of the appellants’ campaign for carbon-free energy production in the United States and the world. The appeal petition even tells you that you must consider ceasing all fossil fuel exports from the Port of Long Beach. (Appeal, p. 23.) However, it is not currently possible to satisfy the energy needs of the world's population solely through renewable energy such as wind, solar and geothermal resources. As Commissioner Drummond eloquently explained on June 9, the world is in a state of transition away from fossil fuels, but the transition will take considerable time. The United States has the good fortune of a large supply of natural gas. But as Commissioner Drummond further commented, it would not be appropriate for Long Beach to refuse to export coal to trading partners who do not enjoy the same abundant natural resources.

While some public comments at the hearing presented this as a choice between coal and natural gas, appellants do not view it that way. At least some of the appellants stridently oppose the export of natural gas as well. For example, the Sierra Club's website proclaims that it intervenes "in each and every proposed LNG facility across the country." The website lists numerous export applications opposed by Sierra Club. (Oxbow Ex. 9.)

Appellants attempt to sway the Council by invoking fear of China's environmental practices, when in fact China is irrelevant to this decision. The coal exported from the coal barn does not go to China. As demonstrated above, export records for the past year demonstrate that the coal from the coal barn has been shipped to Japan and to Mexico. (Oxbow Ex. 3.)

As Commissioner Drummond observed, Japan has been particularly dependent on coal imports since suspending operation of its 48 nuclear power plants following the tsunami and disastrous failure of the Fukushima Daiichi generating plant in 2011. Those nuclear plants had supplied approximately 30 percent of Japan's energy prior to the tsunami, and they remain shut down today. (Oxbow Ex. 10.) Japan's most recent Strategic Energy Plan, adopted by the Japanese Cabinet on April 11, 2014, relies on coal to help fill the gap caused by the loss of nuclear generation. (*Id.*) And, again, appellant Sierra Club would be no more satisfied if Japan were to use natural gas to make up for the loss of nuclear power. Indeed, the Sierra Club opposes Japan's participation in the trade agreement referred to as the Trans-Pacific Partnership because it would "allow for automatic exports of natural gas to countries in the bloc.... Japan – the world’s largest importer of liquefied natural gas – is seeking to import the dirty fuel from the United

Honorable Mayor Garcia and Council Members
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States." (Oxbow Ex. 9, Sierra Club Statement On Japan Joining The Trans-Pacific Partnership, March 15, 2013.)

The Harbor Commission reached the correct conclusion: The facilities, equipment and activities that are the subject of the lease and operating agreement have been previously reviewed under CEQA, and/or are exempt from CEQA review. The Commission's decision should be upheld. We respectfully request that you deny the appeal.

Very truly yours,



Jocelyn Thompson
ALSTON & BIRD LLP

JT:amm
Enclosures:

- (1) Exhibits 1-10 on the enclosed CD
- (2) Declaration of Digran Khalili

1 **DECLARATION OF DIGRAN KHALILI**

2 1. I am Vice President, Logistics and Planning, with Oxbow Energy
3 Solutions, LLC (“Oxbow”). I have personal knowledge of the facts set forth below, and if
4 called as a witness would testify competently thereto.

5 2. One of Oxbow’s primary businesses is the mining and marketing of
6 energy and commodities such as coal, natural gas, petroleum, and metallurgical and calcined
7 coke. As one part of these operations, Oxbow arranges for the transport by rail of coal from
8 mines in the United States to the Port of Long Beach, where it is shipped internationally for
9 use for energy in foreign markets.

10 3. On December 3, 2003, Oxbow acquired a company called Applied
11 Industrial Materials Corporation (“AIMCOR”). Among the AIMCOR assets Oxbow
12 acquired was AIMCOR’s sublease with Metropolitan Stevedore Company (“Metro”) to
13 certain facilities on the dry bulk terminal on Pier G at the Port of Long Beach (“Pier G”).

14 4. Oxbow assumed AIMCOR’s rights and responsibilities under the
15 sublease with Metro regarding the Pier G facilities, including the right to the use of one half
16 of the “Coal Barn,” a coal storage shed on Pier G that is the subject of the new lease between
17 Oxbow and the City of Long Beach at issue in this administrative appeal.

18 5. Oxbow uses the Coal Barn for the storage of dry bulk materials pending
19 their international shipment from the Port of Long Beach by ship.

20 6. Oxbow currently receives coal via rail deliveries from mines in
21 Colorado and Utah at Pier G. As part of its ordinary business practices, Oxbow logs
22 information in a Microsoft Excel spreadsheet regarding train departures and arrivals at Pier
23 G. A true and correct printout of a Microsoft Excel spreadsheet indicating recent coal train
24 arrivals to the Pier G facilities from mines Utah and Colorado is included as “Oxbow Exhibit
25 5” in the CD accompanying Oxbow’s letter brief.

26 7. The coal is off-loaded from the trains using fully enclosed rotary rail car
27 dumpers that dump the coal into hoppers, from which conveyors move the coal into the Coal
28 Barn for temporary stockpiling.

1 8. When a ship arrives at berth, the coal is removed from the Coal Barn
2 using reclaimers, and moved by conveyor to the ship's holds.

3 9. Train unloading and ship loading can be conducted independent of one
4 another, due to the ability to use the Coal Barn for the stockpiling of dry bulk materials.

5 10. The Coal Barn and other Pier G facilities operate seven days per week.
6 Trains and ships may arrive any day of the week, with the exception of union no-work
7 holidays and meetings. It typically takes half a day to unload the coal from a train, and it
8 typically takes two-and-a-half days to load a ship.

9 11. Currently, the coal that passes through the coal barn is destined for
10 Japan and Mexico. Oxbow must file Electronic Export Information with the United States
11 Department of Homeland Security, Customs and Border Protection, documenting coal
12 exports. The Electronic Export Information for 2014 year-to-date is included as "Oxbow
13 Exhibit 3" in the CD accompanying Oxbow's letter brief. This information consists of true
14 and correct copies of the information submitted, except that confidential business
15 information relating to price and consignee have been redacted. These filings confirm that
16 all recent coal shipments have been destined for Japan and Mexico.

17 12. The unloaders, conveyors and loading equipment associated with
18 Oxbow's use of the Coal Barn are all subject to the air emission control requirements of the
19 South Coast Air Quality Management District (SCAQMD) rules and regulations, including
20 SCAQMD Rules 403 and 1158. The Coal Barn itself was constructed in large part to allow
21 stockpiling of coal between ship arrivals, without the risk of excessive dust that could be
22 generated by open storage piles. The emission control equipment and strategies incorporated
23 into the design and operation include operating water sprays at the facility entrance as well
24 as at the entrance to and inside the rotary rail car dumpers, keeping the coal moist when
25 handling, and enclosing the dumpers and the conveyor transfer points.

26 13. Oxbow is proud to fully support the Port of Long Beach's efforts to
27 reduce air emissions associated with Port activities. In May of 2014, the Port recognized
28 Oxbow's commitment by awarding it the Green Ship award. The Green Ship program was

1 created in 2012 to encourage vessel operators to assign the cleanest, lowest-emission ships to
2 Long Beach.

3 14. Oxbow was not consulted in the preparation of the 2013 "POLB Pier G
4 Bulk Handling Facility Analysis" conducted by TranSystems for the Port of Long Beach
5 ("TranSystems Report").

6 I declare under penalty of perjury under the laws of the State of California that the
7 foregoing is true and correct.

8 Executed this 14th day of August, 2014, in Los Angeles County, State of
9 California.

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13 _____
14 DIGRAN KHALILI

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(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

- (1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.
- (2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.
- (3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.
- (4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.
- (5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

- (6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.
- (7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.
- (8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.
- (9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.
- (10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.
- (11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.
- (12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.
- (13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

- (14) **DISTURBED SURFACE AREA** means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:
- (A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;
 - (B) been paved or otherwise covered by a permanent structure; or
 - (C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.
- (15) **DUST SUPPRESSANTS** are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.
- (16) **EARTH-MOVING ACTIVITIES** means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.
- (17) **DUST CONTROL SUPERVISOR** means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.
- (18) **FUGITIVE DUST** means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.
- (19) **HIGH WIND CONDITIONS** means that instantaneous wind speeds exceed 25 miles per hour.
- (20) **INACTIVE DISTURBED SURFACE AREA** means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.
- (21) **LARGE OPERATIONS** means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

- (22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.
- (23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.
- (24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.
- (25) PM₁₀ means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.
- (26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.
- (27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.
- (28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.
- (29) SIMULTANEOUS SAMPLING means the operation of two PM₁₀ samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.
- (30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

- (31) **STABILIZED SURFACE** means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.
 - (32) **TRACK-OUT** means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
 - (33) **TYPICAL ROADWAY MATERIALS** means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.
 - (34) **UNPAVED ROADS** means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.
 - (35) **VISIBLE ROADWAY DUST** means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
 - (36) **WIND-DRIVEN FUGITIVE DUST** means visible emissions from any disturbed surface area which is generated by wind action alone.
 - (37) **WIND GUST** is the maximum instantaneous wind speed as measured by an anemometer.
- (d) **Requirements**
- (1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

- (A) the dust remains visible in the atmosphere beyond the property line of the emission source; or
 - (B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.
- (2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.
- (3) No person shall cause or allow PM₁₀ levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM₁₀ monitoring. If sampling is conducted, samplers shall be:
- (A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM₁₀.
 - (B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.
- (4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.
- (5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.
- (A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

- (B) Pave the surface extending at least 100 feet and at least 20 feet wide.
 - (C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
 - (D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
 - (E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).
- (6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.
- (e) Additional Requirements for Large Operations
- (1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:
 - (A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;
 - (B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;
 - (C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

- (D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;
 - (E) identify a dust control supervisor that:
 - (i) is employed by or contracted with the property owner or developer;
 - (ii) is on the site or available on-site within 30 minutes during working hours;
 - (iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;
 - (iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and
 - (F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).
- (2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).
- (f) **Compliance Schedule**
The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

- (A) Dairy farms.
- (B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.
- (C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.
- (D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:
 - (i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;
 - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and
 - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.
- (E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:
 - (i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and
 - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and
 - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.

- (F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.
 - (G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.
 - (H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.
 - (I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.
 - (J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:
 - (i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and
 - (ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.
 - (K) sandblasting operations.
- (2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:
- (A) When wind gusts exceed 25 miles per hour, provided that:

- (i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;
 - (ii) records are maintained in accordance with subparagraph (e)(1)(C).
 - (B) To unpaved roads, provided such roads:
 - (i) are used solely for the maintenance of wind-generating equipment; or
 - (ii) are unpaved public alleys as defined in Rule 1186; or
 - (iii) are service roads that meet all of the following criteria:
 - (a) are less than 50 feet in width at all points along the road;
 - (b) are within 25 feet of the property line; and
 - (c) have a traffic volume less than 20 vehicle-trips per day.
 - (C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.
- (3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.
 - (4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:
 - (A) Blasting operations which have been permitted by the California Division of Industrial Safety; and
 - (B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.
 - (5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

- (6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.
- (7) The provisions of subdivision (e) shall not apply to:
 - (A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.
 - (B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.
 - (C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.
- (8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM₁₀ pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

**TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	<ul style="list-style-type: none"> ✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	<ul style="list-style-type: none"> ✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	<ul style="list-style-type: none"> ✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	<ul style="list-style-type: none"> ✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

**TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	<ul style="list-style-type: none"> ✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	<ul style="list-style-type: none"> ✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	<ul style="list-style-type: none"> ✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	<ul style="list-style-type: none"> ✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	<ul style="list-style-type: none"> ✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	<ul style="list-style-type: none"> ✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	<ul style="list-style-type: none"> ✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

**TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	<ul style="list-style-type: none"> ✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	<ul style="list-style-type: none"> ✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exits
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	<ul style="list-style-type: none"> ✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	<ul style="list-style-type: none"> ✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	<ul style="list-style-type: none"> ✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	<ul style="list-style-type: none"> ✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	<ul style="list-style-type: none"> ✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Unpaved roads/parking lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Earth-moving (except construction cutting and filling areas, and mining operations)	<p>(1a) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR</p> <p>(1a-1) For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.</p>
Earth-moving: Construction fill areas:	<p>(1b) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.</p>

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Earth-moving: Construction cut areas and mining operations:	(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b) Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c) Apply chemical stabilizers within five working days of grading completion; OR (2d) Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a) Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR (3b) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (3c) Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR (3d) Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Unpaved Roads	<p>(4a) Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR</p> <p>(4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR</p> <p>(4c) Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.</p>
Open storage piles	<p>(5a) Apply chemical stabilizers; OR</p> <p>(5b) Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR</p> <p>(5c) Install temporary coverings; OR</p> <p>(5d) Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.</p>
All Categories	<p>(6a) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.</p>

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling (Only applicable to Commercial Poultry Ranches)	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

RULE 1158. STORAGE, HANDLING, AND TRANSPORT OF COKE, COAL AND SULFUR

(a) Purpose

The purpose of this rule is to reduce the emissions of airborne particulate matter from the storage, handling, and transport of coke, coal and sulfur; and to reduce the potential for the storage, handling and transport of these materials to violate AQMD Rules 402 – Public Nuisance and 403 – Fugitive Dust.

(b) Applicability

This rule applies to the operator of a facility that produces, stores, handles, transports, or uses coke, coal or sulfur.

(c) Definitions

For the purpose of this rule:

- (1) ACCUMULATION is any surface deposit of material greater than three ounces in one square foot other than inside an approved storage area, conveyor, transport vehicle, coker pit, slurry bin, water collection channel or separation pond.
- (2) AQMD PERMITTED FACILITY is a facility that has material storage or handling equipment required to have permits to operate from the AQMD.
- (3) BEST AVAILABLE CONTROL MEASURES represent fugitive dust control actions which are required to be implemented within the boundaries of the South Coast Air Basin. A detailed listing of best available control measures for each fugitive dust source type shall be as contained in the most recent Rule 403 Implementation Handbook, now or hereafter adopted by the Governing Board.
- (4) CALCINED COKE is coke which has been processed in a kiln.
- (5) CHEMICAL STABILIZER is any non-toxic chemical dust suppressant which is not prohibited for the uses proposed in this Rule or by any other applicable law, and which meets all applicable specifications required by any federal, state, or local water agency.
- (6) COAL is a solid, brittle, carbonaceous rock classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388-77.

- (7) COKE is a solid carbonaceous residue produced from a coker after cracking and distillation from petroleum refining operations.
- (8) COKER PIT is an open-top containment area at a refinery coker unit used to contain cut or cracked petroleum coke.
- (9) CONTAMINATED MATERIAL means a material that has become mixed with other materials or dirt so that it is no longer considered material or no longer meets marketable product specifications.
- (10) CONVEYOR SHUTTLE or TRAVELER or TRIPPER is a device supporting a conveyor that can travel forwards or backwards along a feed conveyor as needed to allow the conveyor to load material onto a selected area of a ship or pile.
- (11) DEWATERING TRUCK-LOADING BIN is a cylindrical tank with a funnel-shaped bottom which receives material in a slurry form and separates the solids from water by filters and gravity, eventually discharging the solids into a truck.
- (12) DRY MATERIAL is any coke, coal, or sulfur, that does not meet this Rule's definition for moist material.
- (13) ENCLOSED CONVEYOR is a conveyor which is totally enclosed in a tube or encompassed 360 degrees within a solid plane structure, or an equivalent conveying system as approved by the Executive Officer.
- (14) ENCLOSED STORAGE is any completely roofed and walled structure or building, including a truck or railcar covered pursuant to subparagraphs (d)(12)(A), (B), (C), or (D), surrounding an entire coke, coal or sulfur pile.
- (15) FACILITY means any source or group of sources or other air contaminant-emitting activities which are located on one or more contiguous properties within the AQMD, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above-described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one facility. Sources or installations involved in crude oil and gas production in Southern California Coastal or OCS Waters and transport of such crude oil and gas in Southern California Coastal or OCS Waters shall be included in the same facility which is under the same ownership or use entitlement as the crude oil and gas production facility on-shore.

- (16) FREEBOARD is the distance from the top of the material storage section of the truck trailer to the top of the material load at its highest point.
- (17) FUGITIVE DUST means any solid particulate matter that becomes airborne by natural or man-made activities, excluding particulate matter emitted from an exhaust stack.
- (18) HIGH WIND CONDITIONS is when wind speeds exceed 15 miles per hour.
- (19) LOOSE means material that can be swept off a surface by a person using a whisk broom.
- (20) MATERIAL means any substance containing at least 50% by weight of coke, coal, or sulfur. The percent by weight shall be determined by at least a one ounce sample taken at any random point.
- (21) MOIST MATERIAL is material that has a moisture content that in no place is less than the following: coke material 8.3%, coal material 7.6%, and sulfur material 2.8%.
- (22) NON-LUMP MATERIAL means any coke, coal, or sulfur material which can pass through a 6.3 millimeter sieve (1/4 inch opening).
- (23) OPEN STORAGE is any material coke, coal or sulfur pile that is not in enclosed storage.
- (24) PAVED means improved by covering with concrete, asphaltic concrete, recycled asphalt, or asphalt.
- (25) PERMANENT WATER RECYCLING SYSTEM DEWATERING BED is a below-ground, open-top containment vessel, used in conjunction with a water reclamation system, to reduce moisture content of bulk material removed from a water clarifier for the purpose of disposal.
- (26) PILE means any amount of coke, coal or sulfur material which attains a height of three feet or more, or a total surface area of 150 square feet or more.
- (27) PRILLED SULFUR is a product formed in a wet process involving the contact of heated liquid sulfur with cooled water, resulting in a sphere-like solid.
- (28) ROAD means any route with evidence of repeated prior travel by vehicles.
- (29) SEPARATION POND means a container for separating coke from water by gravity, which has a liquid water surface at all points.

- (30) SILT is any particulate, including but not limited to coal, coke, or sulfur, with a particle size less than 75 micrometers in diameter as measured by a No. 200 sieve.
 - (31) SLURRY BIN is a container located at a refinery coker unit or its associated coke handling system holding a watery mixture of material.
 - (32) STREET SWEEPER is, if purchased or contracted for before January 1, 2000, a vacuum or regenerative air street sweeper, and if purchased or contracted for on or after January 1, 2000, is a PM10 street sweeper pursuant to Rule 1186 – PM10 Emissions from Paved and Unpaved Roads & Livestock Operations.
 - (33) SULFUR is a chemical element, atomic number 16 on the periodic chart, and which is found in crystalline or amorphous form.
 - (34) TELESCOPING LOADING CHUTE is a length adjustable chute which completely encloses the material during ship loading operations.
 - (35) TRACKIN – TRACKOUT ROAD is a road (excluding freeways), starting from the entrance or exit of the facility property and continuing away from the property for the first quarter mile of the road, that a truck trailer, used for material transport, travels on.
 - (36) TRANSFER POINT is the point in the storage, handling or transport process where material being moved, carried, conveyed, or transported is dropped or deposited.
 - (37) VEHICLE is any car, truck, in-service transportation, or off-road mobile heavy equipment.
 - (38) WATER SPRAY SYSTEM means a dust suppression technique that uses water or water-based solutions delivered through pipes, tubes, or hoses that are fitted with one or more nozzles and operated at pressures ranging from 1 to 1500 psi.
 - (39) WIND SCREENS are structures that are sufficient to deflect the wind away from conveyed material and reduce fugitive dust emissions, and are adjacent to both sides of and extend along the entire length of the conveyor, tall enough to extend above and below the conveyor and material.
- (d) Any facility that produces, handles, transports, or stores coke, coal, or sulfur material for transfer or shipment shall comply with all of the following requirements:

- (1) The facility operator shall not cause, or allow the discharge into the atmosphere of, fugitive dust for a period or periods aggregating more than three minutes in any one hour which is equal to or greater than 10% opacity (equivalent to 10% opacity under EPA Method 9 or one half of No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines).
- (2) The facility operator shall maintain all piles in enclosed storage.
 - (A) Structures or buildings used for enclosed storage shall be properly maintained, equipped with and use as needed, a water spray system or permitted air pollution control equipment sufficient to control fugitive dust emissions at designed vents and at entrances or exits for material or vehicles so as not to violate the provisions of paragraph (d)(1).
 - (B) Any entrance or exits for material or vehicles shall have overlapping flaps, sliding doors or other devices(s) approved by the Executive Officer, which shall remain closed except to allow material or vehicles to enter and leave or when people are inside.
 - (C) For coal and prilled sulfur piles existing before June 11, 1999, the facility operator may achieve compliance with outdoor storage provided that the Executive Officer approves an open pile control plan, pursuant to subdivision (f).
- (3) The facility operator shall only conduct material truck unloading in an enclosed structure that is either equipped with a water spray system to be used as needed to prevent visible dust emissions or vented to permitted air pollution control equipment that is operated during unloading activities. The ends of the structure shall have overlapping flaps that reduce the opening to no greater than 11 feet high by 10 feet wide, sliding doors which shall remain closed except to allow the trucks to enter and leave, or other equally effective devices as approved by the Executive Officer.
- (4) The facility operator shall only conduct railcar material unloading in an enclosed structure that is either equipped with a water spray system operated to prevent visible dust emissions, or vented to permitted air pollution control equipment that is operated during unloading activities. The ends of the structure shall have overlapping flaps, sliding doors or other equally effective devices as approved by the Executive Officer, which shall remain closed except to allow the railcars to enter and leave.

- (5) The facility operator shall pave and maintain as paved, the following areas:
 - (A) All ground surfaces within the facility where material accumulations routinely occur; and,
 - (B) All roads and vehicle movement areas within the facility that are used for transporting or moving material excluding AQMD permitted material enclosures and areas approved by the Executive Officer for material storage pursuant to other sections of this Rule.
- (6) When transport is by truck, the facility operator shall only receive or transfer material in truck trailers that, within one quarter mile of the perimeter of the facility, are driven only on paved roads.
- (7) In order to clean roads of accumulations, the facility operator shall comply with either (A) or (B):
 - (A) The facility operator shall prevent and remove any material so that the following limits are not exceeded:
 - (i) A silt loading value, for all silt particles, of 0.05 grams/meter² for any trackout road, excluding freeways and railroad tracks; and
 - (ii) A silt loading value, for all silt particles, of 0.25 grams/meter² for all roads and vehicle movement areas excluding railroad tracks within the facility that are used for transporting or moving material.
 - (B) The facility operator shall use a street sweeper to clean any trackin – trackout road and any road inside the facility, used to transport material.
 - (i) The street sweeping shall be sufficient so that not more than 4 hours elapses between each street sweeper cleaning or after every 100 truck material receipts or dispatches, but not less than one time daily when the facility is open for business.
 - (ii) Each 24-hr. day, the day beginning at 12:01 A.M., the facility operator shall designate and record whether for that day the facility operator is street sweeping every four hours or every 100 trucks. The record shall show the date and time when street sweeping was performed and the truck count.

- (iii) Facility operators shall begin cleaning up material spills of more than three pounds, or that cover more than a square foot, within one hour and continue clean up operations until the spill is removed.
 - (C) Prior to the beginning of each calendar quarter the facility operator shall designate and record which alternative, A or B, the facility operator is choosing to comply with during the quarter.
 - (D) A violation of subparagraph (d)(7)(C) shall be considered a violation of paragraph (d)(7).
- (8) The facility operator shall maintain all areas within the facility, except for those areas subject to paragraph (d)(7), free of any accumulation, unless the accumulation is:
 - (A) moist material;
 - (B) dry material not higher than three inches, except for crushed prilled sulfur which shall be removed; or
 - (C) completely covered.
- (9) Any new or replacement conveyors constructed after June 11, 1999 shall be enclosed conveyors. For purposes of this paragraph, the installation of a conveyor between two transfer points shall be a replacement conveyor. For conveyors existing before June 11, 1999, the facility operator shall, except for prilled sulfur, only conduct material conveying in compliance with either:
 - (A) All non-lump material shall be moist material; or,
 - (B) The material shall be conveyed in an enclosed conveyor(s).
- (10) The facility operator shall, except for prilled sulfur, maintain all material transfer points in compliance with one of the following:
 - (A) Total enclosure;
 - (B) Water spray system sufficient to control fugitive dust emissions during operations to comply with paragraph (d)(1);
 - (C) vented to permitted air pollution control equipment which is in full operation;
 - (D) Transfer only moist material and conduct such transfer only in an overhead truck trailer or railcar loader, or chute with a hopper, such that the exposed drop does not exceed four feet from the top of the truck or railcar; or,

- (E) Controlled by another equivalent method approved, in writing, by the Executive Officer.
- (11) The facility operator shall only load materials into ships through a telescoping loading chute which uses a water spray system, or an air pollution control system, sufficient to control fugitive dust emissions during operations to comply with paragraph (d)(1), and:
 - (A) Is extended to within five feet of the top of the pile; or,
 - (B) Is at least 5 feet below the hatch coaming.
- (12) The facility operator of an AQMD permitted facility shall not load material into any truck trailer or railcar unless it is subsequently and immediately covered, before leaving the facility, in one of the following manners sufficient to prevent material from escaping from the trailer or railcar onto the facility property:
 - (A) A solid sliding cover on the top of the truck or railcar that is kept completely closed, or;
 - (B) For trucks, a slot-top type cover that reduces the uncovered open surface area by at least 50% and extends above the trailer top edges without gaps; and either the material contained in the trailer is moist material, or a chemical stabilizer is applied to the surface of the material in sufficient amounts and concentration so as to prevent fugitive dust emissions during transport; or,
 - (C) A continuous tarp that completely covers the trailer or railcar top, and for trucks, does not contact the material within the trailer. In addition, the tarp shall be installed or the trailer/railcar constructed to prevent wind from entering over the leading edge of the trailer/railcar rim into the interior of the trailer/railcar; or
 - (D) For railcars, an alternative method of control proven effective in preventing visible fugitive PM emissions escaping from the railcar and approved by the Executive Officer prior to its use.
- (13) Facility operators shall not load material into truck trailers or railcars such that a trailer or railcar leaks liquid that contains material onto the facility property.
- (14) If a truck trailer or railcar leaks liquid that contains material onto the facility property, the facility operator shall clean the affected property within one hour with a street sweeper or water.

- (15) The facility operator shall clean all out-going material transport trucks, whether loaded or empty, so that:
 - (A) Any part of any tractor, trailer or tire exterior surface, excluding the inside of the trailers, are free of all loose material in excess of 1 gram per square decimeter or 10 grams total.
 - (B) The material removed by the truck cleaning operation is collected and recycled or otherwise disposed of so that it does not result in fugitive dust emissions.
- (16) The facility operator shall not load sulfur into trucks or railcars unless:
 - (A) The sulfur is not greater than 1% crushed prilled sulfur by weight and;
 - (B) The loading is controlled by an enclosure or water spray system, approved by the Executive Officer, that reduces visible emissions to ensure compliance with paragraph (d)(1).
- (e) Any facility that stores material solely for use at the facility either as a fuel or as an ingredient in a manufacturing process shall comply with all of the following requirements:
 - (1) The facility operator shall not cause, or allow the discharge into the atmosphere of, fugitive dust for a period or periods aggregating more than three minutes in any one hour which is equal to or greater than 10% opacity (equivalent to 10% opacity under EPA Method 9 or one half of No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines).
 - (2) The facility operator shall maintain all piles in enclosed storage, except as provided in paragraph (3). Any openings shall have overlapping flaps, sliding doors or other equivalent devices(s) approved by the Executive Officer, which shall remain closed except to allow the vehicles to enter or leave.
 - (3) For facilities existing before June 11, 1999 only, for coal and prilled sulfur, the facility operator may achieve compliance with outdoor storage provided the Executive Officer approves, in advance, an open storage pile control plan, or complies at all times with at least one of the following:
 - (A) Installs and maintains a three-sided barrier equal to the height of the material, with no more than fifty percent porosity to provide wind sheltering;

- (B) Maintains and operates water spray bars, a misting system, water hoses and or water trucks to control fugitive dust emissions;
 - (C) Applies chemical stabilizer(s) to control fugitive dust emissions;
 - (D) Installs temporary covers; or
 - (E) Other equivalent measures approved by the Executive Officer.
- (4) Within four hours after material is delivered to the facility by truck trailer, the facility operator shall inspect and clean up any spilled material on any paved road inside or outside the facility up to a quarter mile.
 - (5) The facility operator shall use a street sweeper to clean any paved road used for material transport, inside or outside the facility, up to a quarter mile from the material delivery site at least once a week or after every 100 truck material deliveries, whichever results in the most frequent street sweeping.
 - (6) The facility operator shall pave and maintain as paved, except for railroad tracks, the following areas:
 - (A) All non-road ground surfaces within the facility where material accumulation occurs; and,
 - (B) All roads and vehicle movement areas within the facility that are used to receive material by truck trailer.
 - (7) The facility operator shall pave or chemically stabilize and maintain all roads and vehicle movement areas within the facility, that are used for transporting coal.
 - (8) The facility operator shall prevent, or remove within four hours, any coke accumulations on all paved ground surfaces except for those areas subject to paragraph (3), unless the accumulations are either:
 - (A) Moist material; or
 - (B) Dry material not higher than three inches; or
 - (C) Completely covered.
 - (9) The facility operator shall prevent, or remove within four hours, any coal deposit higher than three inches on all paved ground surfaces except for those areas subject to paragraph (7), unless the accumulations are either:
 - (A) Moist material; or
 - (B) Completely covered.
 - (10) The facility operator of an AQMD permitted facility shall not allow any truck trailer or railcar, while on the AQMD permitted facility, to transport material unless the trailer or railcar is covered in one of the following

manners, sufficient to prevent material from escaping from the truck/railcar onto the facility property.

- (A) A solid sliding cover on the top of the truck or railcar that is kept completely closed, or;
 - (B) For trucks, a slot-top type cover that reduces the uncovered open surface area by at least 50% and extends above the trailer top edges without gaps; and either the material contained in the trailer is moist material, or a chemical stabilizer is applied to the surface of the material in sufficient amounts and concentration so as to prevent fugitive dust emissions during transport: or
 - (C) A continuous tarp that completely covers the trailer or railcar top, and for trucks, does not contact the material within the trailer. In addition, the tarp shall be installed or the trailer/railcar constructed to prevent wind from entering over the leading edge of the trailer/railcar rim into the interior of the trailer/railcar.
 - (D) For railcars, an alternative method of control proven effective in preventing visible fugitive PM emissions escaping from the railcar and approved by the Executive Officer prior to its use.
- (11) When transport is by truck trailer, the facility operator shall not receive or transfer material in truck trailers unless such truck trailers, that within one quarter mile of the perimeter of the facility, drive only on paved roads.
- (12) The facility operator shall:
- (A) Record daily, any material delivery by truck trailer and any related street sweeping;
 - (B) Record the application of chemical stabilizer pursuant to paragraph (e)(7);
 - (C) Record the time of discovery, condition (moist or dry and or depth of material) and removal of any accumulations pursuant to paragraphs (e)(4), (e)(8) or (e)(9).
- (f) **Open Storage Pile Control Plan**
- The Executive Officer shall disapprove an Open Storage Pile Control Plan unless the facility operator demonstrates that the plan requires the facility operator to implement best available control measures on the pile(s) and provides that no material accumulates beyond the boundaries of the pile and provides that the facility will comply with all applicable AQMD rules. The Plan shall be submitted

as a Rule 1158 Open Pile Control Plan in a complete and approvable form and by the compliance deadline. On and after July 11, 2008, the Executive Officer shall not accept any new Open Storage Control Plan for approval.

- (1) In evaluating the proposed plan, the Executive Officer may reasonably require tests and sampling as necessary to determine the likelihood of emission reductions and compliance.
- (2) The plan shall be implemented by the facility operator upon approval by the Executive Officer.
- (3) The plan shall contain as a minimum:
 - (A) A contour map showing the location of the facility, the location of all piles, the perimeter boundary of the piles, and the surrounding land use and types of roadways within one quarter mile of the perimeter of the facility.
 - (B) The maximum daily amount of each material stored within the facility and the maximum daily throughput.
 - (C) A list of each applicable best available control measure for each fugitive dust source associated with the pile, including sources associated with moving the pile with mechanical equipment, and detailed documentation demonstrating how implementation of each measure will achieve compliance with all applicable AQMD rules under all conditions, including high wind conditions.
- (4) In approving a plan, the Executive Officer may require any reasonable conditions deemed necessary to ensure the operation complies with the plan and AQMD Rules. The conditions may include, but shall not be limited to, application frequency and location of water spray systems, frequency of chemical stabilizer treatments, limits on handling, storage and transport of crushed materials, the placement, construction or modification of permanent perimeter boundaries for each pile or group of piles, monitoring wind conditions, advance notification to the Executive Officer of ship loading activities, and performing ambient air monitoring.
- (5) In approving a plan, the Executive Officer may require any records deemed necessary to be maintained by the facility operator to demonstrate compliance with the plan. Such records shall be retained for at least 2 years and be made available to the Executive Officer upon request.
- (6) The Plan is only valid for one year. If the Executive Officer denies approval, the facility will have 120 days to submit the necessary

applications and two years from the date of the initial denial, to comply with the enclosed storage requirement. In the interim between before the storage pile(s) are enclosed, the Executive Officer may issue an interim plan that requires control measures deemed reasonably necessary to ensure the operation complies with all applicable AQMD Rules.

- (7) Compliance with the provisions of the approved plan does not exempt a person from complying with the requirements of the California Health and Safety Code, or any other AQMD Rule.

- (g) Compliance Schedule
 - (1) All existing Rule 1158 Interim or Permanent Compliance Plans are void.

- (h) Test Method
 - (1) ASTM Methods D-3302, D-4931, or equivalent methods approved by the Executive Officer, the California Air Resources Board and the U.S. EPA, shall be used to determine the material moisture content.
 - (2) Appendix C.1, Procedures for Sampling Surface/Bulk Dust Loading, and Appendix C.2, Procedures for Laboratory Analysis of Surface/Bulk Dust Loading Samples, as contained in Compilation of Air Pollutant Emission Factors (AP-42), as published by the U.S. EPA, or equivalent methods as approved by the Executive Officer, the California Air Resources Board and the U.S. EPA, shall be used to determine the silt loading value.
 - (3) A method approved as accurate by the Executive Officer shall be used to determine the weight of truck exterior surface material and material silt deposits.

- (i) Compliance Determination and Performance Information
 - (1) For facilities subject to sub-division (d), each calendar quarter, if the facility operator selects the silt loading standard for that calendar quarter, and for all other operators once every calendar year, the facility operator shall perform the following tests pursuant to paragraphs (d)(7) and subdivision (h). Records of tests shall be maintained for a period of two years and shall be made available to District personnel upon request. Results of the test shall be submitted to the Executive Officer within 45 days after completion of each test. For facility operators testing once each calendar year, the test results shall be for information only, not for

compliance determination. Silt loading tests shall be performed on the following roads or surfaces:

- (A) On one paved road outside the facility, used by trucks transporting material, within one quarter mile of the exit of the facility; and
 - (B) On one road between the truck wash or truck cleaning area and the facility exit;
- (2) For facilities subject to subdivision (d), each calendar quarter the facility operator shall conduct a test to show compliance with paragraph (d)(15) by sampling truck-trailer exterior surface material on one out-going material transport truck.

(j) Recordkeeping Requirements

The facility operator shall maintain all records at the facility for a period of two years and make them available to AQMD staff upon request.

(k) Exemptions

- (1) The provisions of paragraph (d)(9) shall not apply to:
- (A) Material feed conveyor(s) existing prior to June 11, 1999 which are interrupted by the conveyor shuttle, traveler or tripper, provided that the entire length of the feed conveyor(s) is equipped with permanent wind screens.
 - (B) Underground conveyors. This exemption shall only apply to those sections of the conveyors which are underground.
 - (C) Conveyors located inside enclosed storage. This exemption shall not apply to those sections of the conveyor which are outside of the enclosed storage.
 - (D) That portion of an existing conveyor belt that contains the tensioner.
- (2) The provisions of paragraph (d)(12) shall not apply to prilled sulfur when the freeboard is, in no place, less than 3 feet.
- (3) The provisions of this rule shall not apply to the storage, handling, and transport of molten sulfur.
- (4) The provisions of paragraph (d)(2) shall not apply to the deposit of coke in separation ponds or that has a moisture content of at least 12% in coker pits, slurry bins, and coke dewatering truck loading bins.

- (5) The provisions of paragraph (d)(7) and (e)(5) shall not apply to the specific section of road where public vehicle through-traffic is denied access due to a construction project or road repair.
- (6) The provisions of paragraph (d)(11) shall not apply to existing shiploaders permitted prior to June 11, 1999, for loading coal onto ships with a beam length greater than 105 feet whenever all of the following are met:
 - (A) The facility operator shall maintain a log of the date, time, loading rate, ship capacity, and duration of each use of the headbox by-pass;
 - (B) A maximum of ten ships with a beam length greater than 105 feet per calendar year are loaded under this exemption and the facility operator demonstrates to the Executive Officer's satisfaction that only the offshore side of the vessel is loaded without the required control equipment;
 - (C) The shiploader shuttle boom is not long enough to allow discharge through the telescoping spout to reach the far side of that ship's hatch without using the headbox by-pass;
 - (D) The facility operator notifies the AQMD 48 hours before shiploading is scheduled to commence; and,
 - (E) The shiploader is not reconstructed or replaced after June 11, 1999.
- (7) The provisions of paragraph (d)(2) shall not apply to the following, provided the material or coke is removed within 48 hours and a permanent record is made and the District is notified within the first 24 hours of the incident:
 - (A) Material taken off a conveyor because it is refused by a ship, or material that is associated with the abatement of a hot coke (greater than 120 degrees Fahrenheit) incident; or,
 - (B) Coke, up to 700 tons, that is incompletely processed from a refinery coker.
- (8) The provisions of paragraph (d)(2) shall not apply to moist material or material associated with a "hot coke" incident being actively transported in a front-end loader.
- (9) The provisions of paragraphs (d)(2) and (e)(10) shall not apply to coal inside railcars that originated from outside California, provided the coal is moistened upon arrival at a District permitted facility so as to prevent fugitive emissions pursuant to paragraph (d)(1).

- (10) Provisions of paragraph (d)(2) shall not apply to facilities performing routine maintenance/repair of replacing component parts on/in enclosed storage structures, such as roofing and siding material, providing the following conditions are met:
- (A) the facility notifies the District, in writing or electronically, at least 10 working days prior to any maintenance/repair activity, of the intent to perform the maintenance/repair and the dates for the activity;
 - (B) the surface area of components being replaced does not exceed 2% of the total structure surface area;
 - (C) the duration for maintenance/repair shall not exceed 14 days;
 - (D) during the maintenance/repair, no materials shall be actively moved or disturbed in the structure;
 - (E) no visible emission shall be observed; and
 - (F) any water spray system or air pollution control equipment associated with the structure will be in use as needed to prevent visible emissions during the maintenance/repair operation.
- (11) The provisions of paragraph (d)(2) shall not apply to deposits of material in permanent water recycling system dewatering beds, existing prior to July 11, 2008, provided that:
- (A) they are totally enclosed by wind fences, stand alone structures, with a maximum porosity of 20%, to reduce windblown dust escaping from the beds and tall enough to provide at least three feet of visible freeboard from the top of the material at all times, to provide wind sheltering, no later than November 11, 2008; and
 - (B) the surface stabilization is maintained at a moisture content of not less than 12%, at all points, including during material removal; and
 - (C) no visible emissions shall be observed and shall be visually monitored for, and observations recorded, daily.



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

SUBJECT: NOTICE OF COMPLETION OF A DRAFT ENVIRONMENTAL ASSESSMENT

PROJECT TITLE: PROPOSED AMENDED RULE 1158 - STORAGE, HANDLING, AND TRANSPORT OF COKE, COAL AND SULFUR

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD), as the Lead Agency, prepared this Draft Environmental Assessment (EA) pursuant to its certified regulatory program (SCAQMD Rule 110), which assesses potential environmental impacts that may result from implementing the proposed project identified above. The Draft EA concludes that there will be no significant adverse environmental impacts from implementing the proposed project.

This letter, the Notice of Completion (NOC) and the attached Draft EA are not SCAQMD applications or forms requiring a response from you. Their purpose is simply to provide information to you on the above project. If the proposed project has no bearing on you or your organization, no action on your part is necessary. The proposed project's description, location, and potential adverse environmental impacts are described in the NOC and in the Draft EA.

Comments focusing on your area of expertise, your agency's area of jurisdiction, or issues relative to the environmental analysis should be addressed to Mr. Michael Krause (c/o CEQA Section, Planning, Rule Development and Area Sources) at the address shown above, or sent by FAX to (909) 396-3324 or by e-mail to mkrause@aqmd.gov. Comments must be received no later than 5:00 PM on June 12, 2008. Please include the name and phone number of the contact person for your agency. Questions relative to proposed amended Rule 1158 should be directed to Ms. Pamela Perryman at (909) 396-3103.

The Public Hearing for the proposed amended rule is currently scheduled for July 11, 2008. Note: the Public Hearing date is subject to change.

Date: May 14, 2008

Signature: _____

Steve Smith

Steve Smith, Ph.D.
Program Supervisor
Planning, Rules, and Area Sources

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765-4182

NOTICE OF COMPLETION OF A DRAFT ENVIRONMENTAL ASSESSMENT

Project Title:

Draft Environmental Assessment (EA) for Proposed Amended Rule 1158 - Storage, Handling, and Transport of Coke, Coal, and Sulfur

Project Location:

South Coast Air Quality Management District (SCAQMD) area of jurisdiction consisting of the four-county South Coast Air Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin and the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project:

The purpose of the currently proposed amendments to Rule 1158 is to clarify rule definitions, add compliance flexibility and clarify rule applicability. To accomplish these objectives, definitions of terms used in the exemption section have been added; definitions have been modified to clarify rule intent; railcar operations not explicitly listed, but currently subject to the rule, have been added; additional exemptions are provided; and obsolete language has been deleted. The Draft EA concluded that the proposed project could potentially generate adverse air quality impacts during construction and water demand impacts during operation, but the impacts would not be significant. The Draft EA also concluded that no other environmental topic areas would be significantly adversely affected by the proposed project.

Lead Agency:

South Coast Air Quality Management District

Division:

Planning, Rule Development and Area Sources

Draft EA and all supporting documentation are available at:

SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

or by calling:

(909) 396-2039

The Draft EA can be accessed on the SCAQMD's website at:

<http://www.aqmd.gov/ceqa/aqmd.html>

The Public Notice of Completion is provided through the following:

- Los Angeles Times (May 14, 2008) AQMD Website AQMD Permit Holders & Interested Parties (e.g., public workshop attendees) Mailing List

Draft EA Review Period:

May 14, 2008 – June 12, 2008

Scheduled Public Meeting Dates:

SCAQMD Governing Board Hearing: July 11, 2008, 9:00 a.m.; SCAQMD Headquarters

The proposed project will not have regional and areawide significant impacts, therefore, a CEQA scoping meeting is not required (pursuant to Public Resources Code §21083.9(a)(2)).

CEQA Contact Person:

Mr. Michael Krause

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(909) 396-2706

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Direct Questions on Proposed Amendments to:

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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Environmental Assessment for:

**Proposed Amended Rule 1158 – Storage, Handling, and Transport of
Coke, Coal and Sulfur**

May 14, 2008

SCAQMD No. 080514MK

State Clearinghouse No. TBD

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EXECUTIVE OFFICER

BARRY WALLERSTEIN, D. Env.

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CHAPTER 1 - PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

Project Location

Project Background

Project Objectives

Project Description

Affected Facilities and Engines

INTRODUCTION

The storage, handling, and transport of coke, coal, and sulfur generate fine particulate matter (PM) emissions. PM₁₀ is particulate matter less than 10 microns in diameter and PM_{2.5} is particulate matter less than 2.5 microns in diameter. PM emissions are generated directly from open piles, conveyors, and transfer points, as well as from any activity that disturbs the material, such as moving the pile with a front end loader. Emissions are also generated when material from these sources (e.g., from open piles or uncovered trucks) are deposited on the roadway where the material is then ground up by other vehicles and resuspended into the air. These emission sources contribute to the region's overall air quality, which is not in attainment of the state 24-hour PM₁₀ or federal 24-hour PM_{2.5} standards.

The purpose of Rule 1158 – Storage, Handling, and Transport of Coke, Coal and Sulfur, originally adopted by the South Coast Air Quality Management District (SCAQMD) in 1983 and subsequently amended in 1999, is to control fugitive PM dust emissions from facilities that store, handle and transport coke, coal and sulfur between and including the points of origin and final transport. PAR 1158 is also expected to reduce the potential for the storage, handling and transport of coke, coal and sulfur to violate SCAQMD Rule 402 – Public Nuisance and Rule 403 – Fugitive Dust. Currently, there are approximately 32 facilities that have been identified in the SCAQMD's jurisdiction as subject to Rule 1158.

Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. PM can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM.

The purpose of the proposed amendments to Rule (PAR) 1158 is to clarify rule definitions, add compliance flexibility and clarify rule applicability. To accomplish these objectives, definitions of terms used in the exemption section have been added; definitions have been modified to clarify rule intent; railcar operations not explicitly listed but currently subject to the rule have been added; additional exemptions are provided; and obsolete language has been deleted. No PM emission reductions are anticipated. The Draft EA concluded that the proposed project could potentially generate adverse air quality impacts during construction and water demand impacts during operation, but the impacts would not be significant. The Draft EA also concluded that no other environmental topic areas would be significantly adversely affected by the proposed project.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PAR 1158 is a “project” as defined by CEQA Guidelines §15378. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

This CEQA document has been prepared pursuant to CEQA Guidelines §15252 and is a substitute document for a Negative Declaration. Therefore, pursuant to CEQA Guidelines §15252(a)(2)(B), alternatives to the proposed project are not required because review of the proposed project showed that the proposed project would not have any significant effects on the environment. As a result, alternatives are not required or proposed to avoid or reduce any effects on the environment that are already demonstrated to be less than significant. This conclusion is supported by the environmental checklist in Chapter 2 showing the possible effects examined in reaching this conclusion.

CEQA requires that the potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this EA to address the potential environmental impacts associated a broad policy program that includes PAR 1158. This Draft EA is intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with detailed information on the environmental effects of the proposed project; and, (b) to be used as a tool by decision makers to facilitate decision making on the proposed project.

All comments received during the public comment period on the analysis presented in the Draft EA will be responded to and included in the Final EA. Prior to making a decision on the proposed amendments, the SCAQMD Governing Board must review and certify the EA as providing adequate information on the potential adverse environmental impacts of the amended rule.

PROJECT LOCATION

PAR 1158 will apply to the SCAQMD's entire jurisdiction. The SCAQMD has jurisdiction over an area of 10,473 square miles (referred to hereafter as the district), consisting of the four-county Basin and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north

and east. The 6,745 square-mile Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).

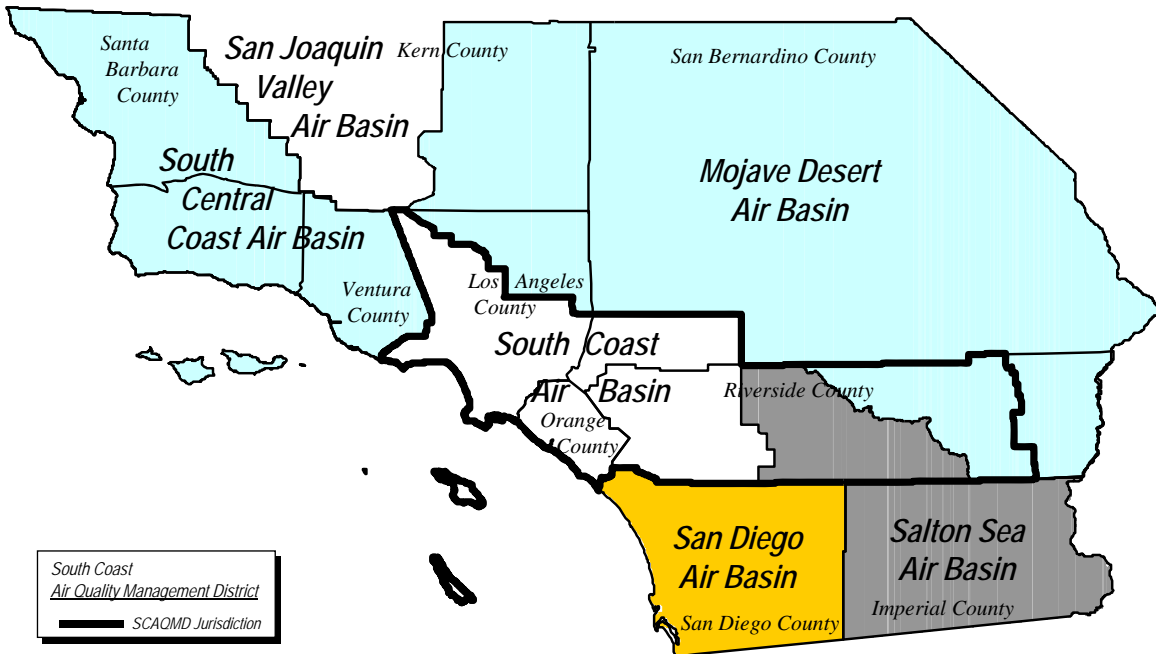


FIGURE 1-1

South Coast Air Quality Management District

PROJECT BACKGROUND

Rule 1158, adopted in 1983, originally regulated PM emissions only from petroleum coke operations. During the 1990's coal, coke and sulfur handling facilities were the source of many community complaints and were issued numerous Notices of Violation (NOV) and Notices to Comply (NC) for Rules 402 – Nuisance, and 403 –

Fugitive Dust, violations. Monitoring data collected in the 1990's confirmed that many facilities subject to Rule 1158, as well as facilities not subject to Rule 1158, were responsible for public nuisances (Rule 402) and for violating fugitive dust-control requirements of Rule 403- Fugitive Dust. Site visits found poor housekeeping and general malfunction of equipment in many cases. Investigation of available control technologies also revealed that some sources were operating with compliant enclosures and good housekeeping practices. The 1999 rule amendment added coal and sulfur to the rule's dust control provisions and tightened requirements to further reduce PM emissions. The 1999 amendments mandated all coke piles and new coal and sulfur piles be enclosed (storage, unloading and transfer operations). Furthermore, the rule set a visible dust standard. The road surfaces and vehicle movement areas where material accumulated had to be paved to allow cleaning. Trucks and trailers transporting materials had to be covered, be leak resistant, and cleaned before leaving the facility. As such, the rule applies to all facilities that store, handle or transport coke, coal or sulfur. Currently there are approximately 32 facilities that have been identified in the SCAQMD's jurisdiction as subject to Rule 1158. There are nine refineries, four sulfur handlers, two foundries, two cement companies, two secondary lead smelting operations, and 13 facilities which handle petroleum coke. Affected facilities are primarily in the area in or adjacent to the ports.

The current rule amendments are proposed to further improve the clarity of the rule and make more explicit the operations intended to be covered by the rule, add flexibility through additional exemptions, and remove obsolete language used during the 1999-2004 phase-in implementation period.

HEALTH EFFECTS FROM PARTICULATE EMISSIONS

Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM10 and PM2.5.

A consistent correlation between elevated ambient fine particulate matter (PM10 and PM2.5) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by fine particles (PM2.5) and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to particulate matter.

The elderly, people with pre-existing respiratory and/or cardiovascular disease and children appear to be more susceptible to the effects of PM10 and PM2.5.

For more detailed health information from PM emissions, please refer to Chapter 2 – Air Quality and Health Effects, and Appendix I – Health Effects, of the 2007 Air Quality Management Plan, which can be accessed on the SCAQMD website at: <http://www.aqmd.gov/aqmp/07aqmp/index.html>

CURRENT PM AIR QUALITY

The SCAQMD monitored PM10 concentrations at 21 locations in 2007. Highest PM10 concentrations were recorded in Central San Bernardino Valley area and in Perris Valley and Mira Loma in Riverside County. The state 24-hour standard was exceeded at 20 of the 21 monitoring locations in 2007 and the maximum number of exceedances of 71 days was in the Metropolitan Riverside County area. The federal 24-hour standard was not exceeded at any of the locations monitored in 2007. The much more stringent state standards were exceeded in most areas.

The SCAQMD began regular monitoring of PM2.5 in 1999 following the U.S. EPA's adoption of the national PM2.5 standards in 1997. In 2007, PM2.5 concentrations were monitored at 20 locations throughout the district. High PM2.5 concentration and the highest number of PM2.5 concentration exceedances, at 32 days, were from the inland valley areas of Metropolitan Riverside County. However, PM2.5 concentrations were also high in the metropolitan area of Los Angeles County with the highest PM2.5 concentration in 2007 located in South San Gabriel Valley. The high PM2.5 concentrations in Los Angeles County are mainly due to the secondary formation of smaller particulates resulting from mobile and stationary source activities. In contrast to PM10, PM2.5 concentrations were low in the Coachella Valley area of SSAB. PM10 concentrations are normally higher in the desert areas due to windblown and fugitive dust emissions.

PROJECT OBJECTIVES

The objectives of PAR 1158 are to:

1. Clarify the intent of the rule by adding and modifying definitions of terms;

2. Add compliance flexibility through new exemptions;
3. Clarify rule applicability by making more explicit the operations currently subject to the rule; and
4. Delete obsolete language.

PROJECT DESCRIPTION

Proposed Amended Rule 1158

The modifications proposed for Rule 1158 are explained below.

Purpose (subdivision a)

No modifications proposed.

Applicability (subdivision b)

No modifications proposed.

Definitions (subdivision c)

- Definition for “Chemical Stabilizer” [paragraph (c)(5)] has been modified to clarify intent of the definition;
- New proposed definition for “Coker Pit” [paragraph (c)(8)] added;
- New proposed definition for “Dewatering Truck-Loading Bin” [paragraph (c)(11)] added;
- Definition for “Enclosed Storage” [paragraph (c)(14)] has been modified to clarify intent of the definition;
- Outdated definition of “Existing Open Storage” [paragraph (c)(13)] deleted;
- New proposed definition for “Separation Pond” [paragraph (c)(28)] added;
- New proposed definition for “Slurry Bin” [paragraph (c)(28)] added; and
- Definition for “Transfer Point” [paragraph (c)(36)] has been modified to clarify intent of the definition.

Requirements (subdivisions d and e)

- Clarify that the location, such as structures or buildings, used for enclosed storage is subject to the requirements [subparagraph (d)(2)(A)].

- Clarify that compliance with requirements is required except when material or vehicles are entering or leaving [subparagraph (d)(2)(B)].
- Clarify the intent of the rule by adding “railcar” to the following sections in the rule: subparagraph (d)(10)(D), paragraph (d)(12), subparagraph (d)(12)(A), subparagraph (d)(12)(C), paragraph (d)(13), paragraph (d)(14), paragraph (d)(16), paragraph (e)(10), subparagraph (e)(10)(A), and subparagraph (e)(10)(C).
- Clarify the existing allowance under (d)(2)(B) for railcar operators to use other control devices approved by the Executive Officer equivalent to the existing requirements under subparagraphs (d)(12)(A) and (d)(12)(C) [subparagraph (d)(12)(D)].

Open Storage Pile Control Plan (subdivision f)

No modifications proposed.

Compliance Schedule (subdivision g)

- The whole outdated subdivision will be deleted except to void all existing Rule 1158 Interim or Permanent Compliance Plans.

Test Methods (subdivision h)

No modifications proposed.

Compliance Determination and Performance Information (subdivision i)

No modifications proposed.

Recordkeeping Requirements (subdivision j)

No modifications proposed.

Exemptions (subdivision k)

- Outdated compliance requirements will be deleted [subparagraph (k)(1)(A), subparagraph (k)(1)(D), paragraph (k)(6), paragraph (k)(8), paragraph (k)(10), and paragraph (k)(11)].

- Reword the exemption regarding coke in separation ponds to clarify intent of the rule [paragraph (k)(4)].
- Add the size of the beam length for the exempt ships to reflect the width of the Panama canal [subparagraph (k)(6)(B)].
- Add an exemption from requirements for material being actively transported in a front-end loader to clarify intent of the rule [paragraph (k)(8)].
- Add an exemption from requirements for coal inside railcars that originated outside California provided the coal is moistened at the point of entry to a permitted facility [paragraph (k)(9)].

Please refer to Appendix A for the text of PAR 1158.

AFFECTED FACILITIES AND CONTROL METHODS

Facilities subject to Rule 1158 include the following: all oil refineries where petroleum coke is produced, handled, stored, or transported; all facilities involved in the transporting, handling, storing, or ship loading of coke, coal or sulfur; all facilities which handle, transport, or store petroleum coke in piles for use as a fuel source; any facility which handles, transports, or stores petroleum coke in the production of calcined cokes; and all facilities which handle, transport, or store sulfur for the production of prilled sulfur or pelleted sulfur. Approximately 32 existing industrial facilities are subject to Rule 1158. The rule amendments would not increase the number of affected facilities as the modifications do not expand the applicability of the rule requirements, but rather clarify the intent of the rule. There are nine refineries, four sulfur handlers, two foundries, two cement companies, two secondary lead smelting operations, and 13 facilities which handle coke (as opposed to being end-users).

Coal is mined in the eastern and western United States. The coal is sent by railcar to several coke bulk handling facilities at the Ports of Long Beach and Los Angeles, where it is exported as a high BTU (British thermal unit) fuel that competes with oil in domestic and world markets. At the ports, the coke bulk loading facilities tip each railcar (a single train may pull 100 cars) to unload it and then the coal is conveyed to large open piles or a storage barn where it remains until loaded into the holds of ocean-going vessels.

Control technology presently exists to significantly reduce PM emissions from the storage, handling, and transport of coke, coal, and sulfur. Control technologies include enclosures (to serve as a windbreak), enclosed conveyors, baghouses, mist sprays, chemical stabilizers, telescoping loaders, truck trailer covers or slot-tops, tarps, and truck washes.

One proposed amendment to Rule 1158 will allow compliance flexibility for those coal railcars originating outside California provided the coal is moistened to knock down potential airborne PM. Currently, railcars originating from outside California have open beds, which disperse the fine PM emissions from the coal into the atmosphere early in the journey before entering the state of California. Upon entering the permitted facility in the Basin, the coal railcar is required to be covered with a tarp or solid sliding cover. The process of covering the railcar once onsite is costly, labor intensive, and, because the railcar is not stationary for a long time (one hour to one day) before moving on, not economically efficient. Allowing coal to be moistened as substitute compliance instead of covering the railcar would provide flexibility in complying with the existing fugitive dust and opacity requirements in Rule 1158. The watering method is expected to provide equivalent emission reductions as tarping or covering with a solid top. Thus, the exemption would not result in a relaxation of the current requirements but would provide an alternative method of compliance.

In order to comply with the compliance flexibility option in PAR 1158 and ensure the coal is moistened, the affected facility operators would need to install a water spray system (see Figure 1-2) at the entrance of the facility site. Only four known facilities in the SCAQMD's jurisdiction currently import coal by railcar which originated outside California and, thus, would be eligible for the compliance flexibility option. One of the four facilities, Metropolitan Stevedore at the Port of Long Beach, California, has already constructed a water spray system, which is currently operating. Figure 1-2 depicts the railcar entering their property (beginning of chain link fence) on existing rail tracks passing under the water spray bar to moisten the coal. The water spray system can be assembled onsite with minimal equipment, but the system pictured in Figure 1-2 requires an employee to manually activate the water operation. The activation of the water operation is not expected to require an additional full-time employee to conduct such a task. Except for the water spray system shown in Figure 1-2, no new control technology options, beyond those already required, are expected to be needed to comply with PAR 1158.



FIGURE 1-2

Coal Railcar Entering the Affected Facility Passing Under Water Spray System

Other Rule 1158 proposed amendments include adding railcar to various sections of the rule and allowing the use of alternative control devices with control efficiencies equivalent to current control efficiencies. Railcar operations are currently subject to requirements of Rule 1158, but a number of sections of the rule do not explicitly use the term “railcar” operation, which was always intended to be regulated by the rule. In order to provide clarification as to the intent of the rule to control PM emissions from open piles regardless if onsite, on a truck, or other modes of storage, handling or transport, railcar has been added to various sections of the rule. The addition of the word railcar does not trigger new requirements or expand the applicability of existing requirements.

To prevent material from escaping from the mode of transport (e.g., railcar) onto the facility property, other control devices approved by the Executive Officer are currently allowed pursuant to the rule section allowing other devices when maintaining all piles in an enclosed storage. Because the vehicle in which material is transported becomes a stationary pile while onsite, the open transport containment is subject to the same requirements as an open storage pile on the ground. Thus, no

new requirements are triggered and the applicability of existing requirements is not expanded.

Because PAR 1158 is a clarification of existing requirements and allows using an equivalent compliance option for railcars, no PM emission reductions are anticipated.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the PAR 1158.

GENERAL INFORMATION

Project Title:	Proposed Amended Rule 1158– Storage, Handling, and Transport of Coke, Coal and Sulfur
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Michael A. Krause (909) 396-2706
Rule Contact Person:	Pamela Perryman (909) 396-3103
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	The purpose of the currently proposed amendments to Rule 1158 is to clarify rule definitions, add compliance flexibility and clarify rule applicability. To accomplish these objectives, definitions of terms used in the exemption section have been added; definitions have been modified to clarify rule intent; railcar operations not explicitly listed but currently subject to the rule have been added; additional exemptions are provided; and obsolete language has been deleted.
Surrounding Land Uses and Setting:	Not applicable
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. None of the environmental topics are expected to be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Hydrology and Water Resources | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Solid/Hazardous Waste |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Transportation/Circulation. |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Noise | <input type="checkbox"/> Mandatory Findings |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.

- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.

- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date May 14, 2008

Signature: Steve Smith
Steve Smith, Ph.D.
Program Supervisor
Planning, Rule Development & Area
Sources

ENVIRONMENTAL CHECKLIST AND DISCUSSION

	Potentially Significant Impact	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:			
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

The project will block views from a scenic highway or corridor.

The project will adversely affect the visual continuity of the surrounding area.

The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

I. a), b) & c): Rule 1158 is being amended to clarify the intent of the rule and provide compliance flexibility, but will not change rule applicability so no new facilities will be affected. Rule 1158 regulates PM emissions, while PAR 1158 would provide a new alternative compliance method for coal railcars originating outside California. PAR 1158 will not relax existing control requirements as compliance with fugitive dust and opacity limits are still required. PM is the primary element that adversely affects visibility. PAR 1158 improves compliance with the

PM control requirements for railcars so PAR 1158 will be expected to generate the entire amount of daily PM emissions reductions originally anticipated for the rule. To that extent, all PM emission reductions originally anticipated for Rule 1158 are achieved through PAR 1158 and, thus, improvements in visibility would also be expected. Better visibility will improve existing scenic vistas and the existing visual character or quality of areas in the vicinity of affected sites. If the operators of the three affected facilities eligible for the new exemption decide to install the water spray system, the associated construction activities are not expected to be major and, thus, physical changes to existing facilities where the coal railcars originate from outside California are not expected to be substantial. Further, construction equipment and materials might be needed, but because the installation of the water spray system is not expected to take place over a period longer than one or two days, the adverse aesthetic impact is expected to be temporary. As seen in Figure 1-2 the water spray system is not a large apparatus and, thus, the operation of the water spray system will not significantly affect the existing aesthetic setting. Therefore, any potential construction and operation of new equipment as a result of the proposed project would not damage or obstruct scenic resources and the existing visual character of any site in the vicinity of affected industrial facilities will not be degraded.

I. d). There are no components in PAR 1158 that would require construction activities at night. Therefore, no additional lighting at the facility would be required beyond what currently may exist. Similarly, the proposed project has no provisions that would require affected equipment to operate at night. Railyards are already lighted at night and the operation of the water system would not require additional lighting. Therefore, the proposed project is not expected to create a new source of substantial light or glare at an affected facility that would adversely affect day or nighttime views in the area. Therefore, the proposed project is not expected to create significant adverse aesthetic impacts.

Based on the above considerations, significant adverse impacts to aesthetics resources are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES. Would the project:			
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?

- | | | | |
|---|--------------------------|--------------------------|-------------------------------------|
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Project-related impacts on agricultural resources will be considered significant if any of the following conditions are met:

The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.

The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.

The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

Discussion

II. a) - c): Minor construction from the installation of a water spray system will not require converting farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. Since the proposed project would not substantially change the facility or process for which certain coal railcars are stored and handled, there are no provisions in the proposed rule that would affect land use plans, policies, or regulations. Further, additional land would not need to be purchased to install the water spray system. Land use and other planning considerations are determined by local governments and no land use or planning requirements relative to agricultural resources will be altered by the proposed project.

Based on the above considerations, significant adverse impacts to agriculture resources are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts will be evaluated and compared to the significance criteria in Table 2-1. If impacts equal or exceed any of the following criteria, they will be considered significant.

TABLE 2-1
Air Quality Significance Thresholds

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants ^d		
NO2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$	
PM2.5 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
Sulfate 24-hour average	1 $\mu\text{g}/\text{m}^3$	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

^a Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter \geq greater than or equal to

Discussion

Rule 1158 is being amended to clarify the intent of the rule and provide compliance flexibility, but will not change rule applicability so no new facilities will be affected.

PAR 1158 provides an alternative compliance method for coal railcars originating outside California that will provide equivalent emission levels compared to the existing fugitive dust and opacity limits requirements. As discussed in Chapter 1, fine PM emissions from coal in railcars originating outside California are expected to be dispersed early in the journey so no PM emissions are likely to be generated when the coal is being transported in open railcars across the Basin. Upon arrival at a permitted facility in the Basin, the coal railcar is currently required to be covered with a tarp or solid cover to prevent airborne PM and reentrainment. The amendment will exempt coal railcars originating outside California from covering with a tarp or solid cover as long as the coal is moistened and still complies with fugitive dust and opacity limits. In order to ensure the coal is moistened, the affected facilities would need to install a water spray system at the entrance of the facility site. Three known facilities in the Basin could take advantage of the new exemption. Only one water spray system for each facility would be necessary for the one dedicated rail track currently onsite. Construction of the new water spray system could generate potential air quality impacts. With regard to the other modifications to Rule 1158, no new requirements are triggered and the applicability of existing requirements is not expanded.

III. a): PAR 1158 would not conflict with or obstruct the applicable air quality plan implementation. The primary purpose of the SCAQMD's AQMP is to control emissions and to attain and maintain all federal and state ambient air quality standards for the district. The 2007 AQMP concluded that major reductions in emissions of VOC, NO_x and PM are necessary to attain the air quality standards for ozone and PM_{2.5}. The proposed requirements in PAR 1158 would clarify the intent of Rule 1158 to ensure that all originally anticipated PM emission reductions are achieved, which furthers the emission reduction goals of the 2007 AQMP.

III. b) & d): Implementing PAR 1158 could result in the installation of one or more water spray systems at three affected facilities. The new exemption is an alternative compliance option, which is voluntary and not a requirement. If a facility operator is covering the coal railcar originating outside California, then a water spray system is not required. However, for a "worst-case" scenario, the following analysis assumes that facility operators prefer the water spray system and would not cover the coal railcar originating outside California. Although an employee is needed to activate the water, however, an additional permanent employee to conduct this operation is not expected to be necessary as the delivery frequency is typically one out-of-state train of coal per week.

Construction Impacts

The installation of a water spray system (or any other similar moistening device) would likely take place in two phases: transport/delivery of equipment and installation/water activation. In some cases, a facility operator may choose to install an underground water system to transport water from the source to the water bar.

Thus, a third phase was evaluated to account for trenching, piping and paving for this scenario. Finally, a facility operator may have to reinforce the existing rail tracks to support the foundation, which may be vulnerable to deterioration from overspray of the water spray system. A fourth phase scenario examines impacts from such activity. Construction phases typically occur on different days because of the different nature of the activities, the unknown origin and location of the equipment, and the fact that the installation phase will require a full eight hours, which means that other construction phases would not occur on the same eight-hour day. An on-road vehicle will be required for delivery of material needed to construct the water spray system. Unloading the equipment is assumed to be conducted by a forklift and two workers to conduct the unloading task.

Off-road equipment needed to install the spray bar and water system would include a forklift, welder, and a generator set. It is assumed the equipment will be utilized for the whole eight-hour day to complete the task for each affected facility. Four workers would be needed to perform the installation task of constructing the water spray bar over the railcar tracks and hooking up the water conduit. Mobile source emissions will be generated from the vehicles driven by these construction workers to and from the site.

Installing an underground water piping system would involve trenching or earth moving in the appropriate area, dropping the piping, hooking up to both the source and the water spray system, and re-paving the surface using paving equipment, rollers and cement mixers. Due to the minimal size of the water spray system, the activity is not expected to take place longer than one day. Four construction workers would be expected to complete the task.

To secure the foundation under the existing rail track in the area of the water spray system would involve equipment, such as a forklift, to raise up the rail tracks and cement equipment to repave and secure the surface. The four construction workers are expected to complete the task in one day as the area around the water spray system is not a large region.

Table 2-2 summarizes the emissions from each of the construction phases on a given day. As noted in Table 2-2, the peak emissions are experienced from different activities for each of the criteria pollutants. For example, NO_x emissions peak during the installation of the water spray system, while PM₁₀ emissions peak during both the installation of underground water piping and installation of the new foundation. While unlikely, the “worst-case” scenario that all three facilities will install the water spray system on the same day is calculated in Table 2-2. Since the activity from the three activities could be staggered on a given day, the peak emission from each criteria pollutant was used to compare to the SCAQMD daily construction significance thresholds and determine significance. The detailed calculations, along with the off-road and on-road emission factors, can be found in Appendix B.

TABLE 2-2**Construction Emissions from Delivering and Installing Water Spray System**

Activity	CO (lbs/day)	NO_x (lbs/day)	PM₁₀ (lbs/day)	PM_{2.5} (lbs/day)	VOC (lbs/day)	SO_x (lbs/day)
Delivering the Equipment	1.8	2.3	0.1	0.1	0.3	0.003
Installing the Water Spray System	7.6	13.6	0.9	0.8	2.4	0.014
Installing Underground Water Piping	8.1	13.4	13.0	11.9	2.5	0.013
Installation of New Foundation For Rail Tracks (Under Water Spray System)	7.3	12.7	12.8	11.8	2.2	0.013
PEAK Daily Construction Emissions	8.1	13.6	13.0	11.9	2.5	0.014
TOTAL Daily Construction Emissions for Three Installations	24.3	40.8	39	35.7	7.5	0.04
SCAQMD Daily Construction Significance Thresholds	550	100	150	55	75	150
Significant?	No	No	No	No	No	No

As noted in Table 2-2, the peak daily emissions from the construction scenarios as a result of the proposed project would not exceed the SCAQMD's daily air quality significance thresholds during the construction phase. Thus, implementing PAR 1158 will not have a significant air quality impact from construction.

Operational Phase

The operation of the water spray system is not expected to worsen current operational air quality impacts, but rather maintain the same level of PM emissions reductions from exposed coal beds. No additional permanent employees are expected to be needed to activate the water spray system as the out-of-state coal train deliveries occur once a week and do not need constant monitoring while being passed under the water spray bar. The proposed project would not violate any ambient air quality standards, but would assist in continuing to reduce PM emissions, which will assist the district in attaining state and national PM standards. Thus, ambient air quality standards are not anticipated to be violated nor will the proposed project generate any emissions that would exceed any of the significance thresholds in Table 2-1.

III. c): **Cumulative Impacts:** Since PAR 1158 is not expected to generate potentially significant adverse project-specific construction or operational air quality impacts, the proposed project's contribution to a potentially significant cumulative impact during operation is rendered less than cumulatively considerable and, thus, is not significant (CEQA Guidelines §15064(h)(2)). With regard to other projects in the vicinity occurring at the same time as this project, CEQA Guidelines §15064(h)(4) states "the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable."

Greenhouse Gases /Climate Change

Global climate change refers to changes in average climatic conditions on earth as a whole, including temperature, wind patterns, precipitation and storms. Global warming, a related concept, is the observed increase in average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of GHGs in the atmosphere. The six major GHGs identified by the Kyoto Protocol are CO₂, methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation absorbed by the atmosphere is known as the "greenhouse effect." The potential effects of global climate change may include rising surface temperatures, loss in snow pack, sea level rise, more extreme heat days per year, and more drought years.

CO₂ is an odorless, colorless natural greenhouse gas. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of CO₂ are from burning coal, oil, natural gas, wood, butane, propane, etc. CH₄ is a flammable gas and is the main component of natural gas. N₂O, also known as laughing gas, is a colorless greenhouse gas. Some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of GHGs. HFCs are synthetic man-made chemicals that are used as a substitute for chlorofluorocarbons (whose production was stopped as required by the Montreal Protocol) for automobile air conditioners and refrigerants. The two main sources of PFCs are primary aluminum production and semiconductor manufacture. SF₆ is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHGs. As reported by the California Energy Commission (CEC), California contributes 1.4 percent of the global and 6.2 percent of the national GHGs emissions (CEC, 2004). The GHG inventory for California is presented in Table 2-3 (CARB, 2007). Approximately 80 percent of GHGs in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions (see Table 2-3).

TABLE 2-3
California GHG Emissions and Sinks Summary
(Million metric tons of CO₂ equivalence)

Categories Included in the Inventory	1990	2004
<u>ENERGY</u>	386.41	420.91
<i>Fuel Combustion Activities</i>	381.16	416.29
Energy Industries	157.33	166.43
Manufacturing Industries & Construction	24.24	19.45
Transport	150.02	181.95
Other Sectors	48.19	46.29
Non-Specified	1.38	2.16
<i>Fugitive Emissions from Fuels</i>	5.25	4.62
Oil and Natural Gas	2.94	2.54
Other Emissions from Energy Production	2.31	2.07
<u>INDUSTRIAL PROCESSES & PRODUCT USE</u>	18.34	30.78
Mineral Industry	4.85	5.90
Chemical Industry	2.34	1.32
Non-Energy Products from Fuels & Solvent Use	2.29	1.37
Electronics Industry	0.59	0.88
Product Uses as Substitutes for Ozone Depleting Substances	0.04	13.97
Other Product Manufacture & Use Other	3.18	1.60
Other	5.05	5.74
<u>AGRICULTURE, FORESTRY, & OTHER LAND USE</u>	19.11	23.28
Livestock	11.67	13.92
Land	0.19	0.19
Aggregate Sources & Non-CO ₂ Emissions Sources on Land	7.26	9.17
<u>WASTE</u>	9.42	9.44
Solid Waste Disposal	6.26	5.62
Wastewater Treatment & Discharge	3.17	3.82
EMISSION SUMMARY		
Gross California Emissions	433.29	484.4
Sinks and Sequestrations	-6.69	-4.66
Net California Emissions	426.60	479.74

Source: CARB, 2007.

The analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants significance thresholds are based on daily emissions because attainment or non-attainment is based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health, e.g., one-hour and eight-hour. Since the half-life of CO₂ is approximately 100 years, for example, the effects of GHGs are longer-term, affecting global climate over a relatively long time frame. As a result, the SCAQMD's current position is to evaluate GHG effects over a longer timeframe than a single day. GHG emissions in the form of CO₂ will be generated by the off-road equipment and on-road vehicles during the construction phase of the project. CO₂ emissions were estimated using emission factors from CARB's EMFAC2007 and OFFROAD2007 models and EPA's AP-42. The CO₂ emission factors and calculations can be found in the emission calculation spreadsheets in Appendix B.

The construction phase during which CO₂ emissions would be generated from mobile source construction equipment and on-road vehicles is expected to take place in less than a week period of time per facility. Table 2-4 provides the CO₂ emissions from each of the construction phases and, as a worst-case scenario, adds the emissions from all three applicable facilities although it is unlikely that all three applicable facilities would need to do all four activities evaluated. CO₂ emissions would occur on a daily basis, but emissions from different phases occur over more than one day. The total CO₂ emissions in Table 2-4 are the sum of all daily GHG emissions. The sum of the daily GHG emissions equals the annual emissions. GHG emissions are annualized because this is the typical currency in which GHG emissions are expressed. Due to its long half life, CO₂ emissions in Table 2-4 are not provided a time unit.

TABLE 2-4
CO₂ Emissions from Construction Phases

Activity	CO₂ Emissions (lbs) Per Facility	CO₂ Emissions (lbs) From All Three Facilities	TOTAL CO₂ Emissions (metric tons)
Delivering the Equipment	262	786	0.36
Installing the Water Spray System	1,216	3,648	1.66
Installing Underground Water Piping	1,030	3,090	1.40
Installation of New Foundation For Rail Tracks (Under Water Spray System)	1,017	3,051	1.39
TOTAL CO₂ Emissions from Three Applicable Facilities	3,525	10,575	4.8

As shown in Table 2-4, if all three applicable facility operators choose to install the water spray system to qualify for the exemption from covering or tarping the coal railcar originating outside California and conduct all other activity such as installing underground water piping and a new foundation, the maximum CO₂ emissions would be under five metric tons.

The operational phase of implementing the proposed project would result in no change or increase in CO₂ emissions as the operation of the water spray system does not generate CO₂ emissions.

An increase in GHG emissions of five metric tons from the construction phase of the proposed project would be less than significant for the following reasons. Neither SCAQMD nor any other air regulatory agency in California has established a significance threshold for GHG emissions yet. In the absence of a specific significance threshold, SCAQMD staff has evaluated GHG significance for projects where it is the lead agency on a case-by-case basis. In this analysis, SCAQMD staff has used a variety of benchmarks to evaluate GHG impacts. As additional information is compiled with regard to the level of GHG emissions that constitute a significant cumulative climate change impact, SCAQMD will continue to revisit and possibly revise the level of GHG emissions considered to be significant.

In its CEQA & Climate Change document (January, 2008), CAPCOA identifies many potential GHG significance threshold options. The CAPCOA document indicates that establishing quantitative thresholds is a balance between setting the level low enough to capture a substantial portion of future residential and non-residential development, while also setting a threshold high enough to exclude small development projects that will contribute a relatively small fraction of the cumulative statewide GHG emissions. For example, CAPCOA identifies one potential significance threshold as 10,000 metric tons per year, which was considered by the Market Advisory Committee for inclusion in a Greenhouse Gas Cap and Trade System in California. Another potential threshold identified by CAPCOA is 25,000 metric tons per year, which is CARB's proposed mandatory reporting threshold under AB 32. GHG emissions increase from the proposed project for PAR 1158 would be substantially lower than both of these reporting thresholds.

Finally, another approach to determining significance is to estimate what percentage of the total inventory of GHG emissions are represented by emissions from a single project. If emissions are a relatively small percentage of the total inventory, it is possible that the project will have little or no effect on global climate change. According to available information, the statewide inventory of CO₂eq. emission is as follows: 1990 GHG emissions were estimated to equal 427 million metric tons of CO₂eq. and 2020 GHG emissions are projected to equal 600 million metric tons of CO₂eq. under a business-as-usual scenario. Interpolating an inventory for the year 2008 (time of construction) results in an estimated inventory of approximately 531 million metric tons of CO₂eq. CO₂ emissions in 2008 of five metric tons from PAR

1158 represent 0.0000009 percent of the statewide GHG inventory in 2010. This small percentage of GHG emissions compared to the total projected statewide GHG emissions inventory is another basis for the SCAQMD's conclusion that GHG emissions from implementing PAR 1158 are less than significant.

PAR 1158 is part of a comprehensive ongoing regulatory program that includes implementing related SCAQMD 2007 AQMP control measures, existing rules as amended or new rules to attain and maintain with a margin of safety all state and national ambient air quality standards for all areas within its jurisdiction. The 2007 AQMP estimates a CO₂ reduction of 427,849 metric tons per year by 2014, and a CO₂ reduction of 1,523,445 metric tons per year by 2020. Therefore, PAR 1158 in connection with other 2007 AQMP control measures is not considered to be cumulatively significant.

Since GHG emissions are considered cumulative impacts, and PAR 1158 GHG emissions are below the 10,000 metric ton per year Market Advisory Committee threshold, 25,000 metric ton per year CARB proposed mandatory reporting threshold under AB 32, a small percentage of the total statewide GHG inventory in 2014, and, with other control measures in the 2007 AQMP, which is a comprehensive ongoing regulatory program that would reduce overall CO₂ emissions; cumulative GHG adverse impacts from PAR 1158 are not considered significant.

III. e): Noticeable odors from diesel fueled construction equipment are not expected to be generated during the construction period to install the water spray because of the small number of construction equipment needed to install the system. No objectionable odors will be generated from the operation of the water spray system and, thus, potential odor impacts will result from the proposed project.

III. f): The proposed project will clarify existing rule requirements and provide an alternative compliance option subject to existing fugitive and opacity requirements to restrict backsliding or increasing PM emissions. Thus, the proposed project will not diminish an existing air quality rule or future compliance requirements.

Based on the above considerations, significant adverse impacts to air quality are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:			
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.

The project interferes substantially with the movement of any resident or migratory wildlife species.

The project adversely affects aquatic communities through construction or operation of the project.

Discussion

IV. a), b), d): The proposed project is not expected to require any major construction activities from the installation of water spray system as discussed in Section III. Air Quality. Installation of the system, which is basically three bars and approximately nine water nozzles, is expected to require no more than four to six construction workers, four to five pieces of equipment and each construction phase can generally be completed in one day. The water spray system is expected to be placed on the established site as the railcar enters the property. Similarly, the proposed project will not require the construction of new structures on property not already established with a foundation although minor foundation work may be necessary to stabilize rail tracks. Therefore, PAR 1158 will have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely in the SCAQMD's jurisdiction. PAR 1158 will primarily affects coal railcars originating outside California and will not worsen the current operation or worsen present conditions of plant and animal life. Further, PAR 1158 does not require acquisition of additional land or further conversions of riparian habitats or sensitive natural communities where endangered or sensitive species may be found. Any changes to the existing physical environment would occur for business reasons, not as a result of implementing PAR 1158.

IV. c): Acquisition of protected wetlands is not expected to be necessary to moisten coal railcars originating outside of California. Operators of affected railcars would install a water spray system on the established facility so no new property is required for installation and operation. Thus, the alternative compliance option is not

expected to require removing, filling or interrupting any hydrological system or have an adverse effect on federally protected wetlands.

IV. e), f): There are no provisions in the proposed project that would adversely affect land use plans, local policies or ordinances, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project. PAR 1158 would not affect in any way habitat conservation or natural community conservation plans, agricultural resources or operations, and would not create divisions in any existing communities.

Based on the above considerations, significant adverse impacts to biological resources are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside a formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to cultural resources will be considered significant if:

The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.

Unique paleontological resources are present that could be disturbed by construction of the proposed project.

The project would disturb human remains.

Discussion

V. a) - d): There are existing laws in place that are designed to protect and mitigate potential impacts to cultural resources. Operators of existing affected facilities that receive coal rail cars may be required to perform minor construction activities such as grading, trenching, etc., to comply with the proposed project. Any grading or trenching activities would occur at sites already substantially disturbed as a result of constructing and operating the railyard. Further, no new property is required for water spray system installation and operation because the water spray system is expected to be installed in the same location as where the existing rail tracks enter the affected facility. Therefore, cultural resources are not expected to be disturbed in any way. As a result, the proposed project has no potential to cause a substantial adverse change to a historical or archaeological resource, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or disturb any human remains, including those interred outside a formal cemetery.

The proposed project activities will occur in areas of the affected facilities where the ground surface has already been disturbed, and this past disturbance reduces the likelihood that previously unknown cultural resources will be encountered. If cultural or archaeological resources were to be encountered unexpectedly during ground disturbance associated with construction of the water spray system or stabilization of the rail tracks, proper procedures (i.e., contacting professional archaeologist, temporarily halting disturbance work in vicinity, etc.) will be taken.

Based on the above considerations, significant adverse impacts to cultural resources are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:			
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to energy and mineral resources will be considered significant if any of the following criteria are met:

The project conflicts with adopted energy conservation plans or standards.

The project results in substantial depletion of existing energy resource supplies.

An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.

The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI. a), e): The proposed project clarifies existing rule requirements, provides compliance flexibility, does not require electricity nor is it expected to change current energy needs at affected facilities. Therefore, PAR 1158 will not conflict with adopted energy conservation plans. Affected facilities would still be expected to comply with any existing energy conservation plans or energy standards, to the extent that affected engines are subject to such plans or standards.

VI. b), c), d): Implementation of PAR 1158 will not result in the need for new or substantially altered power or natural gas utility systems. Effects of the proposed project on the electricity capacity are not expected to occur because activity at affected facilities is not expected to change as a result of clarifying existing rule requirements or providing compliance flexibility. Thus, no increase their operations is expected, so no significant adverse impacts on peak or base demands for electricity are anticipated.

Based on the above considerations, significant adverse impacts to energy are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS.	Would the project:			
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<ul style="list-style-type: none"> • Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? • Strong seismic ground shaking? • Seismic-related ground failure, including liquefaction? • Landslides? 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(1994), creating substantial risks to life or property?

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.

Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.

Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.

Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.

Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

VII. a): Water spray systems will be installed at existing affected facilities so PAR 1158 will not expose people to substantial geological effects greater than what they are exposed to already. Since the proposed project will not require acquisition of new property that has not already been developed, PAR 1158 will not expose people or structures to new risks of loss, injury, or death involving: rupture of an earthquake fault, seismic ground shaking, ground failure or landslides.

VII. b): The proposed project may require minor construction activities (e.g., grading, trenching, or refilling) as affected facilities have already been developed, so potential impacts to existing geophysical conditions are not anticipated since little or no soil will be disrupted. Therefore, no substantial soil erosion or loss of topsoil is expected from the existing affected facilities as a result of providing an alternative compliance option to covering the coal railcar originating outside California. Water from the spray system is not expected to create soil erosion problems because small volumes

of water are sprayed on each rail car (approximately 100 gallons of water per day at each affected facility), most of the water is sprayed into the railcar rather than onto the ground, and most affected facilities are already paved. Any soil disturbance that does occur will be subject to the dust control requirements of SCAQMD Rule 403, which would minimize any wind erosion.

VII. c) & d): PAR 1158 would provide an additional compliance option for coal railcars arriving at existing affected facilities and, therefore, will not involve locating any structures on soil that is unstable or expansive. However, as already noted, little or no new soil disturbance is anticipated from the proposed project, therefore, no further destabilization of unstable soils would be expected that could cause on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

VII. e): The proposed project does not involve the installation of septic tanks or alternative waste water disposal systems. Therefore, this type of soil impact will not occur.

Based on the above considerations, significant adverse impacts to geology and soils are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | |
|----|---|--------------------------|--------------------------|-------------------------------------|
| d) | Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) | Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) | Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) | Significantly increased fire hazard in areas with flammable materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

Non-compliance with any applicable design code or regulation.

Non-conformance to National Fire Protection Association standards.

Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.

Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

VIII. a), b), & c): The proposed project does not require the routine transport, use, or disposal of hazardous materials. If an affected facility operator decides to install and operate a water spray system as an alternative compliance option to covering the coal railcar originating outside California, no waste is generated. It is anticipated that, because the project does not involve the transport, use, or disposal of hazardous materials, the proposed project will not create a significant new hazard to the public or create a reasonably foreseeable upset conditions involving the release of hazardous materials greater than existing conditions. Finally, PAR 1158 would not require the use of equipment that has the potential to emit hazardous materials.

VIII. d): Government code §65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). If any affected facilities are identified on such a list, compliance with the proposed project is not expected to affect in any way any facility's hazardous waste handling practices.

VIII. e) & f): The three affected facilities are located in the port area which is four to five miles from both the Long Beach Municipal Airport and Torrance Municipal Airport – Zamperini Field. Because none of the affected facilities are within two miles of an airport or private airstrips, the proposed project would have no potential to affect local airports or private airstrips.

VIII. g): The proposed project is expected to require minor modifications to install and operate the water spray system. Such activities are not likely to impose any new emergency conditions at the facility that would warrant amendments to adopted emergency response plans or emergency evacuation plans, nor would the proposed project be expected to physically interfere with implementing adopted emergency response plans or emergency evacuation plans.

VIII. h,) & i): Because the alternative compliance option of installing water spray systems would occur at existing facilities on established foundations in commercial or industrial areas, PAR 1158 is not expected to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands to a greater extent than is currently the case. Because coal railcar operations are not expected to change substantially, there will be no significant increase of fire hazards in areas with flammable materials greater than whatever currently exists already. Because PAR 1158 could involve greater use of water, it may have a minor benefit of reducing existing fire hazards.

Based on the above considerations, significant adverse hazards and hazardous materials impacts are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY.			
Would the project:			
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| k) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| l) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| m) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| n) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| o) Require in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Quality:

The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.

The project will cause the degradation of surface water substantially affecting current or future uses.

The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.

The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.

The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.

The project results in alterations to the course or flow of floodwaters.

Water Demand:

The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.

The project increases demand for water by more than five million gallons per day.

Discussion

IX. a), f): PAR 1158 will have no direct or indirect adverse impact on water quality because operators at affected facilities are not expected to violate water quality standards, water discharge requirements or substantially degrade water quality when operating water spray systems to moisten coal in railcars. The reason for this conclusion is that the water spray system uses such small volumes of water per railcar, most of the water is sprayed into the railcar and, because so little water is used per railcar, the water is expected to evaporate before it could migrate into

groundwater supplies. Other parts of PAR 1158 will merely clarify existing requirements, which have no effect on water quality.

IX. b), n), & o): Operators who choose to install water spray systems would increase demand for water demand as a result of using water to moisten the coal on railcars originating outside California. PAR 1158 is not expected to deplete groundwater supplies as the water demand needed to operate the water spray system is expected to be met with existing water supplies from the same source currently providing water to the existing affected facility operation. As depicted in Figure 1-2, the water spray system is expected to have a series of nozzles with the capability of spraying 5.5 gallons per minute. Railcars entering the facility travel at approximately five miles per hour (440 feet per minute). Railcars are typically 60 feet in length and, thus, it takes 0.136 minute (60/440) for a railcar to pass a stationary point (i.e., water spray bar). Spraying at 5.5 gallons per minute, less than one gallon of water (5.5/0.136) is released as one railcar passes under the water bar. Trains transporting coal can consist of up to 100 railcars, although one facility reported only 20 to 40 railcars per train. Assuming the “worst case” of 100 railcars per train, less than 100 gallons of water could be discharged for each coal train entering the affected facility. Coal railcar deliveries average one per week so only one train would arrive on a given day. To provide a “worst-case” scenario, it is assumed a coal train will arrive at all three affected facilities on the same day demanding 300 gallons or less of water per day.

Water demand from the proposed project of 300 gallons of water per day would be substantially less than the SCAQMD daily water demand significance threshold of five million gallons per day and, thus, water demand impacts from implementing the alternative compliance option is considered to be less than significant.

IX. c), d), e): The proposed project would primarily involve the installation of a basic water spray system to moisten coal in certain railcars at existing facilities. Because the proposed project is not expected to require major construction activities onsite to comply with PAR 1158, small amounts of water may be required for dust control. However, because it is only necessary to moisten the soil to create a crust and such small areas would be disturbed, water use during construction is not expected to be substantial.

Water is expected to strictly moisten the coal, so the proposed project will not alter any existing drainage patterns, increase the rate or amount of surface runoff water that would exceed the capacity of existing or planned stormwater drainage systems for the following reasons. Water from the spray system is not expected to create soil erosion problems because small volumes of water are sprayed on each rail car (approximately 100 gallons of water per day at each affected facility), most of the water is sprayed into the railcar rather than onto the ground, and most affected facilities are already paved.

IX. g) & h): PAR 1158 does not involve construction of housing so it will not result in placing housing in 100-year flood hazard areas that could create new flood hazards or impede or redirect flood flows. The proposed project would primarily involve the installation of a basic water spray system to moisten coal in certain railcars at existing facilities so any flood hazards would be part of the existing setting.

IX. i), j): Since PAR 1158 primarily clarifies existing requirements or involves the installation and operation of a basic water spray system to moisten coal in certain railcars at existing facilities, it will not create new flood risks or risks from seiches, tsunamis or create mudflow conditions. Any risks from seiches, tsunamis, or mudflows would be part of the existing setting. Further, affected facilities are not located near large bodies of water, so they generally would not be affected by seiches or tsunamis. In addition, affected facilities are located in flat areas that are not expected to be affected by mudslides.

IX. k): Because the water is expected to strictly moisten the coal and not generate wastewater, no changes to any existing wastewater treatment permits would be necessary. As a result, the proposed project is not expected to alter any affected facility’s ability to comply with existing wastewater treatment requirements or conditions from any applicable Regional Water Quality Control Board or local sanitation district.

IX. l) & m): Because the water is expected to strictly moisten the coal and not generate wastewater [see discussion IX b), n), &o)] , no increase in wastewater from complying with the proposed project that could exceed the capacity of existing stormwater drainage systems or require the construction of new wastewater or stormwater drainage facilities is anticipated.

Based on the above considerations, significant adverse impacts to hydrology and water quality are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:			
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

- c) Conflict with any applicable habitat conservation or natural community conservation plan?

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

X. a.): PAR 1158 will not create divisions in any existing communities because the proposed project will clarify existing requirements and would primarily affect existing facilities that must comply with any land use policies or local zoning regulations. Similarly, the alternative compliance option to install and operate a water spray system to moisten coal in railcars originating outside California will affect operations at existing facilities and would not require construction of facilities, such as freeways, that would not physically divide an established community. The water spray system is expected to be installed in the location of the existing rail track entering the facility.

X. b), c): Operations at affected facilities would still be expected to comply, and not interfere, with any applicable land use plans, zoning ordinances, habitat conservation or natural community conservation plans. There are no provisions of the proposed project that would directly affect these plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no present or planned land uses in the region or planning requirements will be altered by the proposed project.

Based on the above considerations, significant adverse impacts to land use and planning are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

XI. a), b): There are no provisions of the proposed rule that would directly result in the loss of availability of a known mineral resource, such as aggregate, coal, shale, etc., of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Further, installing and operating a water spray system would not change an existing uses of the mineral resources by facilities that must comply with the proposed project.

Based on the above considerations, significant adverse impacts to mineral resources are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on noise will be considered significant if:

Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise

levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.

The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

XII. a), b), c) & d): PAR 1158 primarily clarifies existing requirements and provides an alternative compliance option to covering coal railcars originating outside California. The alternative compliance option to moisten the coal will require a water spray system at the entrance of the facility to ensure compliance with existing fugitive and opacity requirements. Operation of water spray system is not expected to generate additional or new noise, excessive groundborne vibration, or substantially increase ambient noise levels beyond existing levels because water sprays are not typically noise intensive. Construction equipment, however, does generate noise. These noise levels are not expected to be significant because construction activities will be short in duration, i.e., three to four days at the three affected sites, no more than three to five small pieces of construction equipment are needed during any one construction phase, and contractors are expected to comply with local noise ordinances and allowable operating hours during the construction phase.

As a result, the proposed project is not expected to generate new or additional noise impacts beyond what currently existing at affected facilities.

XII. e) & f): As indicated previously, the three affected facilities are located in the port area which is four to five miles from both the Long Beach Municipal Airport and Torrance Municipal Airport – Zamperini Field. Because none of the affected facilities are within two miles of an airport or private airstrips, the proposed project would have no potential to affect local airports or private airstrips.

Based on the above considerations, significant adverse impacts to noise are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

The demand for temporary or permanent housing exceeds the existing supply.

The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

XIII. a), b), c): Human population in the SCAQMD’s jurisdiction is anticipated to grow regardless of implementing the proposed project. The alternative compliance option will require minimal employees for construction since a water spray system is a basic and simple design and, thus, not labor intensive. Construction workers to build the water spray system would be needed on a temporary basis, i.e., no more than three or four days at each affected facility, and are expected to come from the existing labor force in the region. Additional permanent employees would not be required during operation because the operation requires only the activation of water and only one coal train is expected per week at each affected facility. District population will not be affected directly or indirectly as a result of adopting and implementing the proposed project. Further, continuing the control of PM emissions

will not directly or indirectly induce growth in the area of affected facilities. The construction of single- or multiple-family housing units would not be required as a result of implementing the proposed project since no new employees will be required at affected facilities. The proposed project will not require relocation of affected facilities, so existing housing or populations in the district are not anticipated to be displaced necessitating the construction of replacement housing elsewhere.

Based on the above considerations, significant adverse impacts to population and housing are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

XIV. a) & b): PAR 1158 will not involve the use of acutely hazardous materials. As a result, no new fire hazards or increased use of hazardous materials would be introduced at existing affected facilities. Thus, no new demands for fire or police protection are expected from implementing PAR 1158 since the proposed project will not require equipment that use or generate hazardous materials that will require additional public services in the event of an emergency.

XIV. c), d): As noted in the “Population and Housing” discussion, implementing PAR 1158 will not require new permanent employees for construction because no major construction is necessary to comply with the proposed project. Similarly, no new permanent employees will be required to maintain operation of the water spray system. As a result, PAR 1158 will have no direct or indirect effects on population growth in the district. Consequently, no new impacts to schools, parks or other recreational facilities are foreseen as a result of implementing PAR 1158.

XIV. e): Because the future installation of water spray system only requires minor modifications at the affected facilities, the proposal would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times or other performance objectives.

Based on the above considerations, significant adverse impacts to public services are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

The project results in an increased demand for neighborhood or regional parks or other recreational facilities.

The project adversely effects existing recreational opportunities.

Discussion

XV. a) & b): As discussed under “Land Use and Planning” above, there are no provisions in the proposed project that would affect land use plans, policies or ordinances, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by the proposal. As already noted in item XII, Population and Housing, the proposed project is not expected to increase population growth in the district because no additional permanent employees would be required for the operation of affected facilities, so no additional demand for recreation facilities is anticipated. As noted earlier, the additional construction workers needed would be temporary and expected to come from the existing labor force in the region, which would not increase the use of existing neighborhood and regional parks or other recreational facilities or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Based on the above considerations, significant adverse impacts to recreation are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on solid/hazardous waste will be considered significant if the following occur:

The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

XVI. a), b): PAR 1158 clarifies existing rule requirements and provides an alternative compliance option that will not generate or require the disposal of hazardous or non-hazardous waste during either construction or operation. Thus, disposal capacity of local landfills would not be affected by the proposed project in any way. It is expected that PAR 1158 will have no effect on an operator's ability to comply with relevant statutes and regulations related to solid and hazardous wastes. Consequently, it is anticipated that operators of affected facilities would continue to comply with federal, state, and local statutes and regulations related to solid and hazardous waste handling and disposal. Therefore, potential solid waste impacts are considered not significant.

Based on the above considerations, significant adverse solid/hazardous waste impacts are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/CIRCULATION			
Would the project:			
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

level of service standard established by the county congestion management agency for designated roads or highways?

- | | | | |
|---|--------------------------|--------------------------|-------------------------------------|
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Impacts on transportation/traffic will be considered significant if any of the following criteria apply:

Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.

An intersection’s volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.

A major roadway is closed to all through traffic, and no alternate route is available.

There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.

The demand for parking facilities is substantially increased.

Water borne, rail car or air traffic is substantially altered.

Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

The need for more than 350 employees

An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day

Increase customer traffic by more than 700 visits per day.

Discussion

XVII. a), b), f): As noted in the “Discussion” sections of other environmental topics (see in particular III. Air Quality), compliance with PAR 1158 is not expected to require major construction to install water spray systems, e.g., site preparation, construction, etc. PAR 1158 could result in delivery of equipment or additional construction worker commute trips for workers installing the water spray system if a facility operator chooses the alternative compliance option. Each construction phase is expected to be completed in one day. For the delivery and unloading of the equipment, one delivery truck round trip and up to two construction worker vehicle round trips per day are expected to occur for a maximum of three round trips per facility per day. If all three affected facilities choose to deliver the water spray system on same day, there would be nine trips on a given day. For the installation of the water spray system, a maximum of six construction workers would be necessary, so during system installation a maximum of six construction worker commute trips per day would be expected to occur at each facility. Thus, the total for all three facilities, if installing on the same day, is 18 trips on given day. This increase would not exceed the significance thresholds of 350 employees per project or 350 truck round trips per day for any individual facility. Six temporary employees at each affected facility for a short duration, three to four days, would have no adverse impact on existing parking conditions and capacity.

Because the affected facilities are located throughout the district, no intersections or major arterials are expected to experience overlapping traffic impacts during construction at the three affected facilities that could cause a substantial change in traffic that would significantly affect levels of service or congestion. Traffic in the vicinity of each affected facility will not be affected during operation. Facilities would not be expected to generate any new trips because no new permanent employees are expected to be required to operate the water spray system.

Thus, impact to existing traffic, level of service and parking capacity is not expected to substantially worsen by the proposed project.

XVII. c): Air traffic patterns are not expected to be directly or indirectly affected by the proposed project because water spray systems do not require transport by air nor

will operation of existing affected facilities interfere with air traffic in any way. All applicable local, state and federal requirements would continue to be complied with so no increase in any safety risks is expected.

XVII. d), e): PAR 1158 does not have direct or indirect impacts on specific traffic design features because the proposed project does not require or induce the construction of any roadways or other transportation design features. In addition, PAR 1158 would not substantially change current operations at existing affected facilities, which would also not affect roadway design.

XVII. g): Affected facilities would still be expected to comply with, and not interfere with adopted policies, plans, or programs supporting alternative transportation. Since no new additional permanent employees are needed to operate in compliance, PAR 1158 will not hinder compliance with any applicable alternative transportation plans or policies.

Based on the above consideration, significant adverse impacts to transportation/circulation are not expected from implementing PAR 1158. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.			
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

with the effects of past projects, the effects of other current projects, and the effects of probable future projects)

- c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Discussion

XVIII. a): As discussed in items I through XVII above, PAR 1158 is expected to continue to reduce PM emissions during storage, handling and transport of coal, coke and sulfur. Therefore, the proposed project is beneficial to air quality and the environment. Because PAR 1158 would not require acquisition of land and because it would not require major construction activities at the three existing affected facilities, PAR 1158 is not expected to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal. Similarly, PAR 1158 would not eliminate important examples of the major periods of California history or prehistory or otherwise degrade cultural resources because the proposed project is expected to affect existing facilities that have already been disrupted due to past construction and operation of the facility.

XVIII.b) Since PAR 1158 are not expected to generate potentially significant adverse project-specific construction or operational impacts to any environmental topic areas evaluated in this checklist, the proposed project's contribution to potentially significant adverse cumulative impacts during construction or operation is rendered less than cumulatively considerable and, thus, is not cumulatively significant (CEQA Guidelines §15064(h)(2)).

XVIII.c) Based on the foregoing analyses, PAR 1158 are not expected to cause significant permanent adverse effects on human beings, either directly, or indirectly. There is a potential for temporary adverse air quality impacts during construction activities to deliver and install water spray systems. However, these impacts were concluded to be less than significant and would terminate after installation of the water spray system is completed.

APPENDIX A

PROPOSED AMENDED RULE 1158

**PROPOSED AMENDED RULE 1158. STORAGE, HANDLING, AND
TRANSPORT OF COKE, COAL AND SULFUR**

(a) Purpose

The purpose of this rule is to reduce the emissions of airborne particulate matter from the storage, handling, and transport of coke, coal and sulfur; and to reduce the potential for the storage, handling and transport of these materials to violate AQMD Rules 402 – Public Nuisance and 403 – Fugitive Dust.

(b) Applicability

This rule applies to the operator of a facility that produces, stores, handles, transports, or uses coke, coal or sulfur.

(c) Definitions

For the purpose of this rule:

- (1) ACCUMULATION is any surface deposit of material greater than three ounces in one square foot other than inside an approved storage area, conveyor, transport vehicle, coker pit, slurry bin, water collection channel or separation pond.
- (2) AQMD PERMITTED FACILITY is a facility that has material storage or handling equipment required to have permits to operate from the AQMD.
- (3) BEST AVAILABLE CONTROL MEASURES represent fugitive dust control actions which are required to be implemented within the boundaries of the South Coast Air Basin. A detailed listing of best available control measures for each fugitive dust source type shall be as contained in the most recent Rule 403 Implementation Handbook, now or hereafter adopted by the Governing Board.
- (4) CALCINED COKE is coke which has been processed in a kiln.
- (5) CHEMICAL STABILIZER is any non-toxic chemical dust suppressant which is not prohibited for the uses proposed in this Rule or by any other applicable law, and which meets all applicable specifications required by any federal, state, or local water agency.

- (6) COAL is a solid, brittle, carbonaceous rock classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388-77.
- (7) COKE is a solid carbonaceous residue produced from a coker after cracking and distillation from petroleum refining operations.
- (8) COKER PIT is an open-top containment area at a refinery coker unit used to contain cut or cracked petroleum coke.
- ~~(89)~~ CONTAMINATED MATERIAL means a material that has become mixed with other materials or dirt so that it is no longer considered material or no longer meets marketable product specifications.
- ~~(910)~~ CONVEYOR SHUTTLE or TRAVELER or TRIPPER is a device supporting a conveyor that can travel forwards or backwards along a feed conveyor as needed to allow the conveyor to load material onto a selected area of a ship or pile.
- (11) DEWATERING TRUCK-LOADING BIN is a cylindrical tank with a funnel-shaped bottom which receives material in a slurry form and separates the solids from water by filters and gravity, eventually discharging the solids into a truck.
- ~~(1012)~~ DRY MATERIAL is any coke, coal, or sulfur, that does not meet this Rule's definition for moist material.
- ~~(1113)~~ ENCLOSED CONVEYOR is a conveyor which is totally enclosed in a tube or encompassed 360 degrees within a solid plane structure, or an equivalent conveying system as approved by the Executive Officer.
- ~~(1214)~~ ENCLOSED STORAGE is any completely roofed and walled structure or building, or truck or railcar covered pursuant to subparagraphs (d)(12)(A), (B), (C), or (D), surrounding an entire coke, coal or sulfur pile.
- ~~(13) EXISTING OPEN STORAGE means designated open piles of sulfur or coal that are served by equipment having an existing valid AQMD permit that was issued prior to June 11, 1999.~~
- ~~(1415)~~ FACILITY means any source or group of sources or other air contaminant-emitting activities which are located on one or more contiguous properties within the AQMD, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above-described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one

facility. Sources or installations involved in crude oil and gas production in Southern California Coastal or OCS Waters and transport of such crude oil and gas in Southern California Coastal or OCS Waters shall be included in the same facility which is under the same ownership or use entitlement as the crude oil and gas production facility on-shore.

- (~~15~~16) FREEBOARD is the distance from the top of the material storage section of the truck trailer to the top of the material load at its highest point.
- (~~16~~17) FUGITIVE DUST means any solid particulate matter that becomes airborne by natural or man-made activities, excluding particulate matter emitted from an exhaust stack.
- (~~17~~18) HIGH WIND CONDITIONS is when wind speeds exceeds 15 miles per hour.
- (~~18~~19) LOOSE means material that can be swept off a surface by a person using a whisk broom.
- (~~19~~20) MATERIAL means any substance containing at least 50% by weight of coke, coal, or sulfur. The percent by weight shall be determined by at least a one ounce sample taken at any random point.
- (201) MOIST MATERIAL is material that has a moisture content that in no place is less than the following: coke material 8.3%, coal material 7.6%, and sulfur material 2.8%.
- (~~21~~2) NON-LUMP MATERIAL means any coke, coal, or sulfur material which can pass through a 6.3 millimeter sieve (1/4 inch opening).
- (~~22~~3) OPEN STORAGE is any material coke, coal or sulfur pile that is not in enclosed storage.
- (~~23~~4) PAVED means improved by covering with concrete, asphaltic concrete, recycled asphalt, or asphalt.
- (~~24~~5) PILE means any amount of coke, coal or sulfur material which attains a height of three feet or more, or a total surface area of 150 square feet or more.
- (~~25~~6) PRILLED SULFUR is a product formed in a wet process involving the contact of heated liquid sulfur with cooled water, resulting in a sphere-like solid.
- (~~26~~7) ROAD means any route with evidence of repeated prior travel by vehicles.
- (28) SEPARATION POND means a container for separating coke from water by gravity, which has a liquid water surface at all points.

- (2729) SILT is any particulate, including but not limited to coal, coke, or sulfur, with a particle size less than 75 micrometers in diameter as measured by a No. 200 sieve.
- (30) SLURRY BIN is a container located at a refinery coker unit or its associated coke handling system holding a watery mixture of material.
- (2832) STREET SWEEPER is, if purchased or contracted for before January 1, 2000, a vacuum or regenerative air street sweeper, and if purchased or contracted for on or after January 1, 2000, is a PM10 street sweeper pursuant to Rule 1186 – PM10 Emissions from Paved and Unpaved Roads & Livestock Operations.
- (2933) SULFUR is a chemical element, atomic number 16 on the periodic chart, and which is found in crystalline or amorphous form.
- (3034) TELESCOPING LOADING CHUTE is a length adjustable chute which completely encloses the material during ship loading operations.
- (3135) TRACKIN – TRACKOUT ROAD is a road (excluding freeways), starting from the entrance or exit of the facility property and continuing away from the property for the first quarter mile of the road, that a truck trailer, used for material transport, travels on.
- (3236) TRANSFER POINT is the point in the storage, handling or transport process where ~~conveyed~~ material being moved, carried, conveyed, or transported is dropped or deposited.
- (3337) VEHICLE is any car, truck, in-service transportation, or off-road mobile heavy equipment.
- (3438) WATER SPRAY SYSTEM means a dust suppression technique that uses water or water-based solutions delivered through pipes, tubes, or hoses that are fitted with one or more nozzles and operated at pressures ranging from 1 to 1500 psi.
- (3538) WIND SCREENS are structures that are sufficient to deflect the wind away from conveyed material and reduce fugitive dust emissions, and are adjacent to both sides of and extend along the entire length of the conveyor, tall enough to extend above and below the conveyor and material.
- (d) Any facility that produces, handles, transports, or stores coke, coal, or sulfur material for transfer or shipment shall comply with all of the following requirements:

- (1) The facility operator shall not cause, or allow the discharge into the atmosphere of, fugitive dust for a period or periods aggregating more than three minutes in any one hour which is equal to or greater than 10% opacity (equivalent to 10% opacity under EPA Method 9 or one half of No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines).
- (2) The facility operator shall maintain all piles in enclosed storage.
 - (A) ~~The Structures or buildings used for~~ enclosed storage shall be equipped with and use as needed, a water spray system or permitted air pollution control equipment sufficient to control fugitive dust emissions at designed vents and at entrances or exits for material or vehicles so as not to violate the provisions of paragraph (d)(1).
 - (B) Any entrance or exits for material or vehicles shall have overlapping flaps, sliding doors or other devices(s) approved by the Executive Officer, which shall remain closed except to allow material or vehicles to enter and leave or when people are inside.
 - (C) For coal and prilled sulfur piles existing before June 11, 1999, the facility operator may achieve compliance with outdoor storage provided that the Executive Officer approves an open pile control plan, pursuant to subdivision (f).
- (3) The facility operator shall only conduct material truck unloading in an enclosed structure that is either equipped with a water spray system to be used as needed to prevent visible dust emissions or vented to permitted air pollution control equipment that is operated during unloading activities. The ends of the structure shall have overlapping flaps that reduce the opening to no greater than 11 feet high by 10 feet wide, sliding doors which shall remain closed except to allow the trucks to enter and leave, or other equally effective devices as approved by ~~an~~the Executive Officer.
- (4) The facility operator shall only conduct railcar material unloading in an enclosed structure that is either equipped with a water spray system operated to prevent visible dust emissions, or vented to permitted air pollution control equipment that is operated during unloading activities. The ends of the structure shall have overlapping flaps, sliding doors or other equally effective devices as approved by the Executive Officer, which shall remain closed except to allow the railcars to enter and leave.

- (5) The facility operator shall pave and maintain as paved, the following areas:
 - (A) All ground surfaces within the facility where material accumulations routinely occur; and,
 - (B) All roads and vehicle movement areas within the facility that are used for transporting or moving material excluding AQMD permitted material enclosures and areas approved by the Executive Officer for material storage pursuant to other sections of this Rule.
- (6) When transport is by truck, the facility operator shall only receive or transfer material in truck trailers that, within one quarter mile of the perimeter of the facility, are driven only on paved roads.
- (7) In order to clean roads of accumulations, the facility operator shall comply with either (A) or (B):
 - (A) The facility operator shall prevent and remove any material so that the following limits are not exceeded:
 - (i) A silt loading value, for all silt particles, of 0.05 grams/meter² for any trackout road, excluding freeways and railroad tracks; and
 - (ii) A silt loading value, for all silt particles, of 0.25 grams/meter² for all roads and vehicle movement areas excluding railroad tracks within the facility that are used for transporting or moving material.
 - (B) The facility operator shall use a street sweeper to clean any trackin – trackout road and any road inside the facility, used to transport material.
 - (i) The street sweeping shall be sufficient so that not more than 4 hours elapses between each street sweeper cleaning or after every 100 truck material receipts or dispatches, but not less than one time daily when the facility is open for business.
 - (ii) Each 24-hr. day, the day beginning at 12:01 A.M., the facility operator shall designate and record whether for that day the facility operator is street sweeping every four hours or every 100 trucks. The record shall show the date and time when street sweeping was performed and the truck count.

- (iii) Facility operators shall begin cleaning up material spills of more than three pounds, or that cover more than a square foot, within one hour and continue clean up operations until the spill is removed.
 - (C) Prior to the beginning of each calendar quarter the facility operator shall designate and record which alternative, A or B, the facility operator is choosing to comply with during the quarter.
 - (D) A violation of subparagraph (d)(7)(C) shall be considered a violation of paragraph (d)(7).
- (8) The facility operator shall maintain all areas within the facility, except for those areas subject to paragraph (d)(7), free of any accumulation, unless the accumulation is:
- (A) moist material;
 - (B) dry material not higher than three inches, except for crushed prilled sulfur which shall be removed; or
 - (C) completely covered.
- (9) Any new or replacement conveyors constructed after June 11, 1999 shall be enclosed conveyors. For purposes of this paragraph, the installation of a conveyor between two transfer points shall be a replacement conveyor. For conveyors existing before June 11, 1999, the facility operator shall, except for prilled sulfur, only conduct material conveying in compliance with either:
- (A) All non-lump material shall be moist material; or,
 - (B) The material shall be conveyed in an enclosed conveyor(s).
- (10) The facility operator shall, except for prilled sulfur, maintain all material transfer points in compliance with one of the following:
- (A) Total enclosure;
 - (B) Water spray system sufficient to control fugitive dust emissions during operations to comply with paragraph (d)(1);
 - (C) vented to permitted air pollution control equipment which is in full operation;
 - (D) Transfer only moist material and conduct such transfer only in an overhead truck trailer or railcar loader, or chute with a hopper, such that the exposed drop does not exceed four feet from the top of the truck or railcar; or,

- (E) Controlled by another equivalent method approved, in writing, by the Executive Officer.
- (11) The facility operator shall only load materials into ships through a telescoping loading chute which uses a water spray system, or an air pollution control system, sufficient to control fugitive dust emissions during operations to comply with paragraph (d)(1), and:
- (A) Is extended to within five feet of the top of the pile; or,
- (B) Is at least 5 feet below the hatch coaming.
- (12) The facility operator of an AQMD permitted facility shall not load material into any truck trailer or railcar unless it is subsequently and immediately covered, before leaving the facility, in one of the following manners sufficient to prevent material from escaping from the trailer or railcar onto the facility property-:
- (A) A solid sliding cover on the top of the truck or railcar that is kept completely closed, or;
- (B) For trucks, A-a slot-top type cover that reduces the uncovered open surface area by at least 50% and extends above the trailer top edges, without gaps; and either the material contained in the trailer is moist material, or a chemical stabilizer is applied to the surface of the material in sufficient amounts and concentration so as to prevent fugitive dust emissions during transport; or,
- (C) A continuous tarp that completely covers the trailer or railcar top, and for trucks, does not contact the material within the trailer. In addition, the tarp shall be installed or the trailer/railcar constructed to prevent wind from entering over the leading edge of the trailer/railcar rim into the interior of the trailer/railcar; or
- (D) For railcars, an alternative method of control proven effective in preventing visible fugitive PM emissions escaping from the railcar and approved by the Executive Officer prior to its use.
- (13) Facility operators shall not load material into truck trailers or railcars such that a trailer or railcar leaks liquid that contains material onto the facility property.
- (14) If a truck trailer or railcar leaks liquid that contains material onto the facility property, the facility operator shall clean the affected property within one hour with a street sweeper or water.

- (15) The facility operator shall clean all out-going material transport trucks, whether loaded or empty, so that:
 - (A) Any part of any tractor, trailer or tire exterior surface, excluding the inside of the trailers, are free of all loose material in excess of 1 gram per square decimeter or 10 grams total.
 - (B) The material removed by the truck cleaning operation is collected and recycled or otherwise disposed of so that it does not result in fugitive dust emissions.
- (16) The facility operator shall not load sulfur into trucks or railcars unless:
 - (A) The sulfur is not greater than 1% crushed prilled sulfur by weight and;
 - (B) The loading is controlled by an enclosure or water spray system, approved by the Executive Officer, that reduces visible emissions to ensure compliance with paragraph (d)(1).
- (e) Any facility that stores material solely for use at the facility either as a fuel or as an ingredient in a manufacturing process shall comply with all of the following requirements:
 - (1) The facility operator shall not cause, or allow the discharge into the atmosphere of, fugitive dust for a period or periods aggregating more than three minutes in any one hour which is equal to or greater than 10% opacity (equivalent to 10% opacity under EPA Method 9 or one half of No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines).
 - (2) The facility operator shall maintain all piles in enclosed storage, except as provided in paragraph (3). Any openings shall have overlapping flaps, sliding doors or other equivalent devices(s) approved by the Executive Officer, which shall remain closed except to allow the vehicles to enter or leave.
 - (3) For facilities existing before June 11, 1999 only, for coal and prilled sulfur, the facility operator may achieve compliance with outdoor storage provided the executive Officer approves, in advance, an open storage pile control plan, or complies at all times with at least one of the following:
 - (A) Installs and maintains a three-sided barrier equal to the height of the material, with no more than fifty percent porosity to provide wind sheltering;

- (B) Maintains and operates water spray bars, a misting system, water hoses and or water trucks to control fugitive dust emissions;
 - (C) Applies chemical stabilizer(s) to control fugitive dust emissions;
 - (D) Installs temporary covers; or
 - (E) Other equivalent measures approved by the Executive Officer.
- (4) Within four hours after material is delivered to the facility by truck trailer, the facility operator shall inspect and clean up any spilled material on any paved road inside or outside the facility up to a quarter mile.
- (5) The facility operator shall use a street sweeper to clean any paved road used for material transport, inside or outside the facility, up to a quarter mile from the material delivery site at least once a week or after every 100 truck material deliveries, whichever results in the most frequent street sweeping.
- (6) The facility operator shall pave and maintain as paved, except for railroad tracks, the following areas:
- (A) All non-road ground surfaces within the facility where material accumulation occurs; and,
 - (B) All roads and vehicle movement areas within the facility that are used to receive material by truck trailer.
- (7) The facility operator shall pave or chemically stabilize and maintain all roads and vehicle movement areas within the facility, that are used for transporting coal.
- (8) The facility operator shall prevent, or remove within four hours, any coke accumulations on all paved ground surfaces except for those areas subject to paragraph (3), unless the accumulations are either:
- (A) Moist material; or
 - (B) Dry material not higher than three inches; or
 - (C) Completely covered.
- (9) The facility operator shall prevent, or remove within four hours, any coal deposit higher than three inches on all paved ground surfaces except for those areas subject to paragraph (7), unless the accumulations are either:
- (A) Moist material; or
 - (B) Completely covered.
- (10) The facility operator of an AQMD permitted facility shall not allow any truck trailer or railcar, while on the AQMD permitted facility, to transport material unless the trailer or railcar is covered in one of the following

manners, sufficient to prevent material from escaping from the truck/railcar onto the facility property.

- (A) A solid sliding cover on the top of the truck or railcar that is kept completely closed, or;
- (B) For trucks, A-a slot-top type cover that reduces the uncovered open surface area by at least 50% and extends above the trailer top edges, without gaps; and either the material contained in the trailer is moist material, or a chemical stabilizer is applied to the surface of the material in sufficient amounts and concentration so as to prevent fugitive dust emissions during transport: or
- (C) A continuous tarp that completely covers the trailer or railcar top, and for trucks, does not contact the material within the trailer. In addition, the tarp shall be installed or the trailer/railcar constructed to prevent wind from entering over the leading edge of the trailer/railcar rim into the interior of the trailer/railcar.
- (D) For railcars, an alternative method of control proven effective in preventing visible fugitive PM emissions escaping from the railcar and approved by the Executive Officer prior to its use.

(11) When transport is by truck trailer, the facility operator shall not receive or transfer material in truck trailers unless such truck trailers, that within one quarter mile of the perimeter of the facility, drive only on paved roads.

(12) The facility operator shall:

- (A) Record daily, any material delivery by truck trailer and any related street sweeping;
- (B) Record the application of chemical stabilizer pursuant to paragraph (e)(7);
- (C) Record the time of discovery, condition (moist or dry and or depth of material) and removal of any accumulations pursuant to paragraphs (e)(4), (e)(8) or (e)(9).

(f) Open Storage Pile Control Plan

The Executive Officer shall disapprove an Open Storage Pile Control Plan unless the facility operator demonstrates that the plan requires the facility operator to implement best available control measures on the pile(s) and provides that no material accumulates beyond the boundaries of the pile and provides that the facility will comply with all applicable AQMD rules. The Plan shall be submitted

as a Rule 1158 Open Pile Control Plan in a complete and approvable form and by the compliance deadline. On and after July 11, 2008, the Executive Officer shall not accept any new Open Storage Control Plan for approval.

- (1) In evaluating the proposed plan, the Executive Officer may reasonably require tests and sampling as necessary to determine the likelihood of emission reductions and compliance.
- (2) The plan shall be implemented by the facility operator upon approval by the Executive Officer.
- (3) The plan shall contain as a minimum:
 - (A) A contour map showing the location of the facility, the location of all piles, the perimeter boundary of the piles, and the surrounding land use and types of roadways within one quarter mile of the perimeter of the facility.
 - (B) The maximum daily amount of each material stored within the facility and the maximum daily throughput.
 - (C) A list of each applicable best available control measure for each fugitive dust source associated with the pile, including sources associated with moving the pile with mechanical equipment, and detailed documentation demonstrating how implementation of each measure will achieve compliance with all applicable AQMD rules under all conditions, including high wind conditions.
- (4) In approving a plan, the Executive Officer may require any reasonable conditions deemed necessary to ensure the operation complies with the plan and AQMD Rules. The conditions may include, but shall not be limited to, application frequency and location of water spray systems, frequency of chemical stabilizer treatments, limits on handling, storage and transport of crushed materials, the placement, construction or modification of permanent perimeter boundaries for each pile or group of piles, monitoring wind conditions, advance notification to the Executive Officer of ship loading activities, and performing ambient air monitoring.
- (5) In approving a plan, the Executive Officer may require any records deemed necessary to be maintained by the facility operator to demonstrate compliance with the plan. Such records shall be retained for at least 2 years and be made available to the Executive Officer upon request.
- (6) The Plan is only valid for one year. If the Executive Officer denies approval, the facility will have 120 days to submit the necessary

applications and two years from the date of the initial denial, to comply with the enclosed storage requirement. In the interim between before the storage pile(s) are enclosed, the Executive Officer may issue an interim plan that requires control measures deemed reasonably necessary to ensure the operation complies with all applicable AQMD Rules.

- (7) Compliance with the provisions of the approved plan does not exempt a person from complying with the requirements of the California Health and Safety Code, or any other AQMD Rule.

(g) Compliance Schedule

- (1) ~~The operator of a new facility shall immediately comply with all rule provisions.~~
- (2) ~~The operator of an existing facility shall comply with all rule provisions by August 11, 1999 except as provided in paragraphs (3),(4),(5), and (6).~~
- (3) ~~The operator of an existing facility that needs to construct or modify enclosures or equipment to comply with the Rule requirements shall:~~
 - (A) ~~Submit all necessary application(s) for a permit to construct and operate in approvable form with all required filing fees to the Executive Officer no later than May 1, 2000 for pile enclosures.~~
 - (B) ~~When it is necessary for the facility to construct or modify their equipment/facility to comply with the Rule requirements, the facility shall comply by the following deadlines for that equipment/facility modification only, otherwise the facility shall comply with the rule provisions by August 11, 1999:~~

Equipment/Other Facility modification	Comply by this date
Enclosed Storage Pile	June 11, 2001 if paragraph (3)(A) is complied with
Truck Wash	June 11, 2000
Telescoping Loading Chute	June 11, 2000
Water Spray or doors added to existing enclosure	June 11, 2000
Wind Screen	June 11, 2000
Truck Unloading Enclosed Structure	June 11, 2001
Railcar Unloading	June 11, 2000

Enclosed Structure	
Enclosed Conveyors and Material Transfer Points	June 11, 2001
Truck Trailer Covers	November 1, 1999 (if not building a truck trailer top-loading structure) December 31, 2000 (if building a truck trailer top-loading structure)

- ~~(C) When paving is necessary to comply with the rule:

 - ~~(i) All facility operators shall complete paving by June 11, 2000, except as provided in clause (ii).~~
 - ~~(ii) The facility operators that determine and notify the Executive Officer by September 11, 1999 that the operator is required to pave more than 30,000 square feet of area shall complete such paving by June 11, 2001.~~~~
- ~~(D) During the interim period, prior to the compliance deadlines in subparagraph (g)(3)(B), operators that have Rule 1158 interim or permanent coke storage control plans previously approved by the AQMD, shall comply with all plan provisions.~~
- ~~(4) Existing facilities requesting a Rule 1158 Open Pile Control Plan for coal or sulfur shall comply with the following:

 - ~~(A) The facility operator shall submit complete plan application in an approvable form with all required filing fees no later than September 11, 1999.~~
 - ~~(B) Once the Executive Officer approves the plan, it is immediately effective.~~
 - ~~(C) In the event the Executive Officer denies any such plan application, the applicant shall, by June 11, 2001, complete construction of the enclosures required by this Rule.~~~~
- ~~(5) The operator of an existing facility that does not submit all necessary application(s) for a permit to construct and operate in an approvable form with all required filing fees to the Executive Officer by May 1, 2000 to enclose outdoor storage piles of material, shall have until June 11, 2000 to remove the piles.~~

- ~~(6) — The operator shall notify the Executive Officer in writing within seven days after removing all open piles. In order to ensure adequate measures are taken to reduce fugitive dust emissions, the operator shall submit a clean up plan to the Executive Officer and the plan shall be approved by the Executive Officer for approval prior to the operator commencing clean up of open pile pads. The clean up plan shall comply with all of the following:~~
- ~~(A) — The operator shall submit the clean up plan within 60 days of notification of removal of open piles.~~
- ~~(B) — The provisions of the approved clean up plan may differ from the requirements of Rule 1158 if the facility operator demonstrates to Executive Officer satisfaction that all reasonably feasible mitigation to prevent particulate emissions in violation of District rules will be employed.~~
- ~~(C) — No material may be added to the facility after the notification to the Executive Officer.~~
- ~~(D) — The completion date for clean up shall be determined by the Executive Officer as part of clean up plan approval.~~
- ~~(7) All existing Rule 1158 Interim or Permanent Compliance Plans approved prior to June 11, 1999 shall be are void immediately upon removal of all open piles from a facility.~~
- ~~(8) — Rule 1158 requirements shall supersede all existing Rule 1158 Interim and Permanent Compliance Plan provisions that are in conflict with Rule 1158 or not covered by the Plan.~~

(h) Test Method

- (1) ASTM Methods D-3302, D-4931, or equivalent methods approved by the Executive Officer, the California Air Resources Board and the U.S. EPA. shall be used to determine the material moisture content.
- (2) Appendix C.1, Procedures for Sampling Surface/Bulk Dust Loading, and Appendix C.2, Procedures for Laboratory Analysis of Surface/Bulk Dust Loading Samples, as contained in Compilation of Air Pollutant Emission Factors (AP-42), as published by the U.S. EPA, or equivalent methods as approved by the Executive Officer, the California Air Resources Board and the U.S. EPA, shall be used to determine the silt loading value.

- (3) A method approved as accurate by the Executive Officer shall be used to determine the weight of truck exterior surface material and material silt deposits.
- (i) Compliance Determination and Performance Information
 - (1) For facilities subject to sub-division (d), each calendar quarter, if the facility operator selects the silt loading standard for that calendar quarter, and for all other operators once every calendar year, the facility operator shall perform the following tests pursuant to paragraphs (d)(7) and subdivision (h). Records of tests shall be maintained for a period of two years and shall be made available to District personnel upon request. Results of the test shall be submitted to the Executive Officer within 45 days after completion of each test. For facility operators testing once each calendar year, the test results shall be for information only, not for compliance determination. Silt loading tests shall be performed on the following roads or surfaces:
 - (A) On one paved road outside the facility, used by trucks transporting material, within one quarter mile of the exit of the facility; and
 - (B) On one road between the truck wash or truck cleaning area and the facility exit;
 - (2) For facilities subject to subdivision (d), each calendar quarter the facility operator shall conduct a test to show compliance with paragraph (d)(15) by sampling truck-trailer exterior surface material on one out-going material transport truck.
 - (3) The facility operator shall keep records of all applications and permits to construct or modify, from the AQMD or other agency, needed to meet the deadlines in (g)(3)(B) of this rule.
 - (j) Recordkeeping Requirements

The facility operator shall maintain all records at the facility for a period of two years and make them available to AQMD staff upon request.
 - (k) Exemptions
 - (1) The provisions of paragraph (d)(9) shall not apply to:
 - (A) Material feed conveyor(s) existing prior to June 11, 1999 which are interrupted by the conveyor shuttle, traveler or tripper, provided that the entire length of the feed conveyor(s) is equipped

- with permanent wind screens. ~~However, for conveyors which convey calcined coke to a shiploader exempt under (k)(6), the wind screen shall not be required until June 11, 2004.~~
- (B) Underground conveyors. This exemption shall only apply to those sections of the conveyors which are underground.
 - (C) Conveyors located inside enclosed storage. This exemption shall not apply to those sections of the conveyor which are outside of the enclosed storage.
 - (D) ~~Conveyors which only convey calcined coke to a ship loader, until June 11, 2004 at which time all conveyors shall comply with paragraph (d)(9).~~
 - ~~(E)~~ That portion of an existing conveyor belt that contains the tensioner.
- (2) The provisions of paragraph (d)(12) shall not apply to prilled sulfur when the freeboard is, in no place, less than 3 feet.
 - (3) The provisions of this rule shall not apply to the storage, handling, and transport of molten sulfur.
 - (4) The provisions of paragraph (d)(2) shall not apply to the deposit of coke in separation ponds or that has a moisture content of at least 12% in coker pits, slurry bins, and coke dewatering truck loading bins, ~~and separation ponds.~~
 - (5) The provisions of paragraph (d)(7) and (e)(5) shall not apply to the specific section of road where public vehicle through-traffic is denied access due to a construction project or road repair.
 - (6) ~~Until June 11, 2004, the provisions of paragraph (d)(11) shall not apply to the loading of material into a ship whenever all of the following are met:~~
 - ~~(A) The operator has installed and operates an instantaneous wind speed monitoring and recording system that is synchronized with the time of day and shall maintain a log of the date and time of each use of the headbox by pass;~~
 - ~~(B) The instantaneous wind speed measured at the shiploader is less than 10 miles per hour;~~
 - ~~(C) The shiploader shuttle boom is not long enough to allow discharge through the telescoping spout to reach the far side of that ship's hatch without using the headbox by pass;~~

- ~~(D) The facility operator notifies the AQMD 48 hours before shiploading is scheduled to commence; and,~~
- ~~(E) The shiploader was initially constructed before 1970.~~
- (7) The provisions of paragraph (d)(11) shall not apply to existing shiploaders permitted prior to June 11, 1999, for loading coal onto ~~large-sized ships~~ with a (beam length greater than 105 feet) whenever all of the following are met:
- (A) The facility operator shall maintain a log of the date, time, loading rate, ship capacity, and duration of each use of the headbox by-pass;
- (B) A maximum of ten ~~large-sized ships~~ with a beam length greater than 105 feet per calendar year are loaded under this exemption and the facility operator demonstrates to the Executive Officer's satisfaction that only the offshore side of the vessel is loaded without the required control equipment;
- (C) The shiploader shuttle boom is not long enough to allow discharge through the telescoping spout to reach the far side of that ship's hatch without using the headbox by-pass;
- (D) The facility operator notifies the AQMD 48 hours before shiploading is scheduled to commence; and,
- (E) The shiploader is not reconstructed or replaced after June 11, 1999.
- ~~(8) Prior to June 11, 2004, the provisions of paragraph (d)(2) shall not apply to an area maintained for contaminated material provided all of the following are met:~~
- ~~(A) the area occupies not more than two permanent locations designated by the facility operator for contaminated material;~~
- ~~(B) not more than 300 tons total is maintained at the facility at any one time;~~
- ~~(C) the operator maintains records documenting the total amount of material in the area; and~~
- ~~(D) the material in the area is maintained as moist material and wind-shielded on three sides.~~
- (97) The provisions of paragraph (d)(2) shall not apply to the following, provided the material or coke is removed within 48 hours and a permanent record is made of the incident:

- (A) Material taken off a conveyor because it is refused by a ship or it is hot coke (greater than 130 degrees Fahrenheit): or,
 - (B) Coke, up to 700 tons, that is incompletely processed from a refinery coker.
- ~~(10) The compliance deadline for enclosed storage pile in (g)(3)(B) and (g)(5) shall not apply until December 31, 2002 to any currently permitted facility existing on June 11, 1999 with a permitted open storage capacity of 150,000 tons or less of coke and located on publicly owned property provided such facility submits an application no later than August 11, 1999 to modify their existing Rule 1158 interim or permanent compliance plan to limit the amount of permitted open storage to the actual amount of open storage as of June 11, 1999, or the amount permitted in an Interim or Permanent Compliance Plan, whichever is less. There shall be no open storage after December 31, 2002.~~
- ~~(11) The compliance deadline for enclosed storage pile in (g)(3)(B) and (g)(5) shall not apply until June 11, 2001 to any currently permitted facility existing on June 11, 1999 with a permitted open storage of 300,000 tons or more coke provided such facility submits an application no later than August 11, 1999 to modify their existing Rule 1158 interim or permanent compliance plan to reduce their permitted capacity of open coke storage by at least 50% by June 11, 2000. There shall be no open storage after June 11, 2001.~~
- (8) The provisions of paragraph (d)(2) shall not apply to material being actively transported in a front-end loader.
- (9) The provisions of paragraphs (d)(2) and (e)(10) shall not apply to coal inside railcars that originated from outside California, provided the coal is moistened at the point of entry to a District permitted facility so as to prevent fugitive emissions pursuant to paragraph (d)(1).

APPENDIX B

CONSTRUCTION EMISSION CALCULATIONS

Construction Activity - Water Spray System Delivery

Construction Activity

Equipment Delivery and Unloading

Construction Schedule

1 day

Equipment Type^{a,b}	No. of Equipment	hr/day	Crew Size
Forklifts	1	2.0	2

Construction Equipment Combustion Emission Factors

Equipment Type^{b,c}	CO	NOx	PM10	VOC	SOx	CO2
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Forklifts	0.250	0.643	0.035	0.086	0.001	54.4

Construction Vehicle (Mobile Source) Emission Factors

	CO	NOx	PM10	VOC	SOx	CO2
	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Delivery Truck ^d	0.02194915	0.02371258	0.00085607	0.00299270	0.00002565	2.719434
Passenger Vehicle ^d	0.01054844	0.00110288	0.00008505	0.00107919	0.00001075	1.09953226

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	One Way Trip Length (miles)
Delivery Truck ^e	1	20
Worker Vehicles	2	10

Construction Activity - Water Spray System Delivery

Incremental Increase from On-Site Equipment						
Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)						
Equipment Type	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Forklifts	0.50	1.29	0.07	0.17	0.00	109
Total	0.50	1.29	0.07	0.17	0.00	109

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles						
Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)						
Vehicle	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Delivery Truck	0.878	0.949	0.0342	0.1197	0.0010	109
Worker Vehicles	0.422	0.044	0.0034	0.0432	0.0004	44
Total	1.30	0.99	0.04	0.16	0.00	153

Total Incremental Combustion Emissions from Construction Activities						
Sources	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Daily Emissions	1.8	2.3	0.1	0.3	0.003	262
Annual Emissions	1.8	2	0.1	0	0.003	262

Combustion and Fugitive Summary	PM2.5 Fraction^f	PM10 lb/day	PM2.5 lb/day
Combustion, Offroad	0.92	0.1	0.1
Combustion, Onroad	0.964	0.0	0.04
Total, lb/project		0.1	0.1

Construction Activity - Water Spray System Delivery

Notes:

- a) SCAQMD, staff estimation
- b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.
- c) District values provided by the CARB, Aug 2004. Assumed equipment is diesel fueled.
- d) CARB, EMFAC2007 for Scenario year 2008 as summarized on SCAQMD website at http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls
- e) Assumed delivery truck travels 20 miles one-way
- f) CARB's CEIDARS database PM2.5 fractions - http://www.aqmd.gov/ceqa/handbook/PM2_5/finalAppA.doc

Construction Activity - Water Spray System Installation

Construction Activity

Installation of One Water Spray System

Construction Schedule

1 day

Equipment Type ^{a,b}	No. of Equipment	hr/day	Crew Size
Forklifts	1	8.0	4
Welder	1	8.0	
Generator Sets	1	8.0	

Construction Equipment Combustion Emission Factors

Equipment Type ^{b,c}	CO lb/hr	NOx lb/hr	PM10 lb/hr	VOC lb/hr	SOx lb/hr	CO2 lb/hr
Forklifts	0.250	0.643	0.035	0.086	0.001	54.4
Welder	0.234	0.319	0.030	0.092	0.000	25.6
Generator Sets	0.355	0.725	0.045	0.113	0.001	61.0

Construction Vehicle (Mobile Source) Emission Factors

	CO lb/mile	NOx lb/mile	PM10 lb/mile	VOC lb/mile	SOx lb/mile	CO2 lb/mile
Passenger Vehicle ^d	0.01054844	0.00110288	0.00008505	0.00107919	0.00001075	1.09953226

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	One Way Trip Length (miles)
Worker Vehicles	4	10

Construction Activity - Water Spray System Installation

Incremental Increase from On-Site Equipment						
Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)						
Equipment Type	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Forklifts	2.00	5.14	0.28	0.69	0.005	435
Welder	1.87	2.55	0.24	0.73	0.002	205
Generator Sets	2.84	5.80	0.36	0.90	0.006	488
Total	6.71	13.50	0.87	2.33	0.013	1,128

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles						
Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)						
Vehicle	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Worker Vehicles	0.844	0.088	0.0068	0.0863	0.0009	88
Total	0.84	0.09	0.01	0.09	0.00	88

Total Incremental Combustion Emissions from Construction Activities						
Sources	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Daily Emissions	7.6	13.6	0.9	2.4	0.014	1,216
Annual Emissions	7.6	14	0.9	2	0.014	1,216

Combustion and Fugitive Summary	PM2.5 Fraction^e	PM10 lb/day	PM2.5 lb/day
Combustion, Offroad	0.92	0.9	0.8
Combustion, Onroad	0.964	0.0	0.01
Total, lb/project		0.9	0.8
		0.9	0.8

Construction Activity - Water Spray System Installation

Notes:

- a) SCAQMD, staff estimation
- b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.
- c) District values provided by the CARB, Aug 2004. Assumed equipment is diesel fueled.
- d) CARB, EMFAC2007 for Scenario year 2008 as summarized on SCAQMD website at http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls
- e) CARB's CEIDARS database PM2.5 fractions - http://www.aqmd.gov/ceqa/handbook/PM2_5/finalAppA.doc

Construction Activity - Installing Underground Water Piping

Construction Activity

Trenching/Paving Activity - Installing an Underground Water Piping

Construction Schedule

1 day

Equipment Type^{a,b}	No. of Equipment	hr/day	Crew Size
Pavers	1	4.0	6
Paving Equipment	1	4.0	
Trenchers	1	3.0	
Rollers	1	2.0	
Cement And Mortar Mixers	1	3.0	

Construction Equipment Combustion Emission Factors

Equipment Type^c	CO	NOx	PM10	VOC	SOx	CO2
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Pavers	0.600	1.129	0.080	0.206	0.001	77.9
Paving Equipment	0.469	1.033	0.071	0.156	0.001	69.0
Trenchers	0.517	0.858	0.071	0.194	0.001	58.7
Rollers	0.442	0.907	0.063	0.141	0.001	67.1
Cement And Mortar Mixers	0.046	0.069	4.000	0.012	0.000	7.2

Construction Vehicle (Mobile Source) Emission Factors

	CO	NOx	PM10	VOC	SOx	CO2
	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Passenger Vehicle ^d	0.01054844	0.00110288	0.00008505	0.00107919	0.00001075	1.09953226

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	One Way Trip Length (miles)
Worker Vehicles	6	10

Construction Activity - Installing Underground Water Piping

Incremental Increase from On-Site Equipment						
Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)						
Equipment Type	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Pavers	2.40	4.52	0.32	0.82	0.00	312
Paving Equipment	1.88	4.13	0.28	0.62	0.00	276
Trenchers	1.55	2.57	0.21	0.58	0.00	176.10
Rollers	0.88	1.81	0.13	0.28	0.00	134
Cement And Mortar Mixers	0.14	0.21	12.00	0.04	0.00	22
Total	6.85	13.25	12.94	2.35	0.01	898

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles						
Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)						
Vehicle	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Worker Vehicles	1.266	0.132	0.0102	0.1295	0.0013	132
Total	1.27	0.13	0.01	0.13	0.00	132

Total Incremental Combustion Emissions from Construction Activities						
Sources	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Daily Emissions	8.1	13.4	13.0	2.5	0.013	1,030
Annual Emissions	8.1	13	13.0	2	0.013	1,030

Combustion and Fugitive Summary	PM2.5 Fraction^f	PM10 lb/day	PM2.5 lb/day
Combustion, Offroad	0.92	12.9	11.9
Combustion, Onroad	0.964	0.0	0.01
Total, lb/project		13.0	11.9
		13.0	11.9

Construction Activity - Installing Underground Water Piping

Notes:

- a) SCAQMD, staff estimation
- b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.
- c) District values provided by the CARB, Aug 2004. Assumed equipment is diesel fueled.
- d) CARB, EMFAC2007 for Scenario year 2008 as summarized on SCAQMD website at http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls
- e) Assumed haul truck travels 20 miles one-way
- f) CARB's CEIDARS database PM2.5 fractions - http://www.aqmd.gov/ceqa/handbook/PM2_5/finalAppA.doc

Construction Activity - Installing New Foundation for Rail Tracks

Construction Activity

Installation of New Foundation For Rail Tracks (Under Water Spray System)

Construction Schedule

1 day

Equipment Type^{a,b}	No. of Equipment	hr/day	Crew Size
Pavers	1	4.0	6
Paving Equipment	1	4.0	
Forklift	1	3.0	
Rollers	1	2.0	
Cement And Mortar Mixers	1	3.0	

Construction Equipment Combustion Emission Factors

Equipment Type^c	CO	NOx	PM10	VOC	SOx	CO2
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Pavers	0.600	1.129	0.080	0.206	0.001	77.9
Paving Equipment	0.469	1.033	0.071	0.156	0.001	69.0
Forklift	0.250	0.643	0.035	0.086	0.001	54.5
Rollers	0.442	0.907	0.063	0.141	0.001	67.1
Cement And Mortar Mixers	0.046	0.069	4.000	0.012	0.000	7.2

Construction Vehicle (Mobile Source) Emission Factors

	CO	NOx	PM10	VOC	SOx	CO2
	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Passenger Vehicle ^d	0.01054844	0.00110288	0.00008505	0.00107919	0.00001075	1.09953226

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	One Way Trip Length (miles)
Worker Vehicles	6	10

Construction Activity - Installing New Foundation for Rail Tracks

Incremental Increase from On-Site Equipment						
Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)						
Equipment Type	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Pavers	2.40	4.52	0.32	0.82	0.00	312
Paving Equipment	1.88	4.13	0.28	0.62	0.00	276
Forklift	0.75	1.93	0.11	0.26	0.00	163.50
Rollers	0.88	1.81	0.13	0.28	0.00	134
Cement And Mortar Mixers	0.14	0.21	12.00	0.04	0.00	22
Total	6.05	12.60	12.83	2.02	0.01	885

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles						
Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)						
Vehicle	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Worker Vehicles	1.266	0.132	0.0102	0.1295	0.0013	132
Total	1.27	0.13	0.01	0.13	0.00	132

Total Incremental Combustion Emissions from Construction Activities						
Sources	CO lb/day	NOx lb/day	PM10 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day
Daily Emissions	7.3	12.7	12.8	2.2	0.013	1,017
Annual Emissions	7.3	13	12.8	2	0.013	1,017

Combustion and Fugitive Summary	PM2.5 Fraction^f	PM10 lb/day	PM2.5 lb/day
Combustion, Offroad	0.92	12.8	11.8
Combustion, Onroad	0.964	0.0	0.01
Total, lb/project		12.8	11.8
		12.8	11.8

Construction Activity - Installing New Foundation for Rail Tracks

Notes:

- a) SCAQMD, staff estimation
- b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.
- c) District values provided by the CARB, Aug 2004. Assumed equipment is diesel fueled.
- d) CARB, EMFAC2007 for Scenario year 2008 as summarized on SCAQMD website at http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls
- e) Assumed haul truck travels 20 miles one-way
- f) CARB's CEIDARS database PM2.5 fractions - http://www.aqmd.gov/ceqa/handbook/PM2_5/finalAppA.doc

Construction Activity - Off Road 2007 Emission Factors

Installation of One Water Spray System

Equipment	CO lb/hr	NOX lb/hr	PM lb/hr	ROG lb/hr	SOX lb/hr	CO2 lb/hr	Fuel Use, gal/hr
Aerial Lifts	0.2253	0.4026	0.0279	0.0781	0.0004	34.7	
Air Compressors	0.3872	0.8302	0.0579	0.1285	0.0007	63.6	
Bore/Drill Rigs	0.5388	1.4734	0.0648	0.1457	0.0017	165.0	
Cement and Mortar Mixers	0.0455	0.0693	4.0000	0.0120	0.0001	7.2	0.33
Concrete/Industrial Saws	0.4487	0.7639	0.0640	0.1561	0.0007	58.5	
Cranes	0.6365	1.6948	0.0755	0.1882	0.0014	128.7	9.82
Crawler Tractors	0.7090	1.6218	0.0988	0.2180	0.0013	114.0	
Crushing/Proc. Equipment	0.7817	1.6553	0.1048	0.2499	0.0015	132.3	
Dumpers/Tenders	0.0383	0.0709	0.0049	0.0137	0.0001	7.6	
Excavators	0.5977	1.4225	0.0776	0.1816	0.0013	119.6	
Forklifts	0.2495	0.6430	0.0346	0.0861	0.0006	54.4	2.48
Generator Sets	0.3549	0.7249	0.0446	0.1130	0.0007	61.0	2.79
Graders	0.6712	1.7198	0.0886	0.2055	0.0015	132.7	6.06
Off-Highway Tractors	0.9270	2.2742	0.1107	0.2692	0.0017	151.5	
Off-Highway Trucks	0.9133	2.9144	0.1056	0.2881	0.0027	260.1	
Other Construction Equipment	0.4749	1.2411	0.0539	0.1311	0.0013	122.8	
Other General Industrial Equipmen	0.6987	1.9012	0.0850	0.2111	0.0016	152.2	
Other Material Handling Equipment	0.6298	1.8362	0.0819	0.2038	0.0015	141.2	
Pavers	0.6000	1.1291	0.0799	0.2062	0.0009	77.9	3.59
Paving Equipment	0.4693	1.0333	0.0708	0.1556	0.0008	69.0	3.16
Plate Compactors	0.0263	0.0351	0.0025	0.0054	0.0001	4.3	
Pressure Washers	0.0705	0.1079	0.0081	0.0235	0.0001	9.4	
Pumps	0.3243	0.6224	0.0439	0.1090	0.0006	49.6	
Rollers	0.4419	0.9073	0.0629	0.1410	0.0008	67.1	3.07
Rough Terrain Forklifts	0.4928	0.9631	0.0800	0.1576	0.0008	70.3	
Rubber Tired Dozers	1.6950	3.4143	0.1474	0.3789	0.0025	239.1	
Rubber Tired Loaders	0.5552	1.3821	0.0768	0.1730	0.0012	108.6	5.06
Scrapers	1.5249	3.3991	0.1465	0.3677	0.0027	262.5	10.74
Signal Boards	0.0972	0.1806	0.0115	0.0254	0.0002	16.7	
Skid Steer Loaders	0.2735	0.3375	0.0326	0.0981	0.0004	30.3	
Surfacing Equipment	0.7654	1.8498	0.0712	0.1864	0.0017	166.0	
Sweepers/Scrubbers	0.5672	1.0277	0.0819	0.1963	0.0009	78.5	
Tractors/Loaders/Backhoes	0.4142	0.8303	0.0639	0.1307	0.0008	66.8	3.41
Trenchers	0.5171	0.8578	0.0714	0.1942	0.0007	58.7	
Welders	0.2336	0.3191	0.0297	0.0917	0.0003	25.6	

Equipment

	gal/hr
Pavers	3.59
Rollers	3.07
Scrapers	10.74
Paving Equi	3.16
Cement and	0.33
Cranes	9.82
Graders	6.06
Rubber Tire	5.06
Tractors/Lo:	3.41
Forklifts	2.48
Generator S	2.79



News Release

Vessel Operators Honored for Environmental Achievement

Port awards shipping lines for cleaner vessels and slower ships

May 14, 2014

Twenty-two shipping lines were honored today, May 14, 2014, by the Port of Long Beach for their efforts to improve air quality by slowing down or deploying cleaner vessels – or both – at the Port’s first Environmental Achievement Awards.

Formerly the Green Flag and Green Ship Awards, the annual event has been re-introduced as the Environmental Achievement Awards to reflect the participation of vessel operators in both Green Ship and Green Flag programs.



At the event, Long Beach Mayor Bob Foster was presented with an Outstanding Achievement Award for his leadership and dedication to environmental stewardship.

“Congratulations to Mayor Foster, and to all the winners of the Green Flag, Green Ship and Environmental Achievement Awards. We greatly appreciate what they’ve done to improve air quality for Long Beach and beyond,” said Long Beach Board of Harbor Commissioners President Doug Drummond.

The Port’s Green Flag Program was created in 2005 and participation today is nearly universal. In 2013, the most recent eligibility period for the awards, 98.9 percent of all ships calling at Long Beach slowed to 12 knots within 20 nautical miles of the Port. In 2009, the Port added the 40-nautical-mile option and last year, more than 87.9 percent of vessels slowed within 40 nautical miles.

Slower ships burn less fuel, producing less pollution. This program offers financial incentives for participation as well as a green flag. Green Flag participants were awarded \$2.9 million in dockage incentives in 2013. Seven of the largest vessel operators were honored as top performers, earning special Green Flags this year for the impact of their air quality efforts.

Meanwhile, eight shipping lines received a Green Ship award, a program that since July 2012 has encouraged vessel operators to assign the cleanest, lowest-emission ships to Long Beach. Green Ship participants were presented \$460,000 in incentives.

The newest award, Environmental Excellence, was awarded to seven vessel operators for participation in both the Green Flag and Green Ship programs: Hanjin Shipping Co. Ltd., Matson Navigation, "K" Line, Mitsui OSK, Mediterranean Shipping Co., Orient Overseas Container Line and Wallenius Wilhelmsen.

The Green Flag winners in the 20-nautical-mile category were Carnival Cruise Lines and CMA CGM, and in the 40-nautical-mile category: Alaska Tanker, COSCO, NYK, Pacific International Lines and Zim.

Green Ship award winners were Tesoro Maritime, Unisea Shipping, Wan Hai Lines, Pacific Basin Chartering, ConocoPhillips, Navig8 Group, Chembulk Trading, and Oxbow Carbon & Minerals.

In all, more than 200 vessel operators were awarded Green Flags for participation in 2013, and qualified for reductions on dockage fees. The Green Flag and Green Ship programs are just two of the many Green Port initiatives that have helped the Port to dramatically decrease air pollution from port-related operations. Since 2005, nitrogen oxides are down 54 percent, diesel exhaust is down 81 percent, and sulfur oxides – which mainly comes from ships – is down 88 percent.

Media Contact: Art Wong, Port of Long Beach Assistant Director of Communications/Public Information Officer, (562) 283-7702, (562) 619-5665 (cell), or art.wong@polb.com.

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 Shipment Reference Number: LAXSV011214-01
 Filing Option: ()
 ITN: X2014010204890
 Current Date/Time: Wed Jan 22 12:28:17 2014 EDT

Departure Date: 01/19/14
 Transportation Reference Number: 01
 Origin State: CALIFORNIA(CA)
 Country of Dest.: MEXICO(MX)
 Export Port: LONG BEACH, CA(2709)
 Unlading Port: LAZARO CARDENAS,MEXICO(20107)
 Mode of Transportation: Vessel(10)
 Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA,RAIL,TRUCK)(UNKN)
 Conveyance Name: SAFE VOYAGER
 Routed Transaction?: No
 Related Companies?: No
 Hazardous?: No

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
 ID Number: 133738466(EIN)
 Contact: JOHN BARNHART
 Phone: 5616408724
 Cargo Origin: 1270 PIER G AVE.
 LONG BEACH, CA 90802

Ultimate Consignee

Name:
 Type: ()
 Contact:
 Phone:
 Address:

Intermediate Consignee

Name:
 Contact:
 Phone:
 Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD.
 Contact: DEBBIE HAN
 Phone: 5629889000
 Address: 2525 CHERRY AVENUE
 SUITE 350
 SIGNAL HILL, CA 90755 US

Commodities

Item	EIC	Schedule B/HTS/Description	Qty	Gross Wt.	Value	Origin	License	Vehicle
1	OS	2701.120050 US STEAM COAL	79704 T	79704807 KG		D	C33	No
License Details License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)								

Shipment Information

Filer ID: 943169159
Shipment Reference Number: LAXDS012514-02
Filing Option: ()
ITN: X20140116033434
Current Date/Time: Thu Feb 06 15:30:33 2014 EDT

Departure Date: 01/31/14

Transportation Reference Number: 02

Origin State: CALIFORNIA(CA)

Country of Dest.: JAPAN(JP)

Export Port: LONG BEACH, CA(2709)

Unloading Port: ALL OTHER JAPAN PORTS, ABASHIRI, TAMA, TANABE, IRAGO, YURA, YUKI, WAKKANAI, UJINA, IRAGO ZAKI, HIGASHI IWASE, MITAJIRI, MIHARA, MATSUE, MARUGAME, MAKIYAMA, TSURUGA, ITOZAKI, OGASA WAKA GUNTO, HASHIHAMA, HANDA, EBISU, BONIN ISLANDS, ATSUMI, KISHIWADA, TAKETOYO(58800)

Mode of Transportation: Vessel(10)

Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA, RAIL, TRUCK)(UNKN)

Conveyance Name: DARYA SHEE

Routed Transaction? No

Related Companies? No

Hazardous? No

[Print]

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466 (EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE, LONG BEACH, CA 90802

Ultimate Consignee Name:

Type: ()

Contact:

Phone:

Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD.
Contact: DEBBIE HAN
Phone: 5629889000
Address: 2525 CHERRY AVENUE SUITE 350 SIGNAL HILL, CA 90755 US

Commodities

Item EIC Schedule B/HTS/Description

1 05 2701.120050 US STEAM COAL

Qty	Gross Wt.	Value	Origin	License	Vehicle
43744 T	43744114 KG		D	C33	No

License Details

License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)

[Print]

Shipment Information

Filer ID: 943169159
Shipment Reference Number: LAXMK020114-01
Filing Option: ()
ITN: X20140124032223
Current Date/Time: Wed Feb 05 10:02:11 2014 EDT
Departure Date: 02/04/14
Transportation Reference Number: 01
Origin State: CALIFORNIA(CA)
Country of Dest.: JAPAN(JP)
Export Port: LONG BEACH, CA(2709)
Unloading Port: ALL OTHER JAPAN PORTS, ABASHIRI, TAMA, TANABE, IRAGO, YURA, YUKI, WAKKANAI, UJINA, IRAGO ZAKI, HIGASHI IWASE, MITAJIRI, MIHARA, MATSUE, MARUGAME, MAKIYAMA, TSURUGA, ITOZAKI, OGASA WARA GUNTO, HASHIHAMA, HANDA, EBISU, BONIN ISLANDS, ATSUMI, KISHIWADA, TAKETOYO(58800)
Made of Transportation: Vessel(10)
Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA, RAIL, TRUCK)(UNKN)
Conveyance Name: MAIZURU KICHIDO
Routed Transaction? No
Related Companies? No
Hazardous? No

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466 (EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE. LONG BEACH, CA 90802

Ultimate Consignee

Name:
Type: ()
Contact:
Phone:
Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD.
Contact: DEBBIE HAN
Phone: 5629089000
Address: 2525 CHERRY AVENUE SUITE 350 SIGNAL HILL, CA 90755 US

Commodities

Item	EIC	Schedule B/HTS/Description	Qty	Gross Wt.	Value	Origin	License	Vehicle
1	OS	2701120050 US STEAM COAL	87310 T	87310000 KG		D	C33	No
License Details License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)								

[Print]

Shipment Information

Filer ID: 943169159
Shipment Reference Number: LAXKS021514-01
Filing Option: ()
ITN: X20140205026501
Current Date/Time: Tue Feb 25 15:38:57 2014 EDT

Departure Date: 02/24/14
Transportation Reference Number: 01
Origin State: CALIFORNIA(CA)
Country of Dest.: MEXICO(MX)
Export Port: LONG BEACH, CA(2709)
Unloading Port: LAZARO CARDENAS,MEXICO(20107)
Mode of Transportation: Vessel(10)
Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA,RAIL,TRUCK)(UNKN)
Conveyance Name: KING SEATTLE
Routed Transaction? No
Related Companies? No
Hazardous? No

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466(EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE.
 LONG BEACH, CA 90802

Ultimate Consignee

Name:
Type: ()
Contact:
Phone:
Address:

Intermediate Consignee

Name:
Contact:
Phone:
Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD,
Contact: DEBBIE HAN
Phone: 5629889000
Address: 2525 CHERRY AVENUE
 SUITE 350
 SIGNAL HILL, CA 90755 US

Commodities

Item EIC Schedule B/HTS/Description
 1 OS 2701120050
 US STEAM COAL

License Details
 License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED
 FOR ANTI-TERRORISM (AT)(C33)

Qty	Gross Wt.	Value	Origin	License	Vehicle
79978 T	79978288 KG		D	C33	No

[Print](#)

Shipment Information

Filer ID: 943169159
Shipment Reference Number: LAXAI031214-01
Filing Option: ()
ITN: X20140226045348
Current Date/Time: Mon Mar 17 11:34:04 2014 EDT
Departure Date: 03/16/14
Transportation Reference Number: 01
Origin State: CALIFORNIA(CA)
Country of Dest.: JAPAN(JP)
Export Port: LONG BEACH, CA(2709)
Unloading Port: ALL OTHER JAPAN PORTS, ABASHIRI, TAMA, TANABE, IRAGO, YUKA, YUKI, WAKKANAI, UJINA, IRAGO ZAKI, HIGASHI IWASE, MITAJIRI, MIHARA, MATSUE, MARUGAME, MAKIYAMA, TSURUGA, ITOZAKI, OGASA WARA GUNTO, HASHIHAMA, HANDA, EBISU, BONIN ISLANDS, ATSUMI, KISHIWADA, TAKEYOYO(58800)
Mode of Transportation: Vessel(10)
Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA, RAIL, TRUCK)(UNKN)
Conveyance Name: AMAKUSA ISLAND
Routed Transaction? No
Related Companies? No
Hazardous? No

USPPI Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466 (EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE, LONG BEACH, CA 90802

Ultimate Consignee

Name:
Type: ()
Contact:
Phone:
Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD.
Contact: DEBBIE HAN
Phone: 5629889000
Address: 2525 CHERRY AVENUE SUITE 350 SIGNAL HILL, CA 90755 US

Commodities

Item	EIC	Schedule B/HTS/Description	Qty	Gross Wt.	Value	Origin	License	Vehicle
1	OS	2701120050 US STEAM COAL	79794 T	79794000 KG		D	C33	No
License Details License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)								

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Shipment Information

Filer ID# 943169159
Shipment Reference Number: LAXQJ032214-01
Filing Option: ()
ITN: X20140317028223
Current Date/Time: Mon Mar 31 11:57:29 2014 EDT

Departure Date: 03/29/14
Transportation Reference Number: 01
Origin State: CALIFORNIA(CA)
Country of Dest.: MEXICO(MX)
Export Port: LONG BEACH, CA(2709)
Unloading Port: LAZARO CARDENAS,MEXICO(20107)
Made of Transportation: Vessel(10)
Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA,RAIL,TRUCK)(UNKN)
Conveyance Name: Q JAKE
Routed Transaction? No
Related Companies? No
Hazardous? No

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466(EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE.
 LONG BEACH, CA 90802

Ultimate Consignee

Name:
Type: ()
Contact:
Phone:
Address:

Intermediate Consignee

Name:
Contact:
Phone:
Address:

Freight Forwarder

Name:
Contact:
Phone:
Address:

Commodities

Item EIC Schedule B/HTS/Description

Item	EIC	Schedule B/HTS/Description	Qty	Gross Wt.	Value	Origin	License	Vehicle
1	OS	2701120050 US STEAM COAL	79603	T	79603809	KG	D	C33 No

License Details

License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)

[Print]

Shipment Information

Filer ID: 943169159
Shipment Reference Number: LAXKS041014-01
Filing Option: Predeparture(2)
ITN: X20140331408842
Current Date/Time: Wed Apr 30 12:46:00 2014 EDT

Departure Date: 04/18/14
Transportation Reference Number: 014
Origin State: CALIFORNIA(CA)
Country of Dest.: MEXICO(MX)
Export Port: LONG BEACH, CA(2709)
Unloading Port: LAZARO CARDENAS,MEXICO(20107)
Mode of Transportation: Vessel(10)
Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA,RAIL,TRUCK)(UNKN)
Conveyance Name: KING SANTOS
Routed Transaction? No
Related Companies? No
Hazardous? No

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466(EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE. LONG BEACH, CA 90802

Ultimate Consignee

Name:
Type: DIRECT CONSUMER(D)
Contact:
Phone:
Address:

Intermediate Consignee

Name:
Contact:
Phone:
Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD.
Contact: DEBBIE HAN
Phone: 5629889000
Address: 2525 CHERRY AVENUE SUITE 350 SIGNAL HILL, CA 90755 US

Commodities

Item EIC Schedule B/HTS/Description
 1 OS 2701120050
 US STEAM COAL

Qty	Gross Wt.	Value	Origin	License	Vehicle
81384 T	81304709 KG		D	C33	No

License Details
 License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)

[Print]

Shipment Information

Filer ID: 943169159
Shipment Reference Number: LAXKA042814-01
Filing Option: Predeparture (2)
ITN: X20140416249427
Current Date/Time: 06 May 06 15:09:36 2014 EDT
Departure Date: 05/02/14
Transportation Reference Number: 014
Origin State: CALIFORNIA(CA)
Country of Dest.: MEXICO(MX)
Export Port: LONG BEACH, CA(2709)
Unloading Port: LAZARO CARDENAS, MEXICO(20107)
Mode of Transportation: Vessel(10)
Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA,RAIL,TRUCK)(UNKN)
Conveyance Name: KEY ACTION
Routed Transaction? No
Related Companies? No
Hazardous? No

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466(EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE.
 LONG BEACH, CA 90802

Ultimate Consignee

Name:
Type: DIRECT CONSUMER(D)
Contact:
Phone:
Address:

Intermediate Consignee

Name:
Contact:
Phone:
Address:

Freight Forwarder

Name:
Contact:
Phone:
Address:

Commodities

Item EIC Schedule B/HTS/Description

1 OS 2701120050
US STEAM COAL

Qty	Gross Wt.	Value	Origin	License	Vehicle
80659 T	80659937 KG		D	C33	No

License Details

License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)

Shipment Information

Filer ID: 943169159
 Shipment Reference Number: LAXMK051614-01
 Filing Option: Predeparture(2)
 ITN: X20140501155712
 Current Date/Time: Tue May 20 15:47:30 2014 EDT
 Departure Date: 05/19/14
 Transportation Reference Number: 01
 Origin State: CALIFORNIA(CA)
 Country of Dest.: JAPAN(JP)
 Export Port: LONG BEACH, CA(2709)
 Unloading Port: ALL OTHER JAPAN PORTS, ABASHIRI, TAMA, TANABE, IRAGO, YURA, YUKI, WAKKANAI, UJINA, IRAGO ZAKI, HIGASHI IWASE, MITAJIRI, MIHARA, MATSUE, MARUGAME, MAKIYAMA, TSURUGA, ITOZAKI, OGASA WARA GUNTO, HASHIHAMA, HANDA, EBISU, BONIN ISLANDS, ATSUMI, KISHIWADA, TAKETOYO(58800)
 Mode of Transportation: Vessel(10)
 Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA, RAIL, TRUCK)(UNKN)
 Conveyance Name: MAIZURU KICHIJO
 Routed Transaction?: No
 Related Companies?: No
 Hazardous?: No

Commodities

Item	EIC	Schedule B/HTS/Description	Qty	Gross Wt.	Value	Origin	License	Vehicle
1	OS	2701120050 US STEAM COAL	86190 T	86190000 KG		D	C33	No
License Details License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)								

(Print)

USPPX

Name: OXBOW COAL AND PETCOKE, INC.
 ID Number: 133738466 (EIN)
 Contact: JOHN BARNHART
 Phone: 5616408724
 Cargo Origin: 1270 PIER G AVE. LONG BEACH, CA 90802

Ultimate Consignee Name:

Type:
 Contact:
 Phone:
 Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD.
 Contact: DEBBIE HAN
 Phone: 5629689000
 Address: 2525 CHERRY AVENUE SUITE 350 SIGNAL HILL, CA 90755 US

[Print]

Shipment Information

Filer ID: 943169159
 Shipment Reference Number: LAXGK060814-01
 Filing Option: Predeparture(2)
 ITN: X20140628515470
 Current Date/Time: Tue Jun 10, 14:51:09 2014 EDT

Departure Date: 06/10/14
 Transportation Reference Number: 0145
 Origin State: CALIFORNIA(CA)
 Country of Destination: MEXICO(MX)
 Export Port: LONG BEACH, CA(2709)
 Unloading Port: LAZARO CARDENAS,MEXICO(20107)
 Mode of Transportation: Vessel(10)
 Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA,RAIL,TRUCK)(UNKN)
 Conveyance Name: GENCO KNIGHT
 Routed Transaction?: No
 Related Companies?: No
 Hazardous?: No

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
 ID Number: 133738466(EIN)
 Contact: JOHN BARNHART
 Phone: 5616408724
 Cargo: 1270 PIER G AVE.
 Origin: LONG BEACH, CA 90802

Ultimate Consignee

Name:
 Type: DIRECT CONSUMER(D)
 Contact:
 Phone:
 Address:

Intermediate Consignee

Name:
 Contact:
 Phone:
 Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD.
 Contact: DEBBIE HAN
 Phone: 5629889000
 Address: 2525 CHERRY AVENUE
 SUITE 350
 SIGNAL HILL, CA 90755 US

Commodities

Item EIC Schedule B/HTS/Description

1 OS 2701120050
 US STEAM COAL

License Details

License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)

Qty	Gross Wt.	Value	Origin	License	Vehicle
71924 T	71924880 KG		D	C33	No

[Print]

Shipment Information

Filter ID: 943169159
Shipment Reference Number: LAXTV061714-01
Filing Option: Predeparture(2)
ITN: X20140611306113
Current Date/Time: Wed Jun 25 10:42:30 2014 EDT

Departure Date: 06/24/14
Transportation Reference Number: 0125
Origin State: CALIFORNIA(CA)
Country of Dest.: MEXICO(MX)
Export Port: LONG BEACH, CA(2709)
Unloading Port: LAZARO CARDENAS,MEXICO(20107)
Mode of Transportation: Vessel(10)
Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA,RAIL,TRUCK)(UNKN)
Conveyance Name: TRIDENT NAVIGATOR
Routed Transaction? No
Related Companies? No
Hazardous? No

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466(EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE. LONG BEACH, CA 90802

Ultimate Consignee

Name:
Type: DIRECT CONSUMER(D)
Contact:
Phone:
Address:

Intermediate Consignee

Name:
Contact:
Phone:
Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD.
Contact: DEBBIE HAN
Phone: 5629889000
Address: 2525 CHERRY AVENUE SUITE 350 SIGNAL HILL, CA 90755 US

Commodities

Item EIC Schedule B/HTS/Description

1 05 2701120050
 US STEAM COAL

License Details

License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)

Qty	Gross Wt.	Value	Origin	License	Vehicle
74302 T	74302855 KG		D	C33	No

Shipment Information

Filer ID: 943169159
Shipment Reference Number: LAXRS071014-01
Filing Option: Predeparture(2)
ITN: X201406261B767
Current Date/Time: Tuesday, 15 June 2014 16:33:12 EDT
Departure Date: 07/15/14
Transportation Reference Number: 01
Origin State: CALIFORNIA(CA)
Country of Origin: JAPAN(JP)
Export Port: LONG BEACH, CA(2709)
Unloading Port: ALL OTHER JAPAN PORTS, ABASHIRI, TAMA, TANABE, IRAGO, YURA, YUKI, WAKKANAI, UJINA, IRAGO ZAKI, HIGASHI IWASE, MITAJIRI, MIHARA, MATSUE, MARUGAME, MAKIYAMA, TSURUGA, ITQZAKI, OGASA WARA GUNTO, HASHIHAMA, HANDA, EBISU, BONIN ISLANDS, ATSUMI, KISHIWADA, TAKETOYO(58800)
Mode of Transportation: Vessel(10)
Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA, RAIL, TRUCK)(UNKN)
Conveyance Name: RISING WIND
Routed Transaction? No
Related Companies? No
Hazardous? No

Commodities

Item	EIC	Schedule B/HTS/Description	Qty	Gross Wt.	Value	Origin	License	Vehicle
1	OS	2701120050 US STEAM COAL	70862 T	70862000 KG		D	C33	No

License Details
 License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)

(Print)

USPFI

Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466 (EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE, LONG BEACH, CA 90802

Ultimate Consignee

Name:

Type:

Contact:

Phone:

Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP, LTD,
Contact: DEBBIE HAN
Phone: 5629889000
Address: 2525 CHERRY AVENUE SUITE 350 SIGNAL HILL, CA 90755 US

Shipment Information

Filer ID: 943169159
Shipment Reference Number: LAXPL072814-02
Filing Option: Predeparture(2)
ITN: X20140718361980
Current Date/Time: Tue Aug 05 10:52:27 2014 EDT
Departure Date: 08/04/14
Transportation Reference Number: 02
Origin State: CALIFORNIA(CA)
Country of Dest.: JAPAN(JP)
Export Port: LONG BEACH, CA(2709)
Unloading Port: ALL OTHER JAPAN PORTS, ABASHIRI, TAMA, TANABE, IRAGO, YURA, YUKI, WAKKANAI, UJINA, IRAGO ZAKI, HIGASHI IWASE, MITAJIRI, MIHARA, MATSUE, MARUGAME, MAKIYAMA, TSURUGA, ITOZAKI, OGASA WARA GUNTO, HASHIHAMA, HANDA, EBISU, BONIN ISLANDS, ATSUMI, KISHIWADA, TAKETOYO(S8800)
Mode of Transportation: Vessel(10)
Carrier SCAC/IATA: UNKNOWN CARRIER(FOR SEA, RAIL, TRUCK)(UNKN)
Conveyance Name: PEDHOULAS LEADER
Routed Transaction? No
Related Companies? No
Hazardous? No

Commodities

Item	EIC	Schedule B/HTS/Description	Qty	Gross Wt.	Value	Origin	License	Vehicle
1	OS	2701120050 US STEAM COAL	42750 T	42750262 KG		D	C33	No

License Details
 License Type: NLR NO LICENSE REQUIRED, OR ONLY CONTROLLED FOR ANTI-TERRORISM (AT)(C33)

[Print]

USPPI

Name: OXBOW COAL AND PETCOKE, INC.
ID Number: 133738466 (EIN)
Contact: JOHN BARNHART
Phone: 5616408724
Cargo Origin: 1270 PIER G AVE, LONG BEACH, CA 90802

Ultimate Consignee

Name:

Type:

Contact:

Phone:

Address:

Freight Forwarder

Name: GENERAL STEAMSHIP CORP. LTD.
Contact: DEBBIE HAN
Phone: 5629889000
Address: 2525 CHERRY AVENUE SUITE 350 SIGNAL HILL, CA 90755 US

Port of Long Beach - Tariff No. 004	Orig/Rev Original	Page TITLE PAGE
FROM: TARIFF ORIGIN SCOPE TO: TARIFF DESTINATION SCOPE	Cancels Original	Cancels Page TITLE PAGE
TITLE PAGE	CORR: 0	Issued: 01Jun2014

TITLE PAGE

Effective: 10Feb2000 Thru: Expires: Publish 10Feb2000 Amend: C
Originally Issued: 19Apr1995 Originally Effective: 19May1995

TARIFF NO. 4
NAMING
RATES, RULES AND REGULATIONS
GOVERNING THE
PORT OF LONG BEACH
CALIFORNIA
FOR
PILOTAGE, DOCKAGE, WHARFAGE, WHARF DEMURRAGE
AND WHARF STORAGE, FREETIME, BERTH AND AREA ASSIGNMENTS,
PUBLIC LANDING, WATER AND ELECTRICITY, HANDLING EQUIPMENT
AND GENERAL RULES AND REGULATIONS

NOTICE TO TARIFF USERS

THIS TARIFF IS COMPILED TO REFLECT CARRIER'S TARIFF AS PUBLISHED IN COMPLIANCE WITH THE REGULATIONS OF THE U.S. FEDERAL MARITIME COMMISSION. THE OFFICIAL TARIFF FILING IS THAT CONTAINED IN THE INTERNET WEB SITE OF DISTRIBUTION-PUBLICATIONS, INC. LOCATED AT WWW. DPIUSA. COM

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OAKLAND, CA, USA 94612
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Email: publishing@dpiusa.com

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FROM: TARIFF ORIGIN SCOPE TO: TARIFF DESTINATION SCOPE	Cancels Original	Cancels Page 2,000,066
SECTION 2 - RULES	CORR: 0	Issued: 01Jun2014

Items with effective dates prior to page Issue Date are brought forward without change.
Future effective items are preceded with a > symbol.

RULE 34-C: SECTION 3 - WHARFAGE

Effective: 12Feb2014 Thru: Expires: Publish 11Feb2014 Amend: C

ITEM: 300

TERM: WHARFAGE, DEFINITION OF:

WHARFAGE: The charge assessed against all merchandise (see Item 130), calculated in accordance with the wharfage charges set forth in this tariff for the passage of that merchandise onto, over, through or under wharves or wharf premises (see Item 121) or between vessels or overside vessels (to or from barge, lighter or water) when berthed at wharves or wharf premises or when moored in a slip adjacent to a wharf or wharf premise. Wharfage is solely the charge for use of wharves or wharf premises and does not include charges for any other service or facility.

ITEM: 302

TERM: WHARFAGE, APPLICATION OF:

- (a) Except as otherwise provided in this tariff, the wharfage charges shall be assessed on the basis of cents per 1,000 kilograms or cubic meter, according to vessel's manifest, on whichever basis the water freight charges are assessed.
- (b) Except as otherwise provided, merchandise which is not covered by a regular commercial steamship line's manifest, and is not moving under regularly established commercial rates published in commercial tariffs, but is moving to or from ports that are served by vessels operating in regular trade routes, shall be assessed wharfage on the same basis as the freight charges on such merchandise would have been computed on vessels operating in such regular trade routes under commercial tariffs.
- (c) Except as otherwise provided, merchandise which is moving on other than a weight or measure basis (e.g. per package, combination weight and measure, etc.) shall be assessed wharfage per 1,000 kilograms or cubic meter, whichever produces the greater revenue. When both weight and measure of the cargo are not available, wharfage shall be assessed on the overall length of the container (see Item 372). Where not otherwise covered by tariff application, the missing measure will be calculated on the basis of one cubic meter for each 125 kilograms of cargo.
- (d) Transshipped merchandise other than containerized cargo (see Item 166) shall be assessed 50% wharfage on the

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Items with effective dates prior to page Issue Date are brought forward without change. Future effective items are preceded with a > symbol.		

RULE 34-C: SECTION 3 - WHARFAGE (Continued)

inbound movement and 50% wharfage on the outbound movement. Transshipped containerized cargo (see Item 163) shall be assessed 25% wharfage on inbound movement and 25% wharfage on the outbound movement.

- (e) Transferred merchandise (see Item 169) shall be assessed wharfage on the same basis as merchandise moving by vessel (see Exceptions).
- (f) Merchandise received at a Port of Los Angeles wharf and upon which wharfage is assessed by the Port of Los Angeles may be transported by rail from a wharf premises in the Port of Long Beach without the assessment of wharfage by City.
- (g) Merchandise received at a Port of Long Beach municipal terminal on-dock rail facility and is destined to a Port of Los Angeles wharf or wharf premises shall not be assessed wharfage by City.

Exceptions: Merchandise may be transferred from one municipal wharf premise to another without the assessment of additional wharfage.

ITEM: 304

TERM: FREE WHARFAGE

No wharfage shall be assessed:

- (a) On handling and stevedore tools, equipment and appliances for the purpose of loading or discharging a vessel when moved onto or off the wharf.
- (b) On baggage of passenger when carried on same vessel as passenger and on which no revenue is collected by the water carrier, either as excess baggage, or freight, or cargo.
- (c) On petroleum and petroleum products, in bulk, pumped back from the vessel to tank, at the same facility where originally loaded, after having paid one wharfage charge when loaded from tank to vessel.
- (d) At a public landing, as provided in Item 651.
- (e) On ballast in bulk, which is not manifested as cargo, has no commercial value and is handled direct between vessel and barge or shore tank.
- (f) On vessel's stores or supplies when the total amount laden on a vessel is less than 3,629 kilograms.

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RULE 34-C: SECTION 3 - WHARFAGE (Continued)

- (g) On dunnage or ship lining used in the stowage or bracing of cargo which is discharged from and reloaded within 30 days to a vessel.
- (h) On scrap dunnage or scrap ship lining, discharges from a vessel, which has been used thereon in the stowage or bracing of cargo, has no commercial value, and is not to be reused as dunnage or ship lining.
- (i) On merchandise which a vessel discharges and reloads prior to departure, in order to load or discharge other merchandise (overstowed cargo).
- (j) On empty cargo containers and water ballasted test containers discharged from or loaded onto a vessel for the sole purpose of testing and commissioning cranes and related terminal equipment and operating systems.

ITEM: 305

TERM: INTERMODAL OCEAN COMMON CARRIER INCENTIVE PROGRAM

All provisions of this item have expired.

ITEM: 306

TERM: WHARFAGE, FURNISHING OF DOCUMENTS:

- (a) The owner, agent, master or other person in charge of a vessel or the cargo thereon shall submit to the Executive Director or their designee within ten (10) days after the departure of the vessel, a statement of wharfage charges assessed and calculated in accordance with the applicable rates published in this Tariff together with copies of the vessel's manifest and/or bills of lading and/or a statement of the total number of vans discharged and/or loaded, each of which shall be certified to be completed and correct.
- (b) In addition to the statements and documents required to be submitted under (a) above, the owner, agent or other person in charge of cargo shall authorize in writing the release of information, as required from time to time by the Executive Director or their designee, to verify cargo loaded and/or discharged in the Port of Long Beach.
- (c) Any person who shall refuse or neglect to comply with the provisions of paragraphs (a) or (b) of this Item or

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RULE 34-C: SECTION 3 - WHARFAGE (Continued)

either of them, or who shall willfully make a false declaration on a statement, including the Container Report of the total number of vans/containers discharged and/or loaded, wharfage statement or manifest shall be subject to the penalties prescribed in law and in this Tariff. Any person who fails to submit a statement, including the Container Report of the total number of vans/containers discharged and/or loaded or statement of wharfage charges within the times provided therefor shall pay to the City a penalty charge of 1/30 of two per cent (2%) per day of the total wharfage charges due subject to a minimum penalty charge of two per cent (2%) of total wharfage charges.

TERM: WHARFAGE, CHARGES FOR

Wharfage charges, as provided in this section, are in addition to all other charges contained in this tariff and shall, unless otherwise provided, be assessed against all merchandise except that afforded free wharfage under the provisions of Item 304 and shall be paid in accordance with Item 708.

Wharfage charges shall be assessed on a per unit basis, rounded off to the nearest whole unit.

For further definitions: European Cargo see Item 149.

ARTICLES	RATES IN CENTS	ITEM NO.
Merchandise, N.O.S.	614	310

All cargo in vans or containers (See Item 163), shall be assessed wharfage according to the outside length of the van or container in accordance with the following rate schedule, in dollars, subject to Notes 1, 2 & 3:

Container Size in Feet	Inbound		Outbound		Exception Cargo
	General	European	General	European	
20 ft.	178	158	137	121	119
35-40 ft.	327	291	238	210	154
45 ft. & over	413	376	413	376	154

Note 1: Exception cargo rates named herein shall apply to vans and containers moving in the Inbound and Outbond directions and applies to General and

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RULE 34-C: SECTION 3 - WHARFAGE (Continued)

European cargos.

Note 2: When and where necessary, TEU's will be converted to metric revenue tons by dividing the applicable container rate by the applicable NOS tonnage rate.

Note 3: Exception cargos shall include Viz:

- Automobiles, CKD (See Item 178)
- Bananas, N.O.S.
- Beverages, canned or bottled
- Borax
- Boric acid
- Borates
- Tile; Ceramic, Marble, Slate
- Cotton and cotton linters in bales
- Diatomaceous earth
- Fish and Shellfish, fresh or frozen
- Foodstuffs, canned or bottled
- Hay and hay cubes
- Hides and Skins
- Machinery, heavy, industrial Viz:
 - Air conditioning machines and parts
 - Boilers and parts
 - Compressors; air and parts
 - Condensers; heat exchangers and parts
 - Fire fighting equipment, sprinklers and parts
 - Generators; gas, electric, steam and parts
 - Machines; bottle and can capping, filling and labeling and parts
 - Refrigerators, freezers and parts
 - Turbines; steam, water, accessories and parts
 - Water coolers, fountains and parts
- Meat and poultry, fresh and frozen
- Metal scrap
- Paper; waste

ARTICLES	RATES IN CENTS	ITEM NO.
Merchandise, N.O.S., in bulk, per 1,000 kilograms	237	354
Scrap Metal, in bulk, per 1,000 kilograms When shipped from assigned containment area on Pier T	224	355
Merchandise, N.O.S., in bulk per 1,000 kilograms to vessels at Pier F and Pier G by means of belt conveyor type mechanical shiploaders or by gravity chutes (except:		356

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RULE 34-C: SECTION 3 - WHARFAGE (Continued)

beans; feed, animal and poultry; grain and grain products; oil seeds, peas, pellets, alfalfa, beet pulp, copra and cotton seed; safflower seeds, seeds, soybeans and related products, processed or unprocessed), subject to Notes 1 & 2: 146

Petroleum Coke & Sulfur, in bulk, per 1,000 kilograms, subject to Notes 1 & 2: 182

Coal, in bulk, per 1,000 kilograms, subject to Notes 1 & 2: 120

Note 1: Merchandise transferred directly from rail to shiploader, per 1,000 kilograms 44

(Effective April 1, 2012):
Merchandise transferred directly from rail to shiploader, per 1,000 kilograms 89

(Effective July 1, 2012):
Merchandise transferred directly from rail to shiploader, per 1,000 kilograms 134

Note 2: Commodities utilizing mechanical shiploaders are subject to Item 515

Cement in bulk, from vessels by means of the mechanical ship unloader, per 1,000 kilograms 139 358

Cement in two-ton bags per 1,000 kilograms 614 359

For minimum annual volume of 400,000 metric tons from a single shipper in a consecutive twelve-month period, per 1,000 kilograms 496

For volume in excess of 400,000 metric tons from a single shipper in a consecutive twelve-month period, per 1,000 kilograms 441

NOTE 1: Consecutive twelve-month period commences on the date of first vessel discharge. Subsequent consecutive, twelve-month periods commence on the day following the anniversary date of the first vessel discharge.

NOTE 2: Minimum annual volume rates apply

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RULE 34-C: SECTION 3 - WHARFAGE (Continued)

only to cargo that is moved off the dock within applicable free time.
NOTE 3: Minimum annual volume rates are available only with advance approval by Port of suitable security/bond or escrow to cover difference between regular rate and minimum annual volume rate. The Port has absolute discretion in approving or disapproving security.

Gypsum rock, in bulk, from self unloading vessels at Berth B83	139	360

Salt, in bulk, per 1,000 kilograms	139	362

Manganese and silico manganese ores, in bulk, per 1,000 kilograms	181	363

Bananas, per 1,000 kilograms	546	368

Beer, and other malt liquors, in bottles or cans per 1,000 kilograms		369
Local	714	
European Cargo	646	

Buildings, modules, including mobile, per cubic meter	456	370
Other than knocked down (Note Applicable)		

Buildings, modules, including mobile, other than knocked down, minimum 150 cubic meters per unit, moving in multiple unit moves, per vessel, per bill of lading		
5 - 10 units, per cubic meter	414	
11 - 20 units, per cubic meter	333	
21 - 40 units, per cubic meter	254	
Over 40 units, per cubic meter	172	

Note: Multiple unit moves of less than 150 cubic meters per unit may apply volume rates subject to minimum cubic measurement per unit.

Cargo vans or containers (See item 163, empty, per van or container, on the overall length, in feet):		374

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RULE 34-D: SECTION 4 - WHARF DEMURRAGE, WHARF STORAGE AND FREE TIME

Effective: 28Dec2012 Thru: Expires: Publish 26Dec2012 Amend: C

ITEM: 400

TERM: DEFINITIONS

- (a) WHARF DEMURRAGE: The charge, calculated in accordance with the Wharf Demurrage rates as provided herein, assessed against merchandise which remains on the wharf or wharf premises after the free time allowed.
- (b) WHARF STORAGE: The charge, calculated in accordance with Wharf Storage rates as provided herein, assessed against merchandise which remains on the wharf or wharf premises and has been accepted for storage.
- (c) INBOUND MERCHANDISE: Merchandise which has been discharged from a vessel.
- (d) OUTBOUND MERCHANDISE: Merchandise which is being or has been assembled and is awaiting loading on board a vessel.
- (e) FREE TIME: The specified number of days during which merchandise may occupy space assigned to it without being assessed Wharf Demurrage.

ITEM: 402

TERM: FREE TIME COMMENCES WHEN

(a) Inbound Merchandise: Free time shall commence at the first midnight after the vessel, from which the merchandise was discharged, finishes discharging or leaves the wharf, whichever occurs first; provided, that when a vessel, which has been only partially discharged, moves to another wharf to complete discharging because of lack of space at first wharf, such vessel shall not be considered as having left the first wharf.

EXCEPTION 1: For inbound containerized cargo only, free time shall commence for each container at 3:00 A.M. after that container is discharged from the vessel.

EXCEPTION 2: For inbound containerized cargo on either of the following U.S. Customs & Border Protection holds, free time shall commence upon the release of the hold by U.S. Customs & Border Protection:

(2.1) Security-related inspections, otherwise known as On-Terminal Non-Intrusive Inspections, designated with code "1H" or "7H".

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RULE 34-E: SECTION 5 - MISCELLANEOUS CHARGES

Effective: 01Jan2014 Thru: Expires: Publish 20Dec2013 Amend: C

ITEM: 500

TERM: HANDLING EQUIPMENT
RULES AND REGULATIONS - GOVERNING USE

- (a) The user will provide all necessary operators and perform all stevedoring.
- (b) The user will provide buckets, electromagnets, spreaders, and other supplemental equipment which may be required.
- (c) The user will perform all necessary rigging and unrigging of buckets, electromagnets, spreader and other supplemental equipment at its own expense.
- (d) Handling equipment is presumed to be in good operating condition when turned over to user, but the Board does not warrant the mechanical condition thereof. The Board will not be responsible for delays caused by user by breakdown of equipment, by shutoff of electric current, or other causes. The Board reserves the right to stop operation of the equipment at any time to require repairs that appear, in the opinion of the Executive Director, to be necessary.
- (e) Handling equipment turned over to user shall be under user's supervision, direction and control. User shall be responsible and liable for injury to or death of any person whomsoever, or damage to or destruction of property, including employees and property of the City of Long Beach, incident to, arising out of, or caused by use or operation of handling equipment. User shall defend and indemnify the City of Long Beach, the Board, and their officers and employees from and against any and all suits, claims, demands, loss, expenses and liability of any kind or nature whatsoever for said injury to or death of persons or damage to or destruction of property arising out of, or be caused, directly or indirectly, through negligence or otherwise, by the use or operation of the handling equipment, whether by user, its officers, agents or employees, or by any consent, express or implied of user.

No provision contained in this item shall limit or relieve the City of Long Beach or the Board from its negligence nor require user to indemnify the City of Long Beach, the Board or their officers and employees from liability for their negligence.

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RULE 34-E: SECTION 5 - MISCELLANEOUS CHARGES (Continued)

- (f) All persons desiring to use handling equipment, shall, as far in advance of the date of use as possible, make application to the Executive Director specifying the date of use, nature and quantity of cargo to be handled, the estimated length of use and nature of use. Users will be scheduled for the equipment in the order of their applications, but the schedule will be modified as necessary for Preferential and Secondary Assignee's use (see Section 6) by the actual availability of a vessel at the berth and by the availability of cargo in the port area. User shall, in the use of the equipment, conduct its operations expeditiously and shall cease use and return the equipment to the control of the Board without delay upon conclusion of the authorized use thereof. The Executive Director reserves the right to order the user to cease use of the handling equipment immediately whenever, in his opinion, the user is not using said handling equipment in accordance with the terms of the assignment, or whenever it is necessary for the best interests of the port.
- (g) Whenever another vessel is standing by, awaiting the use of a berth where handling equipment is located, the vessel on berth will be required to work overtime at her own expense until loading or discharging has been completed. Any vessel on berth which refuses to work overtime shall vacate the berth upon order of the Executive Director. When a vessel loses her right to a berth by refusing to work overtime, such vessel will forfeit her turn and go to the bottom of the list of vessels scheduled and available.
- (h) Any and all vessels at a berth where handling equipment is located, after completion of loading or discharging, will be required to vacate the berth. However, at the discretion of the Executive Director, two hours' grace may be allowed after completion of loading or discharging before sailing, and any and all vessels finishing loading or discharging after midnight shall be allowed to remain on berth until six o'clock that morning. Should any vessel fail to vacate the berth under the above conditions, the Executive Director shall have the right, authority and privilege to move the vessel at the vessel's risk and expense.
- (i) The Board reserves the right to refuse the handling of any commodity which, in the opinion of the Executive Director, is not suitable for the handling equipment.
- (j) The Board will obtain all necessary permits to

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RULE 34-E: SECTION 5 - MISCELLANEOUS CHARGES (Continued)

construct from the South Coast Air Quality Management District. User will obtain all necessary permits to operate and will conduct all operations in strict compliance with said permits to operate and with rules and regulations of that body.

ITEM: 515

TERM: CHARGES FOR **USE OF MECHANICAL SHIPLoadERS AT PIER G**, BERTHS G212-215; AND PIER F, BERTHS F210-211

Charges are for the use (subject to Item 500) of mechanical shiploaders, ship trimmer and air pollution control equipment only. Operators, cleaning, utilities, maintenance, repairs and any supplemental equipment to be furnished by the user; wharfage, dockage and other tariff charges are in addition to the charges named in this item.

(I)

Mechanical Shiploaders... **.45 cents per 1,000 kilograms or fraction thereof of cargo handled.**

NOTE: **The Pier G mechanical shiploader consists of 60-inch conveyor belt feeding systems with 72-inch and 54-inch belting respectively for the traveling bulkloaders at Berths G212-215.**

The Pier F mechanical shiploader consists of a 60-inch transfer gallery conveyor, an overhead 60-inch shipping gallery conveyor, a traveling shiploader with a 60-inch conveyor and includes all feeding systems and associated structures and equipment which travel at Berths F210-211.

ITEM: 520

TERM: CHARGES FOR USE OF CONTAINER CRANES

Charges are for use (subject to Item 500) of cranes and lifting beams only; other supplementary equipment, operators, utilities, maintenance and repairs to be furnished by the user; wharfage, dockage and other tariff charges are in addition to charges named in this item.

Container Cranes.....\$441.00 per hour, per crane.
\$110.00 per 15 minute increments
or fraction thereof, per crane.

EXCEPTION 1: Where container cranes are preferentially assigned or owned, the furnishing of

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RULE 34-G: SECTION 7 - GENERAL RULES AND REGULATIONS

Effective: 01Apr2014 Thru: Expires: Publish 12Mar2014 Amend: C

ITEM: 700

RULE: APPLICATION OF RATES, CHARGES, FEES AND RULES
AND REGULATIONS

Except as otherwise provided, the application of charges shall be those in effect at the time the charge accrues, (see Note), except the applicable charges for wharfage (Section 3) and handling equipment (Section 5) shall be:

1. On inbound merchandise, the charges in effect on the date the vessel commences discharging merchandise
2. On outbound merchandise, the charge in effect on the date that wharfage accrues thereon.

The application of the rules and regulations shall be those in effect at the time such rules and regulations are applied and enforced.

NOTE: FOR CHANGES IN RATES, CHARGES AND FEES.

The effective time on the effective date so published in this tariff will be 0001 hours.

The following guidelines will apply in determining amended charges:

Pilotage: The applicable pilot rates will be determined by the commencing time logged on the pilot slip.

Dockage: The dockage rate shall be the rate in effect at the time the Vessel is officially berthed. The official berthing time is that time logged when the first line is received on a berth on the inward call or to another vessel when mooring to a vessel so berthed (outside berth).

Wharfage: The applicable rate for the vessels entire cargo shall be determined by the time the vessel commences discharge or loading operations.

Storage/Demurrage: Storage and demurrage rates apply from and through the next 24 hour period at the rate in effect at the time the cargo is officially on storage or demurrage.

Assignment of covered, uncovered and water areas: Shall be in accordance with provisions set forth in executed area assignment agreements.

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RULE 34-G: SECTION 7 - GENERAL RULES AND REGULATIONS (Continued)

ITEM: 701

RULE: TERMS AND CONDITIONS OF PAYMENT

Use of Port facilities or service is conditioned upon satisfactory assurance of the Port that applicable charges will be paid when due. All charges are due and payable as they accrue or on completion of service or use.

The Port may require payment of charges in advance, as follows:

1. By the vessel, its owners or agents before vessel is assigned a berth and commences its loading or unloading operations.
2. By the cargo owner, shipper or consignee before cargo leaves the custody and control of the terminal.
3. For all charges on perishable cargo or cargo of doubtful value and household goods.

Payment terms are cash unless the user of Port facilities and/or services, prior to the use thereof, has established credit or has posted adequate security acceptable to the Port.

The provisions of this rule shall govern the terms of payment by, and liability of, an agent acting on behalf of a disclosed principal for charges owing from said principal as a user of Port facilities and/or services notwithstanding any other provisions to the contrary in this tariff or in any form issued pursuant to this tariff.

ITEM: 702

RULE: APPLICABILITY OF RATES AND CHARGES

- (a) The Executive Director reserves the right to interpret and determine the applicability of any of the rates provided for herein and to assess charges or fees in accordance with any such interpretation and determination. The Executive Director also reserves the right to determine the applicability of any rule or regulation as provided herein and to enforce any such rule or regulation in accordance with any such interpretation or determination.
- (b) The Executive Director has the exclusive discretion to waive the assessment of all or any portion of any

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RULE 34-G: SECTION 7 - GENERAL RULES AND REGULATIONS (Continued)

charge payable to the Port of Long Beach for wharfage, dockage, pilotage, wharf demurrage, wharf storage, or any other charge or fee which may be due from any source or cause as provided for in this Tariff which may be associated with cargo destined to provide emergency relief that is directly attributable to natural disasters or unusual occurrences. The cargo must not be intended for resale.

ITEM: 704

RULE: SHIPPER'S REQUESTS AND COMPLAINTS

- (a) Requests and complaints from shippers on matters relating to the rates, rules and regulations contained in this tariff shall be in writing and made to the Executive Director.
- (b) The Port of Long Beach is a member of the California Association of Port Authorities, 1510 14th Street, Sacramento, California 95814. A shipper may refer to the Association any request or complaint not satisfied by the Port of Long Beach by submitting all available data in writing to the Association.

ITEM: 706

RULE: UNAUTHORIZED COLLECTION

No person having authorization from the Executive Director, to collect charges or fees shall collect any such charge or fee calculated at rates not in accordance with the rates, charges and fees set forth herein.

ITEM: 708

RULE: PAYMENT OF CHARGES AND FEES AND ENFORCEMENT THEREOF

- (a) Subject to provisions of Item 701, wharfage, wharf demurrage, wharf storage and any other charges in this tariff made and assessed against merchandise are due from and payable by the owners of such merchandise and shall be collected for and on behalf of the Board by the vessel discharging or loading the merchandise, or for which the merchandise was received, through its owner, agent, manager, master, berth assignee or other person duly authorized so to do, and by the berth assignee as

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to all other merchandise. Such vessel and its owners and agents, jointly and severally, and such berth assignee shall guarantee and be liable for the payment of such charges to the Board, whether or not collected by such vessel or its owner or agent or by such berth assignee. The use of a municipal wharf or wharves by the vessel or its owner or agent and the acceptance of a berth assignment by the assignee thereof shall constitute acceptance and acknowledgment of this guarantee and liability.

- (b) In the event that wharfage, wharf demurrage, wharf storage and any other charges in this tariff made and assessed against merchandise are not otherwise paid, every vessel, through its owner, agent, manager, master or other duly authorized person in charge of the vessel or such merchandise, and every berth assignee as provided in paragraph (a) of this item, unless such vessel, or its owner or agent, or such berth assignee, as the case may be, is upon the Credit List or has otherwise arranged credit as provided in Item 712, shall pay to the Board, the full amount of all such charges assessed against such merchandise before the removal or delivery of such merchandise from the wharf, wharf premise, pier or bulkhead structure. In the case of wharfage assessed against merchandise discharged from or loaded upon a vessel, such payment shall be made before the departure of such vessel from such wharf or berth.
- (c) Wharfage, wharf demurrage, wharf storage and any other charges in this tariff made and assessed against merchandise are liens against all such merchandise deposited upon any wharf or other premises under the jurisdiction and control of the Board; and the Board, or its agents or assignees, may hold possession of any or all of such merchandise to secure the payment of any or all of such charges.

For the purpose of such liens, the Board and its agents and assignees are deemed to have possession of any or all of such merchandise until such charges are paid.

- (d) For the purpose of enforcing the payment of wharfage, wharf demurrage, wharf storage and other charges under this tariff made and assessed against merchandise deposited upon any municipal wharf or other municipal premises, or against merchandise remaining thereon longer than the time prescribed by the provisions of this tariff, the Executive Director may take actual possession of any or all of such merchandise. If the accrued charges are not immediately paid thereafter,

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the Executive Director may, at any time after taking such possession, remove and store any or all of such merchandise wholly at the charge, risk and expense of the merchandise and owner or consignee thereof, and the Executive Director may sell any or all of such merchandise at public auction with or without notice.

- (e) For the purpose of keeping the municipal wharves and other municipal premises free of obstructions, the Executive Director shall cause a written notice to be served on the owner, agent, consignee or person in possession or having custody of any such obstructing merchandise, material or structures wholly at the charge, risk and expense thereof and at the charge, risk and expense of the owner or consignee thereof, and the Executive Director may sell such merchandise, material or structures at public auction with or without notice. Such sale shall be made subject to immediate removal, if not already removed by the Executive Director.
- (f) From the proceeds of any such sale as provided for in paragraphs (d) and (e) of this item, the Board shall retain all charges for wharfage, wharf demurrage, wharf storage and any other charges against the merchandise plus 10% and, in the case of obstructions, \$100.00 additional for each day during which the wharf or other premises have been obstructed, and also all the expenses of any such sale. The surplus, if any, shall be paid to the proper persons. The owner, consignee or proper person shall be liable for and shall pay to the Board any charges, fees and costs remaining unsatisfied out of the proceeds of any such sale.
- (g) Every person in charge of a vessel or cargo who shall cause, allow or permit such vessel to leave such wharf or berth at which it is docked, unless forced to do so by stress of weather or fire or unless such vessel or person is on the Credit List or has otherwise arranged credit as provided in Item 712, before all charges, then due upon or assessed against such vessel and against such merchandise as may have been discharged from or received upon such vessel have been paid, shall be guilty of a misdemeanor and shall be subject to the penalties prescribed by law and this tariff.

ITEM: 710

RULE: PENALTY FOR FAILURE TO PAY CHARGES OR FEES

ID/Name	Revised ID (if any)	Train Source	Actual POLB Arrival
CWELB 29		Colorado	8/2/13 12:37 AM
CSMLB 29	CSMLB1 29	Colorado	8/9/13 10:19 PM
CBRLB 01	CBRLB1 01	Utah	8/14/13 4:42 AM
CWELB 02	CWELB1 02	Colorado	8/9/13 2:58 AM
CWELB 06	CWELB1 06	Colorado	8/13/13 1:13 AM
CWELB 09		Colorado	8/11/13 9:06 PM
CWELB 13		Colorado	8/16/13 2:50 PM
CWELB 14		Colorado	8/17/13 8:52 AM
CWELB 16		Colorado	8/18/13 4:28 PM
2CWELB 16		Colorado	8/20/13 3:39 AM
CSMLB 16	CSMLB1 16	Colorado	8/21/13 5:51 PM
CSVLB 17	CSVLB1 17	Utah	8/21/13 1:48 AM
CSVLB 19	CSVLB1 19	Utah	8/23/13 12:29 AM
CWELB 22		Colorado	8/24/13 11:32 AM
CWELB 23		Colorado	8/25/13 10:17 AM
2CWELB 23		Colorado	8/26/13 4:21 AM
CSMLB 25	CSMLB1 25	Colorado	9/1/13 7:00 AM
CWELB 26	CWELB1 26	Colorado	9/5/13 12:13 AM
CSVLB 27	CSVLB1 27	Utah	9/3/13 12:48 PM
CSVLB 28	CSVLB1 28	Utah	9/5/13 5:02 PM
2CSVLB 28	CSVLB2 28	Utah	9/6/13 10:16 PM
CSMLB 30		Colorado	9/2/13 11:55 AM
CWELB 05		Colorado	9/7/13 10:00 PM
CWELB 06		Colorado	9/9/13 11:06 AM
CWELB 07		Colorado	9/10/13 7:26 AM
CSMLB 09		Colorado	9/11/13 3:50 AM
CSMLB 11		Colorado	9/14/13 12:34 PM
CSMLB 12	CSMLB1 12	Colorado	9/27/13 9:16 PM
CSMLB 13	CSMLB1 13	Colorado	9/16/13 12:43 AM
CSMLB 14	CSMLB1 14	Colorado	9/26/13 3:05 PM
CSMLB 15	CSMLB1 27	Colorado	9/29/13 4:07 AM
CWELB 18	CWELB1 18	Colorado	9/24/13 9:35 PM
CWELB 20	CWELB1 20	Colorado	9/25/13 5:49 AM
CSVLB 28		Utah	9/30/13 2:29 AM
CSVLB 29		Utah	10/1/13 12:43 PM
CSMLB 30		Colorado	10/5/13 6:31 AM
CWELB 01	CWELB1 01	Colorado	10/6/13 10:23 AM
CSMLB 01		Colorado	10/5/13 1:30 AM
CWELB 04	CWELB1 04	Colorado	10/7/13 7:43 PM
CWELB 05		Colorado	10/8/13 12:30 PM
CSVLB 05	CSVLB1 05	Utah	10/10/13 8:48 AM
CSMLB 08	CSMLB1 08	Colorado	10/18/13 9:39 PM

CSMLB 09	CSMLB1 09	Colorado	10/17/13 1:20 AM
CSMLB 10	CSMLB1 10/0	Colorado	10/20/13 7:48 PM
CWELB 13	CWELB1 13	Colorado	10/17/13 10:10 PM
CSMLB 13	CSMLB1 13	Colorado	10/20/13 12:17 AM
CWELB 15	CWELB1 15	Colorado	10/22/13 5:31 AM
CWELB 21		Colorado	10/23/13 11:51 AM
CSMLB 21		Colorado	10/24/13 6:35 AM
CSVLB 23		Utah	10/25/13 7:00 AM
CSVLB 24	CSVLB1 24	Utah	10/30/13 8:58 PM
CSVLB 25	CSVLB1 25	Utah	10/31/13 5:30 AM
CWELB 26	CWELB1 26	Colorado	11/1/13 3:55 PM
CWELB 27	CWELB1 27	Colorado	11/2/13 2:00 PM
CWELB 28	CWELB1 28	Colorado	11/3/13 1:00 AM
CWELB 29	CWELB1 29	Colorado	11/4/13 3:36 AM
CSMLB 03		Colorado	11/5/13 12:39 PM
CSMLB 04		Colorado	11/6/13 9:26 AM
CWELB 05		Colorado	11/8/13 5:16 AM
CWELB 06	CWELB1 06	Colorado	11/11/13 1:31 PM
CSVLB 06		Utah	11/8/13 6:51 PM
CSVLB 07	CSVLB1 07	Utah	11/13/13 6:35 AM
CSVLB 08	CSVLB1 08	Utah	11/13/13 12:21 PM
CSMLB 10	CSMLB1 10	Colorado	11/15/13 11:58 PM
CSMLB 13	CSMLB1 13	Colorado	11/17/13 3:58 AM
CSMLB 15	CSMLB1 15	Colorado	11/18/13 2:05 PM
CWELB 18	CWELB1 25	Colorado	11/29/13 5:22 PM
CWELB 19	CWELB1 19	Colorado	11/25/13 2:11 PM
CWELB 20	CWELB1 20	Colorado	11/26/13 8:46 AM
CWELB 22	CWELB1 22	Colorado	11/27/13 4:39 AM
2CWELB 22	CWELB2 22	Colorado	11/28/13 2:58 AM
CWELB 29		Colorado	11/30/13 9:50 PM
CWELB 30		Colorado	12/2/13 6:27 AM
CWELB 01		Colorado	12/4/13 9:40 AM
CWELB 02	CWELB1 02	Colorado	12/10/13 5:11 AM
CWELB 03		Colorado	12/6/13 12:38 PM
CWELB 04		Colorado	12/7/13 9:06 AM
CWELB 08		Colorado	12/12/13 5:33 AM
CWELB 10	CWELB1 10	Colorado	12/15/13 1:23 AM
CWELB 12	CWELB1 12	Colorado	12/15/13 3:03 PM
CWELB 14	CWELB1 26	Colorado	12/27/13 1:36 AM
CSKLB 16	CSKLB1 26	Utah	12/28/13 8:57 AM
CSVLB 17	CSVLB1 07	Utah	1/11/14 12:42 AM
CSKLB 18	CSKLB1 01	Utah	1/10/14 8:32 AM
CWELB 28	CWELB1 28	Colorado	1/4/14 2:11 PM
CWELB 31	CWELB1 05	Colorado	1/5/14 7:47 PM
2CWELB 31	CWELB2 06	Colorado	1/8/14 6:00 AM
CWELB 09	CWELB1 09	Colorado	1/21/14 9:23 PM
CSKLB 11	CSKLB1 26	Utah	1/28/14 7:30 AM
CWELB 11	CWELB1 25	Colorado	1/27/14 11:17 AM
CSMLB 16	CSMLB1 16	Colorado	1/22/14 10:51 AM
CSKLB 19	CSKLB1 19	Utah	1/25/14 8:36 PM

CSKLB 27		Utah	1/29/14 4:14 PM
CSVLB 28		Utah	1/30/14 8:20 AM
CSVLB 29		Utah	1/31/14 8:37 AM
CSKLB 31		Utah	2/2/14 10:31 PM
CSKLB 01		Utah	2/3/14 6:53 AM
CSVLB 02		Utah	2/5/14 4:46 AM
CSVLB 04		Utah	2/6/14 6:52 AM
CSMLB 04		Colorado	2/7/14 1:41 PM
CSKLB 06	CSKLB1 06	Utah	2/8/14 6:07 PM
CWELB 07		Colorado	2/10/14 9:05 AM
CWELB 09		Colorado	2/12/14 5:37 AM
CWELB 10		Colorado	2/13/14 3:57 AM
CWELB 12		Colorado	2/14/14 4:07 PM
2CWELB 12	CWELB2 12	Colorado	2/20/14 7:31 AM
CSVLB 14	CSVLB1 14	Utah	2/21/14 10:24 PM
CSKLB 15	CSKLB1 15	Utah	2/23/14 10:55 PM
CSKLB 16	CSKLB1 16	Utah	2/25/14 6:39 AM
CSKLB 17		Utah	2/19/14 8:55 PM
CSKLB 24		Utah	2/26/14 3:10 PM
CBRLB 24		Utah	2/27/14 6:03 AM
CSKLB 27		Utah	3/1/14 3:00 AM
2CSKLB 27	CSKLB2 27	Utah	3/4/14 8:18 PM
CSKLB 01		Utah	3/3/14 2:31 AM
CSMLB 03	CSMLB1 14	Colorado	3/18/14 6:15 AM
CWELB 05	CWELB1 05	Colorado	3/13/14 11:21 PM
CWELB 06	CWELB1 18	Colorado	3/27/14 11:06 PM
CSKLB 07	CSKLB1 07	Utah	3/16/14 3:18 AM
CSKLB 09	CSKLB1 09	Utah	3/13/14 3:50 AM
CSKLB 17		Utah	3/19/14 12:51 AM
CSKLB 19	CSKLB1 19	Utah	3/23/14 7:24 AM
CWELB 20	CWELB1 20	Colorado	3/26/14 9:17 PM
CWELB 22	CWELB1 22	Colorado	3/29/14 7:00 AM
CWELB 25	CWELB1 25	Colorado	3/28/14 3:30 AM
CWELB 29	CWELB1 07	Colorado	4/10/14 12:30 AM
CWELB 30	CWELB1 30	Colorado	4/4/14 4:10 PM
CWELB 31	CWELB1 31	Colorado	4/7/14 7:42 AM
CSVLB 01	CSVLB1 01	Utah	4/6/14 8:30 AM
CSMLB 03	CSMLB1 03	Colorado	4/8/14 11:17 PM
CSKLB 08	CSKLB1 08	Utah	4/10/14 10:18 PM
CSKLB 10		Utah	4/12/14 10:44 AM
CSVLB 11	CSVLB1 11	Utah	4/14/14 4:09 PM
CSKLB 12	CSKLB1 12	Utah	4/16/14 2:07 AM
CSVLB 14	CSVLB1 14	Utah	4/17/14 5:07 AM
CSKLB 14	CSKLB1 14	Utah	4/18/14 4:44 AM
CSMLB 14	CSMLB1 14	Colorado	4/19/14 1:23 PM
CSKLB 16	CSKLB1 16	Utah	4/20/14 4:35 PM
CSVLB 18	CSVLB1 18	Utah	4/22/14 8:08 AM
CSVLB 20	CSVLB1 20	Utah	4/24/14 1:20 AM
CSKLB 21	CSKLB1 21	Utah	4/23/14 4:37 AM
CSVLB 23		Utah	4/23/14 5:41 AM

CSVLB 26		Utah	4/29/14 12:52 AM
CSVLB 27	CSVLB1 27	Utah	4/29/14 9:30 PM
CBRLB 27		Utah	4/30/14 11:15 PM
CSMLB 30	CSMLB1 30	Colorado	5/8/14 1:07 AM
CSVLB 01	CSVLB1 01	Utah	5/7/14 3:12 AM
CSVLB 02	CSVLB1 02	Utah	5/9/14 8:38 PM
CSKLB 03	CSKLB1 03	Utah	5/10/14 9:35 PM
CSKLB 04		Utah	5/6/14 4:35 PM
CSKLB 09	CSKLB1 09	Utah	5/12/14 8:36 PM
CSVLB 11		Utah	5/13/14 10:31 PM
CSKLB 12		Utah	5/15/14 4:56 AM
CSVLB 13		Utah	5/15/14 11:33 PM
CSMLB 16		Colorado	5/19/14 9:00 AM
CSVLB 17		Utah	5/18/14 7:11 PM
CSKLB 17	CSKLB1 17	Utah	5/20/14 7:40 PM
CSKLB 18	CSKLB1 18	Utah	5/27/14 8:17 PM
CSVLB 20	CSVLB1 20	Utah	5/30/14 8:42 PM
CSKLB 22	CSKLB1 27	Utah	5/30/14 10:51 PM
CBRLB 31		Utah	6/3/14 11:01 AM
CSKLB 01		Utah	6/4/14 11:10 AM
CSKLB 03		Utah	6/6/14 10:07 AM
CSKLB 04		Utah	6/7/14 3:08 AM
2CSKLB 04	CSKLB2 04	Utah	6/9/14 3:16 AM
CSVLB 07	CSVLB1 07	Utah	6/19/14 11:02 PM
CSKLB 08	CSKLB1 08	Utah	6/22/14 2:48 AM
CSKLB 10	CSKLB1 10	Utah	6/23/14 11:31 PM
CSMLB 12	CSMLB1 12	Colorado	6/19/14 6:19 AM
CSKLB 18	CSKLB1 18	Utah	6/21/14 5:00 AM
CSVLB 22	CSVLB1 22	Utah	6/28/14 2:52 PM
CSVLB 23	CSVLB1 23	Utah	7/1/14 2:46 PM
CSKLB 25	CSKLB1 25	Utah	6/29/14 4:56 AM
CSMLB 26	CSMLB1 26	Colorado	7/1/14 2:21 AM
CSVLB 29	CSVLB1 29	Utah	7/7/14 7:26 AM
CSVLB 01		Utah	7/4/14 5:37 AM
CSKLB 02		Utah	7/5/14 1:00 PM
CSKLB 05	CSKLB1 07	Utah	7/8/14 10:05 AM
CSKLB 08		Utah	7/11/14 5:00 AM
CSMLB 08		Utah	7/11/14 11:31 AM
CWELB 12		Colorado	7/15/14 8:27 AM
CWELB 13		Colorado	7/17/14 12:21 AM
CWELB 16		Colorado	7/20/14 2:17 AM
CWELB 17		Colorado	7/20/14 7:55 PM
CWELB 21	CWELB1 21	Colorado	7/26/14 7:56 AM
CSKLB 22	CSKLB1 22	Utah	7/27/14 3:12 PM
CSKLB 24	CSKLB1 24	Utah	7/29/14 5:55 AM
CSKLB 28		Utah	7/30/14 9:18 PM
CSKLB1 31	CSKLB2 31	Utah	8/2/14 8:52 PM
CSKLB 01	CSKLB1 01	Utah	8/5/14 1:44 AM

OXBOW EXHIBIT 6

**INFORMATION FROM THE UNITED STATES ENERGY INFORMATION
ADMINISTRATION**

<http://www.eia.gov/>

Export price from total world of All coal

http://www.eia.gov/beta/coal/data/browser/#/topic/42?agg=2,1,0&rank=ok&map=COAL.EXPORT_QTY.TOT-TOT-TOT.A&freq=A&start=2000&end=2013&ctype=map<ype=pin&rtype=s&mappoint=0&rse=0&pin=

Thu Aug 07 2014 19:22:41 GMT-0700 (Pacific Daylight Time)

Source: U.S. Energy Information Administration

Units: \$/short ton

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Export price from total U.S. to Andorra	640	626.67									876			
Export price from total U.S. to United Arab Emirates	40.69	40.79	39.92	50.19	187.29	57.79	43.13	45.81	51.78	253.32	318.79	301.27	289.46	75
Export price from total U.S. to Afghanistan	39.83													
Export price from total U.S. to Antigua And Barbuda							25.94						144.47	
Export price from total U.S. to Armenia										100.7	127.21			
Export price from total U.S. to Angola		39.91	39.88	39.87	39.85	39.92	39.92	39.92	44.04	42.38	41	1050.7	1302.56	1830
Export price from total U.S. to Argentina	24.72	25.31	36.58	37.62	52.72	82.86	95.21	88.52	167.12	128.13	197.15	231.39	182.55	131.34
Export price from total U.S. to Austria						106.67	107.04	73.69	106.07	116.94	180.15	247.03	140.63	142.19
Export price from total U.S. to Australia	68.23	81.4	51.63	103.72	77.2	53.53	44.32	40.93	58.48	79.97	32.66	31.89	32.49	32.25
Export price from total U.S. to Aruba								152.13			79.98			
Export price from total U.S. to Azerbaijan									39.89	39.09	39			831.85
Export price from total U.S. to Bosnia And Herzegovina											116.12	181.45		122.62
Export price from total U.S. to Barbados									36.99	298.07				
Export price from total U.S. to Belgium	38.37	39.6	43.71	42.62	53.57	74.64	83.35	81.55	103.37	112.76	130.67	129.53	121.94	104.19
Export price from total U.S. to Bulgaria	39.94	46.32	47.55	43.48	67.01	70.31	95.37	110.22	144.8	51.23				
Export price from total U.S. to Bermuda		42.18									219.83			
Export price from total U.S. to Brunei			39.88	39.88	29.74	40.95	48.06	39.93	113.52	44.73	76.19	2176.89	2876.33	
Export price from total U.S. to Bolivia	40.62	39.93		43.66	39.86			39.84		288.05	39.9	2239.98	1960.09	
Export price from total U.S. to Brazil	34.95	39.4	46.93	44.79	62.12	83.65	94.44	88.32	142.91	120.8	155.28	197.5	156.61	115.44
Export price from total U.S. to Bahamas				40.68	209.55	50.99		52.62	143.03	40.18	463.5	79.95	344.38	486.3
Export price from total U.S. to Belize	174.17												79.76	
Export price from total U.S. to Canada	30.52	32.14	36.29	27.78	37.69	44.65	49.38	47.82	44.62	65.76	75.5	106.15	117.48	75.29
Export price from total U.S. to Congo (Kinshasa)													1830.56	
Export price from total U.S. to Congo (Brazzaville)										39.82	39.92	2147.77	1293.88	2362.7
Export price from total U.S. to Switzerland	173.12	250.19	225.45		51.62		128.49		88.27	107.11	163.64	73.49	52.35	52.33
Export price from total U.S. to Ivory Coast						61.99				170.13				2308
Export price from total U.S. to Chile	27.78	67.93	102.46	129.12	27.89	26.28	125.25	38.42	50.27	58.77	41.38	70.42	70.19	68.65
Export price from total U.S. to Cameroon								40.83		145.65	144.76			
Export price from total U.S. to China	63.71	80.95	52.98		81.97	272.27	77.03	53.96	122.93	105.94	106.13	149.47	125.03	110.18
Export price from total U.S. to Colombia	64.54	49.23	40.81	42.08	45.33	39.96	60.37	42.56	103.09	167.08	161.45	152.94	196.38	1129.02
Export price from total U.S. to Costa Rica	56.96	120.59	72.55	35.22	48.18	42.02	43.4	83.69	191.85	312.89	187.46	177.23	293.33	316.01
Export price from total U.S. to Curacao													144.97	1639.5
Export price from total U.S. to Czech Republic										89.81				
Export price from total U.S. to Germany, Federal Republic Of	31.1	31.03	31.41	28.76	38.13	88.21	85.3	70.51	91.01	97.25	118.5	126.64	113.83	92.18
Export price from total U.S. to Denmark (Except Greenland)	25.08			28.16	34.47	38.1	53.63	76.75	68.68	52.36	68.04	90.51		
Export price from total U.S. to Dominica														77.95
Export price from total U.S. to Dominican Republic	69.81	48.61	60.02	54.52	64.68	79.05	65.92	68.62	145.65	149.42	178.15	77.21	77.88	71.65
Export price from total U.S. to Algeria	44.71	49.34	50.33	48.18	56.38	68.23	76.47	90.55	128.95	106.06		537.53	1713.98	1163.62
Export price from total U.S. to Ecuador	55.17	43.95	44.67	65.54	62.5	72.86	78.97	119.82	94.94	257.01	248.24	704.08	178.54	353.46
Export price from total U.S. to Egypt	43.93	36.18	36.87	42.21	51.4	61.36	97.49	89.92	207.58	116.78	167.97	233.19	145.77	120.42
Export price from total U.S. to Eritrea						39.89								
Export price from total U.S. to Spain	35.96	35.6	38.71	43.17	44.09	70.69	80.97	92.36	94.75	115.62	133.52	148.3	128.34	125.9

Export price from total U.S. to Finland	39.82	43.06	43.91	39.19	59.24	78.06	65.47	91.1	173.5	89.25	139.21	197.27	176.86	138.72
Export price from total U.S. to Faroe Islands									85.46	82.74				
Export price from total U.S. to France	37.27	43.4	49.87	50.42	65.15	89.14	88.25	86.3	105.99	121.87	111.53	125.81	125.91	102.2
Export price from total U.S. to Gabon				39.89	39.85	39.89			438.18	39.92	42.35	2225.13		
Export price from total U.S. to United Kingdom	36.73	39.05	40.11	43.04	49.22	79.64	75.08	68.4	83.39	82.95	110.62	113.7	89.41	80.91
Export price from total U.S. to Grenada														
Export price from total U.S. to Gibraltar									141.52	63.05	61.55			
Export price from total U.S. to Guadeloupe					34.45		50.77							
Export price from total U.S. to Equatorial Guinea									145.41		39.92	314.59	155.55	638.53
Export price from total U.S. to Greece		40.61	50.75	56.71			41.02		110.29	58.05	68.23			
Export price from total U.S. to Guatemala			36.99		34.28	307.73	74.6		715.37	342.4	159.7	80.23	72.28	79.97
Export price from total U.S. to Guyana										145.23		302.55		
Export price from total U.S. to Hong Kong	56.45	56.74	39.71	57.51		196.71	57.5		145.48	146.37	166.61	192.72	129.47	141.75
Export price from total U.S. to Honduras	215.93	273.55	210	34.33			53.53		232.41		64.78	70.09	54.43	54.49
Export price from total U.S. to Croatia	26.26				86.08	88.61	99.51	99.57	126.22	113.74	161.83	173.86	110.2	122.52
Export price from total U.S. to Hungary	40.34	49.57	51.89				107.46		275.59	157.42	174.57	298.33		
Export price from total U.S. to Indonesia		41.17			39.9	39.92	39.97	41.73	40.8	45.36	52.36	339.48	221.91	289.72
Export price from total U.S. to Ireland	27.38	30.28	28.79	28.52				66.42	87.1		254.18	79.24	75.51	822.08
Export price from total U.S. to Israel	26.03	189.21	32.01	135.86	157.05	173.48	140.23	158.69	222.21	260.05	118.69	257.45	83.44	677
Export price from total U.S. to India	52.26	52.26	56.18	57.01	101.89	105.24	95.56	102.62	216.54	167.92	169.52	203.85	127.73	101.96
Export price from total U.S. to British Indian Ocean Territory									144.87					
Export price from total U.S. to Iraq											450.25	185.03	149.72	312.21
Export price from total U.S. to Iceland	55.42	57.87	59.19	58.78	73.13	105.91	121.39	103.17	119.23	130.13	128.84	141.49	146.63	142.97
Export price from total U.S. to Italy	44.5	45.73	49.26	49.26	59.6	78.24	95.17	93.58	109.8	114.31	133.54	176.35	125.01	100.87
Export price from total U.S. to Jamaica	22.95	27.35	71.58		40.69	35.8	29.48	40.22	83.02	93.34	59.28	75.16	54.75	53.96
Export price from total U.S. to Jordan			40.66		40.68	41		40.8		576.2	310.52		277.8	
Export price from total U.S. to Japan	33.02	34.2	36.69	135.92	87.36	91.87	82.46	175.33	140.37	149.68	146.74	175.09	158.87	107.85
Export price from total U.S. to Kenya											159.72		2403.07	
Export price from total U.S. to Saint Kitts And Nevis														144.63
Export price from total U.S. to South Korea (Republic Of Kore	38.36	31.27	30.99	21.9	62.47	68.72	54.48	67.14	144.28	94.96	92.94	111.31	89.28	72.73
Export price from total U.S. to Kuwait								79.06	34.75				600.6	
Export price from total U.S. to Cayman Islands				27.07				583.33		87.66				
Export price from total U.S. to Kazakhstan					41.56	38.98	39.92	39.93	39.91	39.91	39.92	92.86		
Export price from total U.S. to Lebanon	40.64				40.72	40.85		40.7						
Export price from total U.S. to Saint Lucia	114.83							34.47						342.81
Export price from total U.S. to Liberia				40.8										
Export price from total U.S. to Lithuania										1093.67				
Export price from total U.S. to Luxembourg											167.83			
Export price from total U.S. to Latvia											116.53	183.91	155.37	185.7
Export price from total U.S. to Libya							39.91	39.93	42.72	39.94			80.21	461.65
Export price from total U.S. to Morocco	26.69	29.89	28.76	37.15	42.86	54.39	44.9	47.32	85.21	78.22	73.65	83.2	85.22	84.81
Export price from total U.S. to Montenegro									380.57	406.47				
Export price from total U.S. to Madagascar					116.8						531.25			356.38
Export price from total U.S. to Malta												871.68	242.44	
Export price from total U.S. to Mexico	41.85	41.59	43.5	45.6	62.01	57.69	90.79	65.2	103.91	100.64	93.1	115.92	111.83	78.34
Export price from total U.S. to Malaysia	185.67		50.74	46.95	40.83	40.81	147.3	58.63	55.34	51.51	198.86	442.37	625.98	667.61
Export price from total U.S. to Mozambique										144.89	39.93	70.2	1806.21	2588.77
Export price from total U.S. to New Caledonia									324.45					

Export price from total U.S. to Nigeria	61.25	40.5	40.82	39.9	39.89	39.9	39.92	39.93	39.9		148.45		145.11	
Export price from total U.S. to Nicaragua									83.69	1775	352.88			
Export price from total U.S. to Netherlands	37.18	40.54	47.87	42.9	58.68	79.08	79.33	73.64	94.03	93.9	112.76	143.11	107.79	85.27
Export price from total U.S. to Norway	35.85	50.76	53.81	80.31	74.72	93.07	39.93	71.48	112.44	103.16	121.39	156.26	182.61	169.21
Export price from total U.S. to New Zealand			40.11								1410	526.89	146.21	1711.33
Export price from total U.S. to Oman				206.18						39.88	39.91	39.92	74.86	2209.06
Export price from total U.S. to Panama		137.44		31.85	59.87	51.8	191.28	79.85			126.96	209.94	73.22	186.99
Export price from total U.S. to Peru	88.82	57.72	79.59	96.68	32.66	135.64	121.5	138.55	189.02	184.02	82.15	95.47	231.25	67.64
Export price from total U.S. to Philippines				224.71	153				881.67	171.36	239.59			145.4
Export price from total U.S. to Pakistan	72.23	40.7	99.34	331.59		431.47	47.75	46.55	43.99	161.08	150.33	199.95	54.81	578.33
Export price from total U.S. to Poland									88.33	143.82	132.55	163.39	212.87	142.28
Export price from total U.S. to Portugal	29.73	34.05	33.16	31.27	39.01	45.66	51.19	54.15	60.74	85.2	59.5	90.55	84.18	73.21
Export price from total U.S. to Paraguay		120.91									229.43			146
Export price from total U.S. to Qatar								25.35	145	184.67	285.57		283.38	
Export price from total U.S. to Romania	42.11				91.77	85.6	78.84	62.34	114.11	109.39	151.03	188.47	114.65	119.4
Export price from total U.S. to Serbia													1234.83	240.5
Export price from total U.S. to Russia				39.89		39.9	39.92	79.54	1235.9	39.91	126.63	468.38	110.8	295.77
Export price from total U.S. to Saudi Arabia	49.07	51.89	40.47	41.03	41.15	43.78	40.01	39.7	108.22	69.48	211.56	160.38	188.99	374.4
Export price from total U.S. to Sweden	43.7	50.05	49.77	49.64	49.27	68.61	91.53	94.51	94.4	141.1	156.58	234.73	169.46	137.67
Export price from total U.S. to Singapore	46.1	49.29	42.49	40.41	40.15	41.39	46.94	72.79	106.6	327.14	72.58	161.2	142.77	94.44
Export price from total U.S. to Slovenia	154.81				34.39	108.81	92.91	80.74	144.41	183	138.22	202.71	133.36	104.48
Export price from total U.S. to Slovakia							95.75	91.3	158.28	145.84	203.96	204.18	167.9	128.76
Export price from total U.S. to Suriname								275.83			285.44			
Export price from total U.S. to El Salvador						46.99	95.25		675	572.55	145.14			308.88
Export price from total U.S. to Netherlands Antilles							47.36	141.85	231.78	2400	143.75			
Export price from total U.S. to Turks And Caicos Islands										79.69				
Export price from total U.S. to French Southern And Antarctic Lands					53.98									
Export price from total U.S. to Togo													58.97	62.16
Export price from total U.S. to Thailand	61.29	103.76	115.27	88.2	40.75	93.99	53.27	143.29	176.87	194	62.35	88.81	628.92	708.44
Export price from total U.S. to Tunisia		40.81									344	750		
Export price from total U.S. to Turkey	34.64	32.75	46.33	43.49	66.56	100.91	92.42	87.65	201.23	114.6	156.31	186.23	128.99	112.9
Export price from total U.S. to Trinidad And Tobago	187.71	51.52	44.04	51.14	72.69	42.04	72.32	48.44	46.36	324.9	93.79	146.94	224.3	140.71
Export price from total U.S. to Taiwan	33.96	33.47	131.38	45.92	69.07	149.63	121.94	51.03	164.26	105.28	170.51	435.3	32.84	32.2
Export price from total U.S. to Tanzania (United Republic Of Tanzania)						79.91						1840	1840	
Export price from total U.S. to Ukraine						118.95	85.73	99.2	142.68	136.55	164.45	203.57	182.88	138.38
Export price from total U.S. to Uruguay					100.99	128.92	346.4	40.22	488.29	152.18	244.33	299.66		639.18
Export price from total U.S. to Holy See (Vatican City)	158.05										120.66			
Export price from total U.S. to Venezuela	38.55	48.03	46.9	36.45	39.96	37.87	41.89	37.58	45.18	231.61	49.72	99.71	266.02	543.03
Export price from total U.S. to British Virgin Islands		111.44										113.36		
Export price from total U.S. to Vietnam	277.9			40.83					40.69		201.94	145.14	452.5	565.19
Export price from total U.S. to South Africa	47.24	47.88	172.6	178.76	78.86	34.47	88.67	87.6	160.95	133.07	145.27	268.05	217.26	127.72
Export price to total world from Anchorage, AK	29.12	25.64	30.97	29.93	24.53	27.97	29.65	30.57	39.92	37.38	27.88	29.1	34.34	41.09
Export price to total world from Baltimore, MD	29.34	34.16	31.02	30.35	67.16	78.56	68.55	63.62	101.63	94.26	131.54	155.28	134.6	96.94
Export price to total world from Boston, MA	25.72						34.51				529.06	1486	143.91	1491.13
Export price to total world from Buffalo, NY	26.02	28.55	45.55	34.74	49.95	69.55	79.27	75.87	93.77	119.93	135.59	145.82	160.89	118.38
Export price to total world from Chicago, IL	30.94	27.31		34.02	38.33	40.51	44.57	44.56	47.4	90.81	285.47	419.38	14.54	5748
Export price to total world from Charleston, SC														
Export price to total world from Cleveland, OH	31.83	30.93	35.93	33.8	45.41	59.93	74.83	76.59	84.18	79.39	90.91	119.22	120.43	93.94

Export price to total world from Detroit, MI	29.43	37.98	35.4	34.91	41.72	45.74	39.69	39.36	32.05	54.92	55.07	68.06	80.46	71.8
Export price to total world from Dallas/Fort Worth, TX									3058	148.96				
Export price to total world from Duluth, MN	47.35	55.81	32.74	12.2	21.5	20.84	115.46	108.61	128.44	168.28	114.02	191.61	211.38	170.16
Export price to total world from El Paso, TX	67.79	40.68	50.79	203	30.7	33.62	52.27	57.59	68.21	84.36	79.08	93.17	83.05	236.34
Export price to total world from Great Falls, MT	51.5	55.77	68.76	32.24	63.97	91.57	96.48	50.24	76.39	119.92	113.53	93.35	233.24	110.1
Export price to total world from Houston-Galveston, TX	43.2	43.03	41.33	38.6	41.29	41.72	44.09	39.79	46.04	47.83	51.95	97.8	86.69	75.64
Export price to total world from Honolulu, HI													875	81.38
Export price to total world from Los Angeles, CA	31.94	34.18	36.58	40.87	72.03	40.4	42.83	57.38	124.73	40.68	72.12	98.08	97.9	85.9
Export price to total world from Laredo, TX	40.85	41.57	43.46	47.5	61.39	46.39	113.42	50.27	106.97	105.05	112.31	108.89	80.9	78.5
Export price to total world from Miami, FL	67.98	40.29	43.67	38.6	41.66	39.01	57.41	78.1	54.07	103.33	150.97	132.91	163.92	172.61
Export price to total world from Minneapolis, MN												59.36	52.33	60.63
Export price to total world from Milwaukee, WI		54.47												
Export price to total world from Mobile, AL														
Export price to total world from Nogales, AZ		40.8		40.36		66.19	89.19	232.55		141.6	155.42	975	145.11	225.27
Export price to total world from New Orleans, LA	30.51	28.56	29.44	31.29	48.37	65.77	51.09	46.8	79.56	71.08	92.45	109.78	88.25	72.2
Export price to total world from Norfolk, VA														
Export price to total world from New York City, NY	94.64	63.69	107.55	56.46	132.18	90.88	94.29	43.16	94.6	172.63	68.26	170.27	208.67	272.55
Export price to total world from Ogdensburg, NY	43.23	34.98	59.51	47.05	59.36	77.51	91.68	92.12	85.26	118.77	119.73	80.78	204.34	143.41
Export price to total world from other ports	76.47	65.22	65.57	62.84	53.47	40.86	16.55	24.78	22.84	40.35	59.88	59.75	56.81	12.24
Export price to total world from Port Arthur, TX								36.43						
Export price to total world from Pembina, ND	51.27	51	67.85	56.46	46.94	67.01	182.44	129.88	112.15	149.35	65.98	165.86	157.82	235.99
Export price to total world from Philadelphia, PA	64.2	46.41	50.77	35.66	25.9	68.06	109.65	40.36	150.51	217.2	145.89	144.14	134.19	148.99
Export price to total world from Portland, ME	58.83	47.98	45.22	29.67	72.86	130.2	169.35	116.43	81.35	38.59	242.35		107.03	163.28
Export price to total world from Portland, OR		39.91		36.59	103.2		47.56				99.74		116.79	
Export price to total world from Savannah, GA	79.28	151.55	66.19	61.91	77.59	40.65	195.39	41.01	84.63	92.27	296.52	244.19	160.46	129.12
Export price to total world from St. Albans, VT	47.27	44.98	46.34	61.41	68.68	152.51	114.5	186.24	227.06	206.78	190.95	312.36	255.14	287.14
Export price to total world from San Diego, CA	63.43	100.78	77.25	39.3	56.62	69.18	67.04	60.33	94.33	164.47	231.91	193.16	165.01	230.01
Export price to total world from Seattle, WA	66.03	79.66	44.96	56.81	48.28	46.18	53.54	94.62	75.24	58.37	32.5	31.88	31.86	32.04
Export price to total world from San Francisco, CA	37.58	40.73	40.64	40.75	35.61	40.89	49.07	55.98	31.62	300.73	49.04	542.42	81.04	77.83
Export price to total world from Tampa, FL	114.83	89.57	48.44	61.69	38.95	39.19	47.39	52.06	92.92		129.74	135.29	149.49	347.54
Export price to total world from Virgin Islands of the United States					34.45		34.48							
Export price to total world from Wilmington, NC	124.3	177.23	181.29						224.55				76.6	

Export quantity from total world of All coal

http://www.eia.gov/beta/coal/data/browser/#/topic/41?agg=2,1,0&rank=ok&linechart=COAL.EXPORT_QTY.TOT-TOT-TOT.A&columnchart=COAL.EXPORT_QTY.TOT-TOT-TOT.A&map=COAL.EXPORT_QTY.TOT-TOT-TOT.A&freq
 Thu Aug 07 2014 18:24:55 GMT-0700 (Pacific Daylight Time)

Source: U.S. Energy Information Administration

Units: short tons

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Export quantity from total U.S. to Andorra	6	9									9			
Export quantity from total U.S. to United Arab Emirates	153	683	1393	220	35	41160	1879	1705	1871	228	171	136	127	139781
Export quantity from total U.S. to Afghanistan	117													
Export quantity from total U.S. to Antigua And Barbuda								110					95	
Export quantity from total U.S. to Armenia										47933	291222			
Export quantity from total U.S. to Angola		2194	9910	669	2658	10666	20236	7129	5859	8260	10649	119	493	418
Export quantity from total U.S. to Argentina	204279	190852	189716	240748	292547	242892	349550	302390	368055	461523	311109	258488	520125	471230
Export quantity from total U.S. to Austria						263705	33072	261361	335119	308618	453982	363627	1840659	615469
Export quantity from total U.S. to Australia	253	909	3074	510	214	675	1080	274	1765	26935	117667	333503	167588	149430
Export quantity from total U.S. to Aruba								119			292			
Export quantity from total U.S. to Azerbaijan									1198	3548	3181			114
Export quantity from total U.S. to Bosnia And Herzegovina											58974	10185		30333
Export quantity from total U.S. to Barbados									699	165				
Export quantity from total U.S. to Belgium	2889724	2770097	2371079	1816300	1743456	2079028	2166470	2108908	3081373	2690054	2282914	3072041	2650221	2006990
Export quantity from total U.S. to Bulgaria	918607	355814	234171	588757	281929	373995	678455	393352	403131	80				
Export quantity from total U.S. to Bermuda		54704									29			
Export quantity from total U.S. to Brunei			2050	1850	1070	98	182	1132	640	613	1283	18	3	
Export quantity from total U.S. to Bolivia	141	175		1147	982			353		20	3081	40	90	
Export quantity from total U.S. to Brazil	4535857	4574076	3538237	3514073	4361305	4198505	4533561	6512361	6379648	7416055	7924812	8680249	7953919	8610418
Export quantity from total U.S. to Bahamas				268	20	219		967	723	1665	30	130	13	20
Export quantity from total U.S. to Belize	35												183	
Export quantity from total U.S. to Canada	18768901	17632772	16685575	20760246	17760153	19465875	19889181	18389323	22978510	10599266	11399896	6845316	7210966	7110055
Export quantity from total U.S. to Congo (Kinshasa)													25	
Export quantity from total U.S. to Congo (Brazzaville)										362	870	13	25	20
Export quantity from total U.S. to Switzerland	190	21	44		24501		436		447157	140846	41053	186216	1371643	1418147
Export quantity from total U.S. to Ivory Coast						48391				239				20
Export quantity from total U.S. to Chile	52650	849	1496	506	95342	83947	1111	328756	903426	726474	1159820	2205407	2228159	2621325
Export quantity from total U.S. to Cameroon								115		134	191			
Export quantity from total U.S. to China	8491	1091	8105		404137	222	3008	11803	242181	1142507	5797129	5586428	10055469	8229531
Export quantity from total U.S. to Colombia	217	512	3990	2098	1180	1570	933	5463	707	1605	3560	5470	4531	329
Export quantity from total U.S. to Costa Rica	888	507	1487	33245	2406	2754	725	2134	388	341	986	443	18	645
Export quantity from total U.S. to Curacao													77	2
Export quantity from total U.S. to Czech Republic										27007				
Export quantity from total U.S. to Germany, Federal Republic Of	976448	913315	958094	535091	642163	668511	1650039	2320682	2531317	2457166	2663286	4760855	5260300	5475367
Export quantity from total U.S. to Denmark (Except Greenland)	76918			287884	73821	73298	383389	79841	385253	320539	80181	160568		
Export quantity from total U.S. to Dominica														222732
Export quantity from total U.S. to Dominican Republic	1273	85227	70115	58903	27308	22714	1202	59349	230	124556	165	89503	421237	328828
Export quantity from total U.S. to Algeria	296249	242669	321799	407376	420305	415369	273522	397680	394330	51230		339	279	73
Export quantity from total U.S. to Ecuador	202	915	759	243	752	554	923	3198	1213	468	308	163	975	138
Export quantity from total U.S. to Egypt	752618	631003	463621	953833	822602	309563	724156	1545784	1371737	640166	1314846	793053	414190	337924

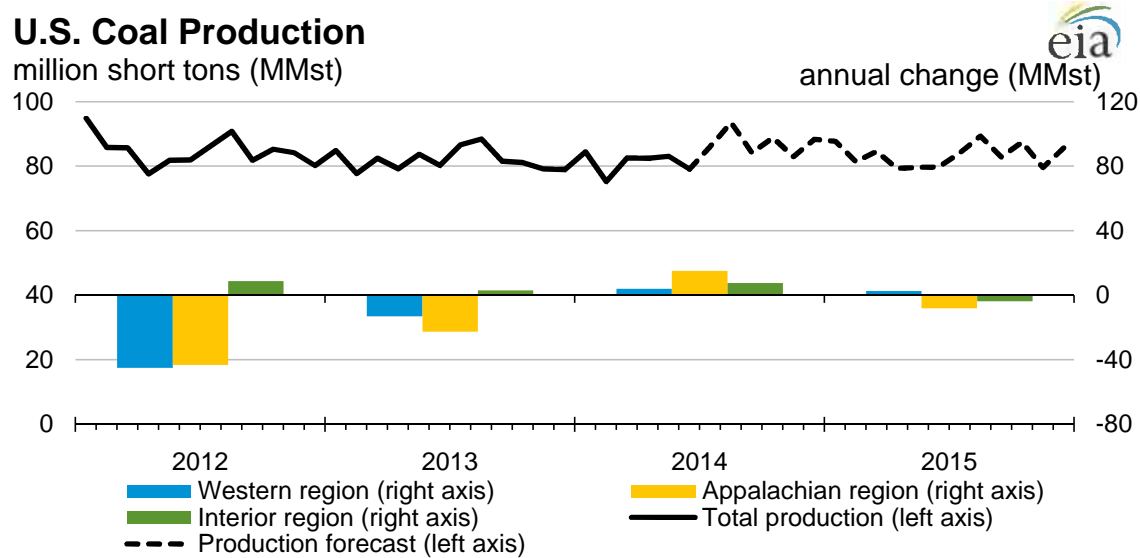
Export quantity from total U.S. to Eritrea						722								
Export quantity from total U.S. to Spain	2685783	1645332	1913832	1771178	1529150	1863454	1631619	1483172	2383281	1743692	1947131	1795397	2182084	1579213
Export quantity from total U.S. to Finland	317482	158082	161622	292441	233925	286308	729184	292758	468237	222454	471645	498954	293670	412406
Export quantity from total U.S. to Faroe Islands									76244	69444				
Export quantity from total U.S. to France	3043553	2234961	1305294	1278020	1103072	1261254	1625217	2383773	3469123	3363807	3165150	4042258	4119893	4108794
Export quantity from total U.S. to Gabon				681	1689	723			11	337	661	24		
Export quantity from total U.S. to United Kingdom	3294486	2471096	1902192	1479515	1985781	1777491	2565205	3360815	5762920	4588601	4391489	6926704	12083076	13511213
Export quantity from total U.S. to Grenada									260					
Export quantity from total U.S. to Gibraltar									63966	78815	79190			
Export quantity from total U.S. to Guadeloupe					1219			78						
Export quantity from total U.S. to Equatorial Guinea									128		2761	17	730	17
Export quantity from total U.S. to Greece		148	18963	422			144		211835	167100	51615			
Export quantity from total U.S. to Guatemala			6836		428	22	120		27	45	942	23108	36740	269389
Export quantity from total U.S. to Guyana										962		22		
Export quantity from total U.S. to Hong Kong	1014	766	762	455		17	46		381	95	122	184	310351	577206
Export quantity from total U.S. to Honduras	45	44	20	193			33910		22		71590	92674	167483	108950
Export quantity from total U.S. to Croatia	72770				242634	505826	376959	814206	1746604	370033	848417	1677014	1032060	1078406
Export quantity from total U.S. to Hungary	72074	45683	12125				76656		11504	34318	44011	28657		
Export quantity from total U.S. to Indonesia		6772			670	2030	7809	7266	8998	12969	25990	1250	1794	2315
Export quantity from total U.S. to Ireland	502463	379391	697331	238216				81060	156952		17	244120	229216	12
Export quantity from total U.S. to Israel	61730	39	130737	44	39	56	44	61	24	40	95	64	18240	18
Export quantity from total U.S. to India	24629	5108	10628	20049	1090876	1427412	1059485	883329	1666631	2062051	2722677	4500105	6813933	3920694
Export quantity from total U.S. to British Indian Ocean Territory														
Export quantity from total U.S. to Iraq											40	1155	658	467
Export quantity from total U.S. to Iceland	53268	81244	96235	91283	90714	62542	21303	33267	55287	51045	64734	64344	68040	77800
Export quantity from total U.S. to Italy	3710998	5407936	3077369	2826449	2104905	2455037	3282691	3543678	3196761	2343162	3308315	5589410	8539818	6593622
Export quantity from total U.S. to Jamaica	21983	47696	20956		22886	74495	30314	81486	105470	36393	43238	78827	103245	104644
Export quantity from total U.S. to Jordan			147		132	153		245		20	743		20	
Export quantity from total U.S. to Japan	4446100	2069721	1253309	6398	4425730	2080813	332341	5472	1732529	906586	3164098	6922539	5698697	5360260
Export quantity from total U.S. to Kenya											142		109	
Export quantity from total U.S. to Saint Kitts And Nevis														35
Export quantity from total U.S. to South Korea (Republic Of Korea)	1767864	1007274	300723	195168	979229	1440296	568267	222120	1349455	2154174	5772599	10448751	9094705	8430182
Export quantity from total U.S. to Kuwait								34	91				10	
Export quantity from total U.S. to Cayman Islands				277				12		35				
Export quantity from total U.S. to Kazakhstan					3404	4161	6880	1476	1394	2546	4420	1361		
Export quantity from total U.S. to Lebanon	247				152	94		151						
Export quantity from total U.S. to Saint Lucia	24							1910						115
Export quantity from total U.S. to Liberia				165										
Export quantity from total U.S. to Lithuania										3				
Export quantity from total U.S. to Luxembourg											84871			
Export quantity from total U.S. to Latvia											142404	643241	579169	78766
Export quantity from total U.S. to Libya							396	1734	2888	4231			98	23
Export quantity from total U.S. to Morocco	908863	287812	140166	484984	394742	69116	280042	2429046	1815952	766385	1119021	2942245	3655913	3089805
Export quantity from total U.S. to Montenegro									23	19				
Export quantity from total U.S. to Madagascar					66236					8				29
Export quantity from total U.S. to Malta											22	145		

Export quantity from total U.S. to Mexico	818855	711523	797607	1067628	967504	1039130	569503	548546	1229144	1313328	1899388	2808156	3452924	5632789
Export quantity from total U.S. to Malaysia	64		693	1317	962	3560	37	496	674	1708	166	46	42	114
Export quantity from total U.S. to Mozambique										487	1653	5328	338	22
Export quantity from total U.S. to New Caledonia									133					
Export quantity from total U.S. to Nigeria	565	11994	6737	14982	9014	3123	4367	4209	2924		986		2088	
Export quantity from total U.S. to Nicaragua									32744	2	8			
Export quantity from total U.S. to Netherlands	2623443	2123428	1649567	1993418	2470993	2623297	2091249	4553213	7004302	5878022	7306376	10785421	13542329	12708786
Export quantity from total U.S. to Norway	129542	62659	36342	22283	51112	22170	6052	25734	108838	63931	109141	113866	107073	115956
Export quantity from total U.S. to New Zealand			64			292			2		19		91	9
Export quantity from total U.S. to Oman				22					103	6211	9911	7218	337	99
Export quantity from total U.S. to Panama		70		15874	360	365	58	117		624	200	242517	2154	21406
Export quantity from total U.S. to Peru	14094	48041	9490	9025	9928	6907	6972	7692	8150	840	52851	53504	9470	158155
Export quantity from total U.S. to Philippines				14	96		40		9	353	837			424
Export quantity from total U.S. to Pakistan	194	481	98	22		38	342	1168	867	450	2017	232	112138	209
Export quantity from total U.S. to Poland								441595	1830396	979680	2440944	1529028	782248	651916
Export quantity from total U.S. to Portugal	595921	661877	126319	447589	446895	157764	296275	285761	432013	1124838	584996	983109	1242908	391772
Export quantity from total U.S. to Paraguay		22									49			26
Export quantity from total U.S. to Qatar							312	96	162	14			21	
Export quantity from total U.S. to Romania	488790				282576	1533538	1104310	1407966	1754593	324091	895093	1032333	668981	932066
Export quantity from total U.S. to Serbia													18	362
Export quantity from total U.S. to Russia				1204		2999	3494	77922	10	7637	77520	173	75863	404
Export quantity from total U.S. to Saudi Arabia	308	1526	11509	10705	37468	58548	22430	62915	183681	109101	60212	57045	74528	10688
Export quantity from total U.S. to Sweden	707567	622893	433130	381659	627953	590100	469099	532892	735448	478143	744991	697924	676218	482281
Export quantity from total U.S. to Singapore	4384	3377	13260	26291	37784	26314	8129	879	1633	237	82340	624	79113	194357
Export quantity from total U.S. to Slovenia	21				335	179173	247147	150126	79773	17	446902	731089	539208	286750
Export quantity from total U.S. to Slovakia							59731	312915	709111	177698	221482	274826	508769	319329
Export quantity from total U.S. to Suriname								23			18			
Export quantity from total U.S. to El Salvador						349	442		4	38	175			34
Export quantity from total U.S. to Netherlands Antilles							326	48	46	2	72			
Export quantity from total U.S. to Turks And Caicos Islands										32				
Export quantity from total U.S. to French Southern And Antarctic Lands					31029									
Export quantity from total U.S. to Togo													106841	155244
Export quantity from total U.S. to Thailand	690	288	575	127	1530	654	1165	189	529	602	4803	5792	1573	1175
Export quantity from total U.S. to Tunisia		560									11	6		
Export quantity from total U.S. to Turkey	1808994	886927	580013	1096619	1271333	1887665	1225691	1447093	1914615	1427797	2531524	2944761	5333491	4983723
Export quantity from total U.S. to Trinidad And Tobago	164	2978	6749	273	732	2389	1849	16561	5702	300	3568	9223	1329	31130
Export quantity from total U.S. to Taiwan	385783	148640	720	3519	494688	617	2695	2342	78619	85346	250666	352	250594	376886
Export quantity from total U.S. to Tanzania (United Republic Of Tanzania)						99						44	44	
Export quantity from total U.S. to Ukraine						153677	73957	724986	948380	560143	2370874	4784279	2672451	2894502
Export quantity from total U.S. to Uruguay					163	133	94	1492	42	2190	135	125		22
Export quantity from total U.S. to Holy See (Vatican City)	82									20662				
Export quantity from total U.S. to Venezuela	15310	10729	14319	30849	18710	30821	32300	38034	16620	3981	16986	10126	5887	2263
Export quantity from total U.S. to British Virgin Islands		260										262		
Export quantity from total U.S. to Vietnam	10			120					193		72	671	8	139
Export quantity from total U.S. to South Africa	424419	60266	87	63	231	2756	77695	156257	316296	350325	148829	305601	365423	232390
Export quantity to total world from Anchorage, AK	560244	652672	298434	239964	570375	505333	340750	162132	578723	886645	913328	1061871	892233	650690

Export quantity to total world from Baltimore, MD	6099070	4723442	3637038	3067324	4739608	5019987	5899959	7881116	10990192	6710622	13857299	19259578	19587543	15056151
Export quantity to total world from Boston, MA	24748						649				51	4	28918	24
Export quantity to total world from Buffalo, NY	8962868	4697442	51513	309742	1910308	2147891	1758586	1368293	1647866	710593	1379206	1426851	1764624	974361
Export quantity to total world from Chicago, IL	82919	23539		206158	506439	87390	94169	32612	30038	11480	47	24	29984	1
Export quantity to total world from Charleston, SC	1403	1386	398	422	56	220	237	2587	41	1344	1882	121	330	378
Export quantity to total world from Cleveland, OH	6615741	10764345	13491662	9876380	3363746	3200332	3207755	2348771	2830176	2396321	2799441	2775373	3209960	2758228
Export quantity to total world from Detroit, MI	1203822	760125	427640	3358722	6298302	8633437	13697021	13211993	16613505	6400423	6348698	1708418	786027	1004759
Export quantity to total world from Dallas/Fort Worth, TX									1	24				
Export quantity to total world from Duluth, MN	518476	331114	1917693	6112504	4958205	4854282	5180	4872	4883	1425	8066	525	10870	6871
Export quantity to total world from El Paso, TX	9392	281	72	21	21696	150253	88513	191079	172996	143185	182728	267147	101918	10406
Export quantity to total world from Great Falls, MT	1636	1960	2595	4611	674	578	194	553	626	773	278	13851	242	30
Export quantity to total world from Houston-Galveston, TX	112217	87481	135534	91552	170254	138942	179797	220387	246401	203790	134730	545983	2509134	3256746
Export quantity to total world from Honolulu, HI													32	34
Export quantity to total world from Los Angeles, CA	3645612	2228416	1265119	30057	120432	29668	17016	17845	229837	90714	699770	1447317	1751330	1718577
Export quantity to total world from Laredo, TX	788851	710240	794892	960079	867239	575603	284664	34455	547127	577643	412666	261577	487865	527050
Export quantity to total world from Miami, FL	2082	24623	8323	7412	8223	2351	4399	20394	7999	3003	1708	2872	3231	2632
Export quantity to total world from Minneapolis, MN												367780	1371555	1716929
Export quantity to total world from Milwaukee, WI		96												
Export quantity to total world from Mobile, AL	6049908	4466107	4040041	4225883	6495477	7316841	6230467	7384103	8276658	7812519	9726942	10137865	10987044	12614163
Export quantity to total world from Nogales, AZ		756		66		1173	104	22		180	130	4	159	816
Export quantity to total world from New Orleans, LA	1277270	1260370	753999	1183015	3049529	1876176	2218849	3916968	8771678	4820360	9355362	21374975	28064254	19787721
Export quantity to total world from Norfolk, VA	21996749	17384466	12134052	12948619	14437552	15066110	15018945	21586975	29679949	27660569	32020375	40953689	48433438	49741368
Export quantity to total world from New York City, NY	1623	4900	2086	9804	7896	6776	10543	107322	21399	8342	66375	10077	10447	8200
Export quantity to total world from Ogdensburg, NY	270811	293585	428193	159267	172058	135809	119915	112721	266678	36758	101003	242485	37010	85996
Export quantity to total world from other ports	37883	39948	30499	37220	58780	120623	389006	395652	435986	154956	117565	310730	571584	1683273
Export quantity to total world from Port Arthur, TX								54432						
Export quantity to total world from Pembina, ND	57552	47476	20809	43625	58864	5334	199	743	1173	1025	2783	2331	4134	1323
Export quantity to total world from Philadelphia, PA	63673	74957	79342	9301	42425	36177	478	5247	87905	971	67903	221375	239618	121806
Export quantity to total world from Portland, ME	94863	81777	67526	68173	51989	123	80	167	163	96486	23		36720	141
Export quantity to total world from Portland, OR		531		29948	10865		29928				9039		9723	
Export quantity to total world from Savannah, GA	88	276	3562	18106	16805	82	93	8273	1530	619	251	326	2671	85138
Export quantity to total world from St. Albans, VT	365	476	740	495	200	59	36	136	175	239	234	503	378	400
Export quantity to total world from San Diego, CA	899	246	1115	6831	1880	2945	2332	4043	1852	514	395	322	880	177
Export quantity to total world from Seattle, WA	1913	1514	4823	3182	4783	4167	38064	899	30581	365260	3500204	4863661	4746960	4502803
Export quantity to total world from San Francisco, CA	5700	814	179	1378	28874	361	595	79709	36241	168	3986	53	35129	1341492
Export quantity to total world from Tampa, FL	24	417	3084	3647	23142	23188	8543	8602	6393		3207	873	930	584
Export quantity to total world from Virgin Islands of the United States					1219		203							
Export quantity to total world from Wilmington, NC	391	260	278						343				28787	

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Short-Term Energy Outlook, July 2014



Source: Short-Term Energy Outlook, July 2014.

	Production (million short tons)					Production Growth (million short tons)			
	2011	2012	2013	2014	2015	2012	2013	2014	2015
Western region	588	543	530	534	536	-45.0	-13.0	4.1	2.7
Appalachian region	337	294	272	287	279	-43.1	-22.6	15.1	-8.1
Interior region	171	180	183	190	187	8.8	3.1	7.7	-3.8
Total production	1,096	1,016	984	1,011	1,002	-79.2	-32.4	26.9	-9.2

Source: Short-Term Energy Outlook, July 2014.

Total Production (million short tons)

	History	Forecast
Jan 2012	94.94	#N/A
Feb 2012	85.76	#N/A

Mar 2012	85.70	#N/A
Apr 2012	77.62	#N/A
May 2012	81.83	#N/A
Jun 2012	81.91	#N/A
Jul 2012	86.34	#N/A
Aug 2012	90.84	#N/A
Sep 2012	81.85	#N/A
Oct 2012	85.24	#N/A
Nov 2012	84.15	#N/A
Dec 2012	80.21	#N/A
Jan 2013	84.83	#N/A
Feb 2013	77.77	#N/A
Mar 2013	82.46	#N/A
Apr 2013	79.21	#N/A
May 2013	83.66	#N/A
Jun 2013	80.23	#N/A
Jul 2013	86.67	#N/A
Aug 2013	88.44	#N/A
Sep 2013	81.55	#N/A
Oct 2013	81.07	#N/A
Nov 2013	79.15	#N/A
Dec 2013	78.92	#N/A
Jan 2014	84.44	#N/A
Feb 2014	75.23	#N/A
Mar 2014	82.60	#N/A
Apr 2014	82.37	#N/A
May 2014	83.12	#N/A
Jun 2014	79.12	79.12
Jul 2014	#N/A	86.12
Aug 2014	#N/A	93.55
Sep 2014	#N/A	84.14
Oct 2014	#N/A	88.81
Nov 2014	#N/A	82.97
Dec 2014	#N/A	88.37
Jan 2015	#N/A	87.79
Feb 2015	#N/A	81.44
Mar 2015	#N/A	84.60
Apr 2015	#N/A	79.28

May 2015	#N/A	79.66
Jun 2015	#N/A	79.81
Jul 2015	#N/A	84.07
Aug 2015	#N/A	89.38
Sep 2015	#N/A	82.89
Oct 2015	#N/A	87.41
Nov 2015	#N/A	79.62
Dec 2015	#N/A	85.69



Short-Term Energy Outlook (STEO)

Highlights

- Unrest in Iraq put upward pressure on world oil prices last month, helping North Sea Brent crude oil spot prices reach their highest daily level of the year at just over \$115/barrel (bbl) on June 19. North Sea Brent crude oil spot prices increased from a monthly average of \$110/bbl in May to \$112/bbl in June. This was the 12th consecutive month in which the average Brent crude oil spot price ranged between \$107/bbl and \$112/bbl. EIA projects Brent crude oil prices to average \$110/bbl in 2014 and \$105/bbl in 2015, \$2/bbl and \$3/bbl higher than projected in last month's STEO, respectively. The West Texas Intermediate (WTI) crude oil price discount to Brent is expected to average \$9/bbl and \$10/bbl in 2014 and 2015, respectively.
- During this year's April-through-September summer driving season, regular gasoline retail prices are forecast to average \$3.66/gallon (gal), 8 cents higher than last year. Regular gasoline retail prices are projected to fall from an average of \$3.68/gal during the second quarter to \$3.64/gal during the third quarter as lower refinery margins more than offset higher crude oil prices. EIA expects regular gasoline retail prices to average \$3.54/gal in 2014 and \$3.45/gal in 2015, compared with \$3.51/gal in 2013.
- U.S. total crude oil production, which averaged 7.4 million barrels per day (bbl/d) in 2013, is expected to average 8.5 million bbl/d in 2014 and 9.3 million bbl/d in 2015. The 2015 forecast represents the highest annual average level of oil production since 1972. Natural gas plant liquids production increases from an average of 2.6 million bbl/d in 2013 to 3.0 million bbl/d in 2015. The growth in domestic production has contributed to a significant decline in petroleum imports. The share of total U.S. liquid fuels consumption met by net imports fell from 60% in 2005 to an average of 33% in 2013. EIA expects the net import share to decline to 22% in 2015, which would be the lowest level since 1970.
- Natural gas working inventories on June 27 totaled 1.93 trillion cubic feet (Tcf), 0.67 Tcf (26%) below the level at the same time a year ago and 0.79 Tcf (29%) below the previous five-year average (2009-13). Projected natural gas working inventories reach 3.43 Tcf at the end of October, 0.38 Tcf below the level at the same time last year. EIA expects that the Henry Hub natural gas spot price, which averaged \$3.73 per million British thermal units (MMBtu) in 2013, will average \$4.77/MMBtu in 2014 and \$4.50/MMBtu in 2015.

Global Petroleum and Other Liquids

EIA projects world petroleum and other liquids supply to increase by 1.5 million bbl/d in 2014 and by another 1.2 million bbl/d in 2015, with most of the growth coming from countries outside of the Organization of the Petroleum Exporting Countries (OPEC). Forecast non-OPEC supply grows by 1.7 million bbl/d in 2014 and 1.0 million bbl/d in 2015. The United States and Canada account for much of this growth. Projected world liquid fuels consumption grows by an annual average of 1.1 million bbl/d in 2014 and 1.5 million bbl/d in 2015. Countries outside the Organization for Economic Cooperation and Development (OECD), notably China, drive expected consumption growth.

The escalation of violence in northern Iraq that started in June has introduced significant uncertainty into the Iraq oil production outlook. EIA has reduced Iraq's production forecast from last month's STEO, maintaining production near 3.3 million bbl/d over the forecast, which was Iraq's average production level during the first half of 2014.

Global Petroleum and Other Liquids Consumption. EIA estimates that global consumption grew by 1.3 million bbl/d (1.5%) in 2013, averaging 90.5 million bbl/d for the year. EIA expects global consumption to grow by 1.1 million bbl/d in 2014 and 1.5 million bbl/d in 2015. Projected global oil-consumption-weighted real GDP, which increased by an estimated 2.6% in 2013, grows by 2.8% and 3.4% in 2014 and 2015, respectively.

Non-OECD countries account for nearly all of the expected consumption growth in 2014 and 2015. China is the leading contributor to projected global consumption growth, with consumption increasing by 400,000 bbl/d (3.7%) in 2014 and 430,000 bbl/d in 2015. However, China's economic and oil consumption growth rates have moderated compared with rates before 2012, when annual GDP growth exceeded 9% and oil consumption growth averaged almost 800,000 bbl/d from 2009 through 2011.

EIA expects a decline in OECD consumption in 2014, led by projected consumption declines in both Japan and Europe. EIA expects Japan's oil consumption to fall by an annual average of 130,000 bbl/d in 2014 and 160,000 bbl/d in 2015, as the country continues to increase natural gas and coal consumption in the electricity sector and returns some nuclear power plants to service in 2015. EIA projects that OECD Europe's consumption, which fell by 110,000 bbl/d in 2013, will decline by 120,000 bbl/d in 2014 and then increase by 60,000 bbl/d in 2015. U.S. liquids consumption, which increased by 400,000 bbl/d in 2013, is expected to be largely unchanged in 2014 and then increase by 70,000 bbl/d in 2015.

Non-OPEC Supply. EIA estimates that non-OPEC liquids production grew by 1.4 million bbl/d in 2013, averaging 54.1 million bbl/d for the year. EIA expects non-OPEC liquids production to grow by 1.7 million bbl/d in 2014 and 1.0 million bbl/d in 2015. EIA forecasts production from the United States and Canada to grow by a combined annual average of 1.6 million bbl/d in 2014 and 1.0 million bbl/d in 2015. EIA estimates that the Former Soviet Union's production will rise

by an annual average of 120,000 bbl/d in 2014, led by Russia. However, production in the region declines by 100,000 bbl/d in 2015. The expected completion of phase one of Kazakhstan's Kashagan field has been pushed back to the first half of 2016 because of continued problems delaying the start of commercial production.

Unplanned supply disruptions among non-OPEC producers averaged 0.6 million bbl/d in June, down from an estimated 0.7 million bbl/d in May. South Sudan, Syria, and Yemen accounted for 83% of total non-OPEC supply disruptions. EIA does not assume a disruption to oil supply or demand as a result of ongoing events in Ukraine.

OPEC Supply. EIA estimates that OPEC crude oil production averaged 29.9 million bbl/d in 2013, a decline of 1.0 million bbl/d from the previous year, primarily reflecting increased outages in Libya, Nigeria, and Iraq, along with strong non-OPEC supply growth. EIA expects OPEC crude oil production to fall by 0.3 million bbl/d in 2014 and by an additional 0.1 million bbl/d in 2015 to accommodate growing production in non-OPEC countries.

In Libya, force majeure on oil exports from the two largest eastern oil ports (Es-Sidra and Ras Lanuf - combined effective export capacity of 550,000 bbl/d) were lifted after the rebel group blockading the ports agreed to return them to the government. Although the deal is a major step forward, given the fragility of the situation and the failure of past deals, it is highly uncertain if this deal will materialize into a sustained recovery of Libya's eastern exports. In April 2014, a similar deal was made to return control of two smaller eastern ports (Marsa al-Hariga and Zueitina with combined export capacity of 200,000 bbl/d). However, the deal did not lead to a substantial increase in production and exports because instability and sporadic blockades continued. For now, EIA's short-term forecast for Libya remains unchanged, assuming a small recovery in 2015 but still well below the 2012 crude production level of 1.37 million bbl/d.

Unplanned crude oil supply disruptions among OPEC producers averaged 2.7 million bbl/d in June 2014, slightly higher than the previous month because of increased outages in Iraq. The escalation of violence in northern Iraq that started in June has not reduced the availability of exports to the global market, as southern exports have been unaffected and northern exports were halted in early March 2014. The recent events have mainly affected Iraq's crude oil supply to its largest domestic refinery, which had been processing approximately 0.2 million bbl/d of crude oil. The northern Baiji refinery was shut down during the second half of June, reducing northern Iraqi crude oil and petroleum product production. Crude oil production in southern Iraq of roughly 2.8 million bbl/d and in the Iraqi Kurdistan Region of roughly 0.2 million bbl/d has not been disrupted.

Recent events have introduced a high level of uncertainty in Iraq, and as a result, EIA has reduced its forecast production growth in Iraq by about 0.3 million bbl/d in both 2014 and 2015. EIA does not expect Iraq's crude production to exceed 3.3 million bbl/d, its average level during the first half of 2014, during the STEO forecast period. EIA expects Saudi Arabia to maintain a

higher production level through 2014 to offset the loss of Iraq's growth. In 2015, Saudi Arabia's annual production is still projected to decline to accommodate growing output in non-OPEC countries, albeit to a lesser extent than previously expected.

EIA expects OPEC surplus crude oil production capacity, which is concentrated in Saudi Arabia, to average 2.0 million bbl/d in 2014 and 2.7 million bbl/d in 2015. These surplus capacity projections are 0.2 million bbl/d and 0.8 million bbl/d lower than last month's STEO, respectively. The reduction in surplus capacity from last month's STEO mainly reflects increased forecast production from Saudi Arabia. These estimates do not include additional capacity that may be available in Iran but is offline because of the effects of U.S. and European Union sanctions on Iran's ability to sell its oil.

OECD Petroleum Inventories. EIA estimates that OECD commercial oil inventories totaled 2.55 billion barrels at the end of 2013, equivalent to roughly 55 days of consumption. Projected OECD oil inventories rise to 2.60 billion barrels at the end of 2014.

Crude Oil Prices. North Sea Brent crude oil spot prices averaged \$112/bbl in June, an increase of \$2/bbl from May. This was the 12th consecutive month in which average Brent crude oil spot prices fell within a relatively narrow range of \$107/bbl to \$112/bbl. The escalating conflict in Iraq, continued record-high levels of Chinese crude oil imports in 2014, and ongoing delays to Libyan oil exports have contributed to upward price pressure. The forecast Brent crude oil price averages \$110/bbl in 2014, \$2/bbl higher than estimated for 2014 in last month's STEO, and \$105/bbl in 2015, which is \$3/bbl higher than in last month's STEO.

The WTI crude oil spot price increased from an average of \$102/bbl in May to \$106/bbl in June. Driven in part by the [relocation of crude oil to refining centers along the Gulf Coast through new pipelines](#), crude oil inventory levels at the Cushing, Oklahoma, storage hub, the delivery point for WTI, have fallen by more than half since the start of the year, from 42 million barrels on January 24 to below 21 million barrels on June 27, the lowest level since November 2008. The discount of WTI crude oil to Brent crude oil, which averaged more than \$13/bbl from November 2013 through January 2014, has since fallen to \$6/bbl in June. The U.S. Commerce Department's Bureau of Industry and Security (BIS) recently authorized two companies to export stabilized lease condensate processed in a distillation tower. EIA now expects the discount of WTI to Brent crude oil to average \$9/bbl in the second half of 2014, which is \$1/bbl lower than last month's STEO. EIA expects the discount to average \$10/bbl in 2015.

Energy price forecasts are highly uncertain, and the current values of futures and options contracts suggest that prices could differ significantly from the forecast levels ([Market Prices and Uncertainty Report](#)). WTI futures contracts for October 2014 delivery, traded during the five-day period ending July 2, averaged \$104/bbl. Implied volatility averaged 14%, establishing the lower and upper limits of the 95% confidence interval for the market's expectations of monthly average WTI prices in October 2014 at \$92/bbl and \$118/bbl, respectively. Last year at this time, WTI for October 2013 delivery averaged \$98/bbl and implied volatility averaged 21%.

The corresponding lower and upper limits of the 95% confidence interval were \$81/bbl and \$118/bbl.

U.S. Petroleum and Other Liquids

Liquid Fuels Consumption. Total U.S. liquid fuels consumption rose by 400,000 bbl/d (2.1%) in 2013. Consumption of hydrocarbon gas liquids (HGL) registered the largest gain in 2013, increasing by 150,000 bbl/d (6.4%). Total consumption is expected to fall by 10,000 bbl/d in 2014, with declines in the consumption of residual fuel oil and unfinished oils offsetting increases in distillate fuel and gasoline. Total consumption grows by 70,000 bbl/d in 2015, with HGL consumption increasing by 80,000 bbl/d.

Motor gasoline consumption grew by 90,000 bbl/d (1.1%) in 2013, the largest increase since 2006. Motor gasoline consumption grows by 30,000 bbl/d in 2014 and then falls by 10,000 bbl/d in 2015 as improving fuel economy in new vehicles increasingly offsets highway travel growth. Distillate fuel consumption increased by 90,000 bbl/d (2.5%) last year, reflecting colder weather and economic growth. Consumption of that fuel rises by 120,000 bbl/d and 60,000 bbl/d in 2014 and 2015, respectively.

Liquid Fuels Supply. The forecast for total U.S. crude oil production increases from an estimated 7.4 million bbl/d in 2013 to 8.5 million bbl/d in 2014 and 9.3 million bbl/d in 2015. The highest previous annual average U.S. production level was 9.6 million bbl/d in 1970. Recent U.S. crude oil production growth has consisted primarily of lighter, sweet crude (a description of crude quality, as measured by API gravity and sulfur content) from tight resource formations. Roughly 96% of the 1.8-million-bbl/d growth in production between 2011 and 2013 consisted of sweet grades with lighter API gravity of 40 or above. [EIA analysis of current and forecast crude oil production](#) indicates that U.S. supply of lighter API gravity crude will continue to outpace that of medium and heavier crudes. More than 60% of EIA's forecast production growth for 2014 and 2015 consists of light, sweet grades with API gravity of 40 or above.

HGL production at natural gas liquids plants is projected to rise from 2.6 million bbl/d in 2013 to 3.0 million bbl/d in 2015. About half of this growth is expected to come from ethane production to meet growing demand associated with expanding domestic ethylene production and export capacity.

The growth in domestic production has contributed to a significant decline in petroleum imports. The share of total U.S. liquid fuels consumption met by net imports fell from 60% in 2005 to an average of 33% in 2013. EIA expects the net import share to decline to 22% in 2015, which would be the lowest level since 1970.

Petroleum Product Prices. The U.S. annual average regular gasoline retail price, which averaged \$3.51/gal in 2013, is projected to increase to an average of \$3.54/gal in 2014 before falling to \$3.45/gal in 2015. Diesel fuel prices, which averaged \$3.92/gal in 2013, are projected to average

\$3.93/gal in 2014 and \$3.88/gal in 2015, 3 cents and 10 cents higher than projected in last month's STEO, respectively.

EIA expects that the monthly average regular gasoline retail price will fall from \$3.69/gal in June to \$3.61/gal in September. The September 2014 New York Harbor reformulated blendstock for oxygenate blending (RBOB) futures contract averaged \$3.01/gal for the five trading days ending July 2. Based on the market value of futures and options contracts for this key petroleum component of gasoline, there is a 4% probability that its price at expiration will exceed \$3.35/gal, consistent with a monthly average regular-grade gasoline retail price exceeding \$4.00/gal in September 2014. Daily and weekly national average prices can differ significantly from monthly and seasonal averages, and there are also significant differences across regions, with monthly average prices in some areas exceeding the national average price by 30 cents/gal or more.

Natural Gas

While this year's natural gas injection season began slowly in April, injections into storage during May and June were very strong. According to preliminary data from EIA's [Weekly Natural Gas Storage Report](#), net injections were 100 billion cubic feet (Bcf) or greater for each of the past eight weeks. Over the previous four years, weekly injections during May and June exceeded 100 Bcf on only three occasions. EIA expects injections will slow during July and August as more natural gas goes to the electric power sector to meet air conditioning demand. The strength in storage injections is the result of strong production growth and moderate demand. Marketed production in April set a record high, at 73.5 Bcf/d, according to EIA's most recent data, with the largest increases coming from areas in Texas.

Natural Gas Consumption. EIA expects total natural gas consumption will average 72.4 Bcf/d in 2014, an increase of 1.4% from 2013, led by the industrial sector. In 2015, total natural gas consumption falls by 0.3 Bcf/d as a return to near-normal winter weather contributes to lower residential and commercial consumption. Higher natural gas prices this year contribute to a 1.1% decline in natural gas consumption in the power sector to 22.1 Bcf/d in 2014. EIA expects natural gas consumption in the power sector to increase to 22.8 Bcf/d in 2015 with lower natural gas prices and the retirement of some coal plants.

Natural Gas Production and Trade. EIA expects natural gas marketed production to grow by an average rate of 4.1% in 2014 and 1.2% in 2015. Rapid natural gas production growth in the Marcellus formation has contributed to [low natural gas forward prices in the Northeast](#), and as a result new infrastructure has been proposed to take gas to other market regions. In June, the eastward-flowing Rockies Express Pipeline (REX) began service on its [Seneca Lateral pipeline](#), which will take Marcellus gas westward to the Midwest. REX's parent company, Tallgrass Energy, plans to add bidirectional capability on a significant portion of REX's easternmost segment.

Growing domestic production is expected to continue to put downward pressure on natural gas imports from Canada. EIA projects net imports of 3.7 Bcf/d in 2014 and 3.1 Bcf/d in 2015, which would be the lowest level since 1987. Liquefied natural gas (LNG) imports have fallen over the past several years because higher prices in Europe and Asia are more attractive to sellers than the relatively low prices in the United States. [Several companies are planning to build liquefaction capacity](#) to export LNG from the United States. Cheniere Energy's Sabine Pass facility is expected to be the first to liquefy natural gas produced in the Lower 48 states for export. It is scheduled to come online in stages beginning in late 2015.

Natural Gas Inventories. Natural gas working inventories totaled 1,929 Bcf as of June 27, which was 666 Bcf lower than the same time last year and 790 Bcf lower than the previous five-year (2009-2013) average. The injection season began somewhat slowly in April, but picked up in May and June with more than 1 Tcf was added to storage. EIA expects working gas stocks will reach around 3,430 Bcf at the end of October, 380 Bcf lower than at the same time last year.

Natural Gas Prices. Natural gas spot prices averaged \$4.59/MMBtu at the Henry Hub in June. EIA expects spot prices will remain near current levels until the start of the next winter heating season. Projected Henry Hub natural gas prices average \$4.77/MMBtu in 2014 and \$4.50/MMBtu in 2015.

Natural gas futures prices for October 2014 delivery (for the five-day period ending July 2) averaged \$4.40/MMBtu. Current options and futures prices imply that market participants place the lower and upper bounds for the 95% confidence interval for October 2014 contracts at \$3.37/MMBtu and \$5.76/MMBtu, respectively. At this time last year, the natural gas futures contract for October 2013 averaged \$3.62/MMBtu and the corresponding lower and upper limits of the 95% confidence interval were \$2.69/MMBtu and \$4.88/MMBtu.

Coal

Coal Supply. EIA expects U.S. coal production will grow 2.7% to 1,011 million short tons (MMst) in 2014, driven by higher consumption. In 2015, forecast U.S. coal production falls by 0.9% to 1,002 MMst.

Coal Consumption. EIA projects total coal consumption growth of 2.8% to 951 MMst in 2014 because of higher electricity demand and power sector natural gas prices nearly 30% above their 2013 level. Total coal consumption is projected to fall by 2.8% in 2015, as retirements of coal power plants rise in response to the implementation of the [Mercury and Air Toxics Standards](#), electricity sales growth slows to 0.1%, and natural gas prices fall relative to coal prices.

Coal Exports. In April, coal exports were 16.6% (1.6 MMst) lower compared with last year, with steam coal exports falling by 1.5 MMst (33.4%). Coal exports are projected to total 99 MMst in

2014, primarily because of slowing world coal demand growth and increasing coal output in other coal-exporting countries. In 2015, projected exports fall to 95 MMst.

Coal Prices. Annual average coal prices to the electric power industry fell over the past two years, from \$2.39/MMBtu in 2011 to \$2.35/MMBtu in 2013. Monthly average coal prices have increased by 10 cents per MMBtu since the beginning of the year, with the April price averaging \$2.40/MMBtu. EIA expects average delivered coal prices to increase over the forecast period, with prices of \$2.39/MMBtu in 2014 and \$2.41/MMBtu in 2015.

Electricity

A large proportion of U.S. conventional hydroelectric output is produced in states west of the Mississippi River, [especially in the Pacific Northwest](#). The level of hydroelectric generation is heavily influenced by precipitation patterns, and the western states have experienced widely divergent levels of rainfall and snowfall in recent months. A higher-than-normal snowpack in the Rocky Mountains contributed to an 11.6% increase in year-to-date (January-April) hydroelectric generation in the Mountain Census Division, compared with the same period in 2013. Low precipitation levels in the Pacific Northwest earlier this year were offset by a very wet March, leading to relatively flat year-to-date change in hydroelectric generation in Oregon and Washington. In contrast, [exceptional drought in California](#) has caused a 46.6% year-to-date decline in that state's hydroelectric generation.

Electricity Consumption. EIA estimates that total consumption of electricity during the first half of 2014 was 2.5% higher than during the same period last year. This increased consumption occurred primarily in the residential and commercial sectors during the first quarter of the year as a result of colder temperatures in the eastern half of the United States. Retail sales of electricity to the industrial sector during the first half are estimated to be down 1.0% from last year. A 5.1% year-over-year increase in cooling degree days during the second half of 2014 and projected improvements in energy efficiency contribute to the forecast of 0.6% growth in total electricity consumption during the remainder of 2014. EIA expects little change in electricity consumption in 2015.

Electricity Generation. EIA projects that total U.S. electricity generation in 2014 will grow by 1.6% from last year to an average of 11,300 gigawatthours per day. Recently rising costs for natural gas have driven power generators to use relatively more coal for supplying electricity. During the first half of 2014, EIA estimates that 40.0% of total generation was fueled by coal, compared with 39.0% during the first half of last year. In contrast, the share of generation supplied by natural gas fell from 26.1% last year to 24.8% during the first half of 2014. EIA expects that coal's share of generation will fall to an average of 38.8% in 2015 while the natural gas fuel share rises to 27.5%.

Electricity Retail Prices. EIA expects the U.S. residential annual average electricity price to increase by 3.1% this year, which would be the highest growth rate since 2008, primarily in response to higher fuel costs for power generation. The largest price increases occur in the Northeast region. Projected residential prices increase by an additional 2.4% during 2015.

Renewables and Carbon Dioxide Emissions

Electricity and Heat Generation from Renewables. EIA projects total renewables use for electricity and heat generation will grow by 2.9% in 2014. Conventional hydropower generation is projected to fall by 0.8%, while nonhydropower renewables rise by 4.9%. In 2015, total renewables consumption for electric power and heat generation increases by 4.0%, as a result of a 3.5% increase in hydropower and a 4.2% increase in nonhydropower renewables.

EIA projects that wind power capacity will increase by 8.6% in 2014 and 13.9% in 2015. Electricity generation from wind is projected to contribute 4.5% of total electricity generation in 2015.

EIA expects continued robust growth in solar electricity generation, although the amount of utility-scale generation remains a small share of total U.S. generation at about 0.5% in 2015. While solar growth has historically been concentrated in customer-sited distributed generation installations, utility-scale solar capacity doubled in 2013. EIA expects that utility-scale solar capacity will increase by 88% between the end of 2013 and the end of 2015; about 70% of this new capacity is being built in California. However, customer-sited photovoltaic capacity growth, which the STEO does not forecast, is expected to exceed utility-scale solar growth between 2013 and 2015, according to [EIA's Annual Energy Outlook 2014](#).

Liquid Biofuels. Ethanol production increased from an average of 907,000 bbl/d in March to an estimated 949,000 bbl/d in June, which was the highest monthly level of the year and included the highest weekly level ever recorded at 972,000 bbl/d for the week ending June 13. Ethanol production is forecast to average 932,000 bbl/d in 2014 and 940,000 bbl/d in 2015. Biodiesel production averaged 89,000 bbl/d in 2013 and is forecast to average 80,000 bbl/d in 2014 and 84,000 bbl/d in 2015.

Energy-Related Carbon Dioxide Emissions. EIA estimates that carbon dioxide (CO₂) emissions from fossil fuels increased by 2.2% in 2013 from the previous year. Emissions are forecast to rise by 1.7% in 2014, and then to decline by 0.9% in 2015. The increase in emissions in 2013 and 2014 reflects growth in coal consumption for electric power generation. Coal emissions are projected to decline by 2.6% in 2015.

On June 4, the 24th allowance auction was held for the Regional Greenhouse Gas Initiative (RGGI). RGGI involves nine northeastern and mid-Atlantic states (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont). Each allowance permits one short ton of CO₂ emissions. The clearing price was \$5.02 per short ton,

and more than 18 million allowances were sold to 43 bidders. The average clearing prices in prior-year auctions were \$1.93 per short ton in 2012 and \$2.92 per short ton in 2013.

U.S. Economic Assumptions

Recent Economic Indicators. Economic growth slowed in the first quarter of 2014, with recent economic indicators showing signs of improvement later in the year. The Bureau of Economic Analysis (BEA) reported that [real gross domestic product \(GDP\)](#) fell at an annualized rate of 2.9% from the fourth quarter of 2013 to the first quarter of 2014. This was a revision from BEA's first and second estimates, which reported an annualized increase of 0.1% and an annualized decrease of 1.0%, respectively. The first revision was associated with a significant decline in inventory investment, while the latest was more broad-based with downward revisions in consumer spending and trade.

Recent employment indicators are more positive; the U.S. Bureau of Labor Statistics (BLS) reported that the four-week moving average of initial seasonally adjusted [unemployment insurance claims](#) for the week ending June 28 was 315,000. According to BLS, the U.S. economy added 288,000 [jobs](#) in June, and the unemployment rate fell to 6.1%. [New orders for durable goods](#) contracted in May, according to the U.S. Census Bureau (Census), as new orders fell 1%, compared with the 0.8% increase reported in April. BEA also reported that real personal consumption expenditures fell 0.1% between April and May, following a 0.2% drop from March to April. Census reported that [sales of new single-family homes](#) rose 18.6% from April to May, a level 16.9% above the May 2013 sales estimate.

EIA used the June 2014 version of the IHS/Global Insight (GI) macroeconomic model with EIA's energy price forecasts as model inputs to develop the economic projections in the STEO. This GI forecast does not reflect recent macroeconomic data, such as the second downward revision to first quarter real U.S. GDP growth.

Production and Income. Forecast real GDP grows by 2.2% in 2014 and by 2.9% in 2015, down from the 2.4% and 3.1% increases, respectively, forecast in last month's STEO. Weaker real GDP growth in this month's forecast reflects BEA's first downward revision to first-quarter real GDP growth and a downward revision in 2015 real disposable income growth to 3.1% from 3.6% forecast in last month's STEO. Total industrial production grows by 3.4% in 2014 and 3.0% in 2015. Growth in industrial production in the manufacturing sector is lower than in total industrial production in 2014, at 3.3%, but moves higher in 2015 to 3.4%.

Expenditures. Private real fixed investment growth averages 3.9% and 8.5% in 2014 and 2015, respectively, led by industrial and transportation equipment in 2014 and by a broad array of equipment categories in 2015. Real consumption expenditures grow faster than real GDP in 2014 at 2.7%, but fall below the real GDP growth rate in 2015 at 2.6%. Durable goods expenditures drive consumption spending in both years. Export growth is 3.3% and 4.8% over

the same two years, while import growth is 2.8% in 2014 and 5.2% in 2015. Total government expenditures fall by 0.9% in 2014, but increase by 0.3% in 2015.

U.S. Employment, Housing, and Prices. Projected growth in nonfarm employment averages 1.7% in 2014 and 1.8% in 2015. This is accompanied by a gradually declining unemployment rate that reaches 5.9% at the end of 2015. The employment growth in 2014 and 2015 is slower than projected last month and the declines in the unemployment rate are about the same. Housing starts grow an average of 14.3% and 28.2% in 2014 and 2015, respectively. Both consumer and producer price indexes continue to increase at a moderate pace, as wages continue to show modest gains.

This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

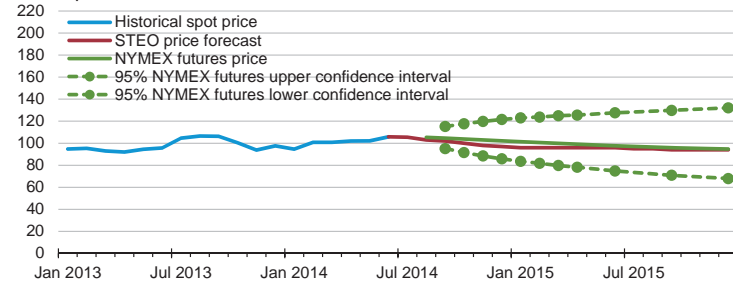


Short-Term Energy Outlook

Chart Gallery for July 2014

West Texas Intermediate (WTI) Crude Oil Price

dollars per barrel

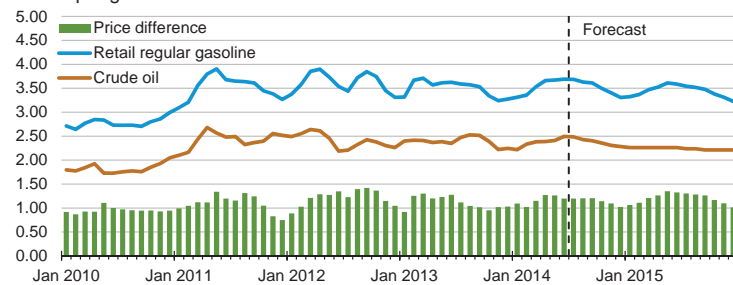


Note: Confidence interval derived from options market information for the 5 trading days ending Jul. 2, 2014. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, July 2014.

U.S. Gasoline and Crude Oil Prices

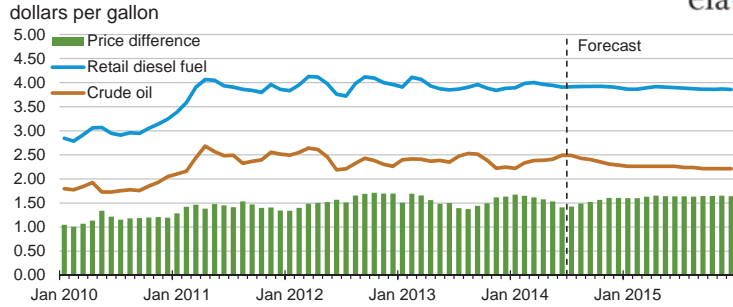
dollars per gallon



Crude oil price is composite refiner acquisition cost. Retail prices include state and federal taxes.

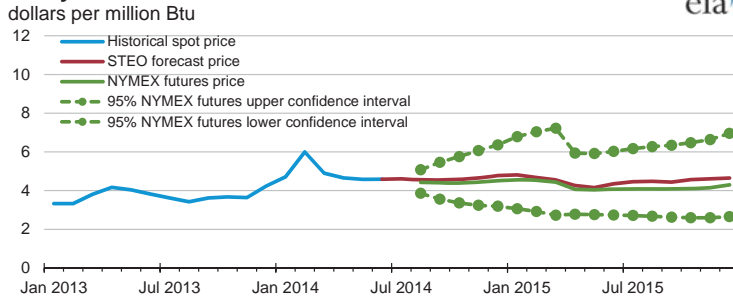
Source: Short-Term Energy Outlook, July 2014.

U.S. Diesel Fuel and Crude Oil Prices



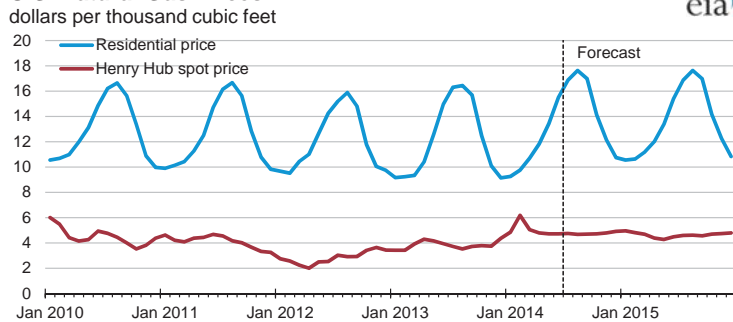
Crude oil price is composite refiner acquisition cost. Retail prices include state and federal taxes.
 Source: Short-Term Energy Outlook, July 2014.

Henry Hub Natural Gas Price



Note: Confidence interval derived from options market information for the 5 trading days ending Jul. 2, 2014. Intervals not calculated for months with sparse trading in near-the-money options contracts.
 Source: Short-Term Energy Outlook, July 2014.

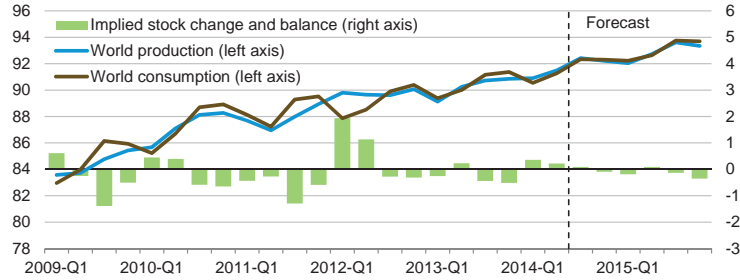
U.S. Natural Gas Prices



Source: Short-Term Energy Outlook, July 2014.

World Liquid Fuels Production and Consumption Balance

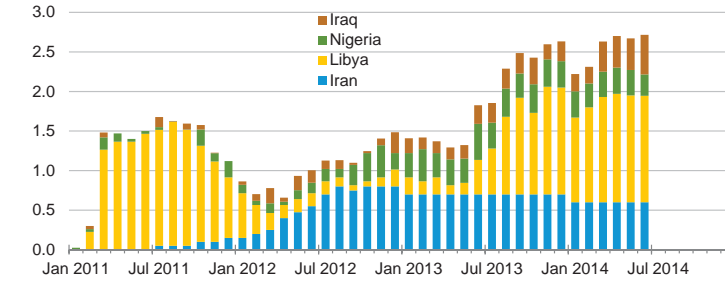
million barrels per day (MMbbl/d)



Source: Short-Term Energy Outlook, July 2014.

Estimated Historical Unplanned OPEC Crude Oil Production Outages

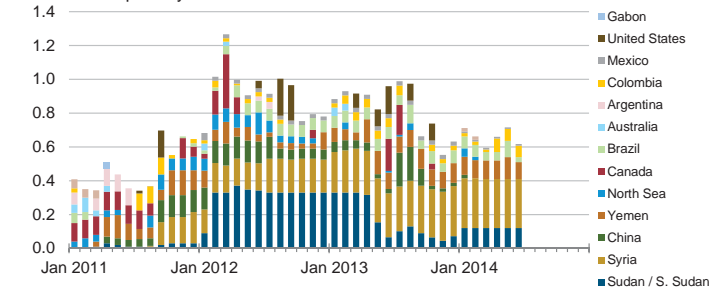
million barrels per day



Source: Short-Term Energy Outlook, July 2014.

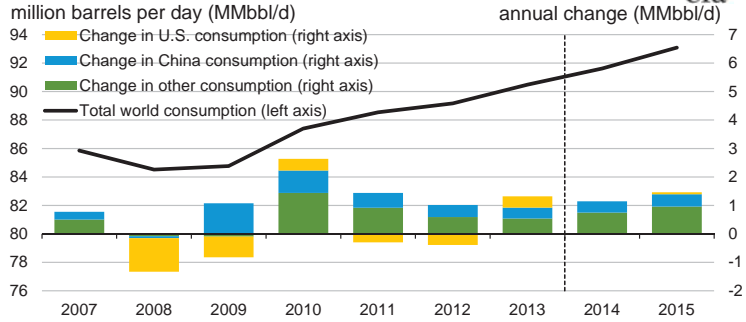
Estimated Historical Unplanned Non-OPEC Liquid Fuels Production Outages

million barrels per day



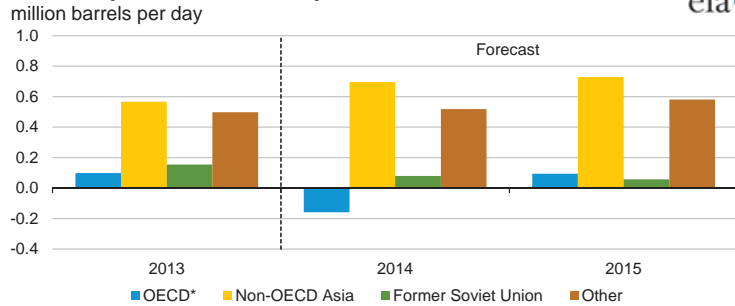
Source: Short-Term Energy Outlook, July 2014.

World Liquid Fuels Consumption



Source: Short-Term Energy Outlook, July 2014.

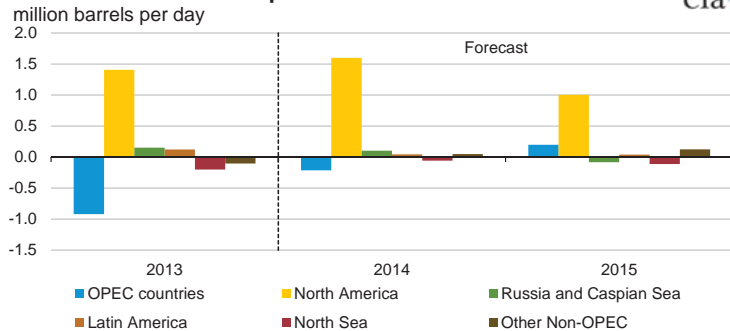
World Liquid Fuels Consumption Growth



* Countries belonging to the Organization for Economic Cooperation and Development

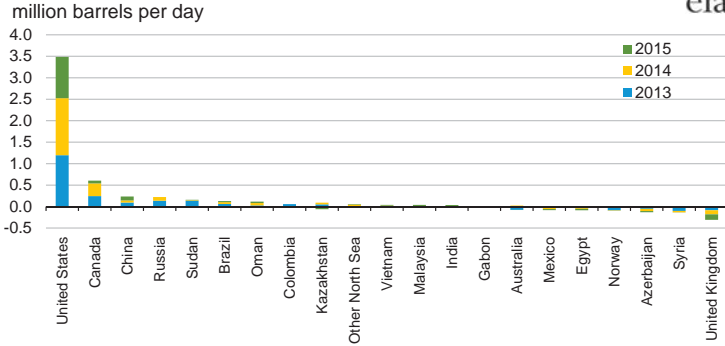
Source: Short-Term Energy Outlook, July 2014.

World Crude Oil and Liquid Fuels Production Growth

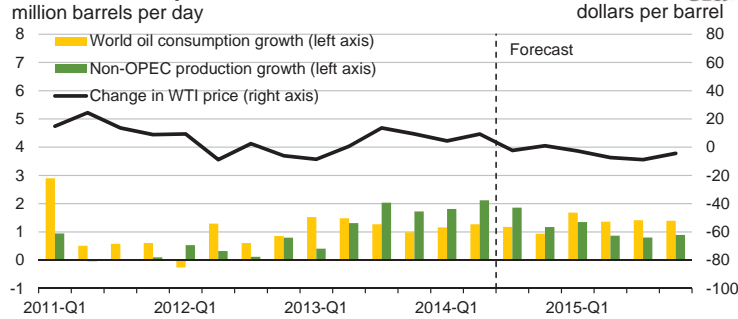


Source: Short-Term Energy Outlook, July 2014.

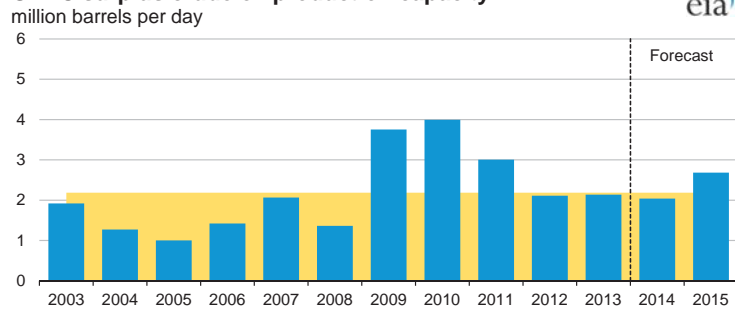
Non-OPEC Crude Oil and Liquid Fuels Production Growth



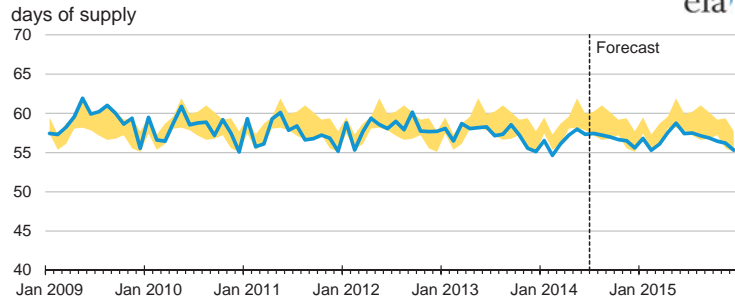
World Consumption and Non-OPEC Production Growth



OPEC surplus crude oil production capacity



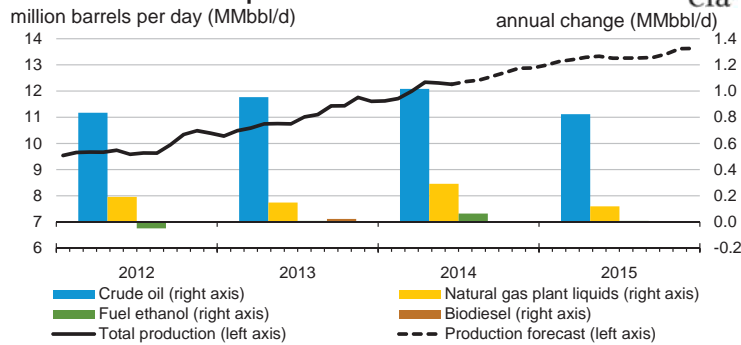
OECD Commercial Crude Oil Stocks



Note: Colored band around crude oil stocks days of supply represents the range between the minimum and maximum from Jan. 2009 - Dec. 2013.

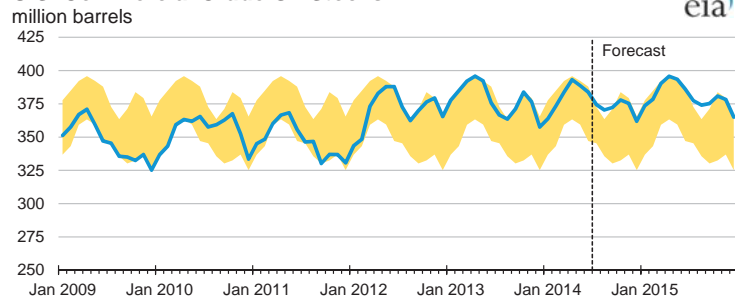
Source: Short-Term Energy Outlook, July 2014.

U.S. Crude Oil and Liquid Fuels Production



Source: Short-Term Energy Outlook, July 2014.

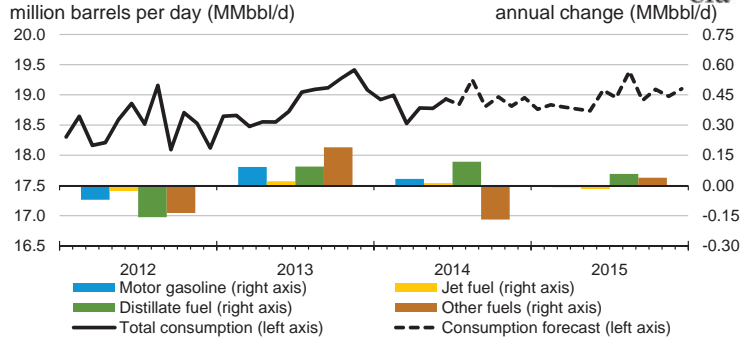
U.S. Commercial Crude Oil Stocks



Note: Colored band around storage levels represents the range between the minimum and maximum from Jan. 2009 - Dec. 2013.

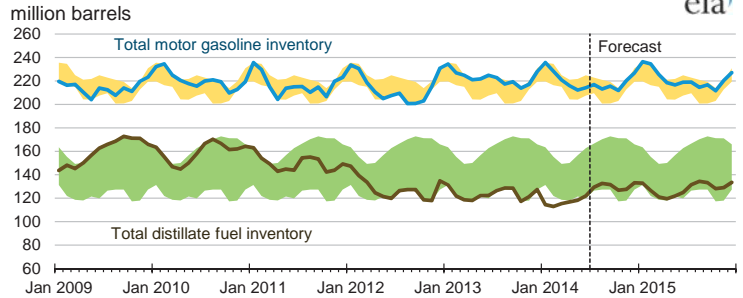
Source: Short-Term Energy Outlook, July 2014.

U.S. Liquid Fuels Consumption



Source: Short-Term Energy Outlook, July 2014.

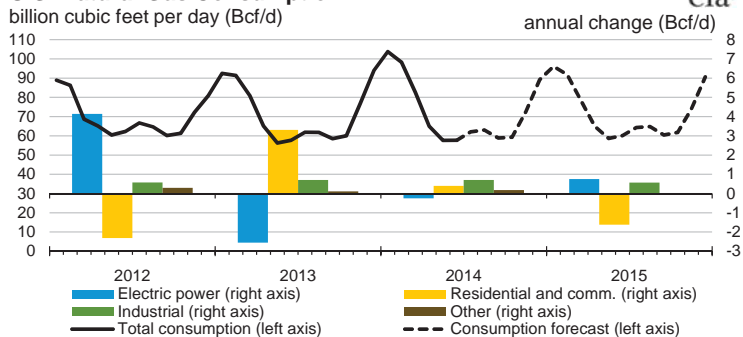
U.S. Gasoline and Distillate Inventories



Note: Colored bands around storage levels represent the range between the minimum and maximum from Jan. 2009 - Dec. 2013.

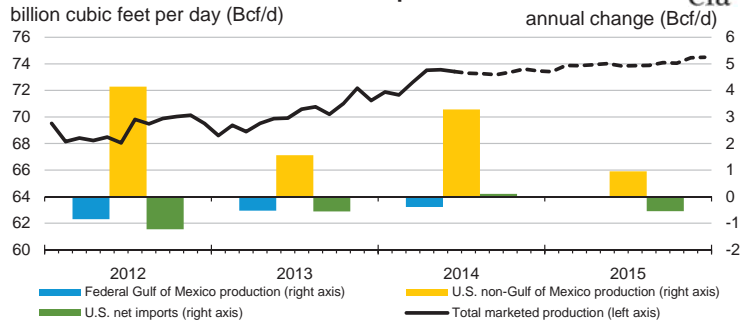
Source: Short-Term Energy Outlook, July 2014.

U.S. Natural Gas Consumption

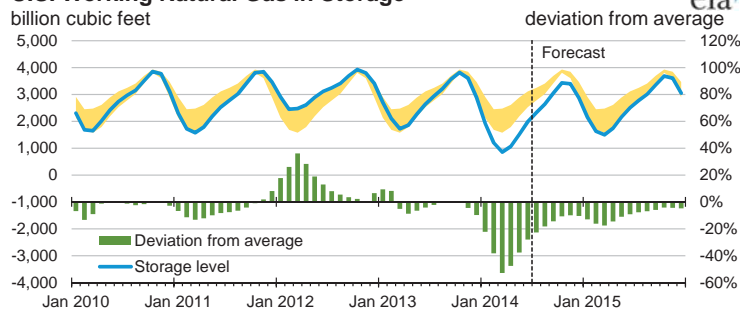


Source: Short-Term Energy Outlook, July 2014.

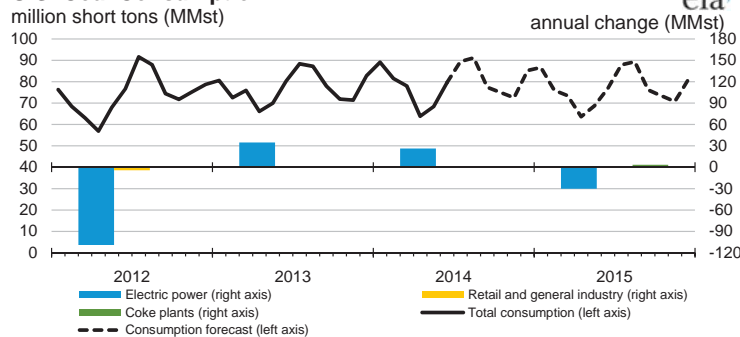
U.S. Natural Gas Production and Imports



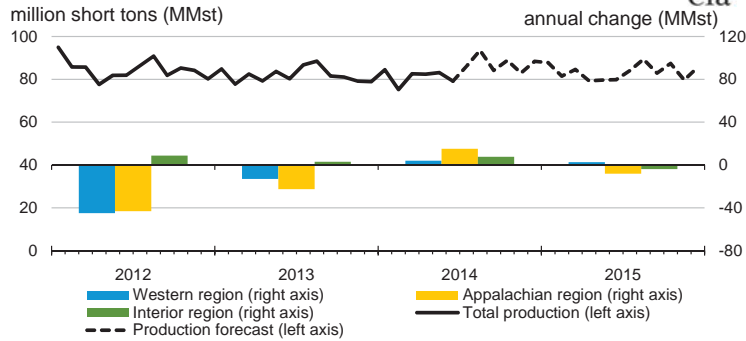
U.S. Working Natural Gas in Storage



U.S. Coal Consumption

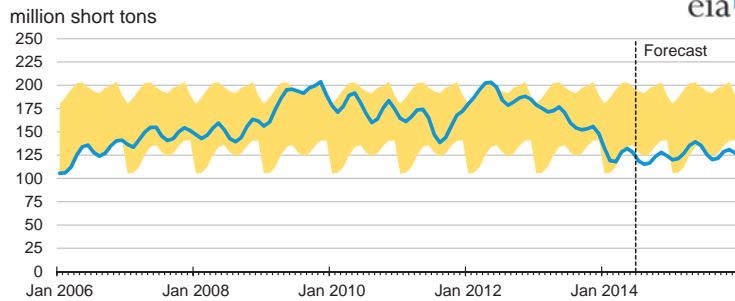


U.S. Coal Production



Source: Short-Term Energy Outlook, July 2014.

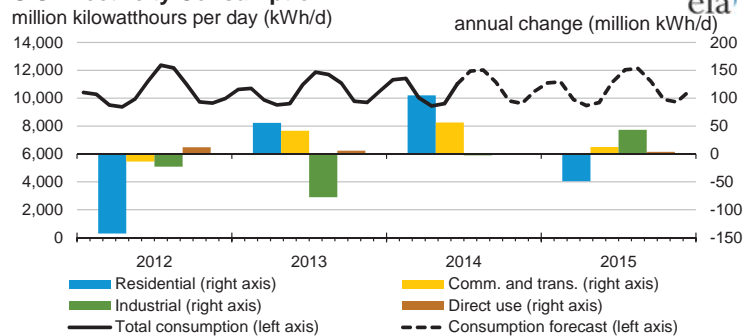
U.S. Electric Power Coal Stocks



Note: Colored band around stock levels represents the range between the minimum and maximum from Jan. 2006 - Dec. 2013.

Source: Short-Term Energy Outlook, July 2014.

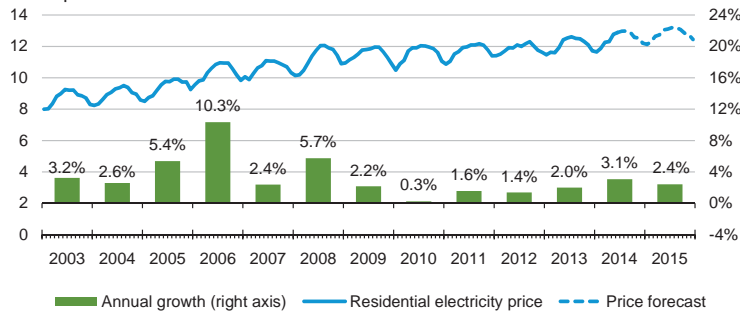
U.S. Electricity Consumption



Source: Short-Term Energy Outlook, July 2014.

U.S. Residential Electricity Price

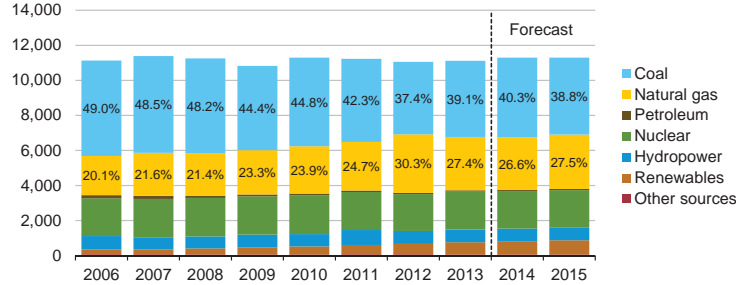
cents per kilowatthour



Source: Short-Term Energy Outlook, July 2014.

U.S. Electricity Generation by Fuel, All Sectors

thousand megawatthours per day

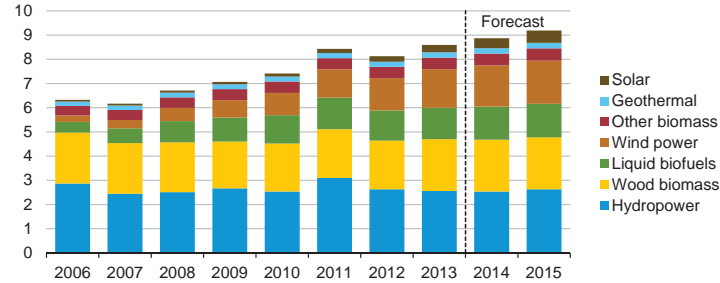


Note: Labels show percentage share of total generation provided by coal and natural gas.

Source: Short-Term Energy Outlook, July 2014.

U.S. Renewable Energy Supply

quadrillion British thermal units (Btu)

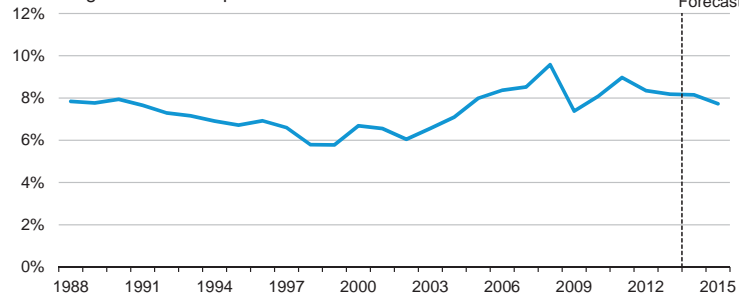


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: Short-Term Energy Outlook, July 2014.

U.S. Annual Energy Expenditures

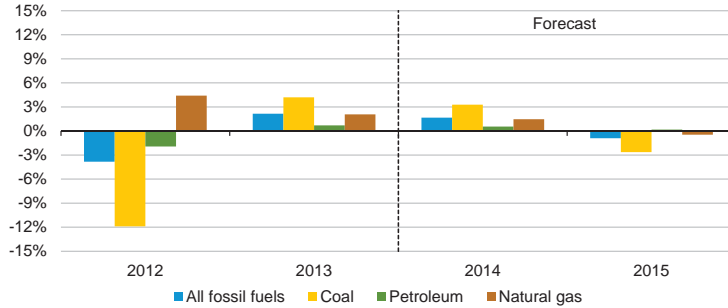
share of gross domestic product



Source: Short-Term Energy Outlook, July 2014.

U.S. Energy-Related Carbon Dioxide Emissions

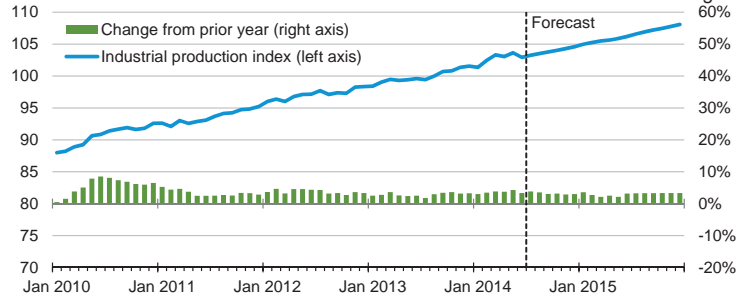
annual growth



Source: Short-Term Energy Outlook, July 2014.

U.S. Total Industrial Production Index

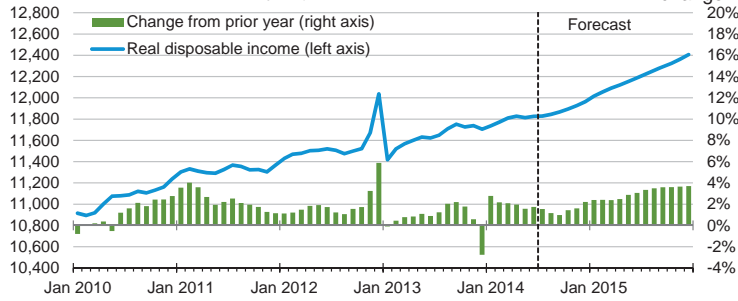
index (2007 = 100)



Source: Short-Term Energy Outlook, July 2014.

U.S. Disposable Income

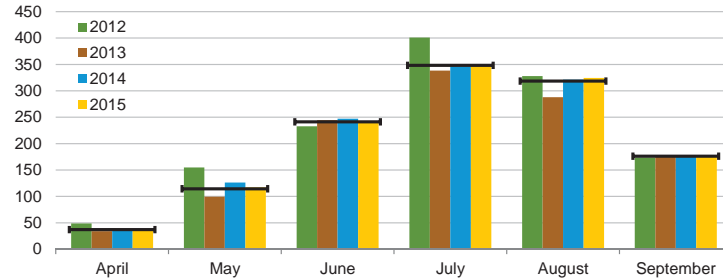
billion 2009 dollars, seasonally adjusted



Source: Short-Term Energy Outlook, July 2014.

U.S. Summer Cooling Degree Days

population-weighted

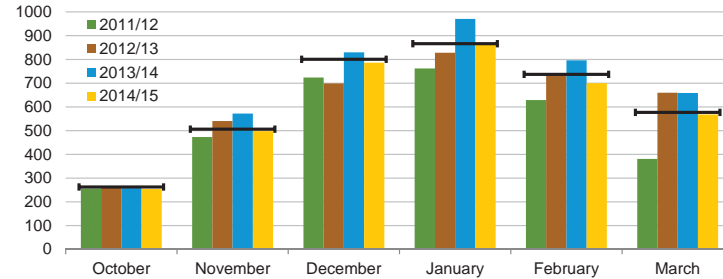


Note: EIA calculations based on from the National Oceanic and Atmospheric Administration data. Horizontal lines indicate each month's prior 10-year average (2004-2013). Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, July 2014.

U.S. Winter Heating Degree Days

population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Horizontal lines indicate each month's prior 10-year average (Oct 2004 - Mar 2014). Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, July 2014.

U.S. Census Regions and Divisions



Source: Short-Term Energy Outlook, July 2014.

Table SF01. U.S. Motor Gasoline Summer Outlook

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013			2014			Year-over-year Change (percent)		
	Q2	Q3	Season	Q2	Q3	Season	Q2	Q3	Season
Nominal Prices (dollars per gallon)									
WTI Crude Oil (Spot) ^a	2.24	2.52	2.38	<i>2.46</i>	<i>2.46</i>	<i>2.46</i>	9.8	-2.2	3.5
Brent Crude oil Price (Spot)	2.44	2.63	2.54	<i>2.61</i>	<i>2.65</i>	<i>2.63</i>	6.9	1.0	3.7
U.S. Refiner Average Crude Oil Cost	2.37	2.51	2.44	<i>2.43</i>	<i>2.44</i>	<i>2.44</i>	2.7	-2.6	-0.1
Wholesale Gasoline Price ^c	2.90	2.88	2.89	<i>2.98</i>	<i>2.96</i>	<i>2.97</i>	2.8	3.0	2.9
Wholesale Diesel Fuel Price ^c	2.95	3.06	3.01	<i>3.02</i>	<i>3.06</i>	<i>3.04</i>	2.4	-0.2	1.1
Regular Gasoline Retail Price ^d	3.60	3.57	3.58	<i>3.68</i>	<i>3.64</i>	<i>3.66</i>	2.0	2.2	2.1
Diesel Fuel Retail Price ^d	3.88	3.91	3.90	<i>3.94</i>	<i>3.92</i>	<i>3.93</i>	1.4	0.2	0.8
Gasoline Consumption/Supply (million barrels per day)									
Total Consumption	8.905	9.022	8.964	<i>9.008</i>	<i>8.982</i>	<i>8.995</i>	1.2	-0.4	0.3
Total Refinery and Blender Output ^e	7.686	7.980	7.834	<i>7.855</i>	<i>7.886</i>	<i>7.871</i>	2.2	-1.2	0.5
Fuel Ethanol Blending	0.889	0.858	0.873	<i>0.875</i>	<i>0.891</i>	<i>0.883</i>	-1.5	3.8	1.1
Total Stock Withdrawal ^f	0.000	0.062	0.031	<i>0.073</i>	<i>-0.015</i>	<i>0.029</i>			
Net Imports ^f	0.330	0.122	0.225	<i>0.204</i>	<i>0.220</i>	<i>0.212</i>	-38.3	81.1	-5.9
Refinery Utilization (percent)	88.5	91.6	90.1	<i>89.8</i>	<i>89.9</i>	<i>89.8</i>			
Gasoline Stocks, Including Blending Components (million barrels)									
Beginning	224.9	224.9	224.9	<i>220.9</i>	<i>214.2</i>	<i>220.9</i>			
Ending	224.9	219.3	219.3	<i>214.2</i>	<i>215.6</i>	<i>215.6</i>			
Economic Indicators (annualized billion 2000 dollars)									
Real GDP	15,680	15,839	15,760	<i>16,050</i>	<i>16,169</i>	<i>16,109</i>	2.4	2.1	2.2
Real Income	11,618	11,703	11,661	<i>11,823</i>	<i>11,846</i>	<i>11,835</i>	1.8	1.2	1.5

^a Spot Price of West Texas Intermediate (WTI) crude oil.^b Cost of imported crude oil to U.S. refiners.^c Price product sold by refiners to resellers.^d Average pump price including taxes.^e Refinery and blender net production plus finished motor gasoline adjustment.^f Total stock withdrawal and net imports includes both finished gasoline and gasoline blend components.

GDP = gross domestic product.

Notes: Minor discrepancies with other Energy Information Administration (EIA) published historical data are due to rounding. Historical data are printed in bold. Forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: latest data available from: EIA, *Petroleum Supply Monthly*, DOE/EIA-0109; Monthly Energy Review, DOE/EIA-0035; U.S. Department of Commerce, Bureau of Economic Analysis (GDP and income); Reuters News Service (WTI and Brent crude oil spot prices). Macroeconomic projections are based on IHS Global Insight Macroeconomic Forecast Model.

Table SF02 Average Summer Residential Electricity Usage, Prices and Expenditures

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2009	2010	2011	2012	2013	Forecast 2014	Change from 2013
United States							
Usage (kWh)	3,116	3,471	3,444	3,354	3,121	3,168	1.5%
Price (cents/kWh)	11.87	12.00	12.06	12.09	12.55	12.95	3.2%
Expenditures	\$370	\$416	\$415	\$405	\$392	\$410	4.7%
New England							
Usage (kWh)	1,909	2,227	2,122	2,188	2,164	2,029	-6.3%
Price (cents/kWh)	17.34	16.14	15.85	15.50	16.02	17.93	11.9%
Expenditures	\$331	\$359	\$336	\$339	\$347	\$364	4.9%
Mid-Atlantic							
Usage (kWh)	2,203	2,644	2,531	2,548	2,438	2,412	-1.0%
Price (cents/kWh)	15.85	16.66	16.39	15.63	16.39	17.13	4.5%
Expenditures	\$349	\$440	\$415	\$398	\$399	\$413	3.4%
East North Central							
Usage (kWh)	2,471	3,073	2,975	3,048	2,612	2,688	2.9%
Price (cents/kWh)	11.33	11.94	12.17	12.08	12.42	13.08	5.4%
Expenditures	\$280	\$367	\$362	\$368	\$324	\$352	8.4%
West North Central							
Usage (kWh)	2,982	3,558	3,517	3,547	3,066	3,189	4.0%
Price (cents/kWh)	10.21	10.74	11.16	11.50	12.25	12.43	1.5%
Expenditures	\$305	\$382	\$393	\$408	\$376	\$397	5.6%
South Atlantic							
Usage (kWh)	3,974	4,411	4,277	4,002	3,761	3,898	3.6%
Price (cents/kWh)	11.54	11.39	11.48	11.65	11.73	11.96	2.0%
Expenditures	\$459	\$502	\$491	\$466	\$441	\$466	5.7%
East South Central							
Usage (kWh)	4,247	4,901	4,750	4,467	4,061	4,274	5.2%
Price (cents/kWh)	9.77	9.90	10.28	10.36	10.73	11.25	4.9%
Expenditures	\$415	\$485	\$488	\$463	\$436	\$481	10.4%
West South Central							
Usage (kWh)	4,652	4,830	5,231	4,781	4,502	4,491	-0.3%
Price (cents/kWh)	11.05	10.86	10.64	10.27	10.93	11.52	5.4%
Expenditures	\$514	\$525	\$557	\$491	\$492	\$518	5.2%
Mountain							
Usage (kWh)	3,242	3,340	3,322	3,440	3,388	3,323	-1.9%
Price (cents/kWh)	10.83	11.25	11.29	11.55	11.98	12.39	3.4%
Expenditures	\$351	\$376	\$375	\$397	\$406	\$412	1.4%
Pacific							
Usage (kWh)	2,080	2,006	2,022	2,078	2,033	2,016	-0.8%
Price (cents/kWh)	13.23	12.95	13.22	13.78	14.55	14.17	-2.6%
Expenditures	\$275	\$260	\$267	\$286	\$296	\$286	-3.4%

Notes: kWh = kilowatthours. All data cover the 3-month period of June-August of each year. Usage amounts represent total residential retail electricity sales per customer. Prices and expenditures are not adjusted for inflation.

Source: EIA Form-861 and Form-826 databases, Short-Term Energy Outlook.

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Energy Supply															
Crude Oil Production (a) (million barrels per day)	7.10	7.27	7.54	7.85	8.06	<i>8.40</i>	<i>8.51</i>	<i>8.86</i>	<i>9.13</i>	<i>9.28</i>	<i>9.24</i>	<i>9.47</i>	7.44	<i>8.46</i>	<i>9.28</i>
Dry Natural Gas Production (billion cubic feet per day)	65.46	66.21	66.76	67.64	68.07	<i>69.40</i>	<i>69.17</i>	<i>69.40</i>	<i>69.62</i>	<i>69.83</i>	<i>69.84</i>	<i>70.21</i>	66.53	<i>69.02</i>	<i>69.88</i>
Coal Production (million short tons)	245	243	257	239	242	<i>245</i>	<i>264</i>	<i>260</i>	<i>254</i>	<i>239</i>	<i>256</i>	<i>253</i>	984	<i>1,011</i>	<i>1,002</i>
Energy Consumption															
Liquid Fuels (million barrels per day)	18.59	18.61	19.08	19.25	18.81	<i>18.83</i>	<i>18.97</i>	<i>18.91</i>	<i>18.80</i>	<i>18.86</i>	<i>19.09</i>	<i>19.06</i>	18.89	<i>18.88</i>	<i>18.95</i>
Natural Gas (billion cubic feet per day)	88.20	59.66	60.76	76.96	94.73	<i>60.09</i>	<i>61.34</i>	<i>73.65</i>	<i>88.64</i>	<i>61.18</i>	<i>63.21</i>	<i>75.55</i>	71.33	<i>72.37</i>	<i>72.09</i>
Coal (b) (million short tons)	229	216	253	226	249	<i>212</i>	<i>258</i>	<i>233</i>	<i>236</i>	<i>209</i>	<i>253</i>	<i>225</i>	925	<i>951</i>	<i>924</i>
Electricity (billion kilowatt hours per day)	10.39	10.03	11.55	10.00	10.91	<i>10.03</i>	<i>11.70</i>	<i>9.98</i>	<i>10.71</i>	<i>10.09</i>	<i>11.80</i>	<i>10.06</i>	10.50	<i>10.66</i>	<i>10.67</i>
Renewables (c) (quadrillion Btu)	2.11	2.32	2.08	2.11	2.17	<i>2.39</i>	<i>2.15</i>	<i>2.10</i>	<i>2.23</i>	<i>2.46</i>	<i>2.23</i>	<i>2.22</i>	8.61	<i>8.81</i>	<i>9.14</i>
Total Energy Consumption (d) (quadrillion Btu)	25.45	22.91	24.12	25.05	26.64	<i>23.01</i>	<i>24.21</i>	<i>24.56</i>	<i>25.82</i>	<i>23.23</i>	<i>24.46</i>	<i>24.82</i>	97.53	<i>98.42</i>	<i>98.33</i>
Energy Prices															
Crude Oil (e) (dollars per barrel)	101.14	99.45	105.24	95.98	97.05	<i>102.09</i>	<i>102.53</i>	<i>97.32</i>	<i>95.00</i>	<i>95.00</i>	<i>93.68</i>	<i>93.00</i>	100.46	<i>99.80</i>	<i>94.15</i>
Natural Gas Henry Hub Spot (dollars per million Btu)	3.49	4.01	3.55	3.85	5.21	<i>4.61</i>	<i>4.57</i>	<i>4.67</i>	<i>4.68</i>	<i>4.26</i>	<i>4.46</i>	<i>4.61</i>	3.73	<i>4.77</i>	<i>4.50</i>
Coal (dollars per million Btu)	2.35	2.37	2.33	2.34	2.33	<i>2.41</i>	<i>2.41</i>	<i>2.39</i>	<i>2.40</i>	<i>2.41</i>	<i>2.41</i>	<i>2.40</i>	2.35	<i>2.39</i>	<i>2.41</i>
Macroeconomic															
Real Gross Domestic Product (billion chained 2009 dollars - SAAR)	15,584	15,680	15,839	15,942	15,903	<i>16,050</i>	<i>16,169</i>	<i>16,284</i>	<i>16,395</i>	<i>16,495</i>	<i>16,632</i>	<i>16,759</i>	15,761	<i>16,101</i>	<i>16,570</i>
Percent change from prior year	1.3	1.6	2.0	2.6	2.0	<i>2.4</i>	<i>2.1</i>	<i>2.1</i>	<i>3.1</i>	<i>2.8</i>	<i>2.9</i>	<i>2.9</i>	1.9	<i>2.2</i>	<i>2.9</i>
GDP Implicit Price Deflator (Index, 2009=100)	106.0	106.2	106.7	107.1	107.4	<i>107.9</i>	<i>108.5</i>	<i>109.2</i>	<i>109.8</i>	<i>110.1</i>	<i>110.5</i>	<i>111.1</i>	106.5	<i>108.3</i>	<i>110.4</i>
Percent change from prior year	1.6	1.3	1.3	1.4	1.4	<i>1.7</i>	<i>1.7</i>	<i>2.0</i>	<i>2.2</i>	<i>2.0</i>	<i>1.8</i>	<i>1.7</i>	1.4	<i>1.7</i>	<i>1.9</i>
Real Disposable Personal Income (billion chained 2009 dollars - SAAR)	11,502	11,618	11,703	11,724	11,772	<i>11,823</i>	<i>11,846</i>	<i>11,929</i>	<i>12,054</i>	<i>12,155</i>	<i>12,258</i>	<i>12,365</i>	11,637	<i>11,843</i>	<i>12,208</i>
Percent change from prior year	0.4	0.9	1.8	-0.2	2.3	<i>1.8</i>	<i>1.2</i>	<i>1.8</i>	<i>2.4</i>	<i>2.8</i>	<i>3.5</i>	<i>3.7</i>	0.7	<i>1.8</i>	<i>3.1</i>
Manufacturing Production Index (Index, 2007=100)	97.1	97.5	97.9	99.0	99.6	<i>100.8</i>	<i>101.5</i>	<i>102.4</i>	<i>103.3</i>	<i>104.1</i>	<i>105.0</i>	<i>105.9</i>	97.9	<i>101.1</i>	<i>104.6</i>
Percent change from prior year	3.2	2.7	2.7	3.2	2.6	<i>3.5</i>	<i>3.7</i>	<i>3.4</i>	<i>3.7</i>	<i>3.2</i>	<i>3.4</i>	<i>3.4</i>	2.9	<i>3.3</i>	<i>3.4</i>
Weather															
U.S. Heating Degree-Days	2,221	510	76	1,660	2,426	<i>469</i>	<i>78</i>	<i>1,538</i>	<i>2,132</i>	<i>473</i>	<i>75</i>	<i>1,537</i>	4,467	<i>4,511</i>	<i>4,217</i>
U.S. Cooling Degree-Days	36	378	803	87	33	<i>411</i>	<i>844</i>	<i>92</i>	<i>38</i>	<i>394</i>	<i>849</i>	<i>92</i>	1,304	<i>1,379</i>	<i>1,374</i>

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review. Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109;

Petroleum Supply Annual, DOE/EIA-0340/2; *Weekly Petroleum Status Report*, DOE/EIA-0208; *Petroleum Marketing Monthly*, DOE/EIA-0380; *Natural Gas Monthly*, DOE/EIA-0130;

Electric Power Monthly, DOE/EIA-0226; *Quarterly Coal Report*, DOE/EIA-0121; and *International Petroleum Monthly*, DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model. Macroeconomic projections are based on Global Insight Model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. U.S. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	94.34	94.10	105.84	97.34	98.75	<i>103.35</i>	<i>103.50</i>	<i>98.33</i>	<i>96.00</i>	<i>96.00</i>	<i>94.67</i>	<i>94.00</i>	97.91	<i>100.98</i>	<i>95.17</i>
Brent Spot Average	112.49	102.58	110.27	109.21	108.17	<i>109.70</i>	<i>111.33</i>	<i>109.00</i>	<i>106.00</i>	<i>105.00</i>	<i>104.67</i>	<i>104.00</i>	108.64	<i>109.55</i>	<i>104.92</i>
Imported Average	98.71	97.39	103.07	92.95	94.53	<i>99.50</i>	<i>100.02</i>	<i>94.86</i>	<i>92.50</i>	<i>92.50</i>	<i>91.18</i>	<i>90.50</i>	98.12	<i>97.29</i>	<i>91.67</i>
Refiner Average Acquisition Cost	101.14	99.45	105.24	95.98	97.05	<i>102.09</i>	<i>102.53</i>	<i>97.32</i>	<i>95.00</i>	<i>95.00</i>	<i>93.68</i>	<i>93.00</i>	100.46	<i>99.80</i>	<i>94.15</i>
Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	289	290	288	259	272	<i>298</i>	<i>296</i>	<i>272</i>	<i>274</i>	<i>289</i>	<i>282</i>	<i>261</i>	281	<i>285</i>	<i>276</i>
Diesel Fuel	312	295	306	299	303	<i>302</i>	<i>306</i>	<i>302</i>	<i>299</i>	<i>300</i>	<i>298</i>	<i>295</i>	303	<i>303</i>	<i>298</i>
Heating Oil	308	276	295	296	303	<i>289</i>	<i>290</i>	<i>294</i>	<i>297</i>	<i>289</i>	<i>284</i>	<i>289</i>	297	<i>295</i>	<i>291</i>
Refiner Prices to End Users															
Jet Fuel	316	287	298	294	297	<i>296</i>	<i>301</i>	<i>297</i>	<i>297</i>	<i>297</i>	<i>294</i>	<i>291</i>	298	<i>298</i>	<i>295</i>
No. 6 Residual Fuel Oil (a)	252	243	247	250	249	<i>253</i>	<i>260</i>	<i>250</i>	<i>244</i>	<i>240</i>	<i>239</i>	<i>237</i>	248	<i>253</i>	<i>240</i>
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	357	360	357	329	340	<i>368</i>	<i>364</i>	<i>340</i>	<i>339</i>	<i>358</i>	<i>351</i>	<i>331</i>	351	<i>354</i>	<i>345</i>
Gasoline All Grades (b)	363	367	364	337	348	<i>375</i>	<i>371</i>	<i>347</i>	<i>346</i>	<i>364</i>	<i>358</i>	<i>338</i>	358	<i>361</i>	<i>352</i>
On-highway Diesel Fuel	403	388	391	387	396	<i>394</i>	<i>392</i>	<i>391</i>	<i>387</i>	<i>391</i>	<i>387</i>	<i>386</i>	392	<i>393</i>	<i>388</i>
Heating Oil	389	365	366	373	397	<i>380</i>	<i>367</i>	<i>374</i>	<i>381</i>	<i>374</i>	<i>362</i>	<i>370</i>	378	<i>385</i>	<i>375</i>
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	3.59	4.13	3.66	3.97	5.36	<i>4.75</i>	<i>4.71</i>	<i>4.81</i>	<i>4.82</i>	<i>4.38</i>	<i>4.59</i>	<i>4.75</i>	3.84	<i>4.91</i>	<i>4.64</i>
Henry Hub Spot (dollars per Million Btu)	3.49	4.01	3.55	3.85	5.21	<i>4.61</i>	<i>4.57</i>	<i>4.67</i>	<i>4.68</i>	<i>4.26</i>	<i>4.46</i>	<i>4.61</i>	3.73	<i>4.77</i>	<i>4.50</i>
End-Use Prices (dollars per thousand cubic feet)															
Industrial Sector	4.57	4.97	4.41	4.68	6.16	<i>5.52</i>	<i>5.47</i>	<i>5.72</i>	<i>6.00</i>	<i>5.25</i>	<i>5.43</i>	<i>5.78</i>	4.66	<i>5.74</i>	<i>5.64</i>
Commercial Sector	7.83	8.59	8.97	7.98	8.66	<i>9.57</i>	<i>10.28</i>	<i>9.55</i>	<i>9.70</i>	<i>9.73</i>	<i>10.27</i>	<i>9.64</i>	8.12	<i>9.21</i>	<i>9.75</i>
Residential Sector	9.24	11.88	16.13	9.93	9.81	<i>12.98</i>	<i>17.15</i>	<i>11.69</i>	<i>10.75</i>	<i>13.08</i>	<i>17.14</i>	<i>11.80</i>	10.31	<i>11.24</i>	<i>11.85</i>
Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.35	2.37	2.33	2.34	2.33	<i>2.41</i>	<i>2.41</i>	<i>2.39</i>	<i>2.40</i>	<i>2.41</i>	<i>2.41</i>	<i>2.40</i>	2.35	<i>2.39</i>	<i>2.41</i>
Natural Gas	4.35	4.56	4.06	4.41	6.82	<i>5.14</i>	<i>5.15</i>	<i>5.49</i>	<i>5.48</i>	<i>4.86</i>	<i>5.06</i>	<i>5.43</i>	4.32	<i>5.59</i>	<i>5.19</i>
Residual Fuel Oil (c)	19.37	19.83	18.76	19.47	19.95	<i>20.18</i>	<i>19.95</i>	<i>19.84</i>	<i>19.24</i>	<i>19.06</i>	<i>18.95</i>	<i>18.79</i>	19.33	<i>19.97</i>	<i>19.01</i>
Distillate Fuel Oil	23.44	22.62	23.23	22.97	23.39	<i>23.62</i>	<i>23.75</i>	<i>24.23</i>	<i>24.50</i>	<i>24.21</i>	<i>23.98</i>	<i>24.51</i>	23.08	<i>23.62</i>	<i>24.30</i>
End-Use Prices (cents per kilowatthour)															
Industrial Sector	6.55	6.79	7.24	6.67	7.02	<i>7.04</i>	<i>7.48</i>	<i>6.90</i>	<i>7.07</i>	<i>7.11</i>	<i>7.47</i>	<i>6.87</i>	6.82	<i>7.11</i>	<i>7.14</i>
Commercial Sector	9.96	10.33	10.68	10.14	10.57	<i>10.74</i>	<i>11.13</i>	<i>10.53</i>	<i>10.73</i>	<i>10.87</i>	<i>11.27</i>	<i>10.68</i>	10.29	<i>10.76</i>	<i>10.90</i>
Residential Sector	11.56	12.31	12.54	12.01	11.90	<i>12.68</i>	<i>12.95</i>	<i>12.42</i>	<i>12.34</i>	<i>12.98</i>	<i>13.16</i>	<i>12.66</i>	12.12	<i>12.49</i>	<i>12.79</i>

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380;

Weekly Petroleum Status Report, DOE/EIA-0208; *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; and *Monthly Energy Review*, DOE/EIA-0035.

 WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (<http://www.reuters.com>).

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Supply (million barrels per day) (a)															
OECD	23.14	23.19	23.81	24.52	24.74	25.17	25.27	25.71	25.97	25.93	26.00	26.52	23.67	25.23	26.11
U.S. (50 States)	11.69	12.03	12.54	12.95	13.04	13.64	13.74	14.10	14.36	14.59	14.58	14.85	12.31	13.63	14.60
Canada	4.12	3.86	4.11	4.31	4.37	4.32	4.37	4.53	4.44	4.29	4.44	4.68	4.10	4.40	4.46
Mexico	2.93	2.89	2.88	2.90	2.91	2.89	2.87	2.85	2.90	2.87	2.84	2.81	2.90	2.88	2.85
North Sea (b)	2.94	2.89	2.74	2.88	2.91	2.81	2.77	2.73	2.78	2.69	2.62	2.69	2.86	2.80	2.69
Other OECD	1.46	1.51	1.53	1.48	1.50	1.52	1.53	1.50	1.49	1.50	1.52	1.50	1.50	1.51	1.50
Non-OECD	65.99	67.05	66.92	66.34	66.17	66.32	67.15	66.50	66.07	66.80	67.62	66.82	66.57	66.54	66.83
OPEC	36.09	36.61	36.33	35.55	36.05	35.75	36.17	35.74	35.84	36.12	36.56	35.98	36.14	35.93	36.13
Crude Oil Portion	29.85	30.38	30.12	29.30	29.75	29.48	29.86	29.27	29.30	29.55	29.91	29.30	29.91	29.59	29.52
Other Liquids	6.23	6.22	6.21	6.25	6.30	6.27	6.31	6.47	6.53	6.57	6.65	6.68	6.23	6.34	6.61
Former Soviet Union	13.52	13.45	13.50	13.73	13.69	13.68	13.67	13.63	13.58	13.55	13.59	13.57	13.55	13.67	13.57
China	4.45	4.48	4.37	4.52	4.46	4.48	4.53	4.54	4.57	4.60	4.61	4.61	4.45	4.50	4.60
Other Non-OECD	11.93	12.51	12.72	12.54	11.97	12.42	12.78	12.59	12.09	12.53	12.86	12.66	12.43	12.44	12.54
Total World Supply	89.13	90.24	90.72	90.85	90.91	91.50	92.43	92.22	92.04	92.73	93.62	93.35	90.24	91.77	92.94
Non-OPEC Supply	53.04	53.63	54.40	55.30	54.86	55.75	56.25	56.47	56.20	56.62	57.05	57.36	54.10	55.84	56.81
Consumption (million barrels per day) (c)															
OECD	45.82	45.51	46.24	46.52	45.89	45.27	45.89	46.41	46.36	45.15	45.91	46.43	46.02	45.87	45.96
U.S. (50 States)	18.59	18.61	19.08	19.25	18.81	18.83	18.97	18.91	18.80	18.86	19.09	19.06	18.89	18.88	18.95
U.S. Territories	0.32	0.32	0.32	0.32	0.34	0.34	0.34	0.34	0.36	0.36	0.36	0.36	0.32	0.34	0.36
Canada	2.28	2.31	2.31	2.26	2.30	2.27	2.37	2.35	2.34	2.28	2.39	2.37	2.29	2.32	2.34
Europe	13.20	13.82	13.95	13.55	13.10	13.48	13.74	13.71	13.57	13.29	13.73	13.69	13.63	13.51	13.57
Japan	5.08	4.11	4.32	4.75	5.03	4.02	4.15	4.54	4.72	3.97	4.00	4.39	4.56	4.43	4.27
Other OECD	6.34	6.34	6.25	6.39	6.31	6.33	6.32	6.56	6.57	6.39	6.33	6.57	6.33	6.38	6.46
Non-OECD	43.57	44.50	44.92	44.85	44.65	46.01	46.44	45.90	45.87	47.49	47.84	47.26	44.46	45.76	47.12
Former Soviet Union	4.56	4.49	4.76	4.74	4.63	4.56	4.83	4.81	4.68	4.61	4.88	4.86	4.64	4.71	4.76
Europe	0.70	0.71	0.73	0.72	0.71	0.71	0.73	0.73	0.71	0.72	0.74	0.74	0.71	0.72	0.73
China	10.54	10.61	10.56	10.92	10.65	11.23	11.19	11.14	11.07	11.67	11.63	11.58	10.66	11.05	11.49
Other Asia	11.14	11.36	10.94	11.23	11.43	11.67	11.24	11.53	11.73	11.97	11.53	11.82	11.17	11.47	11.76
Other Non-OECD	16.63	17.33	17.93	17.24	17.24	17.83	18.46	17.68	17.69	18.52	19.07	18.26	17.29	17.80	18.39
Total World Consumption	89.39	90.00	91.16	91.37	90.55	91.27	92.34	92.31	92.23	92.64	93.75	93.70	90.49	91.62	93.08
Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	0.16	-0.27	-0.15	0.78	0.08	-0.61	-0.20	0.49	-0.09	-0.37	-0.14	0.49	0.13	-0.06	-0.03
Other OECD	-0.22	0.34	-0.26	0.61	-0.22	0.14	0.04	-0.15	0.10	0.10	0.10	-0.05	0.12	-0.05	0.06
Other Stock Draws and Balance	0.32	-0.31	0.85	-0.88	-0.22	0.24	0.07	-0.25	0.17	0.18	0.17	-0.09	0.00	-0.04	0.11
Total Stock Draw	0.26	-0.23	0.44	0.51	-0.36	-0.22	-0.09	0.09	0.19	-0.09	0.13	0.35	0.25	-0.14	0.14
End-of-period Inventories (million barrels)															
U.S. Commercial Inventory	1,097	1,122	1,136	1,064	1,057	1,117	1,135	1,090	1,098	1,131	1,144	1,099	1,064	1,090	1,099
OECD Commercial Inventory	2,651	2,645	2,683	2,555	2,567	2,615	2,629	2,598	2,596	2,621	2,625	2,584	2,555	2,598	2,584

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

OPEC = Organization of Petroleum Exporting Countries: Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, Venezuela.

Former Soviet Union = Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly*, DOE/EIA-0109.

Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 3b. Non-OPEC Petroleum and Other Liquids Supply (million barrels per day)

U.S. Energy Information Administration

Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
North America	18.74	18.79	19.53	20.16	20.33	<i>20.84</i>	<i>20.98</i>	<i>21.48</i>	<i>21.70</i>	<i>21.75</i>	<i>21.86</i>	<i>22.34</i>	19.31	<i>20.91</i>	<i>21.91</i>
Canada	4.12	3.86	4.11	4.31	4.37	<i>4.32</i>	<i>4.37</i>	<i>4.53</i>	<i>4.44</i>	<i>4.29</i>	<i>4.44</i>	<i>4.68</i>	4.10	<i>4.40</i>	<i>4.46</i>
Mexico	2.93	2.89	2.88	2.90	2.91	<i>2.89</i>	<i>2.87</i>	<i>2.85</i>	<i>2.90</i>	<i>2.87</i>	<i>2.84</i>	<i>2.81</i>	2.90	<i>2.88</i>	<i>2.85</i>
United States	11.69	12.03	12.54	12.95	13.04	<i>13.64</i>	<i>13.74</i>	<i>14.10</i>	<i>14.36</i>	<i>14.59</i>	<i>14.58</i>	<i>14.85</i>	12.31	<i>13.63</i>	<i>14.60</i>
Central and South America	4.42	5.01	5.26	5.02	4.55	<i>4.99</i>	<i>5.28</i>	<i>5.06</i>	<i>4.58</i>	<i>5.04</i>	<i>5.32</i>	<i>5.10</i>	4.93	<i>4.97</i>	<i>5.01</i>
Argentina	0.69	0.70	0.72	0.72	0.70	<i>0.70</i>	<i>0.73</i>	<i>0.73</i>	<i>0.71</i>	<i>0.71</i>	<i>0.74</i>	<i>0.74</i>	0.71	<i>0.71</i>	<i>0.73</i>
Brazil	2.21	2.80	3.02	2.81	2.34	<i>2.82</i>	<i>3.03</i>	<i>2.83</i>	<i>2.36</i>	<i>2.84</i>	<i>3.06</i>	<i>2.85</i>	2.71	<i>2.75</i>	<i>2.78</i>
Colombia	1.03	1.02	1.04	1.02	1.02	<i>1.00</i>	<i>1.04</i>	<i>1.02</i>	<i>1.02</i>	<i>0.99</i>	<i>1.03</i>	<i>1.02</i>	1.03	<i>1.02</i>	<i>1.02</i>
Other Central and S. America	0.49	0.48	0.48	0.47	0.49	<i>0.48</i>	<i>0.48</i>	<i>0.49</i>	<i>0.50</i>	<i>0.49</i>	<i>0.49</i>	<i>0.49</i>	0.48	<i>0.48</i>	<i>0.49</i>
Europe	3.88	3.83	3.70	3.83	3.86	<i>3.74</i>	<i>3.70</i>	<i>3.65</i>	<i>3.69</i>	<i>3.59</i>	<i>3.54</i>	<i>3.60</i>	3.81	<i>3.74</i>	<i>3.61</i>
Norway	1.82	1.82	1.80	1.82	1.81	<i>1.81</i>	<i>1.82</i>	<i>1.77</i>	<i>1.82</i>	<i>1.80</i>	<i>1.77</i>	<i>1.84</i>	1.81	<i>1.80</i>	<i>1.81</i>
United Kingdom (offshore)	0.89	0.86	0.74	0.86	0.86	<i>0.73</i>	<i>0.69</i>	<i>0.70</i>	<i>0.68</i>	<i>0.62</i>	<i>0.57</i>	<i>0.58</i>	0.84	<i>0.74</i>	<i>0.61</i>
Other North Sea	0.23	0.21	0.20	0.20	0.25	<i>0.26</i>	<i>0.26</i>	<i>0.26</i>	<i>0.28</i>	<i>0.26</i>	<i>0.28</i>	<i>0.26</i>	0.21	<i>0.26</i>	<i>0.27</i>
Former Soviet Union (FSU)	13.54	13.47	13.51	13.74	13.70	<i>13.70</i>	<i>13.69</i>	<i>13.64</i>	<i>13.59</i>	<i>13.57</i>	<i>13.60</i>	<i>13.58</i>	13.56	<i>13.68</i>	<i>13.59</i>
Azerbaijan	0.90	0.89	0.86	0.87	0.85	<i>0.83</i>	<i>0.82</i>	<i>0.81</i>	<i>0.83</i>	<i>0.81</i>	<i>0.79</i>	<i>0.78</i>	0.88	<i>0.83</i>	<i>0.80</i>
Kazakhstan	1.67	1.61	1.61	1.74	1.73	<i>1.74</i>	<i>1.68</i>	<i>1.64</i>	<i>1.64</i>	<i>1.64</i>	<i>1.64</i>	<i>1.63</i>	1.66	<i>1.70</i>	<i>1.64</i>
Russia	10.47	10.47	10.55	10.64	10.60	<i>10.58</i>	<i>10.65</i>	<i>10.65</i>	<i>10.59</i>	<i>10.59</i>	<i>10.65</i>	<i>10.65</i>	10.53	<i>10.62</i>	<i>10.62</i>
Turkmenistan	0.26	0.26	0.26	0.26	0.28	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	0.26	<i>0.29</i>	<i>0.29</i>
Other FSU	0.23	0.23	0.23	0.23	0.24	<i>0.25</i>	<i>0.25</i>	<i>0.24</i>	<i>0.24</i>	<i>0.23</i>	<i>0.23</i>	<i>0.23</i>	0.23	<i>0.25</i>	<i>0.23</i>
Middle East	1.27	1.19	1.21	1.19	1.19	<i>1.22</i>	<i>1.25</i>	<i>1.26</i>	<i>1.28</i>	<i>1.27</i>	<i>1.27</i>	<i>1.27</i>	1.21	<i>1.23</i>	<i>1.27</i>
Oman	0.94	0.94	0.95	0.95	0.96	<i>0.99</i>	<i>1.01</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	0.94	<i>1.00</i>	<i>1.03</i>
Syria	0.10	0.08	0.07	0.05	0.04	<i>0.04</i>	<i>0.04</i>	<i>0.04</i>	<i>0.04</i>	<i>0.04</i>	<i>0.04</i>	<i>0.04</i>	0.07	<i>0.04</i>	<i>0.04</i>
Yemen	0.17	0.11	0.13	0.13	0.13	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>	<i>0.14</i>	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>	0.13	<i>0.13</i>	<i>0.13</i>
Asia and Oceania	9.00	9.03	8.79	8.91	8.91	<i>8.95</i>	<i>9.06</i>	<i>9.09</i>	<i>9.14</i>	<i>9.19</i>	<i>9.23</i>	<i>9.22</i>	8.93	<i>9.00</i>	<i>9.20</i>
Australia	0.41	0.46	0.48	0.44	0.45	<i>0.48</i>	<i>0.49</i>	<i>0.47</i>	<i>0.46</i>	<i>0.47</i>	<i>0.48</i>	<i>0.46</i>	0.45	<i>0.47</i>	<i>0.47</i>
China	4.45	4.48	4.37	4.52	4.46	<i>4.48</i>	<i>4.53</i>	<i>4.54</i>	<i>4.57</i>	<i>4.60</i>	<i>4.61</i>	<i>4.61</i>	4.45	<i>4.50</i>	<i>4.60</i>
India	0.98	0.99	0.97	0.98	0.98	<i>0.98</i>	<i>1.00</i>	<i>1.00</i>	<i>1.01</i>	<i>1.01</i>	<i>1.02</i>	<i>1.03</i>	0.98	<i>0.99</i>	<i>1.02</i>
Indonesia	0.97	0.97	0.92	0.91	0.91	<i>0.91</i>	<i>0.92</i>	<i>0.92</i>	<i>0.92</i>	<i>0.92</i>	<i>0.93</i>	<i>0.94</i>	0.94	<i>0.92</i>	<i>0.93</i>
Malaysia	0.66	0.63	0.62	0.62	0.63	<i>0.62</i>	<i>0.63</i>	<i>0.64</i>	<i>0.66</i>	<i>0.66</i>	<i>0.68</i>	<i>0.68</i>	0.63	<i>0.63</i>	<i>0.67</i>
Vietnam	0.36	0.36	0.34	0.34	0.35	<i>0.36</i>	<i>0.38</i>	<i>0.39</i>	<i>0.39</i>	<i>0.39</i>	<i>0.39</i>	<i>0.39</i>	0.35	<i>0.37</i>	<i>0.39</i>
Africa	2.21	2.32	2.39	2.46	2.32	<i>2.32</i>	<i>2.30</i>	<i>2.28</i>	<i>2.22</i>	<i>2.21</i>	<i>2.23</i>	<i>2.25</i>	2.35	<i>2.31</i>	<i>2.23</i>
Egypt	0.71	0.70	0.69	0.68	0.67	<i>0.67</i>	<i>0.66</i>	<i>0.65</i>	<i>0.64</i>	<i>0.63</i>	<i>0.62</i>	<i>0.61</i>	0.69	<i>0.66</i>	<i>0.63</i>
Equatorial Guinea	0.28	0.28	0.30	0.31	0.27	<i>0.27</i>	<i>0.27</i>	<i>0.27</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	0.29	<i>0.27</i>	<i>0.24</i>
Gabon	0.24	0.24	0.24	0.24	0.24	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.23</i>	<i>0.23</i>	0.24	<i>0.24</i>	<i>0.24</i>
Sudan	0.11	0.24	0.30	0.35	0.26	<i>0.26</i>	<i>0.26</i>	<i>0.26</i>	<i>0.25</i>	<i>0.25</i>	<i>0.28</i>	<i>0.31</i>	0.25	<i>0.26</i>	<i>0.27</i>
Total non-OPEC liquids	53.04	53.63	54.40	55.30	54.86	<i>55.75</i>	<i>56.25</i>	<i>56.47</i>	<i>56.20</i>	<i>56.62</i>	<i>57.05</i>	<i>57.36</i>	54.10	<i>55.84</i>	<i>56.81</i>
OPEC non-crude liquids	6.23	6.22	6.21	6.25	6.30	<i>6.27</i>	<i>6.31</i>	<i>6.47</i>	<i>6.53</i>	<i>6.57</i>	<i>6.65</i>	<i>6.68</i>	6.23	<i>6.34</i>	<i>6.61</i>
Non-OPEC + OPEC non-crude	59.28	59.85	60.61	61.55	61.15	<i>62.02</i>	<i>62.57</i>	<i>62.94</i>	<i>62.74</i>	<i>63.18</i>	<i>63.70</i>	<i>64.05</i>	60.33	<i>62.18</i>	<i>63.42</i>
Unplanned non-OPEC Production Outages	0.91	0.90	0.88	0.64	0.66	<i>0.66</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	0.83	<i>n/a</i>	<i>n/a</i>

- = no data available

Former Soviet Union = Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Sudan production represents total production from both north and south.

OPEC = Organization of Petroleum Exporting Countries: Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 3c. OPEC Crude Oil (excluding condensates) Supply (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Crude Oil															
Algeria	1.20	1.20	1.20	1.17	1.17	<i>1.15</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	1.19	<i>n/a</i>	<i>n/a</i>
Angola	1.75	1.78	1.70	1.73	1.62	<i>1.65</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	1.74	<i>n/a</i>	<i>n/a</i>
Ecuador	0.51	0.52	0.53	0.54	0.55	<i>0.54</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	0.53	<i>n/a</i>	<i>n/a</i>
Iran	2.68	2.68	2.68	2.69	2.80	<i>2.80</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	2.68	<i>n/a</i>	<i>n/a</i>
Iraq	3.05	3.09	3.04	2.93	3.26	<i>3.27</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	3.03	<i>n/a</i>	<i>n/a</i>
Kuwait	2.60	2.60	2.60	2.60	2.60	<i>2.60</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	2.60	<i>n/a</i>	<i>n/a</i>
Libya	1.37	1.33	0.65	0.33	0.38	<i>0.23</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	0.92	<i>n/a</i>	<i>n/a</i>
Nigeria	1.97	1.94	1.98	1.91	1.93	<i>1.94</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	1.95	<i>n/a</i>	<i>n/a</i>
Qatar	0.73	0.73	0.73	0.73	0.74	<i>0.75</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	0.73	<i>n/a</i>	<i>n/a</i>
Saudi Arabia	9.10	9.60	10.10	9.77	9.80	<i>9.65</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	9.64	<i>n/a</i>	<i>n/a</i>
United Arab Emirates	2.70	2.70	2.70	2.70	2.70	<i>2.70</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	2.70	<i>n/a</i>	<i>n/a</i>
Venezuela	2.20	2.20	2.20	2.20	2.20	<i>2.20</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	2.20	<i>n/a</i>	<i>n/a</i>
OPEC Total	29.85	30.38	30.12	29.30	29.75	<i>29.48</i>	<i>29.86</i>	<i>29.27</i>	<i>29.30</i>	<i>29.55</i>	<i>29.91</i>	<i>29.30</i>	29.91	<i>29.59</i>	<i>29.52</i>
Other Liquids	6.23	6.22	6.21	6.25	6.30	<i>6.27</i>	<i>6.31</i>	<i>6.47</i>	<i>6.53</i>	<i>6.57</i>	<i>6.65</i>	<i>6.68</i>	6.23	<i>6.34</i>	<i>6.61</i>
Total OPEC Supply	36.09	36.61	36.33	35.55	36.05	<i>35.75</i>	<i>36.17</i>	<i>35.74</i>	<i>35.84</i>	<i>36.12</i>	<i>36.56</i>	<i>35.98</i>	36.14	<i>35.93</i>	<i>36.13</i>
Crude Oil Production Capacity															
Africa	6.28	6.26	5.52	5.14	5.09	<i>4.96</i>	<i>5.15</i>	<i>5.21</i>	<i>5.27</i>	<i>5.42</i>	<i>5.57</i>	<i>5.72</i>	5.80	<i>5.10</i>	<i>5.50</i>
South America	2.71	2.72	2.73	2.74	2.75	<i>2.74</i>	<i>2.75</i>	<i>2.75</i>	<i>2.76</i>	<i>2.75</i>	<i>2.76</i>	<i>2.76</i>	2.72	<i>2.75</i>	<i>2.76</i>
Middle East	23.56	23.62	23.53	23.42	23.85	<i>23.88</i>	<i>23.68</i>	<i>23.71</i>	<i>23.88</i>	<i>23.93</i>	<i>23.97</i>	<i>24.00</i>	23.53	<i>23.78</i>	<i>23.95</i>
OPEC Total	32.55	32.60	31.78	31.29	31.69	<i>31.58</i>	<i>31.58</i>	<i>31.67</i>	<i>31.91</i>	<i>32.11</i>	<i>32.30</i>	<i>32.48</i>	32.05	<i>31.63</i>	<i>32.20</i>
Surplus Crude Oil Production Capacity															
Africa	0.00	0.00	0.00	0.00	0.00	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>
South America	0.00	0.00	0.00	0.00	0.00	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>
Middle East	2.69	2.21	1.67	1.99	1.93	<i>2.11</i>	<i>1.72</i>	<i>2.39</i>	<i>2.61</i>	<i>2.56</i>	<i>2.39</i>	<i>3.18</i>	2.14	<i>2.04</i>	<i>2.68</i>
OPEC Total	2.69	2.21	1.67	1.99	1.93	<i>2.11</i>	<i>1.72</i>	<i>2.39</i>	<i>2.61</i>	<i>2.56</i>	<i>2.39</i>	<i>3.18</i>	2.14	<i>2.04</i>	<i>2.68</i>
Unplanned OPEC Production Outages	1.40	1.48	2.21	2.55	2.39	<i>2.70</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	1.91	<i>n/a</i>	<i>n/a</i>

- = no data available

OPEC = Organization of Petroleum Exporting Countries: Algeria, Angola, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirate (Middle East).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 3d. World Liquid Fuels Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				2013	2014	2015
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
North America	22.99	23.07	23.50	23.60	23.14	<i>23.20</i>	<i>23.47</i>	<i>23.40</i>	<i>23.25</i>	<i>23.27</i>	<i>23.58</i>	<i>23.54</i>	23.29	<i>23.30</i>	<i>23.41</i>
Canada	2.28	2.31	2.31	2.26	2.30	<i>2.27</i>	<i>2.37</i>	<i>2.35</i>	<i>2.34</i>	<i>2.28</i>	<i>2.39</i>	<i>2.37</i>	2.29	<i>2.32</i>	<i>2.34</i>
Mexico	2.11	2.14	2.09	2.08	2.02	<i>2.10</i>	<i>2.12</i>	<i>2.13</i>	<i>2.10</i>	<i>2.12</i>	<i>2.09</i>	<i>2.10</i>	2.11	<i>2.09</i>	<i>2.10</i>
United States	18.59	18.61	19.08	19.25	18.81	<i>18.83</i>	<i>18.97</i>	<i>18.91</i>	<i>18.80</i>	<i>18.86</i>	<i>19.09</i>	<i>19.06</i>	18.89	<i>18.88</i>	<i>18.95</i>
Central and South America	6.73	6.99	7.01	6.99	6.92	<i>7.17</i>	<i>7.21</i>	<i>7.18</i>	<i>7.11</i>	<i>7.37</i>	<i>7.41</i>	<i>7.39</i>	6.93	<i>7.12</i>	<i>7.32</i>
Brazil	2.83	2.94	3.00	2.99	2.97	<i>3.08</i>	<i>3.15</i>	<i>3.14</i>	<i>3.12</i>	<i>3.24</i>	<i>3.31</i>	<i>3.29</i>	2.94	<i>3.09</i>	<i>3.24</i>
Europe	13.89	14.52	14.68	14.27	13.81	<i>14.19</i>	<i>14.48</i>	<i>14.44</i>	<i>14.28</i>	<i>14.01</i>	<i>14.47</i>	<i>14.43</i>	14.34	<i>14.23</i>	<i>14.30</i>
Former Soviet Union	4.58	4.52	4.79	4.77	4.66	<i>4.59</i>	<i>4.86</i>	<i>4.84</i>	<i>4.71</i>	<i>4.64</i>	<i>4.91</i>	<i>4.89</i>	4.66	<i>4.74</i>	<i>4.79</i>
Russia	3.24	3.19	3.38	3.37	3.27	<i>3.22</i>	<i>3.41</i>	<i>3.40</i>	<i>3.27</i>	<i>3.23</i>	<i>3.42</i>	<i>3.40</i>	3.30	<i>3.33</i>	<i>3.33</i>
Middle East	7.39	7.83	8.45	7.73	7.74	<i>8.10</i>	<i>8.75</i>	<i>7.95</i>	<i>7.92</i>	<i>8.50</i>	<i>9.07</i>	<i>8.23</i>	7.85	<i>8.14</i>	<i>8.43</i>
Asia and Oceania	30.36	29.64	29.35	30.59	30.74	<i>30.47</i>	<i>30.07</i>	<i>30.96</i>	<i>31.30</i>	<i>31.19</i>	<i>30.69</i>	<i>31.58</i>	29.98	<i>30.56</i>	<i>31.19</i>
China	10.54	10.61	10.56	10.92	10.65	<i>11.23</i>	<i>11.19</i>	<i>11.14</i>	<i>11.07</i>	<i>11.67</i>	<i>11.63</i>	<i>11.58</i>	10.66	<i>11.05</i>	<i>11.49</i>
Japan	5.08	4.11	4.32	4.75	5.03	<i>4.02</i>	<i>4.15</i>	<i>4.54</i>	<i>4.72</i>	<i>3.97</i>	<i>4.00</i>	<i>4.39</i>	4.56	<i>4.43</i>	<i>4.27</i>
India	3.78	3.77	3.45	3.73	3.89	<i>3.87</i>	<i>3.55</i>	<i>3.84</i>	<i>3.99</i>	<i>3.97</i>	<i>3.64</i>	<i>3.94</i>	3.68	<i>3.78</i>	<i>3.88</i>
Africa	3.44	3.44	3.39	3.41	3.55	<i>3.55</i>	<i>3.50</i>	<i>3.52</i>	<i>3.67</i>	<i>3.67</i>	<i>3.62</i>	<i>3.64</i>	3.42	<i>3.53</i>	<i>3.65</i>
Total OECD Liquid Fuels Consumption	45.82	45.51	46.24	46.52	45.89	<i>45.27</i>	<i>45.89</i>	<i>46.41</i>	<i>46.36</i>	<i>45.15</i>	<i>45.91</i>	<i>46.43</i>	46.02	<i>45.87</i>	<i>45.96</i>
Total non-OECD Liquid Fuels Consumption	43.57	44.50	44.92	44.85	44.65	<i>46.01</i>	<i>46.44</i>	<i>45.90</i>	<i>45.87</i>	<i>47.49</i>	<i>47.84</i>	<i>47.26</i>	44.46	<i>45.76</i>	<i>47.12</i>
Total World Liquid Fuels Consumption	89.39	90.00	91.16	91.37	90.55	<i>91.27</i>	<i>92.34</i>	<i>92.31</i>	<i>92.23</i>	<i>92.64</i>	<i>93.75</i>	<i>93.70</i>	90.49	<i>91.62</i>	<i>93.08</i>
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2010 Q1 = 100	109.9	110.8	111.7	112.6	113.0	<i>113.8</i>	<i>114.9</i>	<i>115.9</i>	<i>116.7</i>	<i>117.7</i>	<i>118.9</i>	<i>119.9</i>	111.3	<i>114.4</i>	<i>118.3</i>
Percent change from prior year	2.1	2.5	2.7	3.1	2.9	<i>2.7</i>	<i>2.9</i>	<i>2.9</i>	<i>3.3</i>	<i>3.4</i>	<i>3.5</i>	<i>3.4</i>	2.6	<i>2.8</i>	<i>3.4</i>
OECD Index, 2010 Q1 = 100	105.4	105.9	106.7	107.2	107.5	<i>108.0</i>	<i>108.7</i>	<i>109.4</i>	<i>110.1</i>	<i>110.8</i>	<i>111.6</i>	<i>112.2</i>	106.3	<i>108.4</i>	<i>111.1</i>
Percent change from prior year	0.7	1.1	1.6	2.1	2.0	<i>1.9</i>	<i>1.9</i>	<i>2.1</i>	<i>2.4</i>	<i>2.6</i>	<i>2.6</i>	<i>2.5</i>	1.4	<i>2.0</i>	<i>2.5</i>
Non-OECD Index, 2010 Q1 = 100	115.6	117.0	118.2	119.6	120.1	<i>121.4</i>	<i>122.9</i>	<i>124.3</i>	<i>125.4</i>	<i>126.8</i>	<i>128.5</i>	<i>130.0</i>	117.6	<i>122.2</i>	<i>127.7</i>
Percent change from prior year	3.8	4.1	4.1	4.3	3.9	<i>3.7</i>	<i>4.0</i>	<i>3.9</i>	<i>4.3</i>	<i>4.5</i>	<i>4.5</i>	<i>4.5</i>	4.1	<i>3.9</i>	<i>4.5</i>
Real U.S. Dollar Exchange Rate (a)															
Index, January 2010 = 100	104.07	105.58	106.88	106.36	107.92	<i>107.77</i>	<i>108.73</i>	<i>109.43</i>	<i>109.88</i>	<i>110.04</i>	<i>110.10</i>	<i>110.13</i>	105.72	<i>108.46</i>	<i>110.04</i>
Percent change from prior year	3.8	3.6	4.1	3.0	3.7	<i>2.1</i>	<i>1.7</i>	<i>2.9</i>	<i>1.8</i>	<i>2.1</i>	<i>1.3</i>	<i>0.6</i>	3.6	<i>2.6</i>	<i>1.5</i>

- = no data available

Former Soviet Union = Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

OECD = Organisation for Economic Co-operation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Finland,

France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal,

Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.**Historical data:** Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	7.10	7.27	7.54	7.85	8.06	8.40	8.51	8.86	9.13	9.28	9.24	9.47	7.44	8.46	9.28
Alaska	0.54	0.51	0.48	0.53	0.53	0.48	0.42	0.49	0.48	0.45	0.40	0.47	0.51	0.48	0.45
Federal Gulf of Mexico (b)	1.30	1.22	1.24	1.25	1.30	1.40	1.38	1.54	1.69	1.73	1.62	1.67	1.25	1.40	1.68
Lower 48 States (excl GOM)	5.26	5.54	5.82	6.06	6.23	6.52	6.71	6.83	6.96	7.10	7.22	7.33	5.67	6.57	7.15
Crude Oil Net Imports (c)	7.47	7.61	7.94	7.37	7.11	7.15	6.96	6.32	6.05	6.13	6.49	5.84	7.60	6.88	6.13
SPR Net Withdrawals	-0.01	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Commercial Inventory Net Withdrawals	-0.30	0.18	0.05	0.15	-0.29	0.00	0.13	0.11	-0.32	0.05	0.12	0.11	0.02	-0.01	-0.01
Crude Oil Adjustment (d)	0.24	0.28	0.30	0.20	0.31	0.26	0.21	0.13	0.18	0.18	0.21	0.12	0.26	0.23	0.17
Total Crude Oil Input to Refineries	14.51	15.33	15.83	15.57	15.18	15.85	15.81	15.42	15.04	15.65	16.05	15.55	15.31	15.57	15.58
Other Supply															
Refinery Processing Gain	1.05	1.08	1.14	1.13	1.07	1.09	1.10	1.09	1.06	1.09	1.11	1.09	1.10	1.09	1.09
Natural Gas Plant Liquids Production	2.43	2.48	2.64	2.68	2.71	2.91	2.88	2.90	2.91	2.96	2.97	3.03	2.56	2.85	2.97
Renewables and Oxygenate Production (e)	0.92	1.00	1.01	1.08	1.01	1.04	1.06	1.06	1.06	1.05	1.06	1.06	1.00	1.04	1.06
Fuel Ethanol Production	0.81	0.87	0.86	0.93	0.91	0.93	0.94	0.94	0.95	0.94	0.94	0.94	0.87	0.93	0.94
Petroleum Products Adjustment (f)	0.19	0.20	0.22	0.21	0.19	0.20	0.19	0.19	0.20	0.20	0.20	0.20	0.21	0.20	0.20
Product Net Imports (c)	-0.96	-1.04	-1.54	-2.05	-1.73	-1.61	-1.75	-2.14	-1.70	-1.68	-2.06	-2.25	-1.40	-1.81	-1.92
Pentanes Plus	-0.09	-0.05	-0.14	-0.15	-0.15	-0.15	-0.13	-0.12	-0.13	-0.11	-0.14	-0.14	-0.11	-0.14	-0.13
Liquefied Petroleum Gas (g)	-0.06	-0.20	-0.23	-0.25	-0.21	-0.37	-0.47	-0.45	-0.43	-0.47	-0.44	-0.43	-0.18	-0.38	-0.44
Unfinished Oils	0.58	0.68	0.74	0.61	0.46	0.60	0.69	0.59	0.52	0.65	0.65	0.57	0.65	0.59	0.60
Other HC/Oxygenates	-0.06	-0.06	-0.04	-0.05	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.10	-0.09	-0.05	-0.09	-0.09
Motor Gasoline Blend Comp.	0.40	0.59	0.44	0.35	0.29	0.56	0.60	0.48	0.52	0.57	0.56	0.48	0.45	0.48	0.53
Finished Motor Gasoline	-0.41	-0.26	-0.32	-0.51	-0.41	-0.36	-0.38	-0.55	-0.47	-0.29	-0.41	-0.56	-0.38	-0.43	-0.43
Jet Fuel	-0.10	-0.07	-0.08	-0.11	-0.07	0.00	-0.09	-0.09	-0.08	-0.08	-0.11	-0.10	-0.09	-0.06	-0.09
Distillate Fuel Oil	-0.62	-0.89	-1.23	-1.12	-0.67	-1.01	-1.15	-1.12	-0.77	-0.97	-1.21	-1.12	-0.97	-0.99	-1.02
Residual Fuel Oil	-0.10	-0.21	-0.09	-0.14	-0.24	-0.20	-0.17	-0.18	-0.22	-0.25	-0.24	-0.23	-0.14	-0.20	-0.24
Other Oils (h)	-0.51	-0.56	-0.58	-0.66	-0.64	-0.59	-0.56	-0.59	-0.56	-0.63	-0.62	-0.63	-0.58	-0.60	-0.61
Product Inventory Net Withdrawals	0.47	-0.45	-0.20	0.63	0.37	-0.66	-0.32	0.38	0.23	-0.41	-0.26	0.38	0.11	-0.06	-0.02
Total Supply	18.62	18.61	19.08	19.25	18.81	18.71	18.97	18.91	18.80	18.86	19.09	19.06	18.89	18.85	18.95
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids and Other Liquids															
Pentanes Plus	0.02	0.07	0.02	0.05	0.03	0.01	0.05	0.06	0.04	0.05	0.06	0.06	0.04	0.04	0.05
Liquefied Petroleum Gas (g)	2.67	2.10	2.19	2.67	2.63	2.08	2.20	2.56	2.62	2.19	2.28	2.64	2.41	2.37	2.43
Unfinished Oils	0.05	0.06	0.11	0.26	0.08	0.07	0.05	0.07	0.05	0.04	0.03	0.06	0.12	0.06	0.04
Finished Liquid Fuels															
Motor Gasoline	8.42	8.91	9.02	8.75	8.52	9.01	8.98	8.71	8.51	8.98	8.99	8.71	8.77	8.81	8.80
Fuel Ethanol blended into Motor Gasoline	0.81	0.89	0.86	0.87	0.84	0.88	0.89	0.88	0.86	0.89	0.88	0.87	0.86	0.87	0.88
Jet Fuel	1.33	1.42	1.49	1.44	1.40	1.49	1.45	1.38	1.37	1.45	1.45	1.38	1.42	1.43	1.41
Distillate Fuel Oil	3.93	3.77	3.67	3.97	4.17	3.92	3.77	3.96	4.14	3.93	3.88	4.10	3.84	3.95	4.01
Residual Fuel Oil	0.36	0.27	0.37	0.28	0.23	0.24	0.30	0.27	0.25	0.22	0.23	0.22	0.32	0.26	0.23
Other Oils (h)	1.82	2.01	2.20	1.84	1.75	2.01	2.16	1.90	1.81	2.00	2.16	1.88	1.97	1.96	1.97
Total Consumption	18.59	18.61	19.08	19.25	18.81	18.83	18.97	18.91	18.80	18.86	19.09	19.06	18.89	18.88	18.95
Total Liquid Fuels Net Imports	6.52	6.57	6.40	5.33	5.38	5.53	5.22	4.18	4.34	4.45	4.43	3.59	6.20	5.08	4.20
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	392.1	375.7	371.2	357.6	383.7	383.8	372.3	361.9	390.3	386.0	375.3	365.1	357.6	361.9	365.1
Pentanes Plus	13.0	16.8	18.0	14.3	13.0	15.0	15.8	14.2	13.9	15.8	16.7	15.1	14.3	14.2	15.1
Liquefied Petroleum Gas (g)	103.0	142.4	171.6	112.7	85.1	146.4	173.1	130.6	102.5	145.6	173.1	134.3	112.7	130.6	134.3
Unfinished Oils	89.9	86.8	82.8	78.1	91.3	86.8	84.9	79.9	89.8	87.4	85.4	80.2	78.1	79.9	80.2
Other HC/Oxygenates	22.1	20.0	20.2	21.6	22.6	23.4	23.0	23.6	26.0	24.6	23.9	24.3	21.6	23.6	24.3
Total Motor Gasoline	224.9	224.9	219.3	228.1	220.9	214.2	215.6	226.9	225.5	218.9	216.7	227.2	228.1	226.9	227.2
Finished Motor Gasoline	48.5	50.1	40.4	39.7	34.3	29.7	32.8	34.1	30.9	31.5	31.0	32.6	39.7	34.1	32.6
Motor Gasoline Blend Comp.	176.4	174.9	178.8	188.3	186.6	184.6	182.8	192.8	194.6	187.4	185.7	194.5	188.3	192.8	194.5
Jet Fuel	39.9	40.5	41.1	37.2	36.0	37.1	39.6	37.9	38.4	39.8	40.7	38.2	37.2	37.9	38.2
Distillate Fuel Oil	118.6	122.3	128.6	127.3	115.3	122.0	131.6	133.2	121.0	124.9	133.3	133.6	127.3	133.2	133.6
Residual Fuel Oil	36.9	37.5	35.7	37.7	36.4	36.9	35.7	36.4	37.1	36.2	34.9	35.5	37.7	36.4	35.5
Other Oils (h)	56.6	54.9	47.2	49.4	52.8	51.5	43.9	45.3	53.4	52.0	44.2	45.7	49.4	45.3	45.7
Total Commercial Inventory	1,097	1,122	1,136	1,064	1,057	1,117	1,135	1,090	1,098	1,131	1,144	1,099	1,064	1,090	1,099
Crude Oil in SPR	696	696	696	696	696	691	691	691	691	691	691	691	696	691	691

- = no data available

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Liquefied Petroleum Gas" includes ethane, propane, butanes and refinery olefins.

(h) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109;

Petroleum Supply Annual, DOE/EIA-0340/2; and *Weekly Petroleum Status Report*, DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 4b. U.S. Petroleum Refinery Balance (Million Barrels per Day, Except Utilization Factor)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Refinery and Blender Net Inputs															
Crude Oil	14.51	15.33	15.83	15.57	<i>15.18</i>	<i>15.85</i>	<i>15.81</i>	<i>15.42</i>	<i>15.04</i>	<i>15.65</i>	<i>16.05</i>	<i>15.55</i>	15.31	<i>15.57</i>	<i>15.58</i>
Pentanes Plus	0.18	0.15	0.17	0.16	<i>0.14</i>	<i>0.16</i>	<i>0.17</i>	<i>0.18</i>	<i>0.16</i>	<i>0.17</i>	<i>0.17</i>	<i>0.18</i>	0.17	<i>0.16</i>	<i>0.17</i>
Liquefied Petroleum Gas (a)	0.33	0.26	0.30	0.42	<i>0.37</i>	<i>0.27</i>	<i>0.29</i>	<i>0.41</i>	<i>0.35</i>	<i>0.28</i>	<i>0.30</i>	<i>0.42</i>	0.33	<i>0.33</i>	<i>0.34</i>
Other Hydrocarbons/Oxygenates	1.03	1.11	1.15	1.14	<i>1.08</i>	<i>1.13</i>	<i>1.12</i>	<i>1.11</i>	<i>1.10</i>	<i>1.15</i>	<i>1.13</i>	<i>1.12</i>	1.11	<i>1.11</i>	<i>1.13</i>
Unfinished Oils	0.44	0.65	0.67	0.40	<i>0.24</i>	<i>0.58</i>	<i>0.66</i>	<i>0.58</i>	<i>0.36</i>	<i>0.64</i>	<i>0.64</i>	<i>0.57</i>	0.54	<i>0.52</i>	<i>0.55</i>
Motor Gasoline Blend Components	0.42	0.66	0.40	0.45	<i>0.71</i>	<i>1.09</i>	<i>0.78</i>	<i>0.54</i>	<i>0.69</i>	<i>0.83</i>	<i>0.75</i>	<i>0.56</i>	0.48	<i>0.78</i>	<i>0.71</i>
Aviation Gasoline Blend Components	0.00	0.00	0.00	0.00	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>
Total Refinery and Blender Net Inputs	16.92	18.16	18.52	18.15	<i>17.73</i>	<i>19.09</i>	<i>18.83</i>	<i>18.23</i>	<i>17.70</i>	<i>18.71</i>	<i>19.04</i>	<i>18.40</i>	17.94	<i>18.47</i>	<i>18.47</i>
Refinery Processing Gain	1.05	1.08	1.14	1.13	<i>1.07</i>	<i>1.09</i>	<i>1.10</i>	<i>1.09</i>	<i>1.06</i>	<i>1.09</i>	<i>1.11</i>	<i>1.09</i>	1.10	<i>1.09</i>	<i>1.09</i>
Refinery and Blender Net Production															
Liquefied Petroleum Gas (a)	0.52	0.85	0.78	0.37	<i>0.54</i>	<i>0.86</i>	<i>0.75</i>	<i>0.41</i>	<i>0.52</i>	<i>0.83</i>	<i>0.74</i>	<i>0.42</i>	0.63	<i>0.64</i>	<i>0.63</i>
Finished Motor Gasoline	8.77	9.20	9.24	9.44	<i>9.26</i>	<i>9.83</i>	<i>9.54</i>	<i>9.43</i>	<i>9.12</i>	<i>9.45</i>	<i>9.55</i>	<i>9.45</i>	9.17	<i>9.52</i>	<i>9.40</i>
Jet Fuel	1.43	1.50	1.57	1.50	<i>1.45</i>	<i>1.51</i>	<i>1.57</i>	<i>1.46</i>	<i>1.46</i>	<i>1.54</i>	<i>1.57</i>	<i>1.46</i>	1.50	<i>1.50</i>	<i>1.51</i>
Distillate Fuel	4.35	4.66	4.92	5.00	<i>4.66</i>	<i>4.96</i>	<i>4.98</i>	<i>5.05</i>	<i>4.72</i>	<i>4.89</i>	<i>5.13</i>	<i>5.18</i>	4.73	<i>4.91</i>	<i>4.98</i>
Residual Fuel	0.49	0.49	0.44	0.45	<i>0.46</i>	<i>0.44</i>	<i>0.46</i>	<i>0.46</i>	<i>0.47</i>	<i>0.47</i>	<i>0.46</i>	<i>0.46</i>	0.47	<i>0.45</i>	<i>0.46</i>
Other Oils (b)	2.41	2.55	2.70	2.53	<i>2.43</i>	<i>2.58</i>	<i>2.64</i>	<i>2.51</i>	<i>2.47</i>	<i>2.61</i>	<i>2.70</i>	<i>2.53</i>	2.55	<i>2.54</i>	<i>2.58</i>
Total Refinery and Blender Net Production	17.97	19.24	19.66	19.28	<i>18.80</i>	<i>20.18</i>	<i>19.93</i>	<i>19.32</i>	<i>18.76</i>	<i>19.81</i>	<i>20.16</i>	<i>19.49</i>	19.04	<i>19.56</i>	<i>19.56</i>
Refinery Distillation Inputs	14.82	15.77	16.32	16.00	<i>15.51</i>	<i>16.09</i>	<i>16.11</i>	<i>15.79</i>	<i>15.36</i>	<i>15.96</i>	<i>16.40</i>	<i>15.93</i>	15.73	<i>15.88</i>	<i>15.92</i>
Refinery Operable Distillation Capacity	17.81	17.82	17.82	17.82	<i>17.93</i>	<i>17.93</i>	<i>17.93</i>	<i>17.93</i>	<i>17.93</i>	<i>17.93</i>	<i>17.93</i>	<i>17.93</i>	17.82	<i>17.93</i>	<i>17.93</i>
Refinery Distillation Utilization Factor	0.83	0.89	0.92	0.90	<i>0.87</i>	<i>0.90</i>	<i>0.90</i>	<i>0.88</i>	<i>0.86</i>	<i>0.89</i>	<i>0.91</i>	<i>0.89</i>	0.88	<i>0.89</i>	<i>0.89</i>

- = no data available

(a) "Liquefied Petroleum Gas" includes ethane, propane, butanes and refinery olefins.

(b) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109; *Petroleum Supply Annual*, DOE/EIA-0340/2; *Weekly Petroleum Status Report*, DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Prices (cents per gallon)															
Refiner Wholesale Price	289	290	288	259	272	<i>298</i>	<i>296</i>	<i>272</i>	<i>274</i>	<i>289</i>	<i>282</i>	<i>261</i>	281	<i>285</i>	<i>276</i>
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	361	350	355	334	344	<i>366</i>	<i>360</i>	<i>341</i>	<i>338</i>	<i>353</i>	<i>346</i>	<i>332</i>	350	<i>353</i>	<i>343</i>
PADD 2	350	368	352	319	337	<i>365</i>	<i>362</i>	<i>333</i>	<i>334</i>	<i>355</i>	<i>349</i>	<i>323</i>	347	<i>349</i>	<i>341</i>
PADD 3	339	336	337	308	318	<i>345</i>	<i>345</i>	<i>320</i>	<i>323</i>	<i>342</i>	<i>331</i>	<i>309</i>	330	<i>332</i>	<i>326</i>
PADD 4	323	361	362	324	326	<i>350</i>	<i>363</i>	<i>339</i>	<i>325</i>	<i>352</i>	<i>352</i>	<i>328</i>	343	<i>345</i>	<i>340</i>
PADD 5	382	390	385	355	362	<i>401</i>	<i>394</i>	<i>371</i>	<i>367</i>	<i>386</i>	<i>384</i>	<i>362</i>	378	<i>383</i>	<i>375</i>
U.S. Average	357	360	357	329	340	<i>368</i>	<i>364</i>	<i>340</i>	<i>339</i>	<i>358</i>	<i>351</i>	<i>331</i>	351	<i>354</i>	<i>345</i>
Gasoline All Grades Including Taxes	363	367	364	337	348	<i>375</i>	<i>371</i>	<i>347</i>	<i>346</i>	<i>364</i>	<i>358</i>	<i>338</i>	358	<i>361</i>	<i>352</i>
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	59.5	62.0	58.1	61.1	57.7	<i>60.4</i>	<i>55.9</i>	<i>58.9</i>	<i>56.8</i>	<i>57.3</i>	<i>56.1</i>	<i>58.8</i>	61.1	<i>58.9</i>	<i>58.8</i>
PADD 2	53.8	49.3	49.8	51.6	49.0	<i>48.5</i>	<i>49.8</i>	<i>50.4</i>	<i>51.5</i>	<i>49.2</i>	<i>49.7</i>	<i>50.1</i>	51.6	<i>50.4</i>	<i>50.1</i>
PADD 3	75.8	78.0	77.0	76.3	77.7	<i>70.9</i>	<i>75.1</i>	<i>79.0</i>	<i>79.4</i>	<i>77.6</i>	<i>75.9</i>	<i>79.7</i>	76.3	<i>79.0</i>	<i>79.7</i>
PADD 4	6.8	6.5	6.3	7.1	6.5	<i>6.3</i>	<i>6.5</i>	<i>7.0</i>	<i>6.8</i>	<i>6.5</i>	<i>6.6</i>	<i>7.1</i>	7.1	<i>7.0</i>	<i>7.1</i>
PADD 5	29.1	29.1	28.2	32.1	30.0	<i>28.0</i>	<i>28.3</i>	<i>31.6</i>	<i>31.0</i>	<i>28.3</i>	<i>28.4</i>	<i>31.4</i>	32.1	<i>31.6</i>	<i>31.4</i>
U.S. Total	224.9	224.9	219.3	228.1	220.9	<i>214.2</i>	<i>215.6</i>	<i>226.9</i>	<i>225.5</i>	<i>218.9</i>	<i>216.7</i>	<i>227.2</i>	228.1	<i>226.9</i>	<i>227.2</i>
Finished Gasoline Inventories															
U.S. Total	48.5	50.1	40.4	39.7	34.3	<i>29.7</i>	<i>32.8</i>	<i>34.1</i>	<i>30.9</i>	<i>31.5</i>	<i>31.0</i>	<i>32.6</i>	39.7	<i>34.1</i>	<i>32.6</i>
Gasoline Blending Components Inventories															
U.S. Total	176.4	174.9	178.8	188.3	186.6	<i>184.6</i>	<i>182.8</i>	<i>192.8</i>	<i>194.6</i>	<i>187.4</i>	<i>185.7</i>	<i>194.5</i>	188.3	<i>192.8</i>	<i>194.5</i>

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to Petroleum Administration for Defense Districts (PADD).

 See "Petroleum for Administration Defense District" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380; *Petroleum Supply Monthly*, DOE/EIA-0109; *Petroleum Supply Annual*, DOE/EIA-0340/2; and *Weekly Petroleum Status Report*, DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Supply (billion cubic feet per day)															
Total Marketed Production	68.95	69.77	70.52	71.46	72.06	<i>73.50</i>	<i>73.24</i>	<i>73.48</i>	<i>73.71</i>	<i>73.93</i>	<i>73.94</i>	<i>74.33</i>	70.18	<i>73.08</i>	<i>73.98</i>
Alaska	1.04	0.91	0.79	0.96	0.99	<i>0.89</i>	<i>0.80</i>	<i>0.94</i>	<i>0.98</i>	<i>0.83</i>	<i>0.75</i>	<i>0.91</i>	0.93	<i>0.91</i>	<i>0.87</i>
Federal GOM (a)	3.93	3.64	3.44	3.36	3.22	<i>3.37</i>	<i>3.09</i>	<i>3.15</i>	<i>3.26</i>	<i>3.25</i>	<i>3.06</i>	<i>3.07</i>	3.59	<i>3.20</i>	<i>3.16</i>
Lower 48 States (excl GOM)	63.97	65.21	66.28	67.14	67.86	<i>69.24</i>	<i>69.36</i>	<i>69.39</i>	<i>69.47</i>	<i>69.85</i>	<i>70.13</i>	<i>70.35</i>	65.66	<i>68.97</i>	<i>69.95</i>
Total Dry Gas Production	65.46	66.21	66.76	67.64	68.07	<i>69.40</i>	<i>69.17</i>	<i>69.40</i>	<i>69.62</i>	<i>69.83</i>	<i>69.84</i>	<i>70.21</i>	66.53	<i>69.02</i>	<i>69.88</i>
Gross Imports	8.48	7.60	7.79	7.74	8.61	<i>7.32</i>	<i>8.33</i>	<i>7.80</i>	<i>8.19</i>	<i>7.31</i>	<i>7.71</i>	<i>7.80</i>	7.90	<i>8.02</i>	<i>7.75</i>
Pipeline	8.11	7.39	7.42	7.62	8.44	<i>7.13</i>	<i>8.12</i>	<i>7.57</i>	<i>7.98</i>	<i>7.09</i>	<i>7.50</i>	<i>7.57</i>	7.63	<i>7.82</i>	<i>7.54</i>
LNG	0.37	0.21	0.37	0.12	0.17	<i>0.19</i>	<i>0.22</i>	<i>0.23</i>	<i>0.21</i>	<i>0.22</i>	<i>0.20</i>	<i>0.23</i>	0.27	<i>0.20</i>	<i>0.22</i>
Gross Exports	4.84	4.41	4.15	3.84	4.70	<i>4.13</i>	<i>4.16</i>	<i>4.30</i>	<i>4.53</i>	<i>4.63</i>	<i>4.49</i>	<i>4.77</i>	4.31	<i>4.32</i>	<i>4.61</i>
Net Imports	3.64	3.18	3.64	3.90	3.91	<i>3.20</i>	<i>4.17</i>	<i>3.50</i>	<i>3.66</i>	<i>2.68</i>	<i>3.21</i>	<i>3.04</i>	3.59	<i>3.70</i>	<i>3.15</i>
Supplemental Gaseous Fuels	0.19	0.14	0.14	0.15	0.17	<i>0.16</i>	<i>0.17</i>	<i>0.19</i>	<i>0.19</i>	<i>0.16</i>	<i>0.17</i>	<i>0.19</i>	0.16	<i>0.17</i>	<i>0.18</i>
Net Inventory Withdrawals	18.71	-10.17	-9.80	7.32	22.75	<i>-12.47</i>	<i>-11.60</i>	<i>1.99</i>	<i>15.21</i>	<i>-11.05</i>	<i>-9.22</i>	<i>3.31</i>	1.45	<i>0.08</i>	<i>-0.50</i>
Total Supply	88.00	59.37	60.75	79.01	94.90	<i>60.29</i>	<i>61.92</i>	<i>75.09</i>	<i>88.68</i>	<i>61.62</i>	<i>64.00</i>	<i>76.74</i>	71.73	<i>72.97</i>	<i>72.70</i>
Balancing Item (b)	0.20	0.29	0.01	-2.05	-0.17	<i>-0.20</i>	<i>-0.57</i>	<i>-1.43</i>	<i>-0.04</i>	<i>-0.44</i>	<i>-0.79</i>	<i>-1.18</i>	-0.39	<i>-0.60</i>	<i>-0.62</i>
Total Primary Supply	88.20	59.66	60.76	76.96	94.73	<i>60.09</i>	<i>61.34</i>	<i>73.65</i>	<i>88.64</i>	<i>61.18</i>	<i>63.21</i>	<i>75.55</i>	71.33	<i>72.37</i>	<i>72.09</i>
Consumption (billion cubic feet per day)															
Residential	25.61	7.60	3.71	17.43	28.83	<i>7.34</i>	<i>3.48</i>	<i>15.50</i>	<i>24.57</i>	<i>7.06</i>	<i>3.56</i>	<i>15.83</i>	13.54	<i>13.72</i>	<i>12.71</i>
Commercial	14.44	6.05	4.51	11.15	16.44	<i>5.94</i>	<i>4.44</i>	<i>10.22</i>	<i>13.95</i>	<i>5.80</i>	<i>4.41</i>	<i>10.44</i>	9.02	<i>9.23</i>	<i>8.63</i>
Industrial	21.79	19.40	19.08	21.53	22.99	<i>20.05</i>	<i>19.60</i>	<i>21.99</i>	<i>23.31</i>	<i>20.61</i>	<i>20.33</i>	<i>22.64</i>	20.45	<i>21.15</i>	<i>21.72</i>
Electric Power (c)	19.94	20.97	27.76	20.61	19.70	<i>20.87</i>	<i>27.93</i>	<i>19.78</i>	<i>20.16</i>	<i>21.74</i>	<i>28.98</i>	<i>20.42</i>	22.34	<i>22.09</i>	<i>22.84</i>
Lease and Plant Fuel	3.80	3.85	3.89	3.94	3.98	<i>4.05</i>	<i>4.04</i>	<i>4.05</i>	<i>4.07</i>	<i>4.08</i>	<i>4.08</i>	<i>4.10</i>	3.87	<i>4.03</i>	<i>4.08</i>
Pipeline and Distribution Use	2.52	1.70	1.73	2.19	2.70	<i>1.75</i>	<i>1.76</i>	<i>2.03</i>	<i>2.50</i>	<i>1.79</i>	<i>1.77</i>	<i>2.03</i>	2.03	<i>2.06</i>	<i>2.02</i>
Vehicle Use	0.09	0.09	0.09	0.09	0.09	<i>0.09</i>	<i>0.09</i>	<i>0.09</i>	<i>0.09</i>	<i>0.09</i>	<i>0.09</i>	<i>0.09</i>	0.09	<i>0.09</i>	<i>0.09</i>
Total Consumption	88.20	59.66	60.76	76.96	94.73	<i>60.09</i>	<i>61.34</i>	<i>73.65</i>	<i>88.64</i>	<i>61.18</i>	<i>63.21</i>	<i>75.55</i>	71.33	<i>72.37</i>	<i>72.09</i>
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	1,723	2,642	3,565	2,890	857	<i>1,985</i>	<i>3,052</i>	<i>2,869</i>	<i>1,500</i>	<i>2,505</i>	<i>3,354</i>	<i>3,049</i>	2,890	<i>2,869</i>	<i>3,049</i>
Producing Region (d)	705	973	1,174	1,022	358	<i>688</i>	<i>897</i>	<i>876</i>	<i>598</i>	<i>893</i>	<i>1,032</i>	<i>971</i>	1,022	<i>876</i>	<i>971</i>
East Consuming Region (d)	660	1,208	1,833	1,444	316	<i>951</i>	<i>1,651</i>	<i>1,489</i>	<i>544</i>	<i>1,128</i>	<i>1,758</i>	<i>1,544</i>	1,444	<i>1,489</i>	<i>1,544</i>
West Consuming Region (d)	358	461	558	423	184	<i>346</i>	<i>505</i>	<i>503</i>	<i>358</i>	<i>484</i>	<i>564</i>	<i>535</i>	423	<i>503</i>	<i>535</i>

- = no data available

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

 (d) For a list of States in each inventory region refer to *Methodology for EIA Weekly Underground Natural Gas Storage Estimates* (<http://tonto.eia.doe.gov/oog/info/ngs/methodology.html>).

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly*, DOE/EIA-0130; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic fee)
 U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Wholesale/Spot															
Henry Hub Spot Price	3.59	4.13	3.66	3.97	5.36	<i>4.75</i>	<i>4.71</i>	<i>4.81</i>	<i>4.82</i>	<i>4.38</i>	<i>4.59</i>	<i>4.75</i>	3.84	<i>4.91</i>	<i>4.64</i>
Residential															
New England	13.07	13.63	16.90	13.75	13.94	<i>16.31</i>	<i>18.29</i>	<i>14.81</i>	<i>14.18</i>	<i>15.32</i>	<i>17.99</i>	<i>14.89</i>	13.66	<i>14.83</i>	<i>14.86</i>
Middle Atlantic	11.00	13.34	17.79	11.37	10.71	<i>13.50</i>	<i>18.69</i>	<i>13.43</i>	<i>12.41</i>	<i>14.76</i>	<i>18.80</i>	<i>13.60</i>	11.90	<i>12.28</i>	<i>13.52</i>
E. N. Central	7.74	10.76	15.76	8.13	8.65	<i>12.70</i>	<i>17.85</i>	<i>10.44</i>	<i>9.35</i>	<i>12.02</i>	<i>17.68</i>	<i>10.51</i>	8.71	<i>10.10</i>	<i>10.57</i>
W. N. Central	8.10	10.46	17.53	9.13	9.03	<i>11.58</i>	<i>18.09</i>	<i>10.42</i>	<i>9.70</i>	<i>11.89</i>	<i>18.03</i>	<i>10.65</i>	9.27	<i>10.20</i>	<i>10.79</i>
S. Atlantic	11.10	15.40	22.32	12.72	11.31	<i>16.46</i>	<i>23.39</i>	<i>14.12</i>	<i>13.16</i>	<i>18.05</i>	<i>23.57</i>	<i>14.31</i>	12.87	<i>13.29</i>	<i>14.83</i>
E. S. Central	9.18	12.48	18.31	10.54	9.59	<i>13.60</i>	<i>19.14</i>	<i>12.22</i>	<i>11.06</i>	<i>14.74</i>	<i>19.42</i>	<i>12.48</i>	10.52	<i>11.08</i>	<i>12.38</i>
W. S. Central	8.36	12.12	19.77	10.36	8.51	<i>13.75</i>	<i>19.72</i>	<i>11.88</i>	<i>9.14</i>	<i>14.55</i>	<i>19.99</i>	<i>12.33</i>	10.40	<i>10.78</i>	<i>11.48</i>
Mountain	8.01	9.81	13.78	8.76	9.06	<i>11.03</i>	<i>14.74</i>	<i>10.49</i>	<i>10.11</i>	<i>10.89</i>	<i>14.37</i>	<i>10.19</i>	8.92	<i>10.17</i>	<i>10.61</i>
Pacific	9.47	10.81	11.27	10.20	10.92	<i>11.33</i>	<i>12.12</i>	<i>10.97</i>	<i>10.67</i>	<i>10.99</i>	<i>12.02</i>	<i>10.96</i>	10.13	<i>11.17</i>	<i>10.98</i>
U.S. Average	9.24	11.88	16.13	9.93	9.81	<i>12.98</i>	<i>17.15</i>	<i>11.69</i>	<i>10.75</i>	<i>13.08</i>	<i>17.14</i>	<i>11.80</i>	10.31	<i>11.24</i>	<i>11.85</i>
Commercial															
New England	10.96	10.63	10.14	10.12	11.39	<i>12.51</i>	<i>11.71</i>	<i>11.64</i>	<i>12.24</i>	<i>11.71</i>	<i>11.65</i>	<i>11.80</i>	10.56	<i>11.67</i>	<i>11.97</i>
Middle Atlantic	8.82	8.66	7.95	8.28	9.40	<i>9.46</i>	<i>9.83</i>	<i>10.56</i>	<i>10.86</i>	<i>10.14</i>	<i>9.76</i>	<i>10.61</i>	8.53	<i>9.70</i>	<i>10.53</i>
E. N. Central	7.01	8.25	8.89	7.04	8.01	<i>9.73</i>	<i>10.54</i>	<i>8.75</i>	<i>9.06</i>	<i>9.85</i>	<i>10.40</i>	<i>8.89</i>	7.33	<i>8.62</i>	<i>9.22</i>
W. N. Central	7.00	7.79	9.25	7.37	8.30	<i>8.85</i>	<i>9.71</i>	<i>8.49</i>	<i>8.63</i>	<i>8.63</i>	<i>9.67</i>	<i>8.65</i>	7.40	<i>8.54</i>	<i>8.72</i>
S. Atlantic	8.76	10.02	10.51	9.35	9.22	<i>10.54</i>	<i>11.64</i>	<i>10.79</i>	<i>10.81</i>	<i>11.10</i>	<i>11.63</i>	<i>10.86</i>	9.37	<i>10.19</i>	<i>10.98</i>
E. S. Central	8.15	9.53	10.30	9.00	8.90	<i>10.18</i>	<i>10.91</i>	<i>10.16</i>	<i>10.15</i>	<i>10.79</i>	<i>11.20</i>	<i>10.39</i>	8.86	<i>9.56</i>	<i>10.43</i>
W. S. Central	6.84	8.05	8.70	7.52	7.48	<i>8.89</i>	<i>9.21</i>	<i>8.67</i>	<i>8.33</i>	<i>8.68</i>	<i>9.30</i>	<i>8.87</i>	7.53	<i>8.26</i>	<i>8.67</i>
Mountain	6.93	7.54	8.55	7.48	7.77	<i>8.73</i>	<i>10.27</i>	<i>9.12</i>	<i>8.83</i>	<i>8.54</i>	<i>9.84</i>	<i>9.01</i>	7.36	<i>8.61</i>	<i>8.93</i>
Pacific	8.11	8.74	8.84	8.56	9.22	<i>9.16</i>	<i>9.90</i>	<i>9.78</i>	<i>9.74</i>	<i>9.22</i>	<i>10.00</i>	<i>9.89</i>	8.48	<i>9.48</i>	<i>9.73</i>
U.S. Average	7.83	8.59	8.97	7.98	8.66	<i>9.57</i>	<i>10.28</i>	<i>9.55</i>	<i>9.70</i>	<i>9.73</i>	<i>10.27</i>	<i>9.64</i>	8.12	<i>9.21</i>	<i>9.75</i>
Industrial															
New England	8.39	8.04	6.79	8.15	9.82	<i>9.22</i>	<i>9.46</i>	<i>10.33</i>	<i>10.73</i>	<i>9.69</i>	<i>9.45</i>	<i>10.51</i>	7.97	<i>9.77</i>	<i>10.24</i>
Middle Atlantic	8.17	8.13	8.21	8.12	9.22	<i>8.83</i>	<i>9.02</i>	<i>9.45</i>	<i>9.60</i>	<i>8.68</i>	<i>8.97</i>	<i>9.61</i>	8.16	<i>9.19</i>	<i>9.37</i>
E. N. Central	6.11	6.58	6.04	5.91	7.88	<i>8.23</i>	<i>7.43</i>	<i>7.49</i>	<i>7.87</i>	<i>7.25</i>	<i>7.34</i>	<i>7.58</i>	6.12	<i>7.79</i>	<i>7.62</i>
W. N. Central	5.16	5.40	4.92	5.40	7.29	<i>6.29</i>	<i>6.15</i>	<i>6.51</i>	<i>6.79</i>	<i>5.90</i>	<i>6.08</i>	<i>6.75</i>	5.23	<i>6.61</i>	<i>6.42</i>
S. Atlantic	5.39	5.81	5.32	5.52	6.93	<i>6.41</i>	<i>6.73</i>	<i>6.92</i>	<i>7.35</i>	<i>6.38</i>	<i>6.55</i>	<i>6.84</i>	5.51	<i>6.76</i>	<i>6.80</i>
E. S. Central	5.25	5.57	5.14	5.45	6.50	<i>6.12</i>	<i>6.15</i>	<i>6.23</i>	<i>6.40</i>	<i>5.97</i>	<i>6.21</i>	<i>6.41</i>	5.35	<i>6.27</i>	<i>6.26</i>
W. S. Central	3.61	4.38	3.84	3.92	5.13	<i>4.80</i>	<i>4.79</i>	<i>4.79</i>	<i>4.88</i>	<i>4.52</i>	<i>4.78</i>	<i>4.86</i>	3.94	<i>4.88</i>	<i>4.76</i>
Mountain	5.60	5.96	6.13	5.99	6.63	<i>6.86</i>	<i>7.49</i>	<i>7.49</i>	<i>7.08</i>	<i>6.67</i>	<i>7.13</i>	<i>7.28</i>	5.88	<i>7.06</i>	<i>7.06</i>
Pacific	6.69	7.11	6.92	6.80	7.81	<i>7.66</i>	<i>8.19</i>	<i>8.11</i>	<i>7.95</i>	<i>7.30</i>	<i>7.78</i>	<i>8.07</i>	6.86	<i>7.95</i>	<i>7.80</i>
U.S. Average	4.57	4.97	4.41	4.68	6.16	<i>5.52</i>	<i>5.47</i>	<i>5.72</i>	<i>6.00</i>	<i>5.25</i>	<i>5.43</i>	<i>5.78</i>	4.66	<i>5.74</i>	<i>5.64</i>

- = no data available

Prices are not adjusted for inflation.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly*, DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (<http://www.reuters.com>).

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Supply (million short tons)															
Production	245.1	243.1	256.7	239.1	242.3	<i>244.6</i>	<i>263.8</i>	<i>260.1</i>	<i>253.8</i>	<i>238.7</i>	<i>256.3</i>	<i>252.7</i>	984.0	<i>1010.8</i>	<i>1001.7</i>
Appalachia	70.4	71.3	66.2	63.8	66.7	<i>71.3</i>	<i>75.3</i>	<i>73.5</i>	<i>73.8</i>	<i>70.3</i>	<i>67.1</i>	<i>67.5</i>	271.6	<i>286.7</i>	<i>278.7</i>
Interior	45.5	45.0	48.1	44.0	46.3	<i>46.5</i>	<i>50.2</i>	<i>47.3</i>	<i>45.4</i>	<i>45.3</i>	<i>48.2</i>	<i>47.6</i>	182.7	<i>190.4</i>	<i>186.6</i>
Western	129.2	126.8	142.4	131.3	129.3	<i>126.8</i>	<i>138.3</i>	<i>139.4</i>	<i>134.6</i>	<i>123.1</i>	<i>141.1</i>	<i>137.6</i>	529.7	<i>533.8</i>	<i>536.4</i>
Primary Inventory Withdrawals	5.5	-1.1	1.6	-2.6	1.0	<i>-0.1</i>	<i>0.6</i>	<i>-2.3</i>	<i>0.5</i>	<i>-0.1</i>	<i>0.6</i>	<i>-2.3</i>	3.5	<i>-0.8</i>	<i>-1.3</i>
Imports	1.4	2.8	2.4	2.3	2.4	<i>2.6</i>	<i>3.3</i>	<i>2.9</i>	<i>2.2</i>	<i>2.4</i>	<i>3.3</i>	<i>2.9</i>	8.9	<i>11.2</i>	<i>10.8</i>
Exports	31.8	29.4	28.6	27.8	27.7	<i>24.4</i>	<i>23.8</i>	<i>22.8</i>	<i>21.3</i>	<i>25.2</i>	<i>23.3</i>	<i>25.0</i>	117.7	<i>98.7</i>	<i>94.8</i>
Metallurgical Coal	18.2	16.1	15.9	15.4	16.9	<i>15.2</i>	<i>14.6</i>	<i>14.0</i>	<i>13.3</i>	<i>13.6</i>	<i>12.0</i>	<i>13.3</i>	65.7	<i>60.6</i>	<i>52.1</i>
Steam Coal	13.7	13.3	12.7	12.4	10.9	<i>9.2</i>	<i>9.2</i>	<i>8.8</i>	<i>8.1</i>	<i>11.6</i>	<i>11.4</i>	<i>11.7</i>	52.0	<i>38.1</i>	<i>42.7</i>
Total Primary Supply	220.1	215.4	232.1	211.1	218.0	<i>222.7</i>	<i>244.0</i>	<i>237.9</i>	<i>235.2</i>	<i>215.9</i>	<i>236.9</i>	<i>228.3</i>	878.7	<i>922.6</i>	<i>916.4</i>
Secondary Inventory Withdrawals	14.5	0.7	17.9	4.8	31.1	<i>-10.8</i>	<i>10.8</i>	<i>-8.1</i>	<i>-1.8</i>	<i>-9.1</i>	<i>13.3</i>	<i>-6.1</i>	37.9	<i>22.9</i>	<i>-3.7</i>
Waste Coal (a)	2.9	2.6	2.5	2.3	3.2	<i>2.5</i>	<i>3.2</i>	<i>3.0</i>	<i>2.8</i>	<i>2.5</i>	<i>3.2</i>	<i>3.0</i>	10.2	<i>11.8</i>	<i>11.3</i>
Total Supply	237.5	218.6	252.5	218.2	252.3	<i>214.4</i>	<i>257.9</i>	<i>232.7</i>	<i>236.2</i>	<i>209.3</i>	<i>253.4</i>	<i>225.2</i>	926.8	<i>957.3</i>	<i>924.0</i>
Consumption (million short tons)															
Coke Plants	5.3	5.5	5.4	5.3	4.8	<i>4.8</i>	<i>5.7</i>	<i>5.7</i>	<i>6.2</i>	<i>6.2</i>	<i>6.3</i>	<i>5.9</i>	21.5	<i>21.0</i>	<i>24.5</i>
Electric Power Sector (b)	212.0	200.2	237.3	208.9	231.7	<i>196.2</i>	<i>241.4</i>	<i>215.5</i>	<i>218.5</i>	<i>192.1</i>	<i>236.2</i>	<i>207.7</i>	858.4	<i>884.7</i>	<i>854.6</i>
Retail and Other Industry	11.8	10.8	10.8	11.9	12.0	<i>10.8</i>	<i>10.9</i>	<i>11.6</i>	<i>11.5</i>	<i>10.9</i>	<i>10.9</i>	<i>11.6</i>	45.3	<i>45.3</i>	<i>44.9</i>
Residential and Commercial	0.7	0.4	0.4	0.5	0.7	<i>0.5</i>	<i>0.5</i>	<i>0.6</i>	<i>0.7</i>	<i>0.5</i>	<i>0.4</i>	<i>0.6</i>	2.0	<i>2.3</i>	<i>2.2</i>
Other Industrial	11.1	10.4	10.4	11.4	11.3	<i>10.3</i>	<i>10.5</i>	<i>11.0</i>	<i>10.8</i>	<i>10.4</i>	<i>10.5</i>	<i>11.0</i>	43.3	<i>43.0</i>	<i>42.7</i>
Total Consumption	229.0	216.5	253.5	226.1	248.6	<i>211.8</i>	<i>257.9</i>	<i>232.7</i>	<i>236.2</i>	<i>209.3</i>	<i>253.4</i>	<i>225.2</i>	925.1	<i>951.0</i>	<i>924.0</i>
Discrepancy (c)	8.4	2.1	-1.0	-7.9	3.7	<i>2.6</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	1.7	<i>6.3</i>	<i>0.0</i>
End-of-period Inventories (million short tons)															
Primary Inventories (d)	40.7	41.7	40.1	42.7	41.7	<i>41.7</i>	<i>41.1</i>	<i>43.4</i>	<i>42.9</i>	<i>43.0</i>	<i>42.4</i>	<i>44.7</i>	42.7	<i>43.4</i>	<i>44.7</i>
Secondary Inventories	178.2	177.5	159.6	154.8	123.7	<i>134.5</i>	<i>123.7</i>	<i>131.9</i>	<i>133.7</i>	<i>142.8</i>	<i>129.5</i>	<i>135.6</i>	154.8	<i>131.9</i>	<i>135.6</i>
Electric Power Sector	171.5	170.5	152.2	148.0	118.0	<i>128.0</i>	<i>116.6</i>	<i>124.3</i>	<i>127.1</i>	<i>135.4</i>	<i>121.6</i>	<i>127.3</i>	148.0	<i>124.3</i>	<i>127.3</i>
Retail and General Industry	4.0	4.0	4.3	4.1	3.5	<i>3.9</i>	<i>4.6</i>	<i>5.0</i>	<i>4.4</i>	<i>4.7</i>	<i>5.3</i>	<i>5.6</i>	4.1	<i>5.0</i>	<i>5.6</i>
Coke Plants	2.2	2.5	2.5	2.2	1.8	<i>2.2</i>	<i>2.1</i>	<i>2.1</i>	<i>1.8</i>	<i>2.3</i>	<i>2.2</i>	<i>2.2</i>	2.2	<i>2.1</i>	<i>2.2</i>
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	5.55	5.55	5.55	5.55	5.47	<i>5.47</i>	<i>5.47</i>	<i>5.47</i>	<i>5.61</i>	<i>5.61</i>	<i>5.61</i>	<i>5.61</i>	5.55	<i>5.47</i>	<i>5.61</i>
Total Raw Steel Production															
(Million short tons per day)	0.259	0.267	0.267	0.260	0.262	<i>0.263</i>	<i>0.282</i>	<i>0.283</i>	<i>0.299</i>	<i>0.308</i>	<i>0.293</i>	<i>0.287</i>	0.263	<i>0.273</i>	<i>0.297</i>
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	2.35	2.37	2.33	2.34	2.33	<i>2.41</i>	<i>2.41</i>	<i>2.39</i>	<i>2.40</i>	<i>2.41</i>	<i>2.41</i>	<i>2.40</i>	2.35	<i>2.39</i>	<i>2.41</i>

- = no data available

(a) Waste coal includes waste coal and coal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Electricity Supply (billion kilowatthours per day)															
Electricity Generation	10.92	10.73	12.15	10.66	11.47	<i>10.79</i>	<i>12.33</i>	<i>10.60</i>	<i>11.19</i>	<i>10.87</i>	<i>12.44</i>	<i>10.68</i>	11.12	<i>11.30</i>	<i>11.30</i>
Electric Power Sector (a)	10.48	10.31	11.71	10.23	11.04	<i>10.36</i>	<i>11.87</i>	<i>10.16</i>	<i>10.76</i>	<i>10.44</i>	<i>11.98</i>	<i>10.23</i>	10.68	<i>10.86</i>	<i>10.85</i>
Comm. and Indus. Sectors (b)	0.44	0.42	0.45	0.44	0.43	<i>0.42</i>	<i>0.45</i>	<i>0.44</i>	<i>0.44</i>	<i>0.43</i>	<i>0.46</i>	<i>0.44</i>	0.44	<i>0.44</i>	<i>0.44</i>
Net Imports	0.13	0.14	0.17	0.13	0.11	<i>0.11</i>	<i>0.14</i>	<i>0.10</i>	<i>0.11</i>	<i>0.11</i>	<i>0.14</i>	<i>0.10</i>	0.14	<i>0.11</i>	<i>0.11</i>
Total Supply	11.06	10.87	12.32	10.79	11.58	<i>10.90</i>	<i>12.47</i>	<i>10.70</i>	<i>11.31</i>	<i>10.98</i>	<i>12.58</i>	<i>10.77</i>	11.26	<i>11.41</i>	<i>11.41</i>
Losses and Unaccounted for (c)	0.66	0.84	0.77	0.79	0.67	<i>0.87</i>	<i>0.76</i>	<i>0.72</i>	<i>0.60</i>	<i>0.89</i>	<i>0.78</i>	<i>0.72</i>	0.77	<i>0.75</i>	<i>0.74</i>
Electricity Consumption (billion kilowatthours per day unless noted)															
Retail Sales	10.01	9.66	11.16	9.62	10.53	<i>9.66</i>	<i>11.31</i>	<i>9.60</i>	<i>10.33</i>	<i>9.72</i>	<i>11.40</i>	<i>9.67</i>	10.11	<i>10.27</i>	<i>10.28</i>
Residential Sector	3.96	3.38	4.37	3.53	4.35	<i>3.38</i>	<i>4.45</i>	<i>3.50</i>	<i>4.13</i>	<i>3.37</i>	<i>4.46</i>	<i>3.51</i>	3.81	<i>3.92</i>	<i>3.87</i>
Commercial Sector	3.47	3.60	4.07	3.53	3.62	<i>3.64</i>	<i>4.11</i>	<i>3.51</i>	<i>3.60</i>	<i>3.67</i>	<i>4.14</i>	<i>3.52</i>	3.67	<i>3.72</i>	<i>3.73</i>
Industrial Sector	2.56	2.65	2.70	2.55	2.54	<i>2.62</i>	<i>2.73</i>	<i>2.56</i>	<i>2.58</i>	<i>2.66</i>	<i>2.78</i>	<i>2.61</i>	2.62	<i>2.61</i>	<i>2.66</i>
Transportation Sector	0.02	0.02	0.02	0.02	0.02	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	0.02	<i>0.02</i>	<i>0.02</i>
Direct Use (d)	0.39	0.37	0.39	0.38	0.38	<i>0.37</i>	<i>0.40</i>	<i>0.38</i>	<i>0.38</i>	<i>0.38</i>	<i>0.40</i>	<i>0.39</i>	0.38	<i>0.38</i>	<i>0.39</i>
Total Consumption	10.39	10.03	11.55	10.00	10.91	<i>10.03</i>	<i>11.70</i>	<i>9.98</i>	<i>10.71</i>	<i>10.09</i>	<i>11.80</i>	<i>10.06</i>	10.50	<i>10.66</i>	<i>10.67</i>
Average residential electricity usage per customer (kWh)	2,794	2,413	3,146	2,535	3,048	<i>2,391</i>	<i>3,176</i>	<i>2,494</i>	<i>2,875</i>	<i>2,367</i>	<i>3,159</i>	<i>2,479</i>	10,888	<i>11,109</i>	<i>10,881</i>
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.35	2.37	2.33	2.34	2.33	<i>2.41</i>	<i>2.41</i>	<i>2.39</i>	<i>2.40</i>	<i>2.41</i>	<i>2.41</i>	<i>2.40</i>	2.35	<i>2.39</i>	<i>2.41</i>
Natural Gas	4.35	4.56	4.06	4.41	6.82	<i>5.14</i>	<i>5.15</i>	<i>5.49</i>	<i>5.48</i>	<i>4.86</i>	<i>5.06</i>	<i>5.43</i>	4.32	<i>5.59</i>	<i>5.19</i>
Residual Fuel Oil	19.37	19.83	18.76	19.47	19.95	<i>20.18</i>	<i>19.95</i>	<i>19.84</i>	<i>19.24</i>	<i>19.06</i>	<i>18.95</i>	<i>18.79</i>	19.33	<i>19.97</i>	<i>19.01</i>
Distillate Fuel Oil	23.44	22.62	23.23	22.97	23.39	<i>23.62</i>	<i>23.75</i>	<i>24.23</i>	<i>24.50</i>	<i>24.21</i>	<i>23.98</i>	<i>24.51</i>	23.08	<i>23.62</i>	<i>24.30</i>
End-Use Prices (cents per kilowatthour)															
Residential Sector	11.56	12.31	12.54	12.01	11.90	<i>12.68</i>	<i>12.95</i>	<i>12.42</i>	<i>12.34</i>	<i>12.98</i>	<i>13.16</i>	<i>12.66</i>	12.12	<i>12.49</i>	<i>12.79</i>
Commercial Sector	9.96	10.33	10.68	10.14	10.57	<i>10.74</i>	<i>11.13</i>	<i>10.53</i>	<i>10.73</i>	<i>10.87</i>	<i>11.27</i>	<i>10.68</i>	10.29	<i>10.76</i>	<i>10.90</i>
Industrial Sector	6.55	6.79	7.24	6.67	7.02	<i>7.04</i>	<i>7.48</i>	<i>6.90</i>	<i>7.07</i>	<i>7.11</i>	<i>7.47</i>	<i>6.87</i>	6.82	<i>7.11</i>	<i>7.14</i>

- = no data available. kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by electricity-only and combined-heat-and-power (CHP) plants operated by electric utilities and independent power producers.

(b) Generation supplied by CHP and electricity-only plants operated by businesses in the commercial and industrial sectors, primarily for onsite use.

(c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

 (d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or collocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 7b. U.S. Regional Electricity Retail Sales (Million Kilowatthours per Day)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Residential Sector															
New England	144	115	146	122	154	110	139	123	146	112	138	123	132	131	130
Middle Atlantic	390	324	416	330	423	320	417	331	400	322	422	331	365	373	369
E. N. Central	562	447	553	495	616	446	560	487	568	442	565	485	514	527	515
W. N. Central	322	247	310	275	352	248	313	266	324	243	316	265	288	295	287
S. Atlantic	962	846	1,075	873	1,081	862	1,128	874	1,029	852	1,134	878	939	986	973
E. S. Central	344	280	366	294	404	283	385	289	371	283	388	289	321	340	333
W. S. Central	529	517	755	517	641	519	746	505	596	519	740	506	580	603	591
Mountain	253	248	328	227	239	239	335	228	249	243	340	232	264	260	266
Pacific contiguous	436	346	412	385	421	339	411	382	435	345	404	385	395	388	392
AK and HI	14	12	12	13	14	12	12	13	14	12	12	13	13	13	13
Total	3,955	3,384	4,373	3,531	4,345	3,379	4,446	3,499	4,132	3,371	4,460	3,508	3,811	3,916	3,868
Commercial Sector															
New England	121	118	135	117	153	140	165	140	151	139	165	139	123	149	149
Middle Atlantic	427	414	474	412	442	412	471	408	440	412	474	406	432	433	433
E. N. Central	492	490	539	489	510	494	544	482	501	500	547	482	503	508	508
W. N. Central	270	266	298	271	284	268	300	266	277	273	303	269	277	279	281
S. Atlantic	781	832	918	799	803	837	923	786	795	838	936	792	833	838	841
E. S. Central	228	243	288	231	239	245	288	225	239	250	289	226	248	249	251
W. S. Central	462	514	610	504	495	513	619	498	494	519	623	502	523	532	535
Mountain	237	262	287	243	239	261	290	244	242	266	290	244	257	258	260
Pacific contiguous	430	448	500	444	438	453	497	447	442	455	500	447	456	459	461
AK and HI	17	16	17	17	17	16	17	17	17	16	17	17	17	17	17
Total	3,466	3,604	4,066	3,527	3,620	3,640	4,114	3,513	3,598	3,669	4,144	3,523	3,667	3,722	3,735
Industrial Sector															
New England	72	73	78	71	49	48	54	48	49	48	54	48	74	50	50
Middle Atlantic	188	186	193	188	201	190	195	188	197	192	201	195	189	193	196
E. N. Central	533	534	539	513	525	530	546	517	534	537	550	525	530	530	537
W. N. Central	230	239	251	238	234	241	265	247	245	254	274	258	240	247	258
S. Atlantic	367	388	397	373	372	383	399	378	374	389	404	383	381	383	388
E. S. Central	317	312	286	277	279	283	286	285	287	288	295	289	298	283	290
W. S. Central	407	435	448	422	431	450	455	426	431	449	459	430	428	440	442
Mountain	210	235	246	217	213	243	259	226	224	250	267	231	227	235	243
Pacific contiguous	224	235	251	234	226	235	253	236	225	235	256	241	236	237	239
AK and HI	13	14	14	14	13	14	14	14	14	14	15	14	14	14	14
Total	2,563	2,650	2,703	2,546	2,543	2,617	2,727	2,564	2,578	2,657	2,775	2,614	2,616	2,613	2,656
Total All Sectors (a)															
New England	339	308	360	311	357	299	359	312	348	300	359	312	330	332	330
Middle Atlantic	1,017	935	1,095	940	1,078	933	1,096	939	1,050	939	1,109	945	997	1,011	1,011
E. N. Central	1,589	1,473	1,632	1,497	1,654	1,472	1,651	1,487	1,605	1,481	1,664	1,493	1,548	1,566	1,561
W. N. Central	823	752	859	784	870	757	878	780	846	770	893	792	805	821	825
S. Atlantic	2,114	2,070	2,393	2,049	2,260	2,086	2,454	2,041	2,202	2,083	2,478	2,056	2,157	2,210	2,205
E. S. Central	890	836	940	801	922	812	959	800	896	821	971	805	867	873	873
W. S. Central	1,399	1,467	1,813	1,443	1,567	1,482	1,820	1,429	1,521	1,488	1,823	1,439	1,531	1,575	1,568
Mountain	700	745	862	686	692	744	884	697	714	759	897	707	749	755	770
Pacific contiguous	1,092	1,031	1,165	1,066	1,087	1,029	1,163	1,067	1,104	1,037	1,162	1,074	1,088	1,087	1,094
AK and HI	43	42	43	44	44	41	43	45	44	42	44	45	43	43	44
Total	10,006	9,658	11,163	9,623	10,531	9,656	11,308	9,597	10,331	9,718	11,401	9,667	10,114	10,273	10,281

- = no data available

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>) for a list of States in each region.**Historical data:** Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Residential Sector															
New England	15.59	16.12	16.01	17.21	17.46	18.33	17.75	17.89	18.21	18.57	18.32	18.16	16.20	17.82	18.30
Middle Atlantic	15.09	15.70	16.48	15.53	16.28	16.52	17.20	16.31	16.45	17.08	17.56	16.76	15.72	16.60	16.98
E. N. Central	11.48	12.45	12.30	11.87	11.56	13.02	12.98	12.30	12.08	13.46	13.35	12.69	12.01	12.42	12.87
W. N. Central	9.95	11.40	12.06	10.43	10.05	11.81	12.33	10.93	10.35	12.12	12.53	11.16	10.95	11.23	11.52
S. Atlantic	10.88	11.48	11.77	11.27	11.31	11.93	11.94	11.54	11.60	12.09	12.08	11.69	11.37	11.68	11.87
E. S. Central	10.05	10.71	10.64	10.28	10.30	11.30	11.18	10.74	10.90	11.59	11.46	11.00	10.42	10.85	11.23
W. S. Central	10.23	10.95	10.92	10.75	10.37	11.51	11.52	11.34	10.92	11.41	11.31	11.11	10.73	11.18	11.19
Mountain	10.46	11.52	11.99	11.09	10.94	11.94	12.38	11.42	11.24	12.22	12.67	11.72	11.32	11.74	12.03
Pacific	12.80	13.72	14.60	13.32	12.97	12.19	14.49	13.25	13.43	12.96	14.95	13.95	13.60	13.27	13.85
U.S. Average	11.56	12.31	12.54	12.01	11.90	12.68	12.95	12.42	12.34	12.98	13.16	12.66	12.12	12.49	12.79
Commercial Sector															
New England	14.37	13.76	13.83	14.40	15.24	14.37	14.82	14.89	14.95	14.36	14.78	14.96	14.08	14.84	14.77
Middle Atlantic	12.70	12.85	13.89	12.45	14.26	13.69	14.67	13.27	14.45	13.76	14.68	13.50	13.00	14.01	14.13
E. N. Central	9.34	9.65	9.65	9.39	9.69	9.96	9.97	9.64	9.82	10.04	10.09	9.78	9.51	9.82	9.94
W. N. Central	8.36	9.22	9.66	8.49	8.60	9.51	9.93	8.74	8.81	9.66	10.07	8.89	8.95	9.21	9.38
S. Atlantic	9.30	9.34	9.48	9.42	9.83	9.77	9.84	9.77	9.94	9.95	10.00	9.94	9.39	9.80	9.96
E. S. Central	9.82	9.91	9.76	9.78	10.28	10.54	10.59	10.49	10.62	10.75	10.85	10.70	9.82	10.48	10.74
W. S. Central	8.07	8.19	8.14	8.02	8.12	8.35	8.40	8.23	8.26	8.29	8.33	8.19	8.11	8.28	8.27
Mountain	8.83	9.47	9.80	9.26	9.18	9.77	10.05	9.51	9.41	9.97	10.24	9.71	9.37	9.65	9.85
Pacific	11.04	12.94	14.38	12.43	11.95	13.09	14.76	12.53	12.24	13.51	15.27	12.88	12.77	13.14	13.54
U.S. Average	9.96	10.33	10.68	10.14	10.57	10.74	11.13	10.53	10.73	10.87	11.27	10.68	10.29	10.76	10.90
Industrial Sector															
New England	12.38	11.92	12.46	11.89	12.96	12.05	12.81	12.40	12.88	11.98	12.47	12.08	12.17	12.56	12.36
Middle Atlantic	7.30	7.23	7.47	7.00	8.75	7.82	8.32	7.82	8.11	7.82	8.26	7.75	7.25	8.18	7.99
E. N. Central	6.42	6.62	6.75	6.49	7.00	6.89	7.15	6.81	6.99	6.89	7.16	6.80	6.57	6.97	6.96
W. N. Central	6.33	6.58	7.15	6.28	6.56	6.75	7.28	6.40	6.62	6.86	7.37	6.47	6.60	6.76	6.84
S. Atlantic	6.30	6.44	6.77	6.41	6.80	6.78	7.15	6.74	7.04	6.88	7.17	6.72	6.48	6.87	6.96
E. S. Central	5.65	5.91	6.63	5.65	6.18	6.19	6.73	5.79	6.30	6.27	6.71	5.76	5.96	6.22	6.26
W. S. Central	5.60	5.88	6.17	5.73	5.87	6.00	6.18	5.85	6.04	6.08	6.11	5.79	5.86	5.98	6.01
Mountain	5.89	6.44	7.18	6.23	6.21	6.73	7.40	6.45	6.32	6.93	7.56	6.59	6.46	6.73	6.89
Pacific	7.41	8.14	8.93	8.22	7.96	8.62	9.27	8.51	8.16	8.68	9.17	8.32	8.20	8.61	8.60
U.S. Average	6.55	6.79	7.24	6.67	7.02	7.04	7.48	6.90	7.07	7.11	7.47	6.87	6.82	7.11	7.14
All Sectors (a)															
New England	14.43	14.18	14.40	14.92	15.85	15.43	15.63	15.65	15.99	15.52	15.77	15.74	14.48	15.65	15.77
Middle Atlantic	12.61	12.70	13.73	12.43	14.00	13.45	14.48	13.24	13.99	13.66	14.59	13.43	12.90	13.83	13.95
E. N. Central	9.11	9.40	9.59	9.21	9.53	9.78	10.06	9.52	9.67	9.91	10.23	9.67	9.33	9.73	9.88
W. N. Central	8.42	9.09	9.79	8.50	8.64	9.38	9.98	8.75	8.77	9.51	10.11	8.86	8.96	9.20	9.33
S. Atlantic	9.50	9.67	10.06	9.66	10.04	10.11	10.37	9.96	10.22	10.25	10.49	10.09	9.73	10.13	10.27
E. S. Central	8.42	8.68	9.15	8.53	9.05	9.29	9.68	8.90	9.36	9.47	9.84	9.03	8.71	9.25	9.44
W. S. Central	8.17	8.48	8.81	8.33	8.42	8.75	9.12	8.62	8.67	8.71	8.98	8.50	8.47	8.75	8.73
Mountain	8.54	9.20	9.89	8.91	8.87	9.47	10.15	9.14	9.08	9.69	10.37	9.35	9.18	9.46	9.67
Pacific	10.99	12.10	13.28	11.82	11.51	11.76	13.46	11.89	11.87	12.22	13.81	12.23	12.07	12.19	12.56
U.S. Average	9.72	10.05	10.58	9.91	10.26	10.41	10.97	10.25	10.46	10.57	11.08	10.37	10.08	10.49	10.64

- = no data available

Prices are not adjusted for inflation.

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

 See "Census division" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the EIA Regional Short-Term Energy Model.

Table 7d. U.S. Regional Electricity Generation, All Sectors (Thousand megawatthours per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
United States															
Coal	4,367	4,077	4,747	4,187	4,873	<i>4,050</i>	<i>4,929</i>	<i>4,369</i>	<i>4,576</i>	<i>3,971</i>	<i>4,807</i>	<i>4,200</i>	4,345	<i>4,555</i>	<i>4,388</i>
Natural Gas	2,802	2,843	3,694	2,858	2,700	<i>2,827</i>	<i>3,710</i>	<i>2,772</i>	<i>2,813</i>	<i>2,924</i>	<i>3,832</i>	<i>2,850</i>	3,051	<i>3,004</i>	<i>3,107</i>
Petroleum (a)	74	73	81	66	147	<i>66</i>	<i>74</i>	<i>63</i>	<i>75</i>	<i>68</i>	<i>76</i>	<i>63</i>	74	<i>87</i>	<i>70</i>
Other Gases	32	33	36	33	28	<i>32</i>	<i>37</i>	<i>34</i>	<i>28</i>	<i>33</i>	<i>38</i>	<i>35</i>	34	<i>33</i>	<i>34</i>
Nuclear	2,176	2,044	2,257	2,168	2,201	<i>2,061</i>	<i>2,167</i>	<i>2,010</i>	<i>2,144</i>	<i>2,074</i>	<i>2,206</i>	<i>2,055</i>	2,162	<i>2,109</i>	<i>2,120</i>
Renewable Energy Sources:															
Conventional Hydropower	736	886	716	613	703	<i>907</i>	<i>723</i>	<i>593</i>	<i>759</i>	<i>903</i>	<i>723</i>	<i>645</i>	737	<i>731</i>	<i>757</i>
Wind	491	520	353	475	553	<i>551</i>	<i>380</i>	<i>479</i>	<i>517</i>	<i>577</i>	<i>423</i>	<i>539</i>	459	<i>490</i>	<i>514</i>
Wood Biomass	110	100	114	113	116	<i>111</i>	<i>124</i>	<i>119</i>	<i>121</i>	<i>117</i>	<i>129</i>	<i>122</i>	109	<i>118</i>	<i>122</i>
Waste Biomass	53	56	55	54	51	<i>55</i>	<i>58</i>	<i>57</i>	<i>56</i>	<i>58</i>	<i>60</i>	<i>59</i>	55	<i>55</i>	<i>58</i>
Geothermal	46	45	45	45	45	<i>46</i>	<i>47</i>	<i>47</i>	<i>47</i>	<i>46</i>	<i>47</i>	<i>48</i>	45	<i>46</i>	<i>47</i>
Solar	16	27	31	27	33	<i>59</i>	<i>60</i>	<i>37</i>	<i>38</i>	<i>81</i>	<i>79</i>	<i>45</i>	25	<i>47</i>	<i>61</i>
Pumped Storage Hydropower	-13	-11	-13	-12	-12	<i>-13</i>	<i>-18</i>	<i>-15</i>	<i>-14</i>	<i>-14</i>	<i>-19</i>	<i>-16</i>	-12	<i>-14</i>	<i>-16</i>
Other Nonrenewable Fuels (b)	33	34	36	33	31	<i>33</i>	<i>36</i>	<i>34</i>	<i>33</i>	<i>34</i>	<i>37</i>	<i>34</i>	34	<i>33</i>	<i>35</i>
Total Generation	10,925	10,727	12,153	10,661	11,470	<i>10,786</i>	<i>12,327</i>	<i>10,599</i>	<i>11,194</i>	<i>10,872</i>	<i>12,437</i>	<i>10,678</i>	11,118	<i>11,296</i>	<i>11,297</i>
Northeast Census Region															
Coal	330	276	287	238	359	<i>271</i>	<i>327</i>	<i>272</i>	<i>350</i>	<i>238</i>	<i>308</i>	<i>254</i>	283	<i>307</i>	<i>287</i>
Natural Gas	451	480	610	445	409	<i>471</i>	<i>610</i>	<i>463</i>	<i>458</i>	<i>507</i>	<i>649</i>	<i>485</i>	497	<i>489</i>	<i>525</i>
Petroleum (a)	12	4	8	6	55	<i>4</i>	<i>5</i>	<i>4</i>	<i>7</i>	<i>4</i>	<i>5</i>	<i>4</i>	7	<i>17</i>	<i>5</i>
Other Gases	2	2	2	2	2	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>3</i>	<i>2</i>	2	<i>2</i>	<i>2</i>
Nuclear	561	489	543	533	542	<i>473</i>	<i>514</i>	<i>476</i>	<i>490</i>	<i>474</i>	<i>504</i>	<i>468</i>	532	<i>501</i>	<i>484</i>
Hydropower (c)	101	95	91	95	97	<i>97</i>	<i>89</i>	<i>99</i>	<i>107</i>	<i>99</i>	<i>89</i>	<i>100</i>	95	<i>95</i>	<i>99</i>
Other Renewables (d)	66	61	55	68	72	<i>63</i>	<i>59</i>	<i>68</i>	<i>69</i>	<i>62</i>	<i>60</i>	<i>73</i>	62	<i>65</i>	<i>66</i>
Other Nonrenewable Fuels (b)	12	13	13	12	11	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>13</i>	<i>12</i>	12	<i>12</i>	<i>12</i>
Total Generation	1,535	1,421	1,609	1,399	1,547	<i>1,394</i>	<i>1,618</i>	<i>1,396</i>	<i>1,496</i>	<i>1,399</i>	<i>1,630</i>	<i>1,398</i>	1,491	<i>1,488</i>	<i>1,481</i>
South Census Region															
Coal	1,776	1,753	2,087	1,754	2,122	<i>1,832</i>	<i>2,163</i>	<i>1,790</i>	<i>1,887</i>	<i>1,733</i>	<i>2,090</i>	<i>1,675</i>	1,843	<i>1,976</i>	<i>1,846</i>
Natural Gas	1,599	1,673	2,049	1,590	1,538	<i>1,698</i>	<i>2,089</i>	<i>1,529</i>	<i>1,625</i>	<i>1,754</i>	<i>2,151</i>	<i>1,603</i>	1,729	<i>1,715</i>	<i>1,784</i>
Petroleum (a)	27	36	38	25	54	<i>28</i>	<i>31</i>	<i>23</i>	<i>30</i>	<i>28</i>	<i>32</i>	<i>23</i>	32	<i>34</i>	<i>28</i>
Other Gases	12	14	15	14	11	<i>13</i>	<i>15</i>	<i>14</i>	<i>11</i>	<i>13</i>	<i>16</i>	<i>14</i>	14	<i>13</i>	<i>14</i>
Nuclear	908	929	1,007	935	966	<i>882</i>	<i>954</i>	<i>885</i>	<i>955</i>	<i>923</i>	<i>982</i>	<i>920</i>	945	<i>922</i>	<i>945</i>
Hydropower (c)	150	147	134	116	146	<i>142</i>	<i>127</i>	<i>119</i>	<i>158</i>	<i>142</i>	<i>127</i>	<i>120</i>	137	<i>133</i>	<i>137</i>
Other Renewables (d)	218	239	181	215	239	<i>247</i>	<i>200</i>	<i>233</i>	<i>248</i>	<i>272</i>	<i>228</i>	<i>264</i>	213	<i>230</i>	<i>253</i>
Other Nonrenewable Fuels (b)	13	13	14	13	13	<i>13</i>	<i>14</i>	<i>13</i>	<i>14</i>	<i>14</i>	<i>15</i>	<i>13</i>	13	<i>13</i>	<i>14</i>
Total Generation	4,705	4,803	5,526	4,660	5,089	<i>4,854</i>	<i>5,594</i>	<i>4,606</i>	<i>4,929</i>	<i>4,880</i>	<i>5,641</i>	<i>4,632</i>	4,925	<i>5,036</i>	<i>5,021</i>
Midwest Census Region															
Coal	1,656	1,500	1,753	1,599	1,805	<i>1,466</i>	<i>1,829</i>	<i>1,677</i>	<i>1,753</i>	<i>1,495</i>	<i>1,787</i>	<i>1,656</i>	1,627	<i>1,694</i>	<i>1,673</i>
Natural Gas	197	186	244	176	194	<i>156</i>	<i>204</i>	<i>135</i>	<i>171</i>	<i>171</i>	<i>254</i>	<i>143</i>	201	<i>172</i>	<i>185</i>
Petroleum (a)	11	10	12	13	14	<i>12</i>	<i>11</i>	<i>10</i>	<i>11</i>	<i>10</i>	<i>11</i>	<i>10</i>	11	<i>12</i>	<i>11</i>
Other Gases	11	11	13	12	11	<i>11</i>	<i>13</i>	<i>12</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>12</i>	12	<i>12</i>	<i>12</i>
Nuclear	548	476	534	549	533	<i>541</i>	<i>537</i>	<i>498</i>	<i>538</i>	<i>520</i>	<i>553</i>	<i>513</i>	527	<i>527</i>	<i>531</i>
Hydropower (c)	30	41	35	26	30	<i>41</i>	<i>35</i>	<i>28</i>	<i>33</i>	<i>42</i>	<i>35</i>	<i>28</i>	33	<i>34</i>	<i>35</i>
Other Renewables (d)	216	199	141	221	251	<i>218</i>	<i>145</i>	<i>216</i>	<i>223</i>	<i>220</i>	<i>155</i>	<i>235</i>	194	<i>207</i>	<i>208</i>
Other Nonrenewable Fuels (b)	4	4	5	4	4	<i>4</i>	<i>5</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>5</i>	<i>4</i>	4	<i>4</i>	<i>4</i>
Total Generation	2,673	2,429	2,737	2,599	2,841	<i>2,450</i>	<i>2,780</i>	<i>2,579</i>	<i>2,743</i>	<i>2,474</i>	<i>2,814</i>	<i>2,601</i>	2,609	<i>2,662</i>	<i>2,658</i>
West Census Region															
Coal	605	547	620	596	587	<i>481</i>	<i>610</i>	<i>630</i>	<i>586</i>	<i>504</i>	<i>623</i>	<i>615</i>	592	<i>577</i>	<i>582</i>
Natural Gas	555	504	790	647	558	<i>501</i>	<i>807</i>	<i>645</i>	<i>559</i>	<i>492</i>	<i>777</i>	<i>619</i>	625	<i>628</i>	<i>612</i>
Petroleum (a)	24	23	23	23	24	<i>23</i>	<i>26</i>	<i>27</i>	<i>27</i>	<i>26</i>	<i>28</i>	<i>27</i>	23	<i>25</i>	<i>27</i>
Other Gases	6	6	6	6	5	<i>5</i>	<i>6</i>	<i>6</i>	<i>5</i>	<i>5</i>	<i>6</i>	<i>6</i>	6	<i>6</i>	<i>6</i>
Nuclear	159	150	173	152	160	<i>165</i>	<i>162</i>	<i>150</i>	<i>162</i>	<i>156</i>	<i>166</i>	<i>154</i>	158	<i>159</i>	<i>160</i>
Hydropower (c)	442	592	443	364	418	<i>614</i>	<i>454</i>	<i>333</i>	<i>445</i>	<i>606</i>	<i>453</i>	<i>380</i>	460	<i>455</i>	<i>471</i>
Other Renewables (d)	217	249	222	210	236	<i>294</i>	<i>265</i>	<i>223</i>	<i>238</i>	<i>324</i>	<i>294</i>	<i>241</i>	225	<i>255</i>	<i>274</i>
Other Nonrenewable Fuels (b)	4	3	4	4	4	<i>3</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>5</i>	<i>4</i>	4	<i>4</i>	<i>4</i>
Total Generation	2,013	2,075	2,281	2,003	1,992	<i>2,088</i>	<i>2,335</i>	<i>2,017</i>	<i>2,026</i>	<i>2,118</i>	<i>2,352</i>	<i>2,046</i>	2,093	<i>2,109</i>	<i>2,136</i>

(a) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(b) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(c) Conventional hydroelectric and pumped storage generation.

(d) Wind, biomass, geothermal, and solar generation.

Notes: Data reflect generation supplied by electricity-only and combined-heat-and-power (CHP) plants operated by electric utilities, independent power producers, and the commercial and industrial sectors. The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Energy Information Administration *Electric Power Monthly* and *Electric Power Annual*.

Projections: Generated by simulation of the U.S. Energy Information Administration *Short-Term Energy Outlook* model.

Table 7e. U.S. Regional Fuel Consumption for Electricity Generation, All Sectors

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Fuel Consumption for Electricity Generation, All Sectors															
United States															
Coal (thousand st/d)	2,361	2,207	2,586	2,278	2,582	<i>2,162</i>	<i>2,631</i>	<i>2,348</i>	<i>2,433</i>	<i>2,118</i>	<i>2,575</i>	<i>2,265</i>	2,358	<i>2,431</i>	<i>2,348</i>
Natural Gas (million cf/d)	20,952	21,902	28,751	21,615	20,530	<i>21,836</i>	<i>28,927</i>	<i>20,845</i>	<i>21,197</i>	<i>22,724</i>	<i>29,988</i>	<i>21,493</i>	23,322	<i>23,052</i>	<i>23,868</i>
Petroleum (thousand b/d)	128	127	144	119	258	<i>115</i>	<i>129</i>	<i>112</i>	<i>133</i>	<i>120</i>	<i>133</i>	<i>112</i>	129	<i>153</i>	<i>125</i>
Residual Fuel Oil	38	28	36	30	86	<i>30</i>	<i>33</i>	<i>29</i>	<i>31</i>	<i>29</i>	<i>33</i>	<i>28</i>	33	<i>44</i>	<i>30</i>
Distillate Fuel Oil	26	24	27	26	85	<i>24</i>	<i>27</i>	<i>26</i>	<i>31</i>	<i>25</i>	<i>28</i>	<i>25</i>	25	<i>40</i>	<i>27</i>
Petroleum Coke (a)	59	72	78	60	70	<i>57</i>	<i>64</i>	<i>53</i>	<i>63</i>	<i>61</i>	<i>67</i>	<i>54</i>	67	<i>61</i>	<i>61</i>
Other Petroleum Liquids (b)	5	3	4	4	17	<i>3</i>	<i>5</i>	<i>5</i>	<i>7</i>	<i>5</i>	<i>5</i>	<i>5</i>	4	<i>8</i>	<i>6</i>
Northeast Census Region															
Coal (thousand st/d)	149	125	132	108	164	<i>124</i>	<i>150</i>	<i>124</i>	<i>159</i>	<i>110</i>	<i>142</i>	<i>117</i>	128	<i>141</i>	<i>132</i>
Natural Gas (million cf/d)	3,415	3,668	4,716	3,352	3,153	<i>3,607</i>	<i>4,764</i>	<i>3,491</i>	<i>3,484</i>	<i>3,918</i>	<i>5,084</i>	<i>3,669</i>	3,790	<i>3,758</i>	<i>4,042</i>
Petroleum (thousand b/d)	20	7	15	11	92	<i>6</i>	<i>9</i>	<i>7</i>	<i>13</i>	<i>7</i>	<i>10</i>	<i>7</i>	13	<i>28</i>	<i>9</i>
South Census Region															
Coal (thousand st/d)	940	937	1,119	933	1,084	<i>951</i>	<i>1,120</i>	<i>934</i>	<i>967</i>	<i>897</i>	<i>1,086</i>	<i>877</i>	983	<i>1,022</i>	<i>957</i>
Natural Gas (million cf/d)	11,919	12,884	16,050	12,043	11,689	<i>13,127</i>	<i>16,316</i>	<i>11,510</i>	<i>12,227</i>	<i>13,635</i>	<i>16,845</i>	<i>12,098</i>	13,232	<i>13,169</i>	<i>13,709</i>
Petroleum (thousand b/d)	52	67	72	47	103	<i>53</i>	<i>60</i>	<i>45</i>	<i>59</i>	<i>54</i>	<i>60</i>	<i>44</i>	60	<i>65</i>	<i>54</i>
Midwest Census Region															
Coal (thousand st/d)	933	842	989	902	1,006	<i>820</i>	<i>1,021</i>	<i>935</i>	<i>978</i>	<i>833</i>	<i>1,000</i>	<i>925</i>	917	<i>946</i>	<i>934</i>
Natural Gas (million cf/d)	1,530	1,518	2,064	1,441	1,587	<i>1,292</i>	<i>1,719</i>	<i>1,085</i>	<i>1,371</i>	<i>1,426</i>	<i>2,160</i>	<i>1,162</i>	1,639	<i>1,420</i>	<i>1,531</i>
Petroleum (thousand b/d)	20	17	20	23	27	<i>20</i>	<i>19</i>	<i>19</i>	<i>20</i>	<i>18</i>	<i>20</i>	<i>19</i>	20	<i>21</i>	<i>19</i>
West Census Region															
Coal (thousand st/d)	340	302	346	335	328	<i>266</i>	<i>340</i>	<i>355</i>	<i>329</i>	<i>279</i>	<i>347</i>	<i>346</i>	331	<i>322</i>	<i>325</i>
Natural Gas (million cf/d)	4,089	3,832	5,922	4,779	4,101	<i>3,809</i>	<i>6,128</i>	<i>4,759</i>	<i>4,115</i>	<i>3,745</i>	<i>5,899</i>	<i>4,563</i>	4,661	<i>4,705</i>	<i>4,585</i>
Petroleum (thousand b/d)	37	35	36	37	37	<i>36</i>	<i>41</i>	<i>42</i>	<i>42</i>	<i>41</i>	<i>43</i>	<i>42</i>	36	<i>39</i>	<i>42</i>
End-of-period U.S. Fuel Inventories Held by Electric Power Sector															
Coal (million short tons)	171.5	170.5	152.2	148.0	118.0	<i>128.0</i>	<i>116.6</i>	<i>124.3</i>	<i>127.1</i>	<i>135.4</i>	<i>121.6</i>	<i>127.3</i>	148.0	<i>124.3</i>	<i>127.3</i>
Residual Fuel Oil (mmb)	12.9	12.1	12.2	12.9	10.5	<i>11.2</i>	<i>11.5</i>	<i>11.8</i>	<i>11.7</i>	<i>11.6</i>	<i>11.3</i>	<i>11.4</i>	12.9	<i>11.8</i>	<i>11.4</i>
Distillate Fuel Oil (mmb)	16.2	15.9	15.5	15.7	15.4	<i>15.7</i>	<i>15.5</i>	<i>15.7</i>	<i>15.4</i>	<i>15.2</i>	<i>15.1</i>	<i>15.3</i>	15.7	<i>15.7</i>	<i>15.3</i>
Petroleum Coke (mmb)	2.0	2.0	1.5	1.9	1.7	<i>2.6</i>	<i>2.7</i>	<i>2.8</i>	<i>2.9</i>	<i>2.9</i>	<i>3.0</i>	<i>3.0</i>	1.9	<i>2.8</i>	<i>3.0</i>

(a) Petroleum coke consumption converted from short tons to barrels by multiplying by five.

(b) Other petroleum liquids include jet fuel, kerosene, and waste oil.

Notes: Data reflect generation supplied by electricity-only and combined-heat-and-power (CHP) plants operated by electric utilities, independent power producers, and the commercial and industrial sectors. Data include fuel consumed only for generation of electricity. Values do not include consumption by CHP plants for useful thermal output.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Physical Units: st/d = short tons per day; b/d = barrels per day; cf/d = cubic feet per day; mmb = million barrels.

Historical data: Latest data available from U.S. Energy Information Administration *Electric Power Monthly* and *Electric Power Annual*.

Projections: Generated by simulation of the U.S. Energy Information Administration *Short-Term Energy Outlook* model.

Table 8. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Electric Power Sector															
Hydroelectric Power (a)	0.621	0.759	0.619	0.529	0.595	<i>0.778</i>	<i>0.625</i>	<i>0.512</i>	<i>0.642</i>	<i>0.774</i>	<i>0.625</i>	<i>0.557</i>	2.529	<i>2.510</i>	<i>2.599</i>
Wood Biomass (b)	0.049	0.045	0.056	0.056	0.065	<i>0.058</i>	<i>0.072</i>	<i>0.068</i>	<i>0.071</i>	<i>0.065</i>	<i>0.078</i>	<i>0.072</i>	0.207	<i>0.263</i>	<i>0.286</i>
Waste Biomass (c)	0.062	0.065	0.065	0.067	0.061	<i>0.066</i>	<i>0.071</i>	<i>0.070</i>	<i>0.067</i>	<i>0.070</i>	<i>0.073</i>	<i>0.072</i>	0.258	<i>0.267</i>	<i>0.283</i>
Wind	0.420	0.450	0.309	0.416	0.473	<i>0.477</i>	<i>0.333</i>	<i>0.419</i>	<i>0.443</i>	<i>0.499</i>	<i>0.370</i>	<i>0.472</i>	1.595	<i>1.702</i>	<i>1.784</i>
Geothermal	0.040	0.039	0.039	0.039	0.038	<i>0.040</i>	<i>0.041</i>	<i>0.041</i>	<i>0.040</i>	<i>0.040</i>	<i>0.041</i>	<i>0.042</i>	0.157	<i>0.160</i>	<i>0.163</i>
Solar	0.013	0.023	0.026	0.023	0.028	<i>0.050</i>	<i>0.052</i>	<i>0.032</i>	<i>0.031</i>	<i>0.069</i>	<i>0.068</i>	<i>0.038</i>	0.085	<i>0.161</i>	<i>0.207</i>
Subtotal	1.206	1.380	1.115	1.130	1.260	<i>1.457</i>	<i>1.193</i>	<i>1.142</i>	<i>1.295</i>	<i>1.518</i>	<i>1.256</i>	<i>1.253</i>	4.831	<i>5.052</i>	<i>5.321</i>
Industrial Sector															
Hydroelectric Power (a)	0.009	0.008	0.007	0.007	0.008	<i>0.007</i>	<i>0.008</i>	<i>0.007</i>	<i>0.007</i>	<i>0.007</i>	<i>0.008</i>	<i>0.007</i>	0.032	<i>0.030</i>	<i>0.029</i>
Wood Biomass (b)	0.318	0.310	0.328	0.324	0.305	<i>0.300</i>	<i>0.304</i>	<i>0.306</i>	<i>0.297</i>	<i>0.292</i>	<i>0.306</i>	<i>0.310</i>	1.281	<i>1.215</i>	<i>1.206</i>
Waste Biomass (c)	0.042	0.042	0.043	0.044	0.042	<i>0.042</i>	<i>0.045</i>	<i>0.044</i>	<i>0.043</i>	<i>0.043</i>	<i>0.046</i>	<i>0.044</i>	0.171	<i>0.173</i>	<i>0.176</i>
Geothermal	0.001	0.001	0.001	0.001	0.001	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	0.004	<i>0.004</i>	<i>0.004</i>
Subtotal	0.374	0.366	0.384	0.380	0.359	<i>0.354</i>	<i>0.363</i>	<i>0.363</i>	<i>0.352</i>	<i>0.347</i>	<i>0.365</i>	<i>0.367</i>	1.505	<i>1.439</i>	<i>1.432</i>
Commercial Sector															
Wood Biomass (b)	0.017	0.017	0.018	0.018	0.018	<i>0.019</i>	<i>0.021</i>	<i>0.022</i>	<i>0.021</i>	<i>0.020</i>	<i>0.022</i>	<i>0.022</i>	0.070	<i>0.079</i>	<i>0.085</i>
Waste Biomass (c)	0.012	0.011	0.011	0.012	0.011	<i>0.011</i>	<i>0.012</i>	<i>0.012</i>	<i>0.011</i>	<i>0.011</i>	<i>0.012</i>	<i>0.012</i>	0.046	<i>0.047</i>	<i>0.047</i>
Geothermal	0.005	0.005	0.005	0.005	0.005	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	0.020	<i>0.020</i>	<i>0.020</i>
Subtotal	0.034	0.034	0.035	0.036	0.035	<i>0.036</i>	<i>0.039</i>	<i>0.040</i>	<i>0.038</i>	<i>0.037</i>	<i>0.040</i>	<i>0.039</i>	0.139	<i>0.149</i>	<i>0.155</i>
Residential Sector															
Wood Biomass (b)	0.143	0.145	0.146	0.146	0.143	<i>0.145</i>	<i>0.146</i>	<i>0.146</i>	<i>0.141</i>	<i>0.142</i>	<i>0.144</i>	<i>0.144</i>	0.580	<i>0.580</i>	<i>0.571</i>
Geothermal	0.010	0.010	0.010	0.010	0.010	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	0.040	<i>0.039</i>	<i>0.039</i>
Solar (d)	0.054	0.055	0.055	0.055	0.062	<i>0.063</i>	<i>0.063</i>	<i>0.063</i>	<i>0.075</i>	<i>0.076</i>	<i>0.076</i>	<i>0.076</i>	0.219	<i>0.252</i>	<i>0.303</i>
Subtotal	0.207	0.209	0.211	0.211	0.215	<i>0.217</i>	<i>0.220</i>	<i>0.220</i>	<i>0.226</i>	<i>0.228</i>	<i>0.230</i>	<i>0.230</i>	0.839	<i>0.871</i>	<i>0.914</i>
Transportation Sector															
Ethanol (e)	0.257	0.283	0.276	0.281	0.263	<i>0.280</i>	<i>0.287</i>	<i>0.282</i>	<i>0.270</i>	<i>0.284</i>	<i>0.284</i>	<i>0.280</i>	1.097	<i>1.112</i>	<i>1.118</i>
Biodiesel (e)	0.031	0.044	0.056	0.069	0.040	<i>0.045</i>	<i>0.050</i>	<i>0.051</i>	<i>0.047</i>	<i>0.049</i>	<i>0.050</i>	<i>0.051</i>	0.201	<i>0.186</i>	<i>0.196</i>
Subtotal	0.288	0.327	0.332	0.351	0.303	<i>0.326</i>	<i>0.336</i>	<i>0.333</i>	<i>0.317</i>	<i>0.333</i>	<i>0.333</i>	<i>0.331</i>	1.298	<i>1.298</i>	<i>1.314</i>
All Sectors Total															
Hydroelectric Power (a)	0.631	0.767	0.627	0.536	0.602	<i>0.785</i>	<i>0.633</i>	<i>0.520</i>	<i>0.649</i>	<i>0.781</i>	<i>0.633</i>	<i>0.564</i>	2.561	<i>2.540</i>	<i>2.628</i>
Wood Biomass (b)	0.528	0.517	0.549	0.544	0.530	<i>0.520</i>	<i>0.544</i>	<i>0.543</i>	<i>0.529</i>	<i>0.520</i>	<i>0.551</i>	<i>0.548</i>	2.138	<i>2.137</i>	<i>2.148</i>
Waste Biomass (c)	0.117	0.118	0.119	0.123	0.114	<i>0.119</i>	<i>0.128</i>	<i>0.126</i>	<i>0.121</i>	<i>0.124</i>	<i>0.132</i>	<i>0.128</i>	0.476	<i>0.487</i>	<i>0.505</i>
Wind	0.420	0.450	0.309	0.416	0.473	<i>0.477</i>	<i>0.333</i>	<i>0.419</i>	<i>0.443</i>	<i>0.499</i>	<i>0.370</i>	<i>0.472</i>	1.595	<i>1.702</i>	<i>1.784</i>
Geothermal	0.055	0.055	0.055	0.055	0.054	<i>0.055</i>	<i>0.057</i>	<i>0.057</i>	<i>0.056</i>	<i>0.056</i>	<i>0.057</i>	<i>0.058</i>	0.221	<i>0.223</i>	<i>0.226</i>
Solar	0.068	0.078	0.082	0.079	0.091	<i>0.113</i>	<i>0.115</i>	<i>0.095</i>	<i>0.106</i>	<i>0.145</i>	<i>0.145</i>	<i>0.115</i>	0.307	<i>0.413</i>	<i>0.510</i>
Ethanol (e)	0.260	0.288	0.281	0.286	0.268	<i>0.283</i>	<i>0.292</i>	<i>0.287</i>	<i>0.275</i>	<i>0.289</i>	<i>0.289</i>	<i>0.285</i>	1.116	<i>1.130</i>	<i>1.138</i>
Biodiesel (e)	0.031	0.044	0.056	0.069	0.040	<i>0.045</i>	<i>0.050</i>	<i>0.051</i>	<i>0.047</i>	<i>0.049</i>	<i>0.050</i>	<i>0.051</i>	0.201	<i>0.186</i>	<i>0.196</i>
Total Consumption	2.110	2.317	2.078	2.109	2.173	<i>2.390</i>	<i>2.151</i>	<i>2.098</i>	<i>2.227</i>	<i>2.463</i>	<i>2.226</i>	<i>2.221</i>	8.613	<i>8.811</i>	<i>9.136</i>

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Wood and wood-derived fuels.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Includes small-scale solar thermal and photovoltaic energy used in the commercial, industrial, and electric power sectors.

(e) Fuel ethanol and biodiesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biodiesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226 and *Renewable Energy Annual*, DOE/EIA-0603; *Petroleum Supply Monthly*, DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Generated by simulation of the U.S. Energy Information Administration *Short-Term Energy Outlook* model.

Table 9a. U.S. Macroeconomic Indicators and CO₂ Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Macroeconomic															
Real Gross Domestic Product (billion chained 2009 dollars - SAAR)	15,584	15,680	15,839	15,942	15,903	16,050	16,169	16,284	16,395	16,495	16,632	16,759	15,761	16,101	16,570
Real Personal Consumption Expend. (billion chained 2009 dollars - SAAR)	10,644	10,692	10,744	10,831	10,914	10,985	11,042	11,112	11,184	11,259	11,345	11,431	10,728	11,013	11,305
Real Fixed Investment (billion chained 2009 dollars - SAAR)	2,420	2,458	2,494	2,511	2,497	2,543	2,586	2,642	2,699	2,749	2,816	2,876	2,471	2,567	2,785
Business Inventory Change (billion chained 2009 dollars - SAAR)	63	77	145	139	67	98	76	70	68	57	54	55	106	78	59
Real Government Expenditures (billion chained 2009 dollars - SAAR)	2,907	2,905	2,907	2,869	2,863	2,868	2,874	2,877	2,877	2,877	2,877	2,881	2,897	2,870	2,878
Real Exports of Goods & Services (billion chained 2009 dollars - SAAR)	1,961	1,998	2,018	2,064	2,032	2,063	2,088	2,119	2,146	2,166	2,185	2,207	2,010	2,076	2,176
Real Imports of Goods & Services (billion chained 2009 dollars - SAAR)	2,383	2,423	2,437	2,446	2,451	2,496	2,487	2,524	2,566	2,600	2,632	2,674	2,422	2,490	2,618
Real Disposable Personal Income (billion chained 2009 dollars - SAAR)	11,502	11,618	11,703	11,724	11,772	11,823	11,846	11,929	12,054	12,155	12,258	12,365	11,637	11,843	12,208
Non-Farm Employment (millions)	135.5	136.1	136.6	137.2	137.8	138.5	139.1	139.6	140.2	140.9	141.5	142.3	136.4	138.7	141.2
Civilian Unemployment Rate (percent)	7.7	7.5	7.2	7.0	6.7	6.3	6.5	6.4	6.3	6.1	6.0	5.9	7.4	6.5	6.1
Housing Starts (millions - SAAR)	0.95	0.86	0.88	1.03	0.93	1.05	1.10	1.18	1.24	1.34	1.41	1.46	0.93	1.06	1.36
Industrial Production Indices (Index, 2007=100)															
Total Industrial Production	99.0	99.4	100.1	101.3	102.4	103.2	103.5	104.3	105.2	105.9	106.9	107.8	99.9	103.4	106.5
Manufacturing	97.1	97.5	97.9	99.0	99.6	100.8	101.5	102.4	103.3	104.1	105.0	105.9	97.9	101.1	104.6
Food	104.0	104.2	104.3	105.2	106.1	106.7	107.1	107.6	108.3	108.9	109.5	110.1	104.5	106.9	109.2
Paper	85.3	85.6	85.1	83.9	82.4	83.0	83.1	83.8	84.3	84.7	85.2	85.6	85.0	83.1	85.0
Petroleum and Coal Products	96.6	95.5	96.2	96.7	97.8	98.1	98.7	99.1	99.3	99.4	99.7	99.8	96.2	98.4	99.6
Chemicals	87.1	87.8	87.5	87.7	88.5	89.5	90.3	91.0	91.4	92.0	92.7	93.4	87.5	89.8	92.4
Nonmetallic Mineral Products	73.5	73.4	74.3	74.7	75.8	77.6	78.3	80.0	81.9	84.1	86.7	88.9	74.0	77.9	85.4
Primary Metals	99.7	99.4	100.8	103.1	101.9	103.3	104.6	105.9	106.6	107.5	109.3	110.9	100.8	103.9	108.6
Coal-weighted Manufacturing (a)	91.0	90.9	91.3	92.0	91.9	93.1	93.9	94.9	95.6	96.4	97.7	98.7	91.3	93.4	97.1
Distillate-weighted Manufacturing (a)	90.5	90.3	91.1	92.2	92.4	93.6	94.4	95.6	96.7	97.9	99.2	100.4	91.0	94.0	98.5
Electricity-weighted Manufacturing (a)	95.4	95.6	96.2	97.2	97.2	98.6	99.5	100.5	101.4	102.3	103.5	104.6	96.1	98.9	103.0
Natural Gas-weighted Manufacturing (a) ...	92.5	92.6	93.0	93.9	93.9	95.2	96.1	97.0	97.5	98.2	99.1	99.8	93.0	95.5	98.7
Price Indexes															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00)	2.32	2.32	2.33	2.34	2.35	2.37	2.38	2.39	2.40	2.41	2.42	2.43	2.33	2.37	2.42
Producer Price Index: All Commodities (index, 1982=1.00)	2.04	2.03	2.04	2.03	2.06	2.07	2.08	2.09	2.08	2.08	2.09	2.09	2.03	2.07	2.08
Producer Price Index: Petroleum (index, 1982=1.00)	3.01	2.96	2.99	2.83	2.87	3.05	3.09	2.93	2.92	2.98	2.94	2.83	2.95	2.99	2.92
GDP Implicit Price Deflator (index, 2009=100)	106.0	106.2	106.7	107.1	107.4	107.9	108.5	109.2	109.8	110.1	110.5	111.1	106.5	108.3	110.4
Miscellaneous															
Vehicle Miles Traveled (b) (million miles/day)	7,663	8,463	8,382	7,999	7,616	8,473	8,425	8,047	7,741	8,583	8,478	8,108	8,128	8,142	8,229
Air Travel Capacity (Available ton-miles/day, thousands)	507	536	542	516	503	535	542	521	510	538	544	523	526	525	529
Aircraft Utilization (Revenue ton-miles/day, thousands)	309	337	342	322	309	339	345	324	312	341	347	327	328	329	332
Airline Ticket Price Index (index, 1982-1984=100)	310.4	323.5	307.0	309.9	297.3	315.4	305.1	326.1	334.2	330.2	314.4	333.4	312.7	311.0	328.1
Raw Steel Production (million short tons per day)	0.259	0.267	0.267	0.260	0.262	0.263	0.282	0.283	0.299	0.308	0.293	0.287	0.263	0.273	0.297
Carbon Dioxide (CO₂) Emissions (million metric tons)															
Petroleum	550	561	578	573	557	571	575	571	557	569	578	575	2,262	2,275	2,279
Natural Gas	425	289	298	378	456	292	301	362	426	297	310	371	1,391	1,411	1,404
Coal	427	403	471	421	464	397	482	435	443	393	474	422	1,722	1,779	1,732
Total Fossil Fuels	1,402	1,254	1,347	1,373	1,478	1,260	1,358	1,368	1,425	1,259	1,362	1,368	5,375	5,464	5,415

- = no data available

SAAR = Seasonally-adjusted annual rate

 (a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey*.

(b) Total highway travel includes gasoline and diesel fuel vehicles.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the Global Insight Model of the U.S. Economy and simulation of the EIA Regional Short-Term Energy Model.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Real Gross State Product (Billion \$2005)															
New England	733	737	744	748	746	753	757	762	766	770	775	779	740	754	772
Middle Atlantic	2,034	2,045	2,063	2,074	2,065	2,079	2,089	2,101	2,113	2,123	2,138	2,152	2,054	2,084	2,132
E. N. Central	1,884	1,894	1,916	1,925	1,919	1,936	1,948	1,960	1,972	1,982	1,995	2,007	1,905	1,941	1,989
W. N. Central	891	898	908	914	910	919	925	931	937	943	951	957	903	921	947
S. Atlantic	2,507	2,524	2,549	2,569	2,566	2,593	2,613	2,634	2,653	2,671	2,694	2,717	2,537	2,601	2,684
E. S. Central	642	646	652	655	652	658	662	667	672	676	681	686	648	660	679
W. S. Central	1,681	1,691	1,710	1,723	1,725	1,742	1,759	1,771	1,785	1,798	1,816	1,833	1,701	1,749	1,808
Mountain	897	904	914	921	919	927	935	943	950	957	966	974	909	931	962
Pacific	2,431	2,443	2,469	2,485	2,477	2,502	2,524	2,545	2,564	2,581	2,604	2,626	2,457	2,512	2,594
Industrial Output, Manufacturing (Index, Year 2007=100)															
New England	95.3	95.5	95.7	96.3	96.9	98.0	98.5	99.2	99.9	100.5	101.2	102.0	95.7	98.1	100.9
Middle Atlantic	93.2	93.3	93.4	94.2	94.3	95.3	95.8	96.6	97.4	98.0	98.8	99.6	93.5	95.5	98.5
E. N. Central	98.5	98.9	99.4	101.0	101.9	103.2	104.0	104.9	106.1	107.1	108.1	109.1	99.4	103.5	107.6
W. N. Central	100.2	100.6	101.0	102.4	103.4	104.8	105.6	106.5	107.4	108.3	109.2	110.1	101.0	105.1	108.8
S. Atlantic	92.7	93.0	93.5	94.7	95.2	96.3	97.0	97.8	98.5	99.1	99.9	100.6	93.5	96.6	99.5
E. S. Central	94.6	95.1	95.7	96.8	97.2	98.6	99.3	100.2	101.1	101.9	102.9	103.8	95.6	98.8	102.4
W. S. Central	102.1	102.3	102.7	104.1	105.0	106.3	107.1	108.0	108.9	109.7	110.8	111.8	102.8	106.6	110.3
Mountain	98.7	99.3	99.8	101.0	101.5	102.9	103.7	104.8	105.8	106.6	107.7	108.8	99.7	103.2	107.2
Pacific	98.1	98.5	99.0	100.0	100.2	101.4	102.0	102.7	103.6	104.3	105.2	106.0	98.9	101.6	104.8
Real Personal Income (Billion \$2005)															
New England	682	690	691	695	700	701	703	708	715	720	725	731	690	703	723
Middle Atlantic	1,830	1,856	1,863	1,867	1,873	1,875	1,880	1,895	1,915	1,924	1,936	1,955	1,854	1,881	1,933
E. N. Central	1,684	1,702	1,701	1,704	1,709	1,718	1,723	1,732	1,751	1,764	1,775	1,787	1,698	1,721	1,769
W. N. Central	799	804	811	808	811	818	822	827	835	842	848	856	805	819	845
S. Atlantic	2,243	2,268	2,273	2,282	2,292	2,307	2,316	2,332	2,360	2,381	2,402	2,424	2,267	2,312	2,392
E. S. Central	595	599	602	602	605	608	610	613	620	625	630	635	599	609	628
W. S. Central	1,366	1,384	1,395	1,404	1,416	1,427	1,436	1,448	1,466	1,481	1,494	1,509	1,387	1,432	1,487
Mountain	770	783	785	788	793	799	804	810	821	829	836	845	782	802	833
Pacific	2,040	2,069	2,095	2,098	2,108	2,121	2,129	2,145	2,169	2,189	2,209	2,231	2,075	2,126	2,200
Households (Thousands)															
New England	5,771	5,781	5,791	5,800	5,813	5,821	5,830	5,840	5,851	5,863	5,876	5,888	5,800	5,840	5,888
Middle Atlantic	15,893	15,927	15,958	15,986	16,023	16,052	16,075	16,101	16,130	16,160	16,195	16,227	15,986	16,101	16,227
E. N. Central	18,449	18,486	18,516	18,541	18,580	18,604	18,628	18,654	18,682	18,714	18,753	18,790	18,541	18,654	18,790
W. N. Central	8,355	8,382	8,407	8,428	8,455	8,477	8,497	8,519	8,543	8,568	8,597	8,623	8,428	8,519	8,623
S. Atlantic	24,064	24,160	24,254	24,341	24,445	24,534	24,617	24,706	24,800	24,897	25,002	25,102	24,341	24,706	25,102
E. S. Central	7,445	7,460	7,472	7,482	7,497	7,508	7,519	7,531	7,546	7,562	7,583	7,603	7,482	7,531	7,603
W. S. Central	13,877	13,930	13,980	14,028	14,083	14,131	14,179	14,230	14,286	14,345	14,408	14,468	14,028	14,230	14,468
Mountain	8,584	8,623	8,662	8,698	8,741	8,778	8,815	8,854	8,896	8,939	8,985	9,030	8,698	8,854	9,030
Pacific	17,938	17,995	18,054	18,102	18,165	18,218	18,272	18,333	18,398	18,467	18,540	18,608	18,102	18,333	18,608
Total Non-farm Employment (Millions)															
New England	7.0	7.0	7.0	7.0	7.1	7.1	7.1	7.1	7.2	7.2	7.2	7.2	7.0	7.1	7.2
Middle Atlantic	18.5	18.5	18.6	18.6	18.6	18.7	18.7	18.8	18.8	18.9	19.0	19.0	18.5	18.7	18.9
E. N. Central	20.8	20.8	20.9	21.0	21.0	21.1	21.1	21.2	21.3	21.4	21.5	21.5	20.8	21.1	21.4
W. N. Central	10.2	10.2	10.2	10.3	10.3	10.4	10.4	10.5	10.5	10.5	10.6	10.6	10.2	10.4	10.6
S. Atlantic	25.6	25.7	25.8	26.0	26.1	26.2	26.4	26.5	26.6	26.7	26.9	27.0	25.8	26.3	26.8
E. S. Central	7.5	7.6	7.6	7.6	7.6	7.7	7.7	7.7	7.8	7.8	7.8	7.9	7.6	7.7	7.8
W. S. Central	15.8	15.9	15.9	16.0	16.2	16.3	16.4	16.5	16.5	16.6	16.7	16.8	15.9	16.3	16.7
Mountain	9.4	9.5	9.5	9.6	9.7	9.7	9.8	9.8	9.9	10.0	10.0	10.1	9.5	9.8	10.0
Pacific	20.5	20.6	20.8	20.9	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.8	20.7	21.2	21.6

- = no data available

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions.

 See "Census division" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Minor discrepancies with published historical data are due to independent rounding.

Projections: Macroeconomic projections are based on the Global Insight Model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2014

	2013				2014				2015				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2013	2014	2015
Heating Degree Days															
New England	3,120	847	167	2,297	3,544	911	153	2,219	3,198	859	138	2,219	6,431	6,826	6,414
Middle Atlantic	2,948	691	128	2,061	3,402	680	101	1,997	2,927	670	83	1,997	5,828	6,179	5,676
E. N. Central	3,289	758	119	2,456	3,910	740	131	2,225	3,123	700	117	2,225	6,622	7,005	6,164
W. N. Central	3,408	903	100	2,721	3,863	765	160	2,401	3,171	657	148	2,402	7,133	7,189	6,378
South Atlantic	1,518	212	21	988	1,692	215	14	994	1,504	215	13	993	2,738	2,916	2,725
E. S. Central	1,932	286	15	1,409	2,238	263	20	1,324	1,879	263	20	1,324	3,642	3,846	3,486
W. S. Central	1,179	137	1	1,011	1,476	151	5	851	1,259	94	5	851	2,329	2,484	2,209
Mountain	2,414	730	126	1,996	2,079	578	151	1,873	2,199	663	145	1,873	5,266	4,681	4,879
Pacific	1,560	498	84	1,233	1,209	378	78	1,106	1,356	512	100	1,107	3,375	2,772	3,075
U.S. Average	2,221	510	76	1,660	2,426	469	78	1,538	2,132	473	75	1,537	4,467	4,511	4,217
Heating Degree Days, Prior 10-year Average															
New England	3,197	860	129	2,158	3,152	836	134	2,167	3,164	841	135	2,161	6,344	6,289	6,301
Middle Atlantic	2,937	678	84	1,978	2,905	659	88	1,982	2,931	664	90	1,979	5,678	5,635	5,663
E. N. Central	3,132	696	122	2,212	3,117	690	120	2,243	3,190	696	120	2,248	6,161	6,170	6,253
W. N. Central	3,210	667	156	2,362	3,209	686	149	2,404	3,273	692	148	2,422	6,394	6,448	6,534
South Atlantic	1,474	198	14	1,009	1,465	194	14	1,006	1,479	198	14	1,008	2,694	2,679	2,699
E. S. Central	1,819	231	21	1,323	1,810	236	19	1,336	1,850	239	19	1,349	3,393	3,401	3,457
W. S. Central	1,177	79	6	801	1,158	85	5	827	1,188	92	5	834	2,063	2,075	2,120
Mountain	2,237	728	158	1,869	2,267	728	156	1,887	2,254	717	150	1,884	4,993	5,037	5,005
Pacific	1,534	645	94	1,236	1,554	625	96	1,237	1,529	612	95	1,218	3,510	3,512	3,455
U.S. Average	2,172	499	77	1,558	2,161	492	77	1,569	2,180	492	76	1,567	4,306	4,299	4,315
Cooling Degree Days															
New England	0	96	442	0	0	85	384	0	0	89	408	0	538	469	497
Middle Atlantic	0	158	524	6	0	156	538	5	0	170	567	5	688	699	742
E. N. Central	0	213	471	6	0	223	540	8	0	232	570	8	690	770	810
W. N. Central	0	230	655	7	0	289	676	11	3	288	698	11	892	976	1,000
South Atlantic	107	591	1,038	255	108	693	1,147	227	109	616	1,147	227	1,990	2,174	2,099
E. S. Central	14	453	920	59	3	550	1,060	68	26	502	1,055	68	1,446	1,680	1,651
W. S. Central	73	784	1,514	165	42	824	1,496	191	71	831	1,478	191	2,536	2,554	2,571
Mountain	22	482	913	49	19	419	935	77	19	433	938	77	1,466	1,450	1,468
Pacific	26	218	593	49	32	226	593	75	31	197	567	75	886	926	871
U.S. Average	36	378	803	87	33	411	844	92	38	394	849	92	1,304	1,379	1,374
Cooling Degree Days, Prior 10-year Average															
New England	0	77	416	1	0	83	417	1	0	86	423	1	494	500	510
Middle Atlantic	0	159	560	4	0	167	559	5	0	168	568	5	724	731	742
E. N. Central	3	220	548	6	3	230	546	6	3	233	561	7	778	785	803
W. N. Central	7	273	684	9	7	277	678	9	7	285	697	9	974	972	997
South Atlantic	112	633	1,157	208	109	636	1,153	212	110	639	1,163	213	2,110	2,111	2,125
E. S. Central	36	525	1,049	57	35	528	1,046	57	32	531	1,067	52	1,667	1,666	1,682
W. S. Central	100	889	1,494	194	102	882	1,506	191	95	888	1,524	181	2,676	2,680	2,687
Mountain	17	411	934	77	18	421	922	70	16	422	936	73	1,440	1,432	1,448
Pacific	26	159	598	63	26	166	588	58	25	170	591	61	847	838	848
U.S. Average	42	387	844	84	41	393	843	83	40	397	856	83	1,357	1,360	1,377

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (<http://www.eia.gov/tools/glossary/>) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

Projections: Based on forecasts by the NOAA Climate Prediction Center (<http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml>).

CALIFORNIA NATURAL RESOURCES AGENCY



FINAL STATEMENT OF REASONS FOR REGULATORY ACTION

**Amendments to the State CEQA Guidelines
Addressing Analysis and Mitigation of Greenhouse Gas
Emissions Pursuant to SB97**

December 2009

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**CALIFORNIA NATURAL RESOURCES AGENCY
FINAL STATEMENT OF REASONS FOR REGULATORY ACTION**

December 2009

INTRODUCTION

The California Natural Resources Agency (“the Resources Agency”) has adopted certain amendments and additions to certain guidelines implementing the California Environmental Quality Act (Public Resources Code section 21000 *et seq.*) (“CEQA”). Specifically, these amendments implement the Legislature’s directive in Public Resources Code section 21083.05 (enacted as part of SB97 (Chapter 185, Statutes 2007)). That section directs the Resources Agency to “certify and adopt guidelines prepared and developed by the Office of Planning and Research” “for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions[.]” (Pub. Resources Code, § 21083.05(a)-(b).)

CEQA generally requires public agencies to review the environmental impacts of proposed projects, and, if those impacts may be significant, to consider feasible alternatives and mitigation measures that would substantially reduce significant adverse environmental effects. Section 21083 of the Public Resources Code requires the adoption of guidelines to provide public agencies and members of the public with guidance about the procedures and criteria for implementing CEQA. The guidelines required by section 21083 of the Public Resources Code are promulgated in the California Code of Regulations, title 14, sections 15000-15387 (the “Guidelines” or “State CEQA Guidelines”). Public agencies, project proponents, and third parties who wish to enforce the requirements of CEQA, rely on the Guidelines to provide a comprehensive guide on compliance with CEQA. Subdivision (f) of section 21083 requires the Resources Agency, in consultation with the Office of Planning and Research (“OPR”), to certify, adopt and amend the Guidelines at least once every two years.

Section 21083.05, as noted above, requires the promulgation of Guidelines specifically addressing analysis and mitigation of the effects of greenhouse gas emissions. The Resources Agency has adopted the following changes to the Guidelines (“Amendments”) to implement that directive:

Add sections: 15064.4, 15183.5 and 15364.5.

Amend sections: 15064, 15064.7, 15065, 15086, 15093, 15125, 15126.2,
 15126.4, 15130, 15150, 15183, Appendix F and Appendix G.

In addition to guidelines implementing SB97, some of the amendments listed above are non-substantive corrections.

The Resources Agency considered reasonable alternatives to the Amendments. The Resources Agency has determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 and to update the Guidelines to reflect recent case law. Thus, the Amendments add no additional substantive requirements; rather, the Guidelines merely assist lead agencies in complying with CEQA's existing requirements. The Resources Agency rejected the no action alternative because it would not respond to the Legislature's directive in SB97. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts are due to existing requirements of CEQA and not the Amendments.

The Resources Agency also initially determined that the Amendments would not have a significant adverse economic impact on business. The Resources Agency has determined that this action would have no impacts on project proponents. However, the Resources Agency is aware that certain of the statutory changes enacted by the Legislature and judicial decisions, described in greater detail below, that are reflected in the Amendments could have an economic impact on project proponents, including businesses. Among other things, project proponents could incur additional costs in assisting lead agencies to comply with CEQA's requirement for analysis of greenhouse gas emissions. However, the Amendments to the Guidelines merely reflect these legislative and judicial requirements, and the Resources Agency knows of no less costly alternative. The Amendments clarify and update the Guidelines to be consistent with legislative enactments that have modified CEQA, and recent case law interpreting it, but does not impose any new requirements. Therefore, the Amendments would not have a significant, adverse economic impact on business.

Some comments were submitted during the public comment period and during the public hearings on the Proposed Amendments suggesting that the adverse economic impacts could result. For example, some suggested that the addition of forestry resources to the Appendix G checklist may increase the regulatory burden on the agricultural industry. Others suggested that application of the Guidelines to renewable energy projects or those implementing AB32 may be counterproductive. Despite those suggestions, no evidence was presented to the Resources Agency supporting those claims. Moreover, those comments did not provide any rationale challenging the Resources Agency's position that the Proposed Amendments implement existing requirements. Therefore, having considered all of the comments submitted on the Proposed Amendments, the Resources Agency concludes that its initial determination that the proposed action will not have a significant adverse economic impact remains correct.

The Amendments do not duplicate or conflict with any federal statutes or regulations. CEQA is similar in some respects to the National Environmental Policy Act ("NEPA"), 42 U.S.C. sections 4321-4343. Federal agencies are subject to NEPA, which

requires environmental review of federal actions. State and local agencies are subject to CEQA, which requires environmental review before state and local agencies may approve or decide to undertake discretionary actions and projects in California. Although both NEPA and CEQA require an analysis of environmental impacts, the substantive and procedural requirements of the two statutes differ. Most significantly, CEQA requirements for feasible mitigation of environmental impacts exceed NEPA's mitigation provisions. A state or local agency must complete a CEQA review even for those projects for which NEPA review is also applicable, although Guidelines sections 15220-15229 allow state, local and federal agencies to coordinate review when projects are subject to both CEQA and NEPA. Because state and local agencies are subject to CEQA unless exemptions apply, and because CEQA and NEPA are not identical, guidelines for CEQA are necessary to interpret and make specific provisions of SB97 and do not duplicate the Code of Federal Regulations.

FINAL STATEMENT OF REASONS

The Administrative Procedure Act requires that an agency prepare a final statement of reasons supporting its proposed regulation. The final statement of reasons updates the information contained in the initial statement of reasons, contains final determinations as to the economic impact of the regulations, and provides summaries and responses to all comments regarding the proposed action. The initial statement of reasons, as updated and revised, are contained in full in this final statement of reasons. The summaries and responses to comments are included in the Natural Resources Agency's file of this rulemaking proceeding.

Below is a brief background on the science relating to the effects of greenhouse gas emissions, as well as the various initiatives that California is implementing to reduce those emissions. Following that background, OPR's public engagement process and the Natural Resources Agency's rulemaking process is briefly described. Next, this Final Statement of Reasons explains the purpose and necessity of each proposed change to the Guidelines. Finally, Thematic Responses, addressing the major themes that were raised in public comments, are provided.

BACKGROUND ON THE EFFECTS OF GREENHOUSE GAS EMISSIONS AND CALIFORNIA'S EFFORTS TO REDUCE THOSE EMISSIONS

This section provides a brief background on the potential effects of greenhouse gas emissions and California's efforts to reduce those emissions.

What Are Greenhouse Gases?

Certain gases in Earth's atmosphere naturally trap solar energy to maintain global average temperatures within a range suitable for terrestrial life. Those gases – which primarily include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons,

perfluorocarbons and sulfur hexafluoride – act as a greenhouse on a global scale. (Health and Safety Code, § 38505(g).) Thus, those heat-trapping gases are known as greenhouse gases (“GHG”).

The Legislature defined “greenhouse gases” to include the six gases mentioned above in California’s Global Warming Solutions Act. (Health & Saf. Code, § 38500 et seq.) Similarly, the U.S. EPA has found that those same six gases could be regulated under the authority of the Clean Air Act. According to the U.S. EPA:

(1) These six greenhouse gas share common properties regarding their climate effects; (2) these six greenhouse gases have been estimated to be the primary cause of human-induced climate change, are the best understood drivers of climate change, and are expected to remain the key driver of future climate change; (3) these six greenhouse gases are the common focus of climate change science research and policy analyses and discussions; [and] (4) using the combined mix of these gases as the definition (versus an individual gas-by-gas approach) is consistent with the science, because risks and impacts associated with greenhouse gas-induced climate change are not assessed on an individual gas approach....

(EPA, Endangerment Finding, 74 Fed. Reg. 66496, 66517 (December 15, 2009).) The United Nations Framework Convention on Climate Change also addresses these six gases. (*Id.* at p. 66519.)

What Causes Greenhouse Gas Emissions?

The incremental contributions of GHGs from innumerable direct and indirect sources result in elevated atmospheric GHG levels. (EPA, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904 (April 24, 2009) (“cumulative emissions are responsible for the cumulative change in the stock of concentrations in the atmosphere”); see also 74 Fed. Reg. 66496, 66538 (same in Final Endangerment Finding).) Some GHG emissions occur through natural processes such as plant decomposition and wildfires. One large source of GHG emissions, for example, is wildfire on forestlands and rangelands, which release carbon as a result of material being burned. (California Board of Forestry and Fire Protection, *2008 Strategic Plan and Report to the CARB on Meeting AB32 Forestry Sector Targets* (October, 2008), at p. 2.)

Human activities, such as motor vehicle use, energy production and land development, also result in both direct and indirect emissions that contribute to highly elevated concentrations of GHGs in the atmosphere. (California Energy Commission, *Inventory of California Emissions and Sinks: 1990 to 2004* (2006).)¹ Transportation

¹ Multiple statewide emission inventories covering the same period of time may vary. This is largely due to inventories characterizing an emission source by sectors (e.g. agriculture, cement, transportation, etc.) which may not be treated the same depending on the methodology used and access to information. Thus,

alone is estimated to account for nearly 40 percent of California's GHG emissions. (California Air Resources Board, *Climate Change Proposed Scoping Plan* (2008), at p. 11 ("Scoping Plan"); California Energy Commission 2007, *2007 Integrated Energy Policy Report*, CEC-100-2007-008-CMF ("2007 IEPR") at p. 18, Figure 1-2.) Emissions attributable to transportation result largely from development that increases, rather than decreases, vehicle miles traveled: low density, unbalanced land uses separating jobs and housing, and a focus on single-occupancy vehicle travel. (California Energy Commission, *The Role of Land Use In Meeting California's Energy and Climate Change Goals*. (2007) at p. 9.) In approaching regulation of GHG emissions in California, for example, the California Air Resources Board ("ARB") proposes to regulate various economic sectors that are known to emit GHGs, including electric power, transportation, industrial sources, landfills, commercial and residential sectors, agriculture and forestry. (Scoping Plan, Appendix F.) With a growing population and economy, California's total GHG emissions continue to increase. As explained below, this rapid rate of increase in GHG emissions is causing a change in the composition of atmospheric gases that may cause life threatening adverse environmental consequences.

What Effects May Result from Increased Greenhouse Gas Emissions?

Several measurable effects, including, among others, an increase in global average temperatures have been attributed to increases in GHG emissions resulting from human activity. (Intergovernmental Panel on Climate Change, *Working Group 1 Report: The Physical Science Basis* (2001), at p. 101.) Evidence further indicates that a warmer planet may in turn lead to changes in rainfall patterns, a retreat of polar icecaps, a rise in sea level, and changes in ecosystems supporting human, animal and plant life. (U.S. Environmental Protection Agency, *Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act*, April 17, 2009 ("Technical Support Document"), at pp. ES-1 to ES-3.) Climate change is not the only effect of increased GHG emissions. Impacts to human health and ocean acidification are also attributed to increasing concentrations of GHGs in the Earth's atmosphere. (*Id.* at p. 57.)

Globally elevated concentrations of GHGs have been observed to induce a range of associated effects. For example, the effects of atmospheric warming include, but are not limited to, increased likelihood of more frequent and intense natural disasters, increased drought, and harm to agriculture, wildlife, and ecological systems. (Technical Support Document at pp. ES-1, ES-6.) According to a report prepared for the California Climate Change Center:

Climate change is likely to affect the abundance, production, distribution, and quality of ecosystem services throughout the State of California

two statewide emissions inventories may be different depending on the agency that created them or its intended application. The CARB is in the process of updating its statewide data and methodologies to be consistent with international and national guidelines. The typical emissions inventory covers 1990 to 2004.

including the delivery of abundant and clean water supplies to support human consumption and wildlife, climate stabilization through carbon sequestration, the supply of fish for commercial and recreational sport fishing. For example, as described in this report, areas of the state suitable for forage production to support cattle grazing in natural areas could shift as some parts of the state become too dry to support forage and others become wetter. The ability of the State's forests to sequester carbon and support climate stabilization could be hindered as productivity decreases and fires increase. And increased water temperatures in streams due to a decrease in provision of fresh water could seriously reduce salmon reproduction and subsequently reduce the number of salmon available for commercial and recreational harvest. Also, areas of the state suitable for forage production to support cattle grazing in natural areas could shift as some parts of the state become too dry to support forage and others become wetter. All of these ecosystem services have economic value and that value and its distribution is likely to change under a changing climate.

(Rebecca Shaw, et al., for the California Climate Change Center, *The Impact of Climate Change on California's Ecosystem Services*, March 2009, CEC-500-2009-025-D, at p. 1.)

The effects of increased GHG concentrations are already being felt in California. For example, global atmospheric changes are causing sea levels to rise. An increase of approximately 8 inches has been recorded at the Golden Gate Bridge over the past 100 years. Such sea level rise threatens low coastal areas with inundation and increased erosion. (Scoping Plan, at p. 10.)

While sea levels continue to rise, the Sierra snowpack has been shrinking. Average annual runoff from spring snowmelt has decreased 10% in the last 100 years. Because snow in the Sierra acts as a reservoir, holding winter water for use later in the year, reduced snowpack creates greater potential for summer droughts and reduced hydroelectricity generation. (Office of Environmental Health and Hazard Assessment, April, 2009, *Indicators of Climate Change in California*, at p. 76.) Climate change is also thought to account for changes in the timing of California's major precipitation events. As explained in a report prepared for the California Climate Change Center:

reservoirs were designed to store only a fraction of the state's entire yearly precipitation, under the assumption that the annual mountain snowpack would melt at roughly the same time every year. During anomalously high rain or snowmelt events, reservoirs must not only store water, but also discharge excess water to avoid flooding. Water must sometimes be discharged in anticipation of large events to reduce flood risk. The dual functions of storage and flood management require reservoir managers to carefully balance factors such as precipitation, snowmelt timing, reservoir storage capacity, and demand. Even if future precipitation remains

unchanged, shifts in snowmelt timing can affect California's water supply during the warm season due to reservoir storage capacity constraints.

(Sarah Kapnick and Alex Hall, for the California Climate Change Center, *Observed Changes in the Sierra Nevada Snowpack: Potential Causes and Concerns*, March 2009, CEC-500-2009-016-D, at p. 1.)

Climate change is also expected to increase the number and intensity of forest fires. (Technical Support Document, at p. 91; see also Indicators of Climate Change (2009) at p. 131.) A generally warmer climate is associated with a longer summer season, which in turn dries vegetation and fuels making ignition easier and hastens wildfire spread. (*Ibid*; see also A. L. Westerling, for the California Climate Change Center, *Climate Change, Growth and California Wildfire*, March 2009, CEC-500-2009-046-D, at pp. 1-2.) Not only do wildfires release additional carbon and increase air pollutants, but they also cause indirect effects. For example, wildfires reduce vegetative cover leading to increased water runoff, which has affected watersheds and dampens the effectiveness of California's water works infrastructure. This will degrade California's water quality and challenge water treatment operations to provide safe drinking water. Adverse health impacts from heat-related illnesses are expected with hotter temperatures, and, due to poorer air quality, lung disease, asthma, and other respiratory and circulatory problems will be exacerbated. (California Climate Action Team, Executive Summary Report to Governor Schwarzenegger and the California Legislature (2006) at pp. xii to xiii, 27.); see also Technical Support Document, at pp. ES-4, 69-71.)

Why is California Involved in Greenhouse Gas Regulation?

California is vulnerable to the effects of global warming, and, despite its global nature, action to curb GHG emissions is needed on a statewide level. The legislative findings in Assembly Bill 32 (Chapter 448, Statutes 2006) ("AB32"), for example, state:

... Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

... Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state.

(Health & Safety Code, § 38501(a), (b).) The Legislature further declared: “action taken by California to reduce emissions of greenhouse gases will have far-reaching effects by encouraging other states, the federal government, and other countries to act.” (*Id.* at subd. (d).) As the world’s fifteenth largest emitter of GHGs from human activity and natural sources, California is uniquely positioned to act to reduce GHGs. (Scoping Plan, at pp. 11.)

Reducing greenhouse gas emissions is a necessary response to the threats posed by climate change. Efforts to reduce emissions may result in other significant benefits as well. Governor Schwarzenegger laid out the case for action to reduce greenhouse gas emissions in Executive Order S-3-05:

... California-based companies and companies with significant activities in California have taken leadership roles by reducing greenhouse gas (GHG) emissions, including carbon dioxide, methane, nitrous oxide and hydrofluorocarbons, related to their operations and developing products that will reduce GHG emissions; ...

... [C]ompanies that have reduced GHG emissions by 25 percent to 70 percent have lowered operating costs and increased profits by billions of dollars; ...

... [T]echnologies that reduce greenhouse gas emissions are increasingly in demand in the worldwide marketplace, and California companies investing in these technologies are well-positioned to profit from this demand, thereby boosting California's economy, creating more jobs and providing increased tax revenue; ...

... [M]any of the technologies that reduce greenhouse gas emissions also generate operating cost savings to consumers who spend a portion of the savings across a variety of sectors of the economy; this increased spending creates jobs and an overall benefit to the statewide economy.

Thus, the Governor, Legislature and private sector have concluded that action to reduce greenhouse gas emissions is necessary and beneficial for the State.

What is California Doing to Reduce its Greenhouse Gas Emissions?

Action to curb greenhouse gas emissions is taking place on many fronts. As described above, the private sector has already taken important steps to increase efficiency and lower costs associated with such emissions. Many local governments have also adopted, or are currently developing, various plans and programs designed to reduce community-wide GHG emissions. (Office of Planning and Research, *The California Planner’s Book of Lists* (January 2009) (“Book of Lists”), at pp. 92-100; see also Scoping Plan, at p. 26.) Due to its potential vulnerability to the effects of GHG

emissions, and the wide variety of GHG emissions sources within its borders, California has enacted several laws and programs designed to reduce the State's GHG emissions. Several major legislative initiatives are described below.

AB32 – The Global Warming Solutions Act

Assembly Bill 32 (Chapter 448, Statutes 2006) is a key piece of California's effort to reduce its GHG emissions. AB32 requires the California Air Resources Board ("ARB") to establish regulations designed to reduce California's GHG emissions to 1990 levels by 2020. (Health & Safety Code, § 38550.) On December 11, 2008, ARB adopted its Scoping Plan, setting forth a framework for future regulatory action on how California will achieve that goal through sector-by-sector regulation. (ARB, Resolution No. 08-47; see also Health & Safety Code, § 38561.) ARB must adopt, no later than January 1, 2012, rules and regulations to implement the GHG emissions reductions envisioned in the Scoping Plan. (Health & Safety Code, § 38562.)

The AB32 Scoping Plan outlines a set of actions designed to reduce overall GHG emissions in California to 1990 levels by 2020. The Scoping Plan presents GHG emission reduction strategies that combine regulatory approaches, voluntary measures, fees, policies, and programs. Reduction strategies are expected to evolve as technologies develop and progress toward the State's goal is monitored. Thus, the Scoping Plan sets forth the outline of California's strategy to reduce GHG emissions on a statewide basis.

SB375

As noted above, nearly 40 percent of California's GHG emissions come from the State's transportation sector. (Chapter 728, Statutes 2007, § 1(a).) Technology innovation and lower-carbon fuels alone will not reduce transportation-related emissions sufficiently for California to reach the reduction goals set out in AB32. (*Id.* at § 1(c).) Therefore, in SB375, California enacted several measures to reduce vehicular emissions through land-use planning.

Specifically, SB375 requires ARB to develop "greenhouse gas emission reduction targets for the automobile and light truck sector" for each metropolitan planning organization (MPO). (Gov. Code, § 65080(b)(2)(A).) Once that target is set, each MPO must develop a sustainable communities strategy (SCS), as part of its regional transportation plan, that will set forth a development pattern that will achieve the reduction target approved by the ARB. (*Id.* at subd. (b)(2)(B).) The MPO's transportation planning activities must be consistent with the adopted SCS. (*Id.* at subd. (b).) While an SCS does not supersede a local government's land use authority, SB375 created an exemption from CEQA for local transit-oriented residential projects that are consistent with the applicable SCS as an incentive. (*Id.* at subd. (b)(2)(J); Pub. Resources Code, § 21155.1.)

CEQA and SB97

While AB32 and SB375 target specific types of emissions from specific sectors, the California Environmental Quality Act (“CEQA”) regulates nearly all governmental activities and approvals. CEQA generally requires that a lead agency analyze the potential adverse environmental impacts of their decisions, and, if those impacts are determined to be significant, to avoid those impacts through mitigation or project alternatives. As awareness of the causes and effects of GHG emissions has increased, those effects began to be addressed in environmental analyses on a project-level basis. Federal courts, moreover, have interpreted the National Environmental Policy Act (“NEPA”) to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Uncertainty developed, however, among public agencies regarding how GHG emissions should be analyzed in environmental documents prepared pursuant to CEQA.

To provide greater certainty to lead agencies, Governor Schwarzenegger signed Senate Bill 97 (Chapter 148, Statutes 2007). (Governor Schwarzenegger’s Signing Message, SB 97.) That statute, among other things, constitutes the Legislature’s recognition that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. Pursuant to SB97, OPR developed, and the Resources Agency will adopt, amendments to the State CEQA Guidelines to address analysis and mitigation of the potential effects of GHG emissions in CEQA documents and processes. As new information or criteria established by ARB in the AB 32 process becomes available, OPR and the Resources Agency will periodically update the CEQA Guidelines to account for that new information. This rulemaking package responds to the Legislature’s directive in SB97.

Questions concerning the relationship between AB32, SB375 and CEQA were raised in public comments on the Proposed Amendments. The Resources Agency developed responses to those questions in the Responses to Comments, which are appended to this Final Statement of Reasons. Further discussion of the relationship between AB32, SB375 and CEQA is provided in the Thematic Responses at the end of this Final Statement of Reasons.

BACKGROUND ON THE DEVELOPMENT OF THE PROPOSED AMENDMENTS

OPR developed the Proposed Amendments pursuant to Public Resources Code section 21083.05, which states in part:

On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption.

In developing the Proposed Amendments, OPR actively sought the input, advice, and assistance of numerous interested parties and stakeholder groups. (Letter from OPR Director, Cynthia Bryant, to Secretary for the Natural Resources Agency, Mike Chrisman, April 13, 2009.) Specifically, OPR met with representatives of numerous agencies and organizations to discuss the perspectives of the business community, the environmental community, local governments, non-governmental organizations, state agencies, public health officials, CEQA practitioners and legal experts. In addition, OPR took advantage of numerous regional and statewide conferences to raise awareness about CEQA and GHG emissions among diverse audiences and to seek their input. These activities satisfy the provisions of Government Code section 11346.45 which require early public involvement in complex proposals.

After publishing a preliminary draft, on January 8, 2009, OPR continued to conduct extensive public outreach, including two public workshops, to receive input on the Preliminary Amendments. Both public workshops were well attended, drawing over two hundred participants representing various California business interests, environmental organizations, local governments, attorneys and consultants. In addition to oral comments at its workshops, OPR received over eighty written comment letters.

Some comments suggested additional amendments to the CEQA Guidelines. Other comments sought clarification of the language in the preliminary amendments. OPR incorporated those suggestions and clarifications to the extent possible and appropriate into its April 13, 2009, submittal to the Resources Agency. Some suggestions were not appropriate for inclusion, however, due to conflict with existing statutory authority and/or case law. For example, some comments submitted to OPR during its public workshops indicated that the Guidelines should be addressed to “Climate Change” rather than just the effects of GHG emissions. The focus in the Guidelines on GHG emissions is appropriate for at least three reasons.

First, the Legislative authorization for the Proposed Amendments refers specifically to guidelines on the “mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions.” (Pub. Resources Code, § 21083.05.) Had the Legislature intended the Guidelines to address climate change or global warming specifically, it presumably would have so indicated. Second, the precise “effect” of GHG emissions from a project is a factual matter for the lead agency to determine. Such effects may include “climate change,” “global warming” and other changes in the physical environment (increased ocean acidity or sea-level rise, for example). (EPA, Draft Endangerment Finding, 74 Fed. Reg. 18886 (April 24, 2009), Technical Support Document, at pp. ES-2 to ES-3; see further discussion at pages 4-5, above.) Thus, rather than limit analysis to a particular effect, the proposed Guidelines on GHG emissions are consistent with the treatment of air pollutants in the existing Appendix G, which focus largely on the concentration of pollutants. (See, e.g., existing State CEQA Guidelines, Appendix G, III.d.) Third, the focus in a cumulative impacts analysis is “whether any additional effect caused by the proposed project should be considered significant given the existing cumulative effect.” (*CBE, supra*, 103 Cal. App. 4th at 118.)

Thus, the Proposed Amendments appropriately focus on a project's potential incremental contribution of GHGs rather than on the potential effect itself (i.e., climate change). Notably, however, the Proposed Amendments expressly incorporate the fair argument standard. (See, e.g., proposed Section 15064.4(b)(3).) Thus, if there is any substantial evidence supporting a fair argument that a project's GHG emissions may result in any adverse impacts, including climate change, the lead agency must resolve that concern in an EIR.

THE NATURAL RESOURCES AGENCY'S RULEMAKING PROCESS

The Natural Resources Agency commenced the rulemaking process on the Amendments on July 3, 2009, by publishing its Notice of Proposed Action in the California Regulatory Notice Register. (2009 No. 27-Z.) In addition, the Notice of Proposed Action was mailed to over 640 interested parties, and notices were e-mailed to those parties that requested electronic notification. The Natural Resources Agency also posted the Notice, Proposed Text and Initial Statement of Reasons on its website, and invited public comments on the proposed amendments between July 3, 2009, and August 20, 2009. Public hearings were held on August 18, 2009, and August 20, 2009, in Los Angeles and Sacramento, respectively, at which verbal and written comments and presentations were accepted. To ensure that all interested parties were able to provide written comments if they so chose, the Natural Resources Agency extended the public comment period to August 27, 2009. The Natural Resources Agency received over 80 comment letters on the proposed amendments.

Following review of all public comments received during the public review period and at the public hearings, the Natural Resources Agency determined that further revisions to the proposed text were appropriate. It, therefore, mailed a Notice of Proposed Changes to all hearing attendees and all persons that requested notice. Electronic notices were e-mailed to those requesting such notification. The Notice of Proposed Changes, Revised Text of the proposed amendments, comment letters, and all prior rulemaking documents were posted on the Natural Resources Agency's website. Since all revisions to the proposed amendments were sufficiently related to the originally noticed text, public comment was invited between October 23, 2009, and November 10, 2009. The Natural Resources Agency received over 20 comment letters on the revisions to the proposed amendments.

Following the close of the second public comment period, the Natural Resources Agency reviewed and considered all written comments. The Secretary for Natural Resources determined that, other than two non-substantive, clarifying changes in sections 15126.2(a) and 15126.4(c), described below, no further revisions to the proposed amendments was necessary. Secretary Mike Chrisman adopted the amendments described in this Final Statement of Reasons in December 2009.

Throughout the rulemaking process, staff of the Natural Resources Agency met with all interested parties requesting in person meetings. It also attended and presented at various conferences hosted by, among others, the California Chapter of

the American Planning Association, the California State Bar's Environmental Law Conference, County Counsels Association of California, several county bar association meetings and local government forums to provide updates on the proposed amendments and to ensure widespread participation in the Natural Resources Agency's rulemaking process.

Copies of all relevant rulemaking documents, including hearing transcripts, notices, and agendas, are included in the record of proceedings.

ADOPTED AMENDMENTS

Analysis of GHG emissions in a CEQA document presents unique challenges to lead agencies. Such analysis must be consistent with existing CEQA principles, however. Therefore, the Amendments comprise relatively modest changes to various portions of the existing CEQA Guidelines. Modifications address those issues where analysis of GHG emissions may differ in some respects from more traditional CEQA analysis. Other modifications clarify existing law that may apply both to analysis of GHG emissions as well as more traditional CEQA analyses. The incremental approach in the Amendments is consistent with Public Resources Code section 21083(f), which directs OPR and the Resources Agency to regularly review the Guidelines and propose amendments as necessary.

The Legislature expressly left development of the Guidelines to the discretion of OPR and the Resources Agency. That discretion is governed by the Government Code, which requires that any administrative regulations be consistent, and not conflict, with existing statutory authority. (Gov. Code, § 11342.2.) Thus, the Resources Agency intends, as did OPR, the Amendments to incorporate existing law, and where necessary "to implement, interpret, make specific or otherwise carry out the provisions of the statute." (*Ibid.*) In addition, the Guidelines must be "reasonably necessary" to carry out a legislative directive. (*Ibid.*) Because the determination of "reasonable necessity" implicates an agency's expertise, courts will defer to an agency's findings of necessity unless the action is arbitrary, capricious or without reasonable basis. (*Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 109 ("CBE").)

The Amendments include changes to or additions of fourteen sections of the existing Guidelines, as well as changes to Appendices F (Energy Conservation) and G (Environmental Checklist Form). The Amendments are discussed below.

SECTION 15064. DETERMINING THE SIGNIFICANCE OF THE ENVIRONMENTAL EFFECTS CAUSED BY A PROJECT.

Specific Purposes of the Amendment

Amendments are proposed to two subdivisions of the existing section 15064. The first, to subdivision (f)(5), is a grammatical correction that qualifies as a “change without regulatory effect” pursuant to section 100(a)(4) of the Office of Administrative Law’s regulations governing the rulemaking process. (Cal. Code Regs., tit. 1, § 100(a)(4).) The second set of amendments is to subdivision (h)(3). The latter amendments are described in detail below.

Cumulative Impacts

Existing subdivision (h)(3) allows an agency to find that a project’s potential cumulative impacts are less than significant due to compliance with requirements in a plan or mitigation program. (*CBE, supra*, 103 Cal.App.4th at 111 (“a lead agency’s use of existing environmental standards in determining the significance of a project’s environmental impacts is an effective means of promoting consistency in significance determinations and integrating CEQA environmental review activities with other environmental program planning and regulation”).) In effect, that section creates a rebuttable presumption that compliance with certain plans and regulations reduces a project’s potential incremental contribution to a cumulative effect to a level that is not cumulatively considerable.

The existing Guidelines text includes several criteria that define which plans or programs may create such a presumption. To satisfy those criteria, a plan or program must: (1) have been previously approved, (2) contain specific requirements that avoid or substantially lessen the cumulative problem within a defined geographic area, and (3) be either specified in law or approved by a public agency with jurisdiction over affected resources. These criteria ensure that the presumption applies only where plans or programs have undergone public scrutiny and include binding requirements to address a cumulative problem. The existing text lists three types of plans as examples that may be relied upon for a cumulative analysis. The word “e.g.” in the existing text indicates, however, that the list is not exclusive. The Third District Court of Appeal upheld what is now section 15064(h)(3) in the *CBE* decision. (*CBE, supra*, 103 Cal.App.4th at 115-116.)

Use of Plans and Regulations in a Cumulative Impacts Analysis

The Proposed Amendments include two changes to subdivision (h)(3). First, the Amendments would add several plans and regulations to the list of examples. The Proposed Amendments would add “habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions” to the list of plans and programs that may be considered in a cumulative

impacts analysis. As explained below, the Resources Agency finds that the added plans and regulations satisfy the criteria in the existing text.

“Habitat conservation plans” are defined in the federal Endangered Species Act, and typically include specific requirements to protect listed species within a defined geographic area. (16 U.S.C. § 1539.) Though a habitat conservation plan (“HCP”) may be prepared to address the impacts of one particular project, HCPs may also be, and often have been, prepared to address the impacts of cumulative development within a defined area. (Fish and Wildlife Service and National Marine Fisheries Service, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (November 4, 1996), at pp. 1-6 to 1-7, 1-14 to 1-15.) Most HCPs, other than “low effect HCPs,” will also likely need to undergo environmental review under the National Environmental Policy Act. (*Id.* at Ch. 5.) In such cases, an applicable HCP may appropriately be used in a cumulative impacts analysis as described in subdivision (h)(3).

“Natural community conservation plans” (“NCCPs”) are defined in the California Natural Community Conservation Planning Act. (Fish & G. Code, §§ 2800 et seq.) The purpose of an NCCP is to conserve natural communities at the ecosystem scale while accommodating compatible land uses. An NCCP includes, among others, measures to avoid or minimize impacts to natural communities, conservation obligations, and compliance monitoring. An NCCP is adopted by the Department of Fish and Game as well as local agencies with land use authority in a defined area. As discretionary acts of public agencies, NCCPs must undergo environmental review pursuant to CEQA. Thus, NCCPs satisfy the criteria in existing subdivision (h)(3).

The Legislature recognized local GHG planning efforts in Health & Safety Code section 38561(c) by directing the California Air Resources Board (ARB) to consider such programs in developing its Scoping Plan. Greenhouse gas emission reduction plans are not currently specified in law. However, the ARB’s Climate Change Scoping Plan includes a recommended reduction target for local governments and community-level emissions of 15 percent by 2020. (California Air Resources Board, *Climate Change Proposed Scoping Plan* (2008), at p. 27 (“Scoping Plan”).) The Scoping Plan also recognized the important role local greenhouse gas reduction plans would play in achieving statewide reductions. The Scoping Plan itself suggests elements that such plans should include. (Scoping Plan, Appendix C, at p. C-49.)

Independent of the Scoping Plan, many local governments have adopted, or are currently developing, various plans and programs designed to curb GHG emissions. (Office of Planning and Research, *The California Planner’s Book of Lists* (January 2009) (“Book of Lists”), at pp. 92-100; see also Scoping Plan, at p. 26.) Other public agencies, such as school districts and public universities, may also adopt greenhouse gas reduction plans to govern their own activities. Provided that such plans contain specific requirements with respect to resources that are within the agency’s jurisdiction to avoid or substantially lessen the agency’s contributions to GHG emissions, both from its own projects and from private projects it has approved or will approve, such plans may be appropriately relied on in a cumulative impacts analysis. Additional guidance regarding

the characteristics of greenhouse gas reduction plans that may be used in this context is provided in the proposed Section 15183.5, and is explained in greater detail below. Thus, greenhouse gas reduction plans satisfying such criteria would satisfy the criteria in existing subdivision (h)(3).

Finally, requirements addressing a cumulative problem may also take the form of regulations. AB 32, for example, requires ARB to adopt regulations that achieve the maximum technologically feasible and cost effective GHG reductions to reach the adopted state-wide emissions limit. (Health & Safety Code, § 38560.) Pursuant to Health and Safety Code section 38560(b), ARB will adopt a first set of regulations by January 1, 2010. Thus, a lead agency may consider whether ARB's GHG reduction regulations satisfy the criteria in existing subdivision (h)(3).

While section 15064(h)(3) creates a presumption that, where a plan, program or regulation governs a project's GHG emissions, and the project complies with those requirements, those emissions are not cumulatively considerable. That presumption is rebuttable, however. The Proposed Amendments do not alter the standard, reflected in the existing Guidelines, that if substantial evidence supports a fair argument that, despite compliance with the requirements in a plan or program, a project may have a significant effect on the environment, then an EIR must be prepared.

Demonstrating How the Plan, Program or Regulation Addresses Cumulative Impacts

In addition to augmenting the list of plans, programs and regulations that give rise to the presumption that a project's contribution is not cumulatively considerable, the Amendments also contain explanatory language designed to ensure that the plan or regulation relied on in a cumulative impacts analysis actually addresses the cumulative effect of concern for the particular project under consideration. This language is necessary to avoid misapplication of subdivision (h)(3). For example, shortly after ARB identified early action items, some lead agencies determined that a project's contribution of GHG emissions was not cumulatively considerable because the project was not inconsistent with the early action items. (See, e.g., Tentative Ruling, San Bernardino County Superior Court Case Nos. 810232, 800607 (ruling that consistency with CAT Strategies alone does not provide sufficient information about the potential impacts of a project); see also California Environmental Protection Agency, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, March 2006, at pp. 39-63.) Such an analysis, however, would fail to account for emissions that are not addressed by the early action items. Because those early action items largely addressed industrial-type emissions, consistency with the early action items would have little relevance for a residential subdivision project. Likewise, consistency with plans that are purely aspirational (i.e., those that include only unenforceable goals without mandatory reduction measures), and provide no assurance that emissions within the area governed by the plan will actually address the cumulative problem, may not achieve the level of protection necessary to give rise to this subdivision's presumption. Thus, by requiring that lead agencies draw a link between the project and the specific provisions of a binding plan or regulation, section 15064(h)(3) would ensure that

cumulative effects of the project are actually addressed by the plan or regulation in question.

Demonstrating that compliance with a plan addresses a cumulative problem is already impliedly required by CEQA. For example, an initial study must include sufficient information to support its conclusions. (State CEQA Guidelines, § 15063(d)(3).) Similarly, section 15128 requires a lead agency to explain briefly the reasons that an impact is determined to be less than significant and therefore was not analyzed in an EIR. The added sentence, therefore, reflects existing law and is necessary to ensure that plans are not misapplied in a CEQA analysis.

Policy Goals

Inclusion of additional plans and programs to the list of examples supports two policy goals. First, an expanded list promotes integration of various regulatory mechanisms to reduce duplication. (See, e.g., Pub. Resources Code, § 21003(a) (state policy is that “[l]ocal agencies integrate the requirements of [CEQA] with planning and environmental review procedures otherwise required by law or by local practice ...”), (f) (“[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment”).) Second, the addition of GHG emissions reduction plans and regulations for the reduction of GHG emissions reflects the view of both the OPR and the Resources Agency that the effects of GHG emissions resulting from individual projects are best addressed and mitigated at a programmatic level.

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the analysis of GHG emissions. (Pub. Resources Code, § 21083.05.) The Guidelines must address the determination of whether the “possible effects of a project are individually limited but cumulatively considerable.” (*Id.* at § 21083(b)(2).) Due to the global nature of GHG emissions and their potential effects, GHG emissions will typically be addressed in a cumulative impacts analysis. (See, e.g., EPA, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904 (April 24, 2009) (“cumulative emissions are responsible for the cumulative change in the stock of concentrations in the atmosphere”); California Air Pollution Control Officers Association, *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* (January 2008) (“CAPCOA White Paper”), at p. 35 (“GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective”).) Existing section 15064(h) governs the analysis of cumulative effects in an initial study. The proposed amendments to section 15064(h)(3), on determining the significance of cumulative impacts in an initial study, are therefore necessary to carry out this legislative directive.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and that the Amendments add no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and case law interpreting CEQA for determining the significance of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, *Environmental Assessment Documents Containing a Discussion of Climate Change* (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to "meaningfully attempt to quantify the Project's potential impacts on GHG emissions and determine their significance" or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act ("NEPA") to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).)² Thus, the Amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

² Federal court decisions interpreting NEPA is persuasive authority in CEQA cases. (*Western Placer Citizens for an Ag. & Rur. Env. v. County of Placer* (2006) 144 Cal.App. 4th 890, 902.)

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, the amendments to this section are intended to reduce the costs of environmental review on lead agencies and project applicants by encouraging the use of existing environmental analysis where available. (Pub. Resources Code, § 21003(d) (use information in existing EIRs in order to reduce duplication), (f) (environmental review should proceed in the most efficient manner possible).)

SECTION 15064.4. DETERMINING THE SIGNIFICANCE OF IMPACTS FROM GREENHOUSE GAS EMISSIONS

Specific Purposes of the Amendment

A key component of environmental analysis under CEQA is the determination of significance. (Pub. Resources Code § 21002; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1106-07.) Guidelines on the analysis of GHG emissions must, therefore, include provisions on the determination of significance of those emissions.

New section 15064.4, on the determination of significance of GHG emissions, reflects the existing CEQA principle that there is no iron-clad definition of “significance.” (State CEQA Guidelines, § 15064(b); *Berkeley Keep Jets Over the Bay Com. v. Board of Port Comm.* (2001) 91 Cal.App.4th 1344, 1380-81 (“*Berkeley Jets*”).) Accordingly, lead agencies must use their best efforts to investigate and disclose all that they reasonably can regarding a project’s potential adverse impacts. (*Ibid*; see also State CEQA Guidelines, § 15144.) Section 15064.4 is designed to assist lead agencies in performing that required investigation. In particular, it provides that lead agencies should quantify GHG emissions where quantification is possible and will assist in the determination of significance, or perform a qualitative analysis, or both as appropriate in the context of the particular project, in order to determine the amount, types and sources of GHG emissions resulting from the project. Regardless of the type of analysis performed, the analysis must be based “to the extent possible on scientific and factual data.” In addition, lead agencies should also consider several factors. The specific provisions of section 15064.4 are discussed below.

Quantitative Analysis

Subdivision (a) of section 15064.4 states that lead agencies should calculate or estimate the GHG emissions resulting from the proposed project. This directive reflects the holding in the *Berkeley Jets* case, which required a Port Commission to quantify emissions of toxic air contaminants even in the absence of a universally accepted methodology for doing so. (*Berkeley Jets, supra*, 91 Cal.App.4th at p. 1370 (“The fact that a single methodology does not currently exist that would provide the Port with a precise, or ‘universally accepted,’ quantification of the human health risk from TAC exposure does not excuse the preparation of any health risk assessment--it requires the Port to do the necessary work to educate itself about the different methodologies that are available”) (emphasis in original).) That case also required quantitative analysis of single-event noise, even though the applicable thresholds were expressed as cumulative noise levels. (*Id.* at 1382.) Quantification was required in that context in order to identify existing noise levels, the number of additional flights, the frequency of those flights, the degree to which the increased flights would cause increased noise levels at a given location, and ultimately, the community’s reaction to that noise. (*Ibid.*) In other words, quantification would assist the lead agency in determining whether the increased noise would be potentially significant. (*Ibid.* (“CEQA requires that the Port

and the inquiring public obtain the technical information needed to assess whether the ADP will merely inconvenience the Airport's nearby residents or damn them to a somnambulate-like existence"); see also *Protect the Historic Amador Waterways*, *supra*, 116 Cal.App.4th at 1109 ("in preparing an EIR, the agency must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect").)

With the foregoing principles in mind, the quantification called for in proposed section 15064.4(a)(1) is reasonably necessary to ensure an adequate analysis of GHG emissions using available data and tools, in accordance with Public Resources Code Section 21083.05. Even where a lead agency finds that no numeric threshold of significance applies to a proposed project, the holdings in the *Berkeley Jets* and *Protect the Historic Amador Waterways* cases, described above, require quantification of emissions if such quantification will assist in determining the significance of those emissions. OPR and the Resources Agency find that quantification will, in many cases, assist in the determination of significance, as explained below. (State CEQA Guidelines, § 15142 ("An EIR shall be prepared using an interdisciplinary approach which will ensure the integrated use of the natural and social sciences and the consideration of qualitative as well as quantitative factors").)

First, quantification of GHG emissions is possible for a wide range of projects using currently available tools. Modeling capabilities have improved to allow quantification of emissions from various sources and at various geographic scales. (Office of Planning and Research, *CEQA and Climate Change: Addressing Climate Change Through the California Environmental Quality Act Review*, Attachment 2: Technical Resources/Modeling Tools to Estimate GHG Emissions (June 2008); CAPCOA White Paper, at pp. 59-78.) Moreover, one of the models that can be used in a GHG analysis, URBEMIS, is already widely used in CEQA air quality analyses. (CAPCOA White Paper, at p. 59.) Second, quantification informs the qualitative factors listed in proposed section 15064.4(b). Third, quantification indicates to the lead agency, and the public, whether emissions reductions are possible, and if so, from which sources. Thus, if quantification reveals that a substantial portion of a project's emissions result from energy use, a lead agency may consider whether design changes could reduce the project's energy demand.

Proposed section 15064.4(a)(1) also reflects existing case law that reserves for lead agencies the precise methodology to be used in a CEQA analysis. (See, e.g., *Eureka Citizens for Responsible Gov't v. City of Eureka* (2007) 147 Cal.App.4th 357, 371-373.) As indicated above, a wide variety of models exist that could be used in a GHG analysis. (CAPCOA White Paper, at pp. 59-78.) Further, not every model will be appropriate for every project. For example, URBEMIS may be an appropriate tool to analyze a typical residential subdivision or commercial use project, but some public utilities projects, such as waste-water treatment plants, may require more specialized models to accurately estimate emissions. (*Id.* at pp. 60-65.) The requirement to

disclose any limitations in the model or methodology chosen also reflects the standard for adequacy of EIRs in existing State CEQA Guidelines section 15151.

Qualitative and Performance Standard Based Analysis

As explained in greater detail below in the Thematic Responses, CEQA does not require quantification of emissions in every instance. If the lead agency determines that quantification is not possible, would not yield information that would assist in analyzing the project's impacts and determining the significance of the GHG emissions, or is not appropriate in the context of the particular project, section 15064.4(a) would allow the lead agency to consider qualitative factors or performance standards. Consideration of qualitative factors is appropriate for several reasons. First, CEQA directs lead agencies to consider qualitative factors. (Pub. Resources Code, § 21001(g) (CEQA's purpose includes to: "require governmental agencies at all levels to consider qualitative factors as well as economic and technical factors and long-term benefits and costs, in addition to short-term benefits and costs and to consider alternatives to proposed actions affecting the environment").) Second, existing section 15064.7 of the State CEQA Guidelines indicate that thresholds of significance may be qualitative, which implies that a determination of significance without a threshold could also evaluate qualitative factors. Third, the existing CEQA Guidelines state that the determination of significance requires a lead agency to use its judgment based on *all* relevant information. (State CEQA Guidelines, § 15064(b); see also *id.* at §§ 15064.7 (thresholds may be qualitative), 15142 (analysis should be interdisciplinary and both qualitative and quantitative).)

Subdivision (a) would also allow a lead agency to rely on performance-based standards to assist in the determination of significance. Just as with quantification, the purpose of engaging in a qualitative or performance standard based analysis is to develop information relevant to a significance determination. Several examples exist of the types of performance standards that might appropriately be used in determining the significance of greenhouse gas emissions. Proposed section 15183.5(b)(1)(D), for example, contemplates that a plan for the reduction of greenhouse gas emissions may contain performance based standards. Where such standards are developed as part of such a plan, a lead agency would have evidence indicating that compliance with such standards would indicate that the impact of greenhouse gas emissions would be less than significant. Further, in adopting SB375, the Legislature acknowledged that regional transportation plans, and the environmental impact reports prepared to analyze those plans, may contain performance standards that would apply to transit priority projects. (See, e.g., Public Resources Code, § 21155.2.) Other potential examples include the Bay Area Air Quality Management District's proposed Best Management Practices for Construction Greenhouse Gas Emissions (calling for use of alternative fuels, local building materials and recycling), and the California Public Utilities Commission's Performance Standard for Power Plans (requiring emissions no greater than a combined cycle gas turbine plant). Compliance with such standards may be relevant to the significance determination, when considered in conjunction with the

project's total projected emissions. Section 15064.4(a) was revised in response to comments to clarify that lead agencies may rely on quantitative or qualitative analyses, or both, in part to emphasize that qualitative analyses and performance standards may be useful supplements to a quantitative analysis.

Similar to use of a significance threshold, a lead agency must exercise care to ensure that performance standards do not replace a full analysis of all potential emissions. (*Protect the Historic Amador Waterways, supra*, 116 Cal.App.4th at 1109 (“in preparing an EIR, the agency must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect”).) For example, while a Platinum LEED® rating could assist a lead agency in determining whether emissions related to a building’s energy use may be significant, that performance standard may not reveal sufficient information to evaluate transportation-related emissions associated with that proposed project.

As indicated above, even a qualitative analysis must be based to the extent possible on scientific and factual data. Further, the type of analysis that is required will depend on the context of a particular project. Given the multitude of different project types and sizes, and different agencies subject to CEQA, the CEQA Guidelines, which are general by necessity, cannot specify precisely when a quantitative analysis may be required or a qualitative analysis may be appropriate. The following hypothetical examples may illustrate, however, how section 15064.4(a) could operate:

Project 1: a small habitat restoration project is proposed in a remote part of California. Workers would drive to the site where they would camp for the duration of the project. Some gas-powered tools and machinery may be required. Cleared brush would either be burned or would decay naturally.

Project 2: a large commercial development is proposed in an suburban context. Heavy-duty machinery would be required in various construction phases spanning many months. Following construction, the development would rely on electricity, water and wastewater services from the local utilities. Natural gas burners would be used on site. The development would employ several hundred workers and attract thousands of customers daily. A traffic study has been prepared for the project. The local air quality management district’s guidance document recommends that projects of similar size and character should use of URBEMIS, or another similar model, to estimate the air quality impacts of the development.

In the context of Project 2 a quantitative analysis would likely be appropriate. The URBEMIS model, which would likely be used to analyze other emissions, could also be used to estimate emissions from both project-related transportation and on-site indirect emissions (landscaping, hot-water heaters, etc.) Modeling is typically done for projects of like size and character. Other models are readily available to estimate emissions associated with utility use. In the context of Project 2, a lead agency may

find it difficult to demonstrate a good faith effort through a purely qualitative analysis. (See, e.g., *Berkeley Keep Jets Over the Bay Com. v. Board of Port Comm.* (2001) 91 Cal.App.4th 1344, 1370.)

In the context of Project 1, however, a qualitative analysis would likely be appropriate. Project 1's emissions are not easily modeled, and the Project is small in scale. While it may be technically possible, quantification of the emissions may not reveal any additional information that indicates the significance of those emissions or how they may be reduced that could not be provided in a qualitative assessment of emissions sources. (See, e.g., Public Resources Code, § 21003(f) ("public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment").)

Factors Potentially Indicating Significance

The qualitative factors listed in the proposed section 15064.4(b) are intended to assist lead agencies in collecting and considering information relevant to a project's incremental contribution of GHG emissions and the overall context of such emissions. Notably, while subdivision (b) provides a list of factors that should be considered by public agencies in determining the significance of a project's GHG emissions, other factors can and should be considered as appropriate.

Determine Whether Emissions Will Increase or Decrease

The first factor in subdivision (b), for example, asks lead agencies to consider whether the project will result in an increase or decrease in different types of GHG emissions relative to the existing environmental setting. All project components, including construction and operation, equipment and energy use, and development phases must be considered in this analysis. (State CEQA Guidelines, § 15378 (project includes "the whole of the action").) For example, a mass transit project may involve GHG emissions during its construction phase, but substantial evidence may also indicate that it will cause existing commuters to switch from single-occupant vehicles to mass transit use. Operation of such a project may ultimately result in a decrease in GHG emissions. Such analysis, provided that it is supported with substantial evidence and fully accounts for all project emissions, may support a lead agency's determination that GHG emissions associated with a project are not cumulatively considerable.

This section's reference to the "existing environmental setting" reflects existing law requiring that impacts be compared to the environment as it currently exists. (State CEQA Guidelines, § 15125.) This clarification is necessary to avoid a comparison of the project against a "business as usual" scenario as defined by ARB in the Scoping Plan. Such an approach would confuse "business as usual" projections used in ARB's Scoping Plan with CEQA's separate requirement of analyzing project effects in

comparison to the environmental baseline. (*Compare* Scoping Plan, at p. 9 (“The foundation of the Proposed Scoping Plan’s strategy is a set of measures that will cut greenhouse gas emissions by nearly 30 percent by the year 2020 as compared to business as usual”) *with Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270, 1278 (existing environmental conditions normally constitute the baseline for environmental analysis); see also *Center for Bio. Diversity v. City of Desert Hot Springs*, Riverside Sup. Ct. Case No. RIC464585 (August 6, 2008) (rejecting argument that a large subdivision project would have a “beneficial impact on CO2 emissions” because the homes would be more energy efficient and located near relatively uncongested freeways).) Business as usual may be relevant, however, in the discussion of the “no project alternative” in an EIR. (State CEQA Guidelines, § 15126.6(e)(2) (no project alternative should describe what would reasonably be expected to occur in the future in the absence of the project).)

Notably, section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. As case law makes clear, there is no “one molecule rule” in CEQA. (CBE, *supra*, 103 Cal.App.4th at 120.)

Thresholds of Significance

The second factor in subdivision (b) asks whether a project exceeds a threshold of significance for GHG emissions. Section 21000(d) of the Public Resources Code expressly directs public agencies to identify whether there are any critical thresholds for health and safety to identify those areas where the capacity of the environment is limited. A threshold is an “identifiable quantitative, qualitative or performance level” at which impacts are normally less than significant. (State CEQA Guidelines, § 15064.7(a); see also *Protect the Historic Amador Waterways*, *supra*, 116 Cal.App.4th at 1107.) Lead agencies may rely on thresholds developed by other agencies that have particular expertise in the subject matter under consideration. (See, e.g., State CEQA Guidelines, Appendix G, Sample Question III (“[w]here available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make” a significance determination).) For example, a lead agency may look to standards included in a Basin Plan to assist in the determination of whether water quality impacts are significant. (*Protect the Historic Amador Waterways*, *supra*, 116 Cal.App.4th at 1107 (“[s]uch thresholds can be drawn from existing environmental standards, such as other statutes or regulations”).)

Several agencies have developed, or are in the process of developing, thresholds of significance for GHG emissions.³ For example, thresholds are currently being developed, or have already been adopted by the Bay Area Air Quality Management District for operations and construction,⁴ the City of Davis for residential

³ Reference to these thresholds and proposed thresholds does not reflect an endorsement of those thresholds; rather, they are cited solely for the purpose of demonstrating that agencies are developing such thresholds.

⁴ BAAQMD CEQA Guidelines Update: work in progress - <http://www.baaqmd.gov/pln/ceqa/index.htm>.

developments,⁵ and the South Coast Air Quality Management District for industrial projects.⁶ Regardless of the threshold chosen, however, this section does not alter the pre-existing rule under CEQA that if substantial evidence supports a fair argument that a project may result in significant impacts, despite compliance with a threshold, an EIR must be prepared. (*Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 342.) Further, “in preparing an EIR, the agency must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect.” (*Protect the Historic Amador Waterways, supra*, 116 Cal.App.4th at 1109.)

Consistent with the above, if relying on a threshold developed by another agency, lead agencies must exercise caution in selecting a threshold to ensure that the threshold is appropriately applied. For CEQA purposes, a threshold identifies a level below which an environmental impact will normally be less than significant. (State CEQA Guidelines, § 15064.7(a).) Some agencies have adopted “thresholds” pursuant to other laws that may not be applicable in the CEQA context. ARB has adopted several thresholds pursuant to AB32, for example, to address specific purposes that are unrelated to CEQA. For example, the *de minimis* threshold governs the level at which emissions will be regulated by ARB’s AB32 regulations. (Health & Safety Code, § 38561(e); Scoping Plan, at pp. 96-97.) CEQA does not permit use of a *de minimis* threshold, however. (*CBE, supra*, 103 Cal.App.4th at p. 121.) Additionally, the Reporting Threshold is the level at which emissions from large industrial sources are required to be reported. (Scoping Plan, at pp. 108-109; see also CARB Board Resolution 07-54 (2007).) Again, this reporting threshold reflects a policy decision regarding regulation by the ARB, but does not address the level at which environmental harm may occur, and does not satisfy a lead agency’s duties under CEQA related to review of projects which may result in significant adverse environmental impacts.

Consistency with a Plan or Regulation

Finally, the third factor in subdivision (b) directs consideration of the extent to which a project complies with a plan or regulation to reduce GHG emissions. That section further states, however, that to be used for the purpose of determining significance, a plan must contain specific requirements that result in reductions of GHG emissions to a less than significant level. This clarification is necessary because of the wide variety of climate action plans and GHG reduction plans that are currently being adopted by public agencies. ARB, for example, recently adopted its statewide Scoping Plan. That plan may not be appropriate for use in determining the significance of individual projects, however, because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping

⁵ City of Davis (2009) Greenhouse Gas Emission Threshold and Standards for New Residential Development; Accessed 5/27/09, http://cityofdavis.org/pgs/sustainability/pdfs/15_4.21.09_GHG%20Standards.pdf

⁶ SCAQMD (2008) Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, Accessed 5/27/09 <http://www.aqmd.gov/hb/2008/December/081231a.htm>.

Plan. (Scoping Plan, at p. 9.) Regulations that will require actual reductions of GHG emissions may not be adopted until 2012. (*Ibid.*) Once those regulations are adopted and being implemented, they may, if appropriate, be used to assist in the determination of significance, similar to the current use of air quality, water quality and other similar environmental regulations. (*CBE, supra*, 103 Cal. App. 4th at 111 (“a lead agency’s use of existing environmental standards in determining the significance of a project’s environmental impacts is an effective means of promoting consistency in significance determinations and integrating CEQA environmental review activities with other environmental program planning and regulation”).)

In addition to the regulations that will be developed to implement the Scoping Plan, this factor would also allow lead agencies to consider plans that are developed to reduce GHG emissions on a regional or local level. (Scoping Plan, at p. 26.) The proposed section 15064.4(b)(3) is intended to be read in conjunction with the section 15064(h)(3), as proposed to be amended, and proposed section 15183.5. Those sections each indicate that local and regional plans may be developed to reduce GHG emissions. If such plans reduce community-wide emissions to a level that is less than significant, a later project that complies with the requirements in such a plan may be found to have a less than significant impact.

Notably, CEQA does not provide a specific definition of “comply” in the context of determining a project’s consistency with a particular plan. Some guidance may be gleaned, however, from case law interpreting the requirement that a local government’s activities be consistent with its General Plan. In that context, a “zoning ordinance [for example] is consistent with the city’s general plan where, considering all of its aspects, the ordinance furthers the objectives and policies of the general plan and does not obstruct their attainment.” (*City of Irvine v. Irvine Citizens Against Overdevelopment* (1994) 25 Cal. App. 4th 868, 879.) Reading section 15064.4 together with 15064(h)(3), however, to demonstrate consistency with an existing GHG reduction plan, a lead agency would have to show that the plan actually addresses the emissions that would result from the project. Thus, for example, a subdivision project could not demonstrate “consistency” with the ARB’s Early Action Measures because those measures do not address emissions resulting from a typical housing subdivision. (ARB, Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration, October 2007; see also State CEQA Guidelines, §§ 15063(d)(3) (initial study must be supported with information to support conclusions), 15128 (determination in an EIR that an impact is less than significant must be briefly explained).)

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the analysis of GHG emissions. (Pub. Resources Code, § 21083.05.) A key component of environmental analysis under CEQA is the determination of significance. (*Id.* at § 21002; *Protect the Historic Amador Waterways, supra*, 116 Cal.App.4th at

1106-07.) The new section 15064.4, on determining the significance of impacts of GHG emissions, is therefore necessary to carry out this legislative directive.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the Amendments were proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA for determining the significance of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, *Environmental Assessment Documents Containing a Discussion of Climate Change* (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to “meaningfully attempt to quantify the Project’s potential impacts on GHG emissions and determine their significance” or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act (“NEPA”) to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).)⁷ Thus, the amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, by providing greater certainty to lead agencies regarding the determination of significance of GHG emissions, the cost of environmental analysis, and potential litigation, may be reduced.

⁷ Federal court decisions interpreting NEPA is persuasive authority in CEQA cases. (*Western Placer Citizens for an Ag. & Rur. Env. v. County of Placer* (2006) 144 Cal.App. 4th 890, 902.)

SECTION 15064.7. THRESHOLDS OF SIGNIFICANCE

Specific Purposes of the Amendment

Proposed subdivision (c) of section 15064.7 would allow a lead agency to adopt a threshold developed by another agency, or recommended by experts, provided that such threshold is supported with substantial evidence. This proposed regulation is reasonably necessary because many lead agencies perform general governmental functions, and may lack the specific expertise necessary to develop their own thresholds of significance for GHG emissions. Such agencies may rely on thresholds developed by other agencies with specialized expertise (such as an air quality management district) in conducting their CEQA analyses. (OPR, Thresholds of Significance: Criteria for Defining Environmental Significance, September 1994, at p. 7.) In fact, Appendix G of the State CEQA Guidelines expressly encourages lead agencies to rely on thresholds established by local air quality management districts. (State CEQA Guidelines, Appendix G, Question III.)

Several local and regional air districts are in the process of developing thresholds for GHG emissions. As noted above, for example, thresholds are currently being developed, or have already been adopted by the Bay Area Air Quality Management District for operations and construction, the City of Davis for residential developments, and the South Coast Air Quality Management District for industrial projects. Lead agencies within the jurisdiction of an air district, or other agency, that adopts a GHG emissions threshold may adopt such a threshold as its own. In adopting any threshold of significance, including one developed by an expert or agency with specialized expertise, the lead agency must support the threshold with substantial evidence in the administrative record. (State CEQA Guidelines, § 15064.7(b).)

Independent experts may also develop such thresholds for use by public agencies. For example, the California Air Pollution Control Officers Association has published a White Paper on developing thresholds of significance for GHG emissions. (CAPCOA White Paper, at pp. 31-58.) A lead agency could potentially use CAPCOA's suggestions in developing its own thresholds. Because any threshold must be supported with substantial evidence, and must be adopted through a public process, any threshold recommended by an expert that is ultimately adopted will undergo sufficient scrutiny to ensure its legitimacy. (State CEQA Guidelines, § 15064.7(b).)

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the analysis of GHG emissions. (Pub. Resources Code, § 21083.05.) Defining "significance" is a critical step in the lead agency's impact analysis and therefore needs to be addressed as part of the Proposed Action. Section 21000(d) of the Public Resources Code encourages the development of thresholds. These sections together

require OPR and the Resources Agency to develop and adopt regulations governing the adoption of thresholds of significance for GHG emissions.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and Amendments add no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA for determining the significance of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to "meaningfully attempt to quantify the Project's potential impacts on GHG emissions and determine their significance" or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act ("NEPA") to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Thus, the amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, by providing greater certainty to lead agencies regarding the determination of significance of GHG emissions, the cost of environmental analysis, and potential litigation, may be reduced.

SECTION 15065. MANDATORY FINDINGS OF SIGNIFICANCE

Specific Purposes of the Amendment

The amendment to section 15065(b)(1) would change the word “preliminary” to “public.” The purpose of this amendment is to make section 15065 consistent with section 21064.5 of the Public Resources Code. The latter provision defines a mitigated negative declaration to be a negative declaration where mitigation measures are added to a project “before the proposed negative declaration and initial study are released for *public* review[.]” (State CEQA Guidelines, § 15070(b)(1).) In contrast, existing CEQA Guidelines section 15065(b)(1), dealing with mandatory findings of significance, would require a commitment to mitigation prior to “preliminary” review. “Preliminary Review,” as that term is used in section 15060, refers to a period following receipt of an application during which a lead agency determines whether an exemption applies to the project or whether an EIR would clearly be prepared. Read literally, existing section 15065 would require a commitment to mitigation before an initial study is even conducted. Because the statutory definition of mitigated negative declaration contemplates that mitigation measures may be developed during the preparation of the initial study prior to public review, the change in 15065 from “preliminary” to “public” is appropriate.

Necessity

Section 21083 of the Public Resources Code directs OPR to develop, and the Resources Agency to adopt, guidelines on the implementation of CEQA. The Amendment is necessary to ensure that those guidelines are consistent with relevant statutory definitions.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency’s Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency’s determination that the Amendments would make the existing Guidelines easier to follow as a result of greater internal consistency. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific existing statutory CEQA provisions and/or case law interpreting CEQA. Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, by providing greater consistency within the Guidelines, the cost of environmental analysis, and potential litigation, may be reduced.

SECTION 15086. CONSULTATION CONCERNING DRAFT EIR

The revision to this section is a non-substantive correction to this section's reference to the California Air Resources Board. This revision, therefore, qualifies as a "change without regulatory effect" pursuant to section 100(a)(4) of the Office of Administrative Law's regulations governing the rulemaking process. (Cal. Code Regs., tit. 1, § 100(a)(4).)

SECTION 15093. STATEMENT OF OVERRIDING CONSIDERATIONS

Specific Purposes of the Amendment

Section 21081(b) of the Public Resources Code provides that a lead agency may approve or carry out a project with significant and unavoidable impacts only after the lead agency makes a finding that “specific overriding economic, legal, social, technical or other benefits of the project outweigh the significant effects on the environment.” The State CEQA Guidelines describes the factors that a lead agency must weigh in determining whether to approve a project with adverse environmental effects:

CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. An agency shall prepare a statement of overriding considerations as described in Section 15093 to reflect the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment.

(State CEQA Guidelines, § 15021(d).) The California Supreme Court has further observed that “an agency’s decision that the specific benefits a project offers outweigh any environmental effects that cannot feasibly be mitigated ... lies at the core of the lead agency’s discretionary responsibility under CEQA....” (*City of Marina v. Board of Trustees of Cal. State Univ* (2006) 39 Cal.4th 341, 368.)

In the context of GHG emissions, some projects may cause adverse environmental impacts but still provide an overall benefit of reducing GHG emissions on a statewide or regional level. For example, a city may make a policy choice to allow increased housing density within a jobs-rich region in order to reduce region-wide GHG emissions from vehicles and transportation. (See, e.g., 2007 IEPR, at p. 210.) Though the introduction of new housing within the jurisdiction may result in near-term or local adverse impacts related to GHG emissions, doing so may assist the region as a whole in meeting region-wide reduction targets. Thus, subdivision (a) of section 15093 was revised to expressly allow a lead agency to consider this type of environmental benefit of a project in making a statement of overriding considerations.

The revision to section 15093(a) accomplishes two objectives. First, it reminds lead agencies and the public that even a project that appears environmentally beneficial may itself cause adverse environmental impacts, and such impacts must undergo full CEQA review, and, if applicable, a statement of overriding considerations. Second, it discourages purely local interests from dominating consideration of a project by expressly allowing a lead agency to consider region- and statewide benefits of a project. Further, “economic, legal, social, technical and other benefits” could be interpreted to refer to local benefits. This addition would ensure that lead agencies may consider

regional and statewide benefits in considering a project's adverse impacts. Finally, the proposed addition makes clear, consistent with section 15021(d) of the existing State CEQA Guidelines, that the lead agency may consider environmental benefits to balance a project's significant adverse environmental effects that remain even after the adoption of all available feasible mitigation measures.

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the analysis of GHG emissions. (Pub. Resources Code, § 21083.05.) If a lead agency determines that a project's GHG emissions will result in significant and unavoidable impacts, a lead agency may only approve the project if it makes specified findings. (*Id.* at § 21081(b).) This amendment is necessary to ensure that a lead agency considers state-wide and regional benefits of a project in addition to purely local benefits. Because consideration of state-wide and region-wide benefits may also apply to impacts unrelated to GHG emissions, the amendment was worded broadly to address any significant environmental impact.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the proposed revisions. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and/or make specific statutory CEQA provisions and case law interpreting CEQA for making statements of overriding considerations. Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California.

SECTION 15125. ENVIRONMENTAL SETTING

Specific Purposes of the Amendment

Section 15125 reflects existing law requiring examination of project impacts in relation to the existing environment. Subsection (d) states that lead agencies should consider whether the proposed project is inconsistent with applicable local and regional plans. That subsection provides a non-exclusive list of plans for potential consideration. The Amendments would add specific plans, regional blueprint plans and greenhouse gas reduction plans to subdivision (d). The added plans are necessary to ensure that GHG emissions analyses in such plans are addressed.

Specific Plans

Specific Plans address a defined geographic area within the area covered by a General Plan. (Gov. Code, § 65450 (“After the legislative body has adopted a general plan, the planning agency may, or if so directed by the legislative body, shall, prepare specific plans for the systematic implementation of the general plan for all or part of the area covered by the general plan”).) Specific Plans must contain “[s]tandards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable.” (*Id.* at § 65451(a)(3).) Thus, given that so many local governments are addressing GHG emissions in their policy documents, and that Specific Plans must contain standards and criteria, it is likely that Specific Plans may address GHG emissions, and consistency with adopted Specific Plans should be considered in EIRs.

Regional Blueprint Plans

Regional Blueprint Plans are being developed in many of California’s Metropolitan Planning Organizations through grants provided by the California Department of Transportation. While originally designed to address transportation efficiencies, Regional Blueprint Plans typically involve smart growth planning with an aim to reducing vehicle miles traveled at a regional level. As a result, Regional Blueprint Plans can provide information regarding the region’s existing transportation setting and identify methods to reduce region-wide transportation-related impacts. (Scoping Plan, Appendix C, at pp. C-74-C-84.) Land use decisions impact many sectors responsible for GHG emissions, including transportation, electricity, water, waste, and others. However, the primary impact of land use development on GHG emissions relates to vehicle use. (Land Use Subcommittee of the Climate Action Team, *LUSCAT Submission to CARB Scoping Plan on Local Government, Land Use, and Transportation* (2008), at p. 13.) Blueprint Plans highlight this relationship between land use and transportation and how this relationship may impact a local community’s and region’s GHG emissions. Analysis of GHG reduction is not required by Blueprint grants but it is recommended. Therefore, Blueprint Plans provide an indication of the GHG emissions potentially created or reduced by the plan. (LUSCAT (2009), at p. 30.) Given the large percentage of GHG emissions that result from transportation in

California, a project's consistency with a Regional Blueprint Plan can provide information indicating whether the project could have significant environmental impacts related to GHG emissions. (*Ibid.*) Regional Blueprint Plans may, therefore, provide evidence to assist the lead agency in determining whether a project may tend to increase or decrease GHG emissions relative to the existing baseline. Thus, where such a plan has been developed and adopted by an MPO, lead agencies may find it useful to evaluate the project's consistency with that Blueprint Plan.

Plans for the Reduction of Greenhouse Gas Emissions

The Amendments would add plans for the reduction of greenhouse gas emissions to the list of plans in section 15125(d). Many local and regional plans now include policies relating to, and analyses of, GHG emissions. (OPR, Book of Lists, at pp. 92-100; Scoping Plan, at p. 26.) Many such plans include detailed information on the jurisdiction's inventory of GHG emissions and measures to reduce such emissions. (*Ibid.*) Such plans may also include prescriptions for specific mitigation measures to address GHG emissions. (Scoping Plan, Appendix C, at p. C-49.) Where such a plan has been developed and adopted within the relevant jurisdiction, a project's inconsistency with that plan could be an indication of potential adverse environmental impacts.

Notably, while section 15125(d) requires an EIR to discuss any inconsistencies of a project with the listed plans, it does not mandate a finding of significance resulting from any identified inconsistencies. The plans simply provide information regarding the project's existing setting and inconsistency may be an indication of potentially significant impacts. The determination of significance is to be made by the lead agency.

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines addressing the mitigation of GHG emissions and the effects of the GHG emissions. (Pub. Resources Code, § 21083.05.) As indicated above, one potential indicator of a project's potential GHG emissions impacts is whether the project is consistent with applicable plans that have addressed that impact. Thus, the addition of plans that may address GHG emissions to the list of plans in the existing section 15125 is reasonably necessary to ensure that such analysis occurs.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to

implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA for analyzing the effects of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to “meaningfully attempt to quantify the Project’s potential impacts on GHG emissions and determine their significance” or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act (“NEPA”) to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Thus, the amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, the amendments to this section are intended to reduce the costs of environmental review on lead agencies and project applicants by encouraging the use of existing environmental information where available. (Pub. Resources Code, § 21003(d) (use information in existing EIRs in order to reduce duplication), (f) (environmental review should proceed in the most efficient manner possible).)

SECTION 15126.2. CONSIDERATION AND DISCUSSION OF SIGNIFICANT ENVIRONMENTAL EFFECTS.

Amendments are proposed to two subdivisions of the existing section 15126.2. The first, to subdivision (c), adds a cross-reference to the Public Resources Code and another section of the State CEQA Guidelines. This revision, therefore, qualifies as a “change without regulatory effect” pursuant to section 100(a)(4) of the Office of Administrative Law’s regulations governing the rulemaking process. (Cal. Code Regs., tit. 1, § 100(a)(4).) The second change, made in response to public comments, adds a sentence to the end of existing subdivision (a). That change is described in greater detail below.

Specific Purposes of the Amendment

Several comments submitted as part of the Natural Resources Agency’s SB97 rulemaking process urged it to develop guidance addressing the analysis of the impacts of climate change on a project. These comments similarly suggested that such guidance was appropriate in light of the release of the draft California Climate Adaptation Strategy (Adaptation Strategy), developed pursuant to Executive Order S-13-2008. In considering such comments, it is important to understand several key differences between the Adaptation Strategy and the California Environmental Quality Act. First, the Adaptation Strategy is a policy statement that contains recommendations; it is not a binding regulatory document. Second, the Adaptation Strategy focuses on how the State can plan for the effects of climate change. CEQA’s focus, on the other hand, is the analysis of a particular project’s greenhouse gas emissions on the environment, and mitigation of those emissions if impacts from those emissions are significant. Given these differences, CEQA should not be viewed as the tool to implement the Adaptation Strategy; rather, as indicated in the Strategy’s key recommendations, advanced programmatic planning is the primary method to implement the Adaptation Strategies.

There is some overlap between CEQA and the Adaptation Strategy, however. As explained in both the Initial Statement of Reasons and in the Adaptation Strategy, section 15126.2 may require the analysis of the effects of a changing climate under certain circumstances. (Initial Statement of Reasons, at pp. 68-69.) In particular, Section 15126.2 already requires an analysis of placing a project in a potentially hazardous location. Further, several questions in the Appendix G checklist already ask about wildfire and flooding risks. Many comments on the proposed amendments asked for additional guidance, however.

Having reviewed all of the comments addressing the effects of climate change, the Natural Resources Agency revised the proposed amendments to include a new sentence in Section 15126.2 clarifying the type of analysis that would be required. Existing section 15126.2(a) provides an example of a potential hazard requiring analysis: placing a subdivision on a fault line. The new sentence adds further examples, as follows:

Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.

According to the Office of Planning and Research, at least sixty lead agencies already require this type of analysis. (California Governor's Office of Planning and Research, State Clearinghouse, The California Planners' Book of Lists (January, 2009), at p. 109.) This addition is reasonably necessary to guide lead agencies as to the scope of analysis of a changing climate that is appropriate under CEQA.

As revised, section 15126.2 would provide that a lead agency should analyze the effects of bringing development to an area that is susceptible to hazards such as flooding and wildfire, both as such hazards currently exist or may occur in the future. Several limitations apply to the analysis of future hazards, however. For example, such an analysis may not be relevant if the potential hazard would likely occur sometime after the projected life of the project (i.e., if sea-level projections only project changes 50 years in the future, a five-year project may not be affected by such changes). Additionally, the degree of analysis should correspond to the probability of the potential hazard. (State CEQA Guidelines, § 15143 ("significant effects should be discussed with emphasis in proportion to their severity and probability of occurrence").) Thus, for example, where there is a great degree of certainty that sea-levels may rise between 3 and 6 feet at a specific location within 30 years, and the project would involve placing a wastewater treatment plant with a 50 year life at 2 feet above current sea level, the potential effects that may result from inundation of that plant should be addressed. On the other extreme, while there may be consensus that temperatures may rise, but the magnitude of the increase is not known with any degree of certainty, effects associated with temperature rise would not need to be examined. (State CEQA Guidelines, § 15145 ("If, after thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate the discussion of the impact").) Lead agencies are not required to generate their own original research on potential future changes; however, where specific information is currently available, the analysis should address that information. (State CEQA Guidelines, § 15144 (environmental analysis "necessarily involves some degree of forecasting. While seeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can").)

The decision in *Baird v. County of Contra Costa* (1995) 32 Cal.App.4th 1464, does not preclude this analysis. In that case, the First District Court of Appeal held that a county was not required to prepare an EIR due solely to pre-existing soil contamination that the project would not change in any way. (Id. at 1468.) No evidence supported the petitioner's claim that the project would "expose or exacerbate" the pre-existing contamination, which was located several hundred to several thousand feet from the project site. (Id. at n. 1.) Moreover, the project would have no other significant effects on the environment, and other statutes exist to protect residents from contaminated soils. Thus, the question confronting that court was whether pre-existing contamination near the project was, by itself, enough to require preparation of an EIR. It held that, in those circumstances, an EIR was not required. That court also acknowledged, however, that where there is a potential for ultimately changing the environment, an EIR could be required. (Id. at p. 1469.) Thus, unlike the circumstances in the *Baird* case, the analysis required in section 15126.2(a) would occur if an EIR was otherwise required. Similarly, the addition to that section contemplates hazards which the presence of a project could exacerbate (i.e., potential upset of hazardous materials in a flood, increased need for firefighting services, etc.).

This revision was described in the Natural Resources Agency's Notice of Proposed Changes and the public was invited to present comments on that change. The Natural Resources Agency determined that the change was sufficiently related to the original proposal described in the Notice of Proposed Action, so a fifteen day comment period was appropriate. It is sufficiently related because the Notice of Proposed Action explained that the rulemaking activity was intended to address the directive in SB97 to provide guidelines on the analysis of the "effects of greenhouse gas emissions." As explained in the Initial Statement of Reasons, the Natural Resources Agency initially chose not to provide specific guidance on the analysis of the effects of placing development in an area subject to the effects of climate change because the Agency interpreted existing section 15126.2(a) to already require that analysis under certain circumstances. As indicated above, however, many comments on the proposed amendments suggested revisions to section 15126.2(a) to provide additional guidance. The areas susceptible to hazards include those that may result from a changing climate. Thus, the change is sufficiently related that a reasonable person would be put on notice that such a change could occur as a result of the rulemaking activity described in the Notice of Proposed Action.

Finally, following review of comments on this revision, the Natural Resources Agency clarified that this analysis applies only to "potentially significant" effects of locating developing in areas susceptible to hazards. Because this revision clarifies the last sentence in section 15126.2(a), consistent with the Public Resources Code, and does not alter the requirements, rights, responsibilities, conditions, or prescriptions contained in the originally proposed text, this revision is nonsubstantial and need not be circulated for additional public review. (Government Code, § 11346.8(c); Cal. Code Regs., tit. 1, § 40.)

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines addressing the analysis of the effects of GHG emissions. (Pub. Resources Code, § 21083.05.) As explained above, the effects of GHG emissions include flooding, sea-level rise and wildfires. Thus, the addition of a clarifying sentence to existing section 15126.2(a), requiring analysis of the effects of placing developing in hazardous locations, is reasonably necessary to ensure that such analysis occurs with respect to areas subject to potential hazards resulting from climate change.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA for analyzing the effects of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to "meaningfully attempt to quantify the Project's potential impacts on GHG emissions and determine their significance" or at least to explain what steps were undertaken to

investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act (“NEPA”) to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Thus, the amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, by providing greater certainty to lead agencies regarding the analysis that may be required of the potential effects of climate change on a project, the cost of environmental analysis, and potential litigation, may be reduced.

SECTION 15126.4. CONSIDERATION AND DISCUSSION OF MITIGATION MEASURES PROPOSED TO MINIMIZE SIGNIFICANT EFFECTS.

Specific Purposes of the Amendment

Section 21083.05 of the Public Resources Code expressly requires OPR and the Resources Agency to develop regulations on the “mitigation of greenhouse gas emissions.” The goals of this legislative mandate are to (1) reduce GHG emissions and (2) to provide consistency in the development of GHG emissions reduction measures. There is no indication, however, that the Legislature intended to alter any existing laws governing mitigation under CEQA. The Amendments, therefore, interpret and make specific existing CEQA law and regulations for mitigation of significant impacts resulting from GHG emissions.

Existing section 15126.4 provides guidance on CEQA’s general mitigation requirements. To emphasize that mitigation of GHG emissions is subject to those existing CEQA requirements, OPR and the Natural Resources Agency added a new subdivision (c) to the existing section 15126.4. The Amendments identify five general methods of mitigation that may be tailored to the specific circumstances surrounding a specific project. In response to public comments, the Natural Resources Agency provided additional guidance, described below, in the lead-in sentences introducing those five broad categories of mitigation.

Mitigation of Greenhouse Gas Emissions

Comments submitted on the Amendments indicated general concerns that mitigation for GHG emissions may not be effective or reliable. To further clarify the existing mitigation requirements that would apply to measures to reduce greenhouse gas emissions, the Natural Resources Agency revised the lead-in sentences in subdivision (c). Specifically, the Natural Resources Agency added that all mitigation must be supported with substantial evidence and be capable of monitoring or reporting. This addition reflects the requirement in Public Resources Code that a lead agency’s findings on mitigation be supported with substantial evidence and that it must adopt a mitigation monitoring and reporting program along with the project if mitigation measures are required. (Public Resources Code, §§ 21081(a)(1), 21081.6.)

In response to comments, the Natural Resources Agency had originally also proposed to add a sentence indicating that only emissions reductions that were not required by some other law or contract could qualify as mitigation. In response to comments on that proposed revision, that sentence is no longer proposed to be added to the lead-in section; rather, subdivision (c)(3) will be clarified, as described below.

Mitigation Identified in an Existing Plan

The first type of mitigation of GHG emissions that may be considered includes measures identified in an existing plan. As indicated above, many agencies are

beginning to address GHG emissions at a planning level. (OPR, Book of Lists, at pp. 92-100.) Some of those GHG reduction plans include specific measures that may be applied on a project-by-project basis. (*Ibid*; see also Scoping Plan, Appendix C, at p. C-49.) Proposed subdivision (c)(1), therefore, would encourage lead agencies to look to adopted plans for sources of mitigation measures that could be applied to specific projects.

Project Design Features

The second type of measure that a lead agency should consider is project design features that will reduce project emissions. Various project design features could be used to reduce GHG emissions from a wide variety of projects. The CAPCOA White Paper provides examples of various project design features that may reduce emissions from commercial and residential buildings. (CAPCOA White Paper, at pp. B-13 to B-18.) For example, according to the California Energy Commission, “[r]esearch shows that increasing a community’s density and its accessibility to jobs centers are the two most significant factors for reducing vehicle miles traveled,” which is an important component of reducing statewide emissions. (California Energy Commission 2007, *2007 Integrated Energy Policy Report*, CEC-100-2007-008-CMF (“2007 IEPR”), at p. 12; see also CEC, *The Role of Land Use in Meeting California’s Energy and Climate Goals* (2007) at p. 20.) This subdivision also refers specifically to measures identified in Appendix F, which include a variety of measures designed to reduce energy use. By encouraging lead agencies to consider changes to the project itself, this subdivision further encourages the realization of co-benefits such as reduced energy costs for project occupants, increased amenities for non-vehicular transportation, and others. Thus, project design can reduce GHG emissions directly through efficiency and indirectly through resource conservation and recycling. (Green Building Sector Subgroup of the Climate Action Team, *Scoping Plan Measure Development and Cost Analysis* (2008) at p. 6 to 9.)

Off-Site Measures

The third type of measures addressing GHG emissions is off-site measures including offsets. Proposed subdivision (c)(3) recognizes the availability of various off-site mitigation measures. Such measures could include, among others, the purchase of carbon offsets, community energy conservation projects, and off-site forestry projects. (See, e.g., South Coast Air Quality Management District, *SoCal Climate Solutions Exchange* (June 2008), at pp.1; Rodeo Refinery Settlement Agreement, BAAQMD Carbon Offset Fund; Recommendations of the ETAAC, *Final Report* (February 2008) at pp. 9-5; ARB, *Staff Report: Proposed Adoption of California Climate Action Registry Forestry Greenhouse Gas Protocols for Voluntary Purposes* (October 17, 2007), at p. 15 (“[t]he three protocols together – the sector, project, and certification protocols – are a cohesive and comprehensive set of methodologies for forest carbon accounting, and furthermore contain all the elements necessary to generate high quality carbon credits”); see also Scoping Plan, Appendix C, at pp. C-21 to C-23.) Off-site mitigation may be appropriate under various circumstances. For example, such mitigation may be

appropriate where a project is incapable of design modifications that would sufficiently reduce GHG emissions within the project boundaries. In that case, a lead agency could consider whether emissions reductions may be achieved through such measures as energy-efficiency upgrades within the community or reforestation programs.

The reference to “offsets” in subdivision(c)(3) generated several comments during the public review period. The offsets concept is familiar in other aspects of air quality regulation. The Federal Clean Air Act, for example, provides that increases in emissions from new or modified sources in a nonattainment area must be offset by reductions in existing emissions within the nonattainment area. (See, e.g., 42 U.S.C. § 7503(a)(1)(A).) California laws also apply to offsets and emissions credits. (See, e.g., Health & Saf. Code, § 39607.5.) Those other laws generally require that emissions offsets must be “surplus” or “additional”. Comments on the proposed amendments suggested that to be used for CEQA mitigation purposes, offsets should also be “additional.” Thus, the Natural Resources Agency further refined the revisions it publicized on October 23, 2009, by deleting the lead-in sentence stating that “Reductions in emissions that are not otherwise required may constitute mitigation pursuant to this subdivision,” and amending subdivision (c)(3) to state that mitigation may include “Off-site measures, including offsets that are not otherwise required, to mitigate a project’s emissions[.]”

Moving this concept from the general provisions on mitigation of greenhouse gas emissions to the provision on offsets does not materially alter the rights or conditions in the originally proposed text because the “not otherwise required” concept would only make sense in the context of offsets. Because this revision clarifies section 15126.4(c)(3), consistent with the Public Resources Code and cases interpreting it, and does not alter the requirements, rights, responsibilities, conditions, or prescriptions contained in the originally proposed text, this revision is nonsubstantial and need not be circulated for additional public review. (Government Code, § 11346.8(c); Cal. Code Regs., tit. 1, § 40.)

Sequestration

The fourth type of GHG emissions mitigation measure is sequestration. Indeed, one way to reduce a project’s GHG emissions is to sequester project-related GHG emissions and thereby prevent them from being released into the atmosphere. At present, the most readily available, and accountable, way to sequester GHGs is forest management. California forests have a “unique capacity to remove [carbon dioxide, a GHG,] from the air and store it long-term as carbon.” (Scoping Plan, Appendix C, at p. C-165.) Forest sequestration functions are, therefore, a key part of the ARB’s Scoping Plan and reduction effort. (Scoping Plan, at pp. 64-65.)

The California Climate Action Team has also identified several forest-related sequestration strategies, including, reforestation, conservation forest management, conservation (i.e., avoided development), urban forestry, and fuels management and biomass. (ARB, Staff Report: Proposed Adoption of California Climate Action Registry

Forestry Greenhouse Gas Protocols for Voluntary Purposes (October 17, 2007), at pp. 6-7.) ARB has adopted Forest Protocols for large forestry projects. (ARB, Resolution 07-44 (adopting California Climate Action Registry Forestry Sector Protocol (September 2007), Forest Project Protocol (September 2007) and Forest Verification Protocol (May 2007).) ARB has also adopted Urban Forest Protocols for urban forestry projects. (California Climate Action Registry, Urban Forest Project Reporting Protocol and Verification Protocol (August 2008) (ARB adopted on September 25, 2008).) Such projects could be located on the project site or off-site. (Urban Forest Project Reporting Protocol, at pp. 4-5.) The protocols include methods of measuring the ability of various forestry projects to store capture and store carbon.

Consistent with section 15126.4(a), a lead agency must support its choice of, and its determination of the effectiveness of, any reduction measures with substantial evidence. Substantial evidence in the record must demonstrate that any mitigation program or measure is will result in actual emissions reductions. As a practical matter, where a mitigation program or measure is consistent with protocols adopted or approved by an agency with regulatory authority to develop such a program, a lead agency will more easily be able to demonstrate that off-site mitigation will actually result in emissions reductions. Examples of such protocols include the forestry protocols described above. Where a mitigation proposal cannot be verified with an existing protocol, a greater evidentiary showing may be required.

Measures to be Implemented on a Project-by-Project Basis

Finally, the fifth type of measure that could reduce GHG emissions at a planning level is the development of binding measures to be implemented on a project-specific basis. As explained in greater detail in the discussion of proposed section 15183.5, below, ARB's Scoping Plan strongly encourages local agencies to develop plans to reduce GHG emissions throughout the community. In addition, the CEC's Power Plant Siting Committee is assessing the impacts of GHG emission from proposed new power plants and how they can be mitigated. Comments received during the CEC's informational proceedings warranted a lengthy discussion on the practical application of a programmatic approach to mitigating GHG emissions from new power plants. (CEC, *Committee Guidance on Fulfilling California Environmental Quality Act Responsibilities for Greenhouse Gas Impacts in Power Plant Siting Applications* (2009) at p. 26 to 28.) Existing State CEQA Guidelines sections 15168(b)(4) and 15168(c)(3) recognize that programmatic documents provide an opportunity to develop mitigation plans that will apply on a project-specific basis. Proposed subdivision (c)(5) recognizes that, for a planning level decision, appropriate mitigation of GHG emissions may include the development of a program to be implemented on a project-by-project basis. (State CEQA Guidelines, § 15126.4(a)(2) (“[i]n the case of the adoption of a plan, policy, regulation, or other public project, mitigation measures can be incorporated into the plan, policy, regulation or project design”).)

This type of mitigation is subject to the limits of existing law, however. Thus, proposed subdivision (c)(5) should not be interpreted to allow deferral of mitigation.

Rather, it is subject to the rule in existing section 15126.4(a)(1)(B) that such measures “may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.” (See also *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal. App. 4th 645, 670-71.)

Suggestions Rejected

During its public involvement process, OPR received comments on its preliminary draft of the proposed amendments related to mitigation. Some comments suggested provisions that were not included in these Proposed Amendments. Several comments, for example, suggested that the Guidelines provide a specific “hierarchy” of mitigation requiring lead agencies to mitigate GHG emissions on-site where possible, and to allow consideration and use of off-site mitigation only if on-site mitigation is impossible or insufficient. OPR and the Resources Agency recognize that there may be circumstances in which requiring on-site mitigation may result in various co-benefits for the project and local community, and that monitoring the implementation of such measures may be easier. However, CEQA leaves the determination of the precise method of mitigation to the discretion of lead agencies. (State CEQA Guidelines, § 15126.4(a)(1)(B); see also *San Franciscans Upholding the Downtown Plan v. City & Co. of San Francisco* (2002) 102 Cal. App. 4th 656, 697.)

Several comments also suggested that mitigation for GHG emissions must be “real, permanent, quantifiable, verifiable, and enforceable.” The Proposed Amendments do not include such standards, however, for several reasons. The proposed standard appears to have been derived from section 38562(d) of the Health and Safety Code, which prescribes requirements for regulations to be promulgated to implement AB32. AB32 is a separate statutory scheme, and, as noted above, there is no indication that the legislature intended to alter standards for mitigation under CEQA. Similarly, standards for mitigation under CEQA already exist and are set out in section 15126.4(a). Specifically, mitigation must be fully enforceable, which implies that the measure is also real and verifiable. Additionally, substantial evidence in the record must support an agency’s conclusion that mitigation will be effective, and in the context of an EIR, courts will defer to an agency’s determination of a measure’s effectiveness. (*Environmental Council of Sacramento v. City of Sacramento* (2006) 147 Cal.App.4th 1018, 1041 (mitigation ratio is supportable even at less than 1:1 given the project’s circumstances); *Ass’n of Irrigated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1398 (lead agency has discretion to resolve dispute regarding the effectiveness of an EIR’s mitigation measures).) No existing law requires CEQA mitigation to be quantifiable. Rather, mitigation need only be “roughly proportional” to the impact being mitigated. (State CEQA Guidelines, § 15126.4(a)(4)(B); see also *id.* at § 15142.)

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the mitigation of GHG emissions. (Pub. Resources Code, § 21083.05.) The proposed subdivision (c) sets out types of mitigation of GHG emissions that a lead agency may consider. Thus, that subdivision is reasonably necessary to implement the Legislature's directive.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the proposed action and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the proposed action. This conclusion is based on the Resources Agency's determination that the proposed action is necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the proposed action adds no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the proposed revisions. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The proposed action interprets and makes specific statutory CEQA provisions and/or case law interpreting CEQA for mitigating the impacts of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to "meaningfully attempt to quantify the Project's potential impacts on GHG emissions and determine their significance" or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act ("NEPA") to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th

Cir. 2008).) Thus, the amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the proposed action does not add any substantive requirements, it will not result in an adverse impact on businesses in California. On the contrary, by providing greater certainty to lead agencies regarding the determination of significance of GHG emissions, the cost of environmental analysis, and potential litigation, may be reduced.

SECTION 15130. DISCUSSION OF CUMULATIVE IMPACTS

Specific Purposes of the Amendment

The Proposed Amendments include two revisions to the existing section 15130 of the State CEQA Guidelines. The two proposed amendments are described below.

Section 15130(b)(1)(B)

Section 21083(b) of the Public Resources Code requires that an EIR be prepared if the “possible effects of a project are individually limited but cumulatively considerable.” That section further defines “cumulatively considerable” to mean that “the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.”

In determining whether a project may have significant cumulative impacts, a lead agency must engage in a two-step process. First, it must determine the extent of the cumulative problem. To do so, a lead agency must examine the “effects of past projects, the effects of other current projects, and the effects of probable future projects.” Once it does so, the lead agency then determines whether the project’s incremental contribution to that problem is cumulatively considerable. Section 21100(e) further provides that “[p]reviously approved land use documents, including but not limited to, general plans, specific plans, and local coastal plans, may be used in a cumulative impact analysis.”

The existing Guideline section 15130(b) addresses the first step of the process. It offers two options for estimating the effects resulting from past, present and reasonably foreseeable projects. A lead agency may either rely on a list of such projects, or a summary of projections to estimate cumulative impacts. Existing section 15130(b)(1)(B) allows a lead agency to rely on projections in a land use document or certified environmental document that addresses the cumulative impact under consideration.

The proposed amendments would clarify that plans providing such projections need not be limited to land use plans, so long as the plan evaluates the relevant cumulative effect. The proposed amendments would also allow a lead agency to rely on information provided in regional modeling programs. The best projections of the cumulative effect of GHG emissions may be available in up-to-date models such as the International Council for Local Environmental Initiative’s Local Government GHG Protocol⁸ and the California Climate Action Reserve’s Registry general,⁹ industry¹⁰ and

⁸ ICLEI (2008) Local Government Operations Protocol; Accessed 6/08/09, <http://www.icleiusa.org/action-center/tools/lgo-protocol-1>

⁹ California Climate Action Registry (2009) General Reporting Protocol: Accessed 6/08/09, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_3.1_January2009.pdf

project type protocols.¹¹ Such projections may also be supplied in plans that are not strictly “land use” plans. For example, regional transportation plans in certain areas will ultimately include sustainable community strategies which will include projections a region’s GHG emissions and related cumulative effects. (Gov Code, § 65080(b)(2).) Finally, some agencies are beginning to develop GHG reduction plans or climate action plans that may also include such projections. (ARB, Scoping Plan, Appendix C, at p. C-49; OPR, Book of Lists, at pp. 92-100.)

The proposed amendments are consistent with section 21083 of the Public Resources Code and CEQA case law. Section 21083 requires consideration of “the effects of past projects, the effects of other current projects, and the effects of probable future projects.” Projections in the listed types of plans and models may include inventories of existing emissions and projected future emissions. Section 21100 of the Public Resources Code provides that land use plans “may” be used in a cumulative impacts analysis, but that section does not purport to limit the types of plans that can be used in a cumulative impacts analysis to land use plans. Finally, case law has supported reliance on projections provided by industry, for example, to satisfy the requirement for a discussion of impacts caused by closely related projects. (*Ass’n of Irrigated Residents, supra*, 107 Cal. App. 4th at 1404.)

While models may provide the most up to date information, lead agencies should still look first to information provided in adopted or certified environmental documents. First, such information has already gone through a public and agency review process. Second, to the extent the model provides information that is not provided in the prior environmental document, the relationship of the model and applicable plans must be explained, along with any changes in circumstances.

Section 15130(d)

The Office of Planning and Research had originally proposed the addition of certain plans to section 15130(d). That section states that previously approved land use plans may be used in a cumulative impacts analysis. Those additions were inadvertently excluded from the proposed amendments that were made available for public review on July 3, 2009. Therefore, the revisions were added to revisions that were made publicly available on October 23, 2009.

The added plans include regional transportation plans and plans for the reduction of greenhouse gas emissions. This change is sufficiently related to the proposal that was originally published. Those plans were proposed for addition to other sections of the proposed amendments, for example, and comments were submitted regarding the use of such plans in cumulative impacts analysis. Plans for the reduction of greenhouse gas emissions were described under section 15064(h)(3), above. Regional

¹⁰ California Climate Action Registry (2005) Industry Specific Protocols: Accessed 06/08/09, <http://www.climateregistry.org/tools/protocols/industry-specific-protocols.html>

¹¹ California Climate Action Registry (2007) Project Protocols: Accessed 06/08/09, <http://www.climateregistry.org/tools/protocols/project-protocols.html>

transportation plans may contain information regarding transportation-related greenhouse gas emissions that may be useful in a cumulative impacts analysis. As explained above, regional transportation plans in certain areas will ultimately include sustainable community strategies which will include projections a region's GHG emissions and related cumulative effects. (Gov Code, § 65080(b)(2).) Thus, these additions are reasonably necessary to ensure that public agencies perform a cumulative impacts analysis of greenhouse gas emissions as required by Public Resources Code section 21083.05. The additions are also consistent with Public Resources Code section 21100(e) which provides that previously adopted land use plans may be used in a cumulative impacts analysis.

Section 15130(f)

The Natural Resources Agency originally proposed to add subdivision (f) to section 15130 to clarify that sections 21083 and 21083.05 of the Public Resources Code do not require a detailed analysis of GHG emissions solely due to the emissions of other projects. (State CEQA Guidelines, § 15130(a)(1); *Santa Monica Chamber of Commerce v. City of Santa Monica* (2002) 101 Cal.App.4th 786, 799.) Rather, proposed subdivision (f) would have provided that a detailed analysis is required when evidence shows that the incremental contribution of the project's GHG emissions is cumulatively considerable when added to other cumulative projects. (*CBE, supra*, 103 Cal.App.4th at 119-120.) In essence, the proposed addition would be a restatement of law as applied to GHG emissions. Analysis of GHG emissions as a cumulative impact is consistent with case law arising under the National Environmental Policy Act. (See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Other portions of these proposed Guidelines address how lead agencies may determine whether a project's emissions are cumulatively considerable. (See, e.g., Proposed Sections 1506(h)(3) and 15064.4.)

Public comments noted, however, that the new subdivision merely restated the law, and was capable of misinterpretation. The Natural Resources Agency, therefore, determined that because other provisions of the Amendments address the analysis of greenhouse gas emissions as a cumulative impact, and because the reasoning of those is fully explained in the Initial Statement of Reasons, subdivision (f) should not be added to the CEQA Guidelines. The deletion was reflected in the revisions that were made available for further public review and comment on October 23, 2009.

Necessity

Sections 21083 and 21083.05 of the Public Resources Code respectively require that an EIR analyze cumulative impacts and that the effects of GHG emissions be analyzed in CEQA documents. The Amendments include guidance to assist lead agencies to evaluate the cumulative impacts of GHG emissions where an EIR is required. Thus, the Amendments are reasonably necessary to implement the Legislature's directive.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA for analysis and mitigation of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to "meaningfully attempt to quantify the Project's potential impacts on GHG emissions and determine their significance" or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act ("NEPA") to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Thus, the amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, the

amendments to this section are intended to reduce the costs of environmental review on lead agencies and project applicants by encouraging the use of existing environmental analysis where available. (Pub. Resources Code, § 21003(d) (use information in existing EIRs in order to reduce duplication), (f) (environmental review should proceed in the most efficient manner possible).)

SECTION 15150. INCORPORATION BY REFERENCE

Specific Purposes of the Amendment

The existing CEQA Guidelines allow lead agencies to incorporate information from other documents by reference. (State CEQA Guidelines, § 15150.) Doing so permits a lead agency to avoid repetitious analysis of general matters and to reduce paperwork. (Pub. Resources Code § 21003 (it is state policy that “persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment”).) Existing Guidelines section 15150(f) provides that “[i]ncorporation by reference is most appropriate for including long, descriptive, or technical materials that provide general background but do not contribute directly to the analysis of the problem at hand.”

The key requirements for documents that may be incorporation by reference are set forth in the statutory definition of “EIR.” (Pub. Resources Code, § 21061.) Those requirements include:

- The incorporated information is a matter of public record or is generally available to the public; and
- The incorporated information is reasonably available for inspection at a public place or public building.

Descriptions of global, statewide and regional GHG emissions are particularly well-suited to incorporation by reference. Such descriptions can be technical and lengthy. (Public Policy Institute of California, *Climate Policy at the Local Level: A Survey of California’s Cities and Counties* (November 2008), at pp. 24-32 (describing barriers and constraints to adoption of climate action plans and policies).) General descriptions may also remain current enough to be used in several successive environmental documents. In fact, OPR has found that many agencies are addressing GHG emissions in programmatic documents that could be incorporated by reference into later documents. (OPR, *Book of Lists*, at pp. 92-100.) Thus, the Resources Agency and OPR find that addition of subdivision (e)(4) is reasonably necessary to effectuate the legislative directive that public agencies conduct environmental review in the most efficient manner possible.

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the analysis of GHG emissions. (Pub. Resources Code, § 21083.05.) The Legislature has further directed that resources be conserved wherever possible in the analysis of environment impacts. (*Id.* at § 21003.) Thus, the amendment to add GHG

analyses to the list of documents that may be incorporated by reference is reasonably necessary to implement the Legislature's directive.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the proposed action adds no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the proposed revisions. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA for analysis and mitigation of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to "meaningfully attempt to quantify the Project's potential impacts on GHG emissions and determine their significance" or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act ("NEPA") to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Thus, the amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, the amendments to this section are intended to reduce the costs of environmental review on lead agencies and project applicants by encouraging the use of existing environmental analysis where available. (Pub. Resources Code, § 21003(d) (use information in existing EIRs in order to reduce duplication), (f) (environmental review should proceed in the most efficient manner possible).)

SECTION 15183. PROJECTS CONSISTENT WITH A COMMUNITY PLAN OR ZONING

Specific Purposes of the Amendment

Section 21083.3 of the Public Resources Code provides that projects that are consistent with a General Plan, Community Plan or Zoning may not need to analyze cumulative effects that have already been analyzed in an EIR on the prior planning or zoning action. The exemption may apply, for example, where “uniformly applied development policies or standards” will substantially mitigate a cumulative effect. (Pub. Resources Code, § 21083.3(d).) The statute does not define what types of development policies or standards may be used in this context. It does provide, however, that such standards or policies must have been adopted by the lead agency with a finding, supported with substantial evidence, that the policy or standard will substantially mitigate the environmental effect under consideration. (*Ibid.*) Existing Guidelines section 15183 provides several non-exclusive examples of policies and standards that might apply in the context of section 21083.3, including grading ordinances and floodplain protection ordinances.

The inclusion of “[r]equirements for reducing greenhouse gas emissions, as set forth in adopted land use plans, policies or regulations” among the list of examples of “uniformly applied development policies or standards” is consistent with the direction in section 21083.3. First, the text provides that such requirements would be “adopted” by the lead agency. Second, they would be “development policies or standards” because the requirements would be contained in an adopted “land use plan, policy or regulation.” Finally, such requirements could substantially mitigate the effects of GHG emissions by “reducing greenhouse gas emissions” in the adopting jurisdiction. (Proposed Section 15183.5(b) would provide elements that may be included in a GHG emissions reduction plan that might be used in the context of section 15183.)

One comment submitted during OPR’s public involvement process questioned whether such requirements relating to reductions in GHG emissions would be kept current. (See, e.g., Letter from Joyce Dillard to OPR, January 26, 2009.) Section 21083.3 specifically provides, however, that such requirements would not apply in this context if “substantial new information shows that the policies or standards will not substantially mitigate the environmental effect.” (Pub. Resources Code, § 21083.3(d).) Therefore, lead agencies have an incentive to ensure that their policies remain current.

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the analysis of GHG emissions. (Pub. Resources Code, § 21083.05.) The addition to section 15183 is reasonably necessary to carry out the legislature’s intent that projects that are consistent with General Plans, Community Plans and Zoning benefit from streamlined CEQA review. Several jurisdictions are beginning to include requirements for reducing GHG emissions in their general plans. (OPR, Book of Lists,

at pp. 92-100; Scoping Plan, Appendix C, at p. C-49.) The addition is also reasonably necessary to effectuate the legislature's intent that OPR and the Resources Agency provide guidance on how to analyze GHG emissions.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Resources Agency rejected the no action alternative because it would not achieve the objectives of the proposed revisions. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA for analysis and mitigation of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to "meaningfully attempt to quantify the Project's potential impacts on GHG emissions and determine their significance" or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act ("NEPA") to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Thus, the amendments to the CEQA Guidelines developed pursuant to

SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, the amendments to this section are intended to reduce the costs of environmental review on lead agencies and project applicants by encouraging the use of existing environmental analysis where available. (Pub. Resources Code, § 21003(d) (use information in existing EIRs in order to reduce duplication), (f) (environmental review should proceed in the most efficient manner possible).)

SECTION 15183.5. TIERING AND STREAMLINING THE ANALYSIS OF GREENHOUSE GAS EMISSIONS

Specific Purposes of the Amendment

In adopting SB375, the Legislature found that “[n]ew provisions of CEQA should be enacted so that the statute encourages ... local governments to make land use decisions that will help the state achieve its climate goals under AB 32[.]” (Statutes 2008, Ch. 728, § 1(f).) ARB’s Scoping Plan similarly recognizes the important role that local governments play in reducing the State’s GHG emissions. (ARB, Scoping Plan, at p. 26.) In particular, local government “[d]ecisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas sectors.” (*Ibid.*) Decision-making on urban growth and land use planning begins with local general plans. (Gov. Code, § 65030.1 (“The Legislature ... finds that decisions involving the future growth of the state, most of which are made and will continue to be made at the local level, should be guided by an effective planning process, including the local general plan, and should proceed within the framework of officially approved statewide goals and policies directed to land use, population growth and distribution, development, open space, resource preservation and utilization, air and water quality, and other related physical, social and economic development factors”).)

GHG emissions may be best analyzed and mitigated at a programmatic level. “For local government lead agencies, adoption of general plan policies and certification of general plan EIRs that analyze broad jurisdiction-wide impacts of GHG emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews.” (OPR, Technical Advisory: CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review, June 19, 2008, at p. 8.) Other lead agencies may also address GHG emissions programmatically in long range development plans, facilities master plans, and other long-range planning documents.

This emphasis on long-range planning is consistent with state policy expressed in CEQA. The Legislature has clearly stated its preference that lead agencies tier environmental documents wherever feasible. (Pub. Resources Code, § 21093(b).) Specifically:

The Legislature finds and declares that tiering of environmental impact reports will promote construction of needed housing and other development projects by (1) streamlining regulatory procedures, (2) avoiding repetitive discussions of the same issues in successive environmental impact reports, and (3) ensuring that environmental impact reports prepared for later projects which are consistent with a previously approved policy, plan, program, or ordinance concentrate upon environmental effects which may be mitigated or avoided in connection with the decision on each later project. The Legislature further finds and

declares that tiering is appropriate when it helps a public agency to focus upon the issues ripe for decision at each level of environmental review and in order to exclude duplicative analysis of environmental effects examined in previous environmental impact reports.

(Pub. Resources Code, § 21093(a).) The Amendments, therefore, include the addition of a new section 15183.5 to address both tiering and streamlining of GHG analyses, as well as the proper use of GHG reduction plans in CEQA analyses. Explanation of the rationale of each new subdivision is provided below.

Existing Methods of Streamlining and Tiering

Because GHG emissions raise a cumulative concern, analysis of such emissions in a long-range planning document lends itself to tiering and use in later project-specific environmental review. (Pub. Resources Code, § 21093.) The Legislature has created several tiering and streamlining methods, reflected in various provisions of the existing State CEQA Guidelines, that can reduce duplication in the analysis of GHG emissions. Subdivision (a) clarifies that existing provisions in the State CEQA Guidelines regarding tiering and streamlining may be applied to the analysis of GHG emissions.

Greenhouse Gas Emissions Reduction Plans

Many jurisdictions are beginning to address GHG emissions reductions in “climate action plans” and “gas emissions reduction plans.” (OPR, Book of Lists, at pp. 92-100; see also, Scoping Plan, Appendix C, at p. C-49.) ARB’s Scoping Plan specifically encourages local governments to develop such plans, and has created a local government operations protocol to assist in that effort. (Scoping Plan, at p. 26.) A community-wide emissions protocol is also under development.

Some comments raised during OPR’s public involvement process expressed concern that due to a lack of legislative criteria for such plans, existing provisions in the CEQA Guidelines regarding cumulative impacts may be misused. (See, e.g., Letter from Center for Biological Diversity, et al., to OPR, February 2, 2009, at p. 2.) For example, without specific guidance, a lead agency could erroneously rely on a plan with purely aspirational intent to determine that a later project’s cumulative impact is less than significant pursuant to section 15064(h)(3). The proposed subdivision (b) provides criteria to assist lead agencies in determining whether an existing greenhouse gas reduction plan is an appropriate document to use in a cumulative impacts analysis under CEQA.

The existing CEQA Guidelines allow lead agencies to rely on plans for cumulative analysis where the plan has been adopted in a public review process and contains specific requirements to avoid or substantially lessen a cumulative problem. (State CEQA Guidelines, § 15064(h)(3).) The criteria set out in proposed subdivision (b)(1) are designed to ensure that a greenhouse gas reduction plan would satisfy the

requirements described in sections 15064(h)(3) and 15130(d), for the reasons described below.

Criteria (A) and (C) are necessary to define the scope of GHG emissions within the defined geographic area and the incremental contribution of activities that will occur within that area to those emissions. (State CEQA Guidelines, § 15064(h)(3) (plan addresses cumulative impacts “within the geographic area in which the project is located”).) Criterion (B) establishes a benchmark to assist the lead agency in determining whether the plan provisions will avoid or substantially lessen cumulative effects of the area’s GHG emissions. (*Ibid.* (plan “provides specific requirements that will avoid or substantially lessen the cumulative problem”).) Criteria (D) and (E) are necessary to demonstrate that the plan will actually avoid or substantially lessen the cumulative effects of those emissions. (*Ibid.*) Finally, criterion (F) reflects the requirement in sections 15064(h)(3) and 15130(d) that the plan be adopted through a public review process, as well as case law requiring that mitigation plans themselves undergo environmental review. (*California Native Plant Society v. County of El Dorado* (2009) 170 Cal. App. 4th 1026, 1053 (mitigation “programs may offer the best solution to environmental planning challenges, by providing some certainty to developers while adequately protecting the environment” but “in order to provide a lawful substitute for the ‘traditional’ method of mitigating CEQA impacts, that is, a project-by-project analysis, the fee program must be evaluated under CEQA”).) Notably, the criteria provided in subdivision (b) are largely consistent with the elements that ARB recommends be included in a greenhouse gas reduction plan. (ARB, Scoping Plan, Appendix C, at p. C-49.)

Subdivision (b)(2) describes the uses and limitations of plans for the reduction of greenhouse gas emissions in a cumulative impacts analysis for later projects. Specifically, it provides a safeguard to ensure that the later activity was actually addressed in the plan for the reduction of greenhouse gas emissions, and that any applicable requirements of the plan are incorporated into the later project. This requirement is similar the requirement in case law that a lead agency determine that a particular threshold appropriately addresses the impact of concern. (*Protect the Historic Amador Waterways, supra*, 116 Cal.App.4th at 1109 (“in preparing an EIR, the agency must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect”).) Finally, subdivision (b)(2) makes specific the requirement that, while the existence of an applicable plan for the reduction of greenhouse gas emissions may create a presumption that compliance with that plan will reduce the incremental contribution of later activities to a less than cumulatively considerable level, the existence of substantial evidence supporting a fair argument to the contrary may still require preparation of an EIR.

Special Situations

Subdivision (c) provides necessary clarification of the partial exemption provided in sections 21155.2 and 21159.28 of the Public Resources Code, enacted as part of SB375 (see description above). The limitation on analysis of global warming applies only to the effects caused by GHG emissions from cars and light duty trucks. That limitation should be read in conjunction with section 21083.05 of the Public Resources Code and State CEQA Guideline sections 15064.4 and 15126.4 which require analysis of all sources of GHG emissions and mitigation if those emissions are significant. Thus, projects that qualify for the limitation in sections 21155.2 and 21159.28 must still analyze emissions resulting from, as applicable, energy use, land conversion, and other direct and indirect sources of emissions. This clarification is reasonably necessary to effectuate the legislative directive in section 21083.3 that OPR and Resources develop guidelines on the analysis of GHG emissions and to avoid confusion regarding the streamlining provisions provided by SB375.

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the analysis of GHG emissions. (Pub. Resources Code, § 21083.05.) The Legislature has also directed that EIRs be tiered wherever possible, and that duplication be minimized. (*Id.* at §§ 21003, 21093, 21094.) Section 15183.5, which provides guidance on tiering and streamlining of GHG emissions analyses, is therefore reasonably necessary to carry out these directives.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Natural Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the Amendments are proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Natural Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Natural Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA for analysis and mitigation of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent

of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to “meaningfully attempt to quantify the Project’s potential impacts on GHG emissions and determine their significance” or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act (“NEPA”) to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Thus, the Amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, the amendments to this section are intended to reduce the costs of environmental review on lead agencies and project applicants by encouraging the use of existing environmental analysis where available. (Pub. Resources Code, § 21003(d) (use information in existing EIRs in order to reduce duplication), (f) (environmental review should proceed in the most efficient manner possible).)

SECTION 15364.5. GREENHOUSE GAS

Specific Purposes of the Amendment

The Legislature has not included a definition of “greenhouse gases” in CEQA, though it did include a definition in AB32. (Health & Saf. Code, § 38505(g).) Thus, new section 15364.5 adds a definition of greenhouse gases. The specified gases are consistent with existing law as they are defined to include those identified by the Legislature in section 38505(g) of the Health and Safety Code.

Notably, the definition in AB32 states that GHG “includes all of the following...” In so stating, the Legislature implies that other gases may also be considered GHGs. The ARB’s Scoping Plan also acknowledges that other gases contribute to climate change. (Scoping Plan, at p. 11.) In fact, the EPA’s Endangerment Finding explained that several other gases share attributes with GHGs but would not be appropriate for regulation under the Clean Air Act at this time. (EPA Endangerment Finding, at pp. 18896-98.) Therefore, similar to the statutory definition of GHGs in AB32, the definition in the Amendments is not exclusive to the six primary GHGs. The purpose of a more expansive definition is to ensure that lead agencies do not exclude from consideration GHGs that are not listed, so long as substantial evidence indicates that such non-listed gases may result in significant adverse effects. This approach is consistent with the Supreme Court’s directive that CEQA be interpreted to provide the fullest possible protection to the environment. (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 390.)

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the analysis of GHG emissions. (Pub. Resources Code, § 21083.05.) Section 15364.5 is necessary to make specific the instruction to analyze GHG emissions because it states which gases are considered to be “greenhouse gases” and should be included in the analysis.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency’s Reasons for Rejecting Those Alternatives

The Natural Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Natural Resources Agency’s determination that the Amendments are necessary to implement the Legislature’s directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Natural Resources Agency rejected the no action

alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA for analysis and mitigation of GHG emissions that may result from proposed projects. Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating GHG emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, Riverside Co. Sup. Ct. Case No. RIC463320 (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, Sacramento Sup. Ct. Case No. 07CS00967 (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-1371 and State CEQA Guidelines section 15144 as requiring a lead agency to “meaningfully attempt to quantify the Project’s potential impacts on GHG emissions and determine their significance” or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative).) Finally, federal courts have interpreted the National Environmental Policy Act (“NEPA”) to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Thus, the Amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, the addition of this section is intended to reduce the costs of environmental review on lead agencies and project applicants by assisting lead agencies in determining which gases should be included in an analysis.

APPENDIX F. ENERGY CONSERVATION

Specific Purposes of the Amendment

CEQA's requirement to analyze and mitigate energy impacts of a project is substantive, and is not merely procedural. (*People v. County of Kern* (1976) 62 Cal.App.3d 761, 774.) Despite the requirement, lead agencies have not consistently included such analysis in their EIRs. (Remy et al., Guide to CEQA, 11th Ed. 2007, at pp. 1007-1008, n. 34.) The following revisions to Appendix F are, therefore, reasonably necessary to ensure that lead agencies comply with the substantive directive in section 21100(b)(3).

Introduction

The revisions to the introduction section include a cross-reference to section 21100(b)(3) of the Public Resources Code to direct lead agencies to the statutory directive underlying Appendix F. This section also includes an addition to make clear that energy impacts that have already been analyzed may not need to be repeated in later EIRs. This sentence is consistent with the Legislative intent in CEQA that information in existing environmental review be used to "reduce delay and duplication in preparation of subsequent environmental impact reports." (Pub. Resources Code, § 21003(d).)

EIR Contents

The amendments to Appendix F revise the section on EIR Contents to clarify that lead agencies "shall" analyze energy conservation in their EIRs. The word "shall" indicates that the duty is mandatory, and makes Appendix F consistent with Public Resources Code section 21100(b)(3). While Appendix F is revised to make clear that an energy analysis is mandatory, the amendments to this section would also make clear that the energy analysis is limited to effects that are applicable to the project.

"Lifecycle"

The amendments to Appendix F remove the term "lifecycle." No existing regulatory definition of "lifecycle" exists. In fact, comments received during OPR's public workshop process indicate a wide variety of interpretations of that term. (Letter from Terry Rivasplata et al. to OPR, February 2, 2009, at pp. 5, 12 and Attachment; Letter from Center for Biological Diversity et al. to OPR, February 2, 2009, at pp. 17.) Thus, retention of the term "lifecycle" in Appendix F could create confusion among lead agencies regarding what Appendix F requires.

Moreover, even if a standard definition of the term "lifecycle" existed, requiring such an analysis may not be consistent with CEQA. As a general matter, the term could refer to emissions beyond those that could be considered "indirect effects" of a project as that term is defined in section 15358 of the State CEQA Guidelines.

Depending on the circumstances of a particular project, an example of such emissions could be those resulting from the manufacture of building materials. (CAPCOA White Paper, at pp. 50-51.) CEQA only requires analysis of impacts that are directly or indirectly attributable to the project under consideration. (State CEQA Guidelines, § 15064(d).) In some instances, materials may be manufactured for many different projects as a result of general market demand, regardless of whether one particular project proceeds. Thus, such emissions may not be “caused by” the project under consideration. Similarly, in this scenario, a lead agency may not be able to require mitigation for emissions that result from the manufacturing process. Mitigation can only be required for emissions that are actually caused by the project. (State CEQA Guidelines, § 15126.4(a)(4).) Conversely, other projects may spur the manufacture of certain materials, and in such cases, consideration of the indirect effects of a project resulting from the manufacture of its components may be appropriate. A lead agency must determine whether certain effects are indirect effects of a project, and where substantial evidence supports a fair argument that such effects are attributable to a project, that evidence must be considered. However, to avoid potential confusion regarding the scope of indirect effects that must be analyzed, the term “lifecycle” has been removed from Appendix F.

Types of Energy Use

The amendments to Appendix F clarify that project design may achieve energy savings through measures related to water use and solid waste disposal. (California Energy Commission, Water Supply-Related Electricity Demand in California, CEC 500-2007-114 (November 2007), at p. 3 (reporting that water related energy use, including water movement, treatment and heating, annually accounts for approximately 20 percent of California’s electricity consumption); Scoping Plan, Appendix C, at pp. C-158 to C-160.) The addition of these potential sources of energy reductions is consistent with the direction in section 21100(b)(3) to identify mitigation measures to reduce inefficient consumption of energy.

Grammar and Syntax

Finally, several minor revisions to Appendix F were made to improve grammar and syntax. Such revisions qualify as a “change without regulatory effect” pursuant to section 100(a)(4) of the Office of Administrative Law’s regulations governing the rulemaking process. (Cal. Code Regs., tit. 1, § 100(a)(4).)

Necessity

The Legislature directed OPR and the Natural Resources Agency to develop guidelines on the analysis and mitigation of GHG emissions. (Pub. Resources Code, § 21083.05.) Since a significant source of GHG emissions results from energy use (consumption), these Amendments appropriately addressed energy use and conservation as a subject for CEQA analysis. Additionally, the legislature requires that lead agencies analyze energy use in their EIRs. (*Id.* at § 21100(b)(3).) The

amendments to Appendix F are, therefore, necessary to ensure that lead agencies implement these directives.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Natural Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Natural Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Natural Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

The Amendments interpret and make specific statutory CEQA provisions and/or case law interpreting CEQA's requirements for analysis and mitigation of energy use. Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California.

APPENDIX G. INITIAL STUDY CHECKLIST

Specific Purposes of the Amendment

The Amendments include revisions to several portions of Appendix G, which contains a sample environmental checklist that lead agencies may use to satisfy the requirement to prepare an initial study. The amendments and their necessity are described below.

Note Regarding Use of the Checklist

The amendments would add a note to the beginning of Appendix G to clarify the checklist contained therein is only a sample that may be modified as necessary to suit the lead agency and to address the particular circumstances of the project under consideration. The addition is necessary for two reasons. First, several lead agencies have expressed concern that the checklist does not reflect the circumstances existing in that particular agency. (See, e.g., Letter from Napa County – Department of Conservation, Development, and Planning to OPR, January 26, 2009; Letter from County of San Bernardino - Land Use Services Department to OPR, February 2, 2009.) Second, the Third District Court of Appeal recently issued an opinion that clarified that all substantial evidence regarding potential impacts of a project must be considered, even if the particular potential impact is not listed in Appendix G. (*Protect the Historic Amador Waterways, supra*, 116 Cal.App.4th at 1109.) Thus, the note emphasizes that Appendix G does not mandate a particular form that must be used for an Initial Study; rather, it provides merely an example.

Forest Resources

The amendments would add several questions addressing forest resources in the section on Agricultural Resources. Forestry questions are appropriately addressed in the Appendix G checklist for several reasons. First, forests and forest resources are directly linked to both GHG emissions and efforts to reduce those emissions. For example, conversion of forests to non-forest uses may result in direct emissions of GHG emissions. (See, e.g., California Energy Commission Baseline GHG Emissions for Forest, Range, and Agricultural Lands in California (March, 2004) at p. 19.) Such conversion would also remove existing carbon stock (i.e., carbon stored in vegetation), as well as a significant carbon sink (i.e., rather than emitting GHGs, forests remove GHGs from the atmosphere). (Scoping Plan, Appendix C, at p. C-168.) Thus, such conversions are an indication of potential GHG emissions. Changes in forest land or timberland zoning may also ultimately lead to conversions, which could result in GHG emissions, aesthetic impacts, impacts to biological resources and water quality impacts, among others. Thus, these additions are reasonably necessary to ensure that lead agencies consider the full range of potential impacts in their initial studies. In the same way that an EIR must address conversion of prime agricultural land or wetlands as part of a project (addressing the whole of the action requires analyzing land clearance in advance of project development), so should it analyze forest removal.

During OPR's public involvement process, some commenters suggested that conversion of forest or timber lands to agricultural uses should not be addressed in the Initial Study checklist. (Letter from California Farm Bureau Federation to OPR, February 2, 2009; Letter from County of Napa, Conservation, Development and Planning Department, to OPR, January 26, 2009.) As explained above, the purpose of the Amendments is to implement the Legislative directive to develop Guidelines on the analysis and mitigation of GHG emissions. Although some agricultural uses also provide carbon sequestration values, most agricultural uses do not provide as much sequestration as forest resources. (Climate Action Team, *Carbon Sequestration* (2009), Chapter 3.3.8 at p. 3.21; California Energy Commission, *Baseline GHG Emissions for Forest, Range, and Agricultural Lands in California* (2004), at p. 2.) Therefore, such a project could result in a net increase in GHG emissions, among other potential impacts. Thus, such potential impacts are appropriately addressed in the Initial Study checklist. See the Thematic Responses, below, for additional discussion of this issue.

Greenhouse Gas Emissions

The additions also include two questions related to GHG emissions. These questions are necessary to satisfy the Legislative directive in section 21083.05 that the effects of GHG emissions be analyzed under CEQA. The questions are intended to provoke a full analysis of such emissions where appropriate. More detailed guidance on the context of such an analysis is provided in other sections throughout the Guidelines. Despite the detailed provisions in the Guidelines themselves, questions related to GHG emissions should also appear in the checklist because some lead agencies will not seriously consider an environmental issue unless it is specifically mentioned in the checklist. (*Protect the Historic Amador Waterways, supra*, 116 Cal. App. 4th at 1110.)

Transportation

The Amendments make four primary changes to the questions involving transportation and traffic.

First, question (a) changes the focus from an increase in traffic at a given location to the effect of a project on the overall circulation system in the project area. This change is appropriate because an increase in traffic, by itself, is not necessarily an indicator of a potentially significant *environmental* impact. (Ronald Miliam, AICP, *Transportation Impact Analysis Gets a Failing Grade When it Comes to Climate Change and Smart Growth*; see also Land Use Subcommittee of the Climate Action Team LUSCAT Submission to CARB Scoping Plan on Local Government, Land Use, and Transportation Report (May, 2008) at pp. 31, 36.) Similarly, even if some projects may result in a deterioration of vehicular level of service – that is, delay experienced by drivers – the overall effectiveness of the circulation system as a whole may be improved. (*Ibid.*) Such projects could include restriping to provide bicycle lanes or creating dedicated bus lanes. Even in such cases, however, any potential adverse air

quality or other impacts would still have to be addressed as provided in other sections of the checklist. Finally, the change to question (a) also recognizes that the lead agency has discretion to choose its own metric of analysis of impacts to intersections, streets, highways and freeways. (Pub. Resources Code, § 21081.2(e); *Eureka Citizens for Responsible Gov't v. City of Eureka*, *supra*, 147 Cal.App.4th at 371-373 (lead agency has discretion to choose its methodology).) Thus, “level of service” may or may not be the applicable measure of effectiveness of the circulation system.

Second, the revision to question (b) clarifies the role of a congestion management program in a CEQA analysis. Specifically, it clarifies that a congestion management program contains many elements in addition to a level of service designation. (Gov. Code § 65088 et seq.) The clarification is also necessary to address any projects within an “in-fill opportunity zone” that may be exempted from level of service requirements. (*Id.* at § 65088.4.)

Third, the amendments eliminate the existing question (f) regarding parking capacity. Case law recognizes that parking impacts are not necessarily environmental impacts. (*San Franciscans Upholding the Downtown Plan v. City and County of San Francisco*, *supra*, 102 Cal.App.4th at 697.) The focus of the Initial Study checklist should be on direct impacts of a project. Therefore, the question related to parking is not relevant in the initial study checklist. As noted above, however, if there is substantial evidence indicating adverse indirect environmental impacts from a project related to parking capacity, the lead agency must address such potential impacts regardless of whether the checklist contains parking questions. (*Ibid.*) Additional discussion of this issue is included in the Thematic Responses, below.

Finally, the amendments revise existing question (g), now question (f), to address the performance and safety of certain modes of alternative transportation. These revisions were made in response to comments received on the Amendments. While the primary objective of the Amendments is to provide guidance on the analysis and mitigation of greenhouse gas emissions, this revision was determined to be necessary to support the use of alternative transportation.

Necessity

The Legislature directed OPR and the Resources Agency to develop guidelines on the analysis of GHG emissions. (Pub. Resources Code, § 21083.05.) An initial study may be used to assist in the determination of whether a project may have a significant effect on the environment. (*Protect the Historic Amador Waterways*, *supra*, 116 Cal. App. 4th at 1110.) Appendix G of the State CEQA Guidelines is intended to provide a sample of an initial study that lead agencies may use. (*Ibid.*) Amendment of Appendix G to include questions that will assist a lead agency in determining whether a project may result in significant impacts related to GHG emissions is, therefore, necessary to carry out the Legislature’s directive in section 21083.05 of the Public Resources Code.

Reasonable Alternatives to the Regulation, Including Alternatives that Would Lessen Any Adverse Impact on Small Business, and the Resources Agency's Reasons for Rejecting Those Alternatives

The Natural Resources Agency considered reasonable alternatives to the Amendments and determined that no reasonable alternative would be more effective in carrying out the purpose for which the action is proposed or would be as effective as, and less burdensome to affected private persons than, the Amendments. This conclusion is based on the Natural Resources Agency's determination that the Amendments are necessary to implement the Legislature's directive in SB97 in a manner consistent with existing statutes and case law, and the Amendments add no new substantive requirements. The Natural Resources Agency rejected the no action alternative because it would not achieve the objectives of the Amendments. There are no alternatives available that would lessen any adverse impacts on small businesses, as any impacts would result from the implementation of existing law.

Evidence Supporting an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business

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Because the Amendments do not add any substantive requirements, they will not result in an adverse impact on businesses in California. On the contrary, the

amendments to Appendix G are intended to reduce the costs of environmental review on lead agencies and project applicants by assisting lead agencies in determining which topics should be addressed in an Initial Study.

NON-SUBSTANTIAL CHANGES

On October 23, 2009, the Natural Resources Agency made available for public review certain changes to its originally proposed amendments. Those changes were described in the Notice of Proposed Changes. In response to comments on those changes, the Natural Resources Agency has made two non-substantial changes. Because those changes clarify the text that was made available for public review, and do not alter the requirements, rights, responsibilities, conditions, or prescriptions contained in the originally proposed text, the revisions are nonsubstantial and need not be circulated for additional public review. (Government Code, § 11346.8(c); Cal. Code Regs., tit. 1, § 40.) Those revisions are described below.

Section 15126.2(a)

As explained in the Notice of Proposed Changes, the revisions to the proposed text included a clarifying sentence in section 15126.2 indicating that an environmental impact report should analyze the effect of placing a project in areas susceptible to hazardous conditions. That revision specifically lists types of areas (including floodplains, coastlines and wildfire risk areas) that may be most impacted by the effects of a changing climate. The revision would also clarify that analysis of such hazards is appropriate where such areas are specified in authoritative hazard maps, risk assessments or land use plans.

The Natural Resources Agency further revised section 15126.2(a) in response to comments. That section was revised as follows:

Similarly, the EIR should evaluate **the any potentially significant** impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.

This change does not alter the rights, responsibilities, conditions, or prescriptions contained in the originally proposed text because the Public Resources Code already provides that an EIR is only required for those impacts that are potentially significant. (Public Resources Code, § 21002.1(a).) Because this revision clarifies the last sentence in section 15126.2(a), consistent with the Public Resources Code, this revision is nonsubstantial and need not be circulated for additional public review. (Government Code, § 11346.8(c); Cal. Code Regs., tit. 1, § 40.)

Section 15126.4(c)

The Natural Resources Agency also further revised text related to mitigation that was made publicly available as described in the October 23, 2009, Notice of Proposed Changes in response to comments on that text. The revision clarifies that the qualification that measures to mitigate greenhouse gas emissions must not otherwise be required applies in the context of offsets and is not intended to contradict case law recognizing that changes in a project that are required to comply with existing environmental standards may qualify as mitigation. Thus, section 15126.4(c) was revised as follows:

(c) Mitigation Measures Related to Greenhouse Gas Emissions.

Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. ~~Reductions in emissions that are not otherwise required may constitute mitigation pursuant to this subdivision.~~ Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

(1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;

(2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;

(3) Off-site measures, including offsets **that are not otherwise required**, to mitigate a project's emissions;

(4) Measures that sequester greenhouse gases;

(5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

This change does not alter the rights, responsibilities, conditions, or prescriptions contained in the originally proposed text because the Public Resources Code already provides that to be considered mitigation, a measure must be tied to impacts resulting from the project. Section 21002 of the Public Resources Code, the source of the

requirement to mitigate, states that “public agencies should not approve projects as proposed if there are ... feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]” Similarly, section 21081(a)(1) specifies a finding by the lead agency in adopting a project that “[c]hanges or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.” Both statutory provisions expressly link the changes to be made (i.e., the “mitigation measures”) to the significant effects of the project. Because this revision clarifies section 15126.4(c), consistent with the Public Resources Code, this revision is nonsubstantial and need not be circulated for additional public review. (Government Code, § 11346.8(c); Cal. Code Regs., tit. 1, § 40.)

THEMATIC RESPONSES

Several themes emerged in the comments submitted on the Natural Resources Agency’s proposed amendments to the CEQA Guidelines addressing greenhouse gas emissions. While the Natural Resources Agency has responded individually to each comment it received, the following provides general responses to several issues that were raised repeated in the comments.

Quantitative versus Qualitative Analysis

Many comments focused on section 15064.4’s recognition of lead agency discretion in determining whether to analyze a project’s greenhouse gas emissions using either qualitative or quantitative methods, or both. Some comments suggested that a qualitative analysis would not satisfy CEQA’s informational mandates. Other comments indicated that qualitative analysis is consistent with CEQA, and may be particularly appropriate in the context of a negative declaration. Other comments asked for examples of how performance standards could be used in such an analysis. As explained in the Initial Statement of Reasons, the Natural Resources Agency finds that CEQA leaves to lead agencies the choice of the most appropriate methodology to analyze a project’s impacts, and that rule should continue to apply in the context of greenhouse gas emissions. The reasoning supporting this determination is set forth below.

First, nothing in CEQA prohibits use of a qualitative analysis or requires the use of a quantitative analysis. As explained in the Initial Statement of Reasons, CEQA directs lead agencies to consider qualitative factors. (Initial Statement of Reasons, at p. 19; Public Resources Code, § 21001(f).) Further, the existing CEQA Guidelines recognize that thresholds of significance, which are used in the determination of significance, may be expressed as quantitative, qualitative or performance-based standards. (State CEQA Guidelines, § 15064.7.) Moreover, even where quantification is technically or theoretically possible, “CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors.” (State CEQA Guidelines, § 15204(a); see also *Ass’n of*

Irritated Residents v. County of Madera (2003) 107 Cal.App.4th 1383, 1396-1398; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1996) 27 Cal.App.4th 713, 728.)¹²

Second, the comments do not appropriately distinguish between the determination of significance and the informational standards governing the preparation of environmental documents. The purpose of section 15064.4 is to assist the lead agency in determining whether a project's greenhouse gas emissions may be significant, which would require preparation of an EIR, and if an EIR is prepared, to determine whether such emissions are significant, which would require the imposition of feasible mitigation or alternatives. The existing CEQA Guidelines contain several provisions governing the informational standards that apply to various environmental documents. Conclusions in an initial study, for example, must be "briefly explained to indicate that there is some evidence to support" the conclusion. (State CEQA Guidelines, § 15063(d) (emphasis added).) Similarly, if an EIR is prepared, a determination that an impact is not significant must be explained in a "statement briefly indicating the reasons that various possible significant effects of a project" are in fact not significant. (State CEQA Guidelines, § 15128 (emphasis added).) If the impact is determined to be significant, the impact "should be discussed with emphasis in proportion to their severity and probability of occurrence." (State CEQA Guidelines, § 15143.) The explanation of significance in an EIR must be "prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences" and must demonstrate "adequacy, completeness, and a good faith effort at full disclosure." (State CEQA Guidelines, § 15151.) In sum, while proposed section 15064.4(a) reflects the requirement that a lead agency base its significance determination on substantial evidence, whether quantitative, qualitative or both, it does not, as some comments appear to fear, alter the rules governing the sufficiency of information in an environmental document.

Third, the discretion recognized in section 15064.4 is not unfettered. A lead agency's analysis, whether quantitative or qualitative, would be governed by the standards in the first portion of section 15064.4. The first sentence applies to the context of greenhouse gas emissions the general CEQA rule that the determination of significance calls for a careful judgment by the lead agency. (Proposed § 15064.4(a) ("[t]he determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064".)) The second sentence sets forth the requirement that the lead agency make a good-faith effort to describe, calculate or estimate the amount of greenhouse gas emissions

¹² Notably, as administrative regulations, the development of the proposed regulations is governed by the Administrative Procedures Act. Government Code section 11340.1(a) states the Legislature's intent that administrative regulations substitute "performance standards for prescriptive standards wherever performance standards can be reasonably expected to be as effective and less burdensome, and that this substitution shall be considered during the course of the agency rulemaking process." Thus, absent authority in CEQA that would prohibit a qualitative analysis, section 15064.4 appropriately recognizes a lead agency's discretion to determine what type of analysis is most appropriate to determine the significance of a project's greenhouse gas emissions.

resulting from a project. That sentence has been further revised, as explained in greater detail below, to provide that the description, calculation or estimation is to be based “to the extent possible on scientific and factual data.” The third sentence advises that the exercise of discretion must be made “in the context of a particular project.” Thus, as provided in existing section 15146, the degree of specificity required in the analysis will correspond to the degree of specificity involved in the underlying project. In other words, even a qualitative analysis must demonstrate a good-faith effort to disclose the amount and significance of greenhouse gas emissions resulting from a project.

Fourth, the discretion recognized in proposed section 15064.4 would not enable a lead agency to ignore evidence submitted to it as part of the environmental review process. For example, if a lead agency proposes to adopt a negative declaration based on a qualitative analysis of the project’s greenhouse gas emissions, and a quantitative analysis is submitted to that lead agency supporting a fair argument that the project’s emissions may be significant, an EIR would have to be prepared. The same holds true if a lead agency proposes to adopt a negative declaration based on a quantitative analysis, and qualitative evidence supports a fair argument that the project’s emissions may be significant. (*Berkeley Keep Jets Over the Bay Com. v. Board of Port Comm.* (2001) 91 Cal.App.4th 1344, 1382; *Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal. App. 3d 872, 881-882 (citizens’ personal observations about the significance of noise impacts on their community constituted substantial evidence that the impact may be significant and should be assessed in an EIR, even though the noise levels did not exceed general planning standards).) Similarly, even if an EIR is prepared, a lead agency would have to consider and resolve conflicts in the evidence in the record. (State CEQA Guidelines, § 15151 (“EIR should summarize the main points of disagreement among the experts”); *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109.)

Finally, regarding performance standards, several examples exist of the types of performance standards that might appropriately be used in determining the significance of greenhouse gas emissions. Proposed section 15183.5(b)(1)(D), for example, contemplates that a plan for the reduction of greenhouse gas emissions may contain performance based standards. Where such standards are developed as part of such a plan, a lead agency would have evidence indicating that compliance with such standards would indicate that the impact of greenhouse gas emissions would be less than significant. Further, in adopting SB375, the Legislature acknowledged that regional transportation plans, and the environmental impact reports prepared to analyze those plans, may contain performance standards that would apply to transit priority projects. (See, e.g., Public Resources Code, § 21155.2.) Other potential examples¹³ include the Bay Area Air Quality Management District’s proposed Best Management Practices for Construction Greenhouse Gas Emissions (calling for use of alternative fuels, local building materials and recycling), and the California Public Utilities Commission’s Performance Standard for Power Plans (requiring emissions no greater

¹³ The Natural Resources Agency does not necessarily endorse the use of these performance standards. Lead agencies must determine whether a particular standard is appropriate based on the substantial evidence supporting it and the context of the particular project.

than a combined cycle gas turbine plant). As with either a qualitative or quantitative analysis, reliance on performance standards must be supported with “scientific or factual data” indicating that compliance with the standard will ensure that impacts of greenhouse gas emissions are less than significant.

In sum, the proposed section 15064.4(a) appropriately reflects the standards in CEQA governing the determination of significance and the discretion CEQA leaves to lead agencies to determine how to analyze impacts. Mandating that lead agencies must quantify emissions whenever quantification is possible would be a departure from the CEQA statute.

Existing Environmental Setting

Several comments focused on the phrase “existing environmental setting” in section 15064.4(b)(1). Some comments urged, for example, that only “net” emissions should be considered. Comments from energy producers suggested that the phrase “existing environmental system” should encompass the entire energy system, which extends beyond California’s borders. Some comments suggested that section 15064.4 should include a lifecycle analysis.

Section 15064.4(b)(1) advises lead agencies to consider the extent to which a project would increase or decrease greenhouse gas emissions compared to the existing environmental setting. In performing this analysis, a lead agency must account for all project phases, including construction and operation, as well as indirect and cumulative impacts. (State CEQA Guidelines, §§ 15063(a) (“[a]ll phases of project planning, implementation, and operation must be considered in the initial study...”), 15064(h) (addressing cumulative impacts), 15126 (“[a]ll phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation”), 15358(a)(2) (defining “effects” to include indirect effects), 15378.) The “setting” to be described varies depending on the project and the potential environmental resources that it may affect. In *Friends of the Eel River v. Sonoma County Water Agency* (2003) 108 Cal. App. 4th 859, for example, the lead agency failed to adequately describe the environmental setting by limiting its discussion primarily to the southern portions of its water system. Framing the setting narrowly resulted in impacts to the northern portion of the water system being ignored. Finding that section 15125 is to be construed broadly to ensure the fullest protection to the environment, the court in that case held that the lead agency was required to disclose that increased use of the southern portion of the water system would require greater diversions from the northern portion, and to analyze the impacts on species in the northern portion of the system. (*Id.* at pp. 873-875.) In the context of power generation, to the extent that a project may cause changes in greenhouse gas emissions in an existing power system, and substantial evidence substantiates such changes, those changes may be considered pursuant to section 15064.4(b)(1).

Similarly, if an agency has performed an analysis that demonstrates that a particular process for waste treatment does not result in an increase in greenhouse gas emissions compared to biogenic emissions that already occurs in the atmosphere, that evidence may support a conclusion that the project would not cause an increase in greenhouse gas emissions. Thus, to the extent a lead agency does not consider biogenic emissions to be new emissions, and its analysis is supported with substantial evidence, the text in section 15064.4(b)(1) would be broad enough to encompass those emissions, subject to the limitation that such analysis could not be used in a way that would mask the effects of emissions associated with the project. For example, if the emissions occurring in the short-term will have impacts that differ from emissions occurring in the future, those differences may need to be analyzed.

Finally, some comments suggested that the Guidelines should authorize a “net” or “lifecycle” analysis for projects that operate within a closed system. Nothing in section 15064.4 precludes such analysis where such analysis complies with the provision of section 15064, and where substantial evidence supports the ultimate conclusions and findings. However, since a “net” analysis may only be appropriate or possible in limited cases, the Natural Resources Agency deliberately chose to draft section 15064.4 broadly. Additionally, in some situations, a true “net” analysis may not be technically feasible or scientifically possible, and determination of an appropriate baseline for determining a “net” effect may be difficult.

As explained below, the Natural Resources Agency has deliberately avoided the term “lifecycle,” however, to the extent an agency equates “lifecycle” with what occurs in the existing environmental setting, section 15064.4 authorizes lead agencies to consider such evidence.

Thresholds of Significance

Some comments expressed concern that the proposed amendments did not establish a statewide threshold of significance. Others suggested that most lead agencies are not qualified to establish their own thresholds, and if they do adopt thresholds, they should be required to adopt the most stringent threshold possible.

The CEQA Guidelines do not establish thresholds of significance for other potential environmental impacts, and SB97 did not authorize the development of a statewide threshold as part of this CEQA Guidelines update. Rather, the proposed amendments recognize a lead agency’s existing authority to develop, adopt and apply their own thresholds of significance or those developed by other agencies or experts. As set forth in the existing section 15064.7, a threshold is “an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.” Because a threshold would be used in the determination of significance,

the threshold would need to be supported with substantial evidence. (State CEQA Guidelines, § 15064.7(b).)

As explained in a recent decision of the Third District Court of Appeal, “[p]ublic agencies are ... encouraged to develop thresholds of significance for use in determining whether a project may have significant environmental effects.” (*Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1108.) Nothing in CEQA requires that thresholds be developed by experts or expert agencies; however, “thresholds can be drawn from existing environmental standards, such as other statutes or regulations.” (*Id.* at p. 1107.) Regardless of who develops the threshold, if an agency adopts a threshold, it must be supported with substantial evidence. (State CEQA Guidelines, § 15064.7(b).) Additionally, “thresholds cannot be used to determine automatically whether a given effect will or will not be significant[;]” “[i]nstead, thresholds of significance can be used only as a measure of whether a certain environmental effect “will normally be determined to be significant” or “normally will be determined to be less than significant” by the agency. (Guidelines, § 15064.7, subd. (a), italics added.)” (*Protect the Historic Amador Waterways, supra*, 116 Cal.App.4th at pp. 1108-1109.) Proposed subdivision (c) of section 15064.7 recognizes the principles described above by expressly recognizing that experts and expert agencies may be developing thresholds that other public agencies may find useful in their own CEQA analyses, but requiring, as a safeguard, that any such threshold be supported with substantial evidence.

Notably, nothing in either AB32 or SB97 requires a finding of significance for any particular level of increase in greenhouse gas emissions. AB32, and regulations implementing that statute, will require reductions in emissions from certain sectors in the economy, but do not preclude new emissions. Moreover, as explained in the Initial Statement of Reasons, the proposed amendments do not establish a zero emissions threshold of significance because “there is no ‘one molecule rule’ in CEQA. (*CBE, supra*, 103 Cal.App.4th at 120.)” (Initial Statement of Reasons, at p. 20.)

Some comments suggested that any numeric thresholds that are developed should not be set at such a low level that adverse economic impacts would result. While economic issues are appropriate in the determination of feasibility of mitigation and alternatives, it is not appropriate in the determination of significance (see, e.g., Public Resources Code, § 21002), so a threshold should not be designed with economic impacts in mind. Moreover, even a “high” threshold would not relieve agencies of the requirement to consider any evidence indicating that a project may have a significant effect despite falling below a threshold. (*Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109; *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 342.)

Mitigation Hierarchy

CEQA's substantive mandate requires that "public agencies should not approve projects as proposed if there are ... feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]" (Public Resources Code, § 21002.) The statute defines feasible to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Public Resources Code, § 21061.1.) The Legislature further provided that a lead agency may use its lawful discretion to mitigate significant impacts to the extent provided by other laws:

In mitigating or avoiding a significant effect of a project on the environment, a public agency may exercise only those express or implied powers provided by law other than this division. However, a public agency may use discretionary powers provided by such other law for the purpose of mitigating or avoiding a significant effect on the environment subject to the express or implied constraints or limitations that may be provided by law.

(Public Resources Code, § 21004.) Cities and counties may rely on their constitutional police powers, for example, while the ability of other agencies to require mitigation may be limited by the scope of their statutory authority. Mitigation is also subject to constitutional limitations; i.e., there must be a nexus between the mitigation measure and the impact it addresses, and the mitigation must be roughly proportional to the impact of the project. (*Nollan v. California Coastal Comm'n* (1987) 483 U.S. 825; *Dolan v. City of Tigard* (1994) 512 U.S. 374; State CEQA Guidelines, § 15126.4(a)(4).)

CEQA itself imposes very few limitations on a lead agency's discretion to impose mitigation. For example, agencies may not mitigate the effects of a housing project by reducing the proposed number of units if other feasible mitigation measures are available. (Public Resources Code, § 21159.26.) Similarly, the Legislature has prescribed specific types of mitigation in only very limited circumstances; i.e., impacts to archeological resources and oak woodlands. (Public Resources Code, §§ 21083.2, 21083.4.)

SB 97 specifically called for guidelines addressing the mitigation of greenhouse gas emissions. In doing so, however, the Legislature did not alter a lead agency's discretion, authority or limitations on the imposition of mitigation where the impacts of a project's greenhouse gas emissions are significant. Thus, as explained in the Initial Statement of Reasons, the existing CEQA rules apply to the mitigation of greenhouse gas emissions.

Within the scope of a lead agency's existing authority, the CEQA Guidelines already contain provisions that recognize a lead agency's obligation to balance various factors in determining how or whether to carry out a project. (State CEQA Guidelines, § 15021(d).) Further, the Guidelines already require that "[w]here several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified." (State CEQA Guidelines, § 15126.4(a)(1)(B).)

Additionally, public agencies are directed to adopt their own implementing procedures, consistent with CEQA and the State CEQA Guidelines, which could set forth the types of mitigation that a particular agency finds to be most appropriate for projects subject to its approval. (State CEQA Guidelines, § 15022.) The Natural Resources Agency cannot, however, state in the State CEQA Guidelines that all lead agencies have the authority to prioritize types of mitigation measures, or to establish any particular priority order for them. Each lead agency must determine the scope of its own authority based on its own statutory or constitutional authorization.

Reliability and Effectiveness of Mitigation

Some comments expressed concern about the reliability and efficacy of some mitigation strategies. In response to such comments, the Natural Resources Agency further revised section 15126.4(c) to expressly require that any measures, in addition to being feasible, must be supported with substantial evidence and be capable of monitoring or reporting. (See Revised Section 15126.4(c) (October 23, 2009).) This addition reflects the requirements in Public Resources Code section 21081.5 that findings regarding mitigation be supported with substantial evidence and the monitoring or reporting requirement in section 21081.6.

The text of proposed section 15126.4(c), addressing mitigation of greenhouse gas emissions, also requires that mitigation measures be effective. The first sentence of that section requires that mitigation be “feasible.” Further, the statute defines “feasible” to mean “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.” (Public Resources Code, § 21061.1 (emphasis added); see also State CEQA Guidelines § 15364 (adding “legal” factors to the definition of feasibility.) A recent decision of the Third District Court of Appeal confronting questions regarding the effectiveness of a mitigation measure explained: “concerns about whether a specific mitigation measure ‘will actually work as advertised,’ whether it ‘can ... be carried out,’ and whether its ‘success ... is uncertain’ go to the feasibility of the mitigation measure[.]” (*California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal. App. 4th 603, 622-623.) Thus, by requiring that lead agencies consider feasible mitigation of greenhouse gas emissions, section 15126.4(c) already requires that such measures be effective.

Off-site Mitigation and Offsets

Relatively little authority addresses the question of how close of a causal connection must exist between off-site emissions reductions and project implementation in order to be adequate mitigation under CEQA. CEQA requires lead agencies to mitigate or avoid the significant effects of proposed projects where it is feasible to do so. While the CEQA statute does not define mitigation, the State CEQA Guidelines define mitigation to include:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

(State CEQA Guidelines, § 15370.) As subdivision (e) implies, off-site measures may constitute mitigation under CEQA, and such measures have been upheld as adequate mitigation in CEQA case law. (See, e.g., *California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal. App. 4th 603, 619-626.)

Whether on-site or off-site, to be considered mitigation, the measure must be tied to impacts resulting from the project. Section 21002 of the Public Resources Code, the source of the requirement to mitigate, states that “public agencies should not approve projects as proposed if there are ... feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]” Similarly, section 21081(a)(1) specifies a finding by the lead agency in adopting a project that “[c]hanges or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.” Both statutory provisions expressly link the changes to be made (i.e., the “mitigation measures”) to the significant effects of the project. Courts have similarly required a link between the mitigation measure and the adverse impacts of the project. (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal. App. 4th 99, 128-131 (EIR must discuss “the history of water pumping on [the off-site mitigation] property and its feasibility for providing an actual offset for increased pumping on the [project] property”).) The text of sections 21002 and 21081, and case law requiring a “nexus” between a measure and a project impact, together indicate that “but for” causation is a necessary element of mitigation. In other words, mitigation should normally be an activity that occurs in order to minimize a particular significant effect. Or, stated another way and in the context of greenhouse gas emissions, emissions reductions that would occur without a project would not normally qualify as mitigation.

Notably, this interpretation of the CEQA statute and case law is consistent with the Legislature’s directive in AB32 that reductions relied on as part of a market-based compliance mechanism must be “in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission

reduction that otherwise would occur.” (Health and Safety Code, § 38562(d)(2).) While AB32 and CEQA are separate statutes, the additionality concept may be applied analytically in the latter as follows: greenhouse gas emission reductions that are otherwise required by law or regulation would appropriately be considered part of the existing baseline. Pursuant to section 15064.4(b)(1), a new project’s emissions should be compared against that existing baseline.

Thus, in light of the above, and in response to concerns raised in the comments, the Natural Resources Agency has revised section 15126.4(c)(3) to state that mitigation includes: “Off-site measures, including offsets that are not otherwise required, to mitigate a project’s emissions[.]” This provision is intended to be read in conjunction with the statutory mandate in Public Resources Code sections 21002 and 21081 that mitigation be tied to the effects of a project.

This provision would not limit the ability of a lead agency to create, or rely on the creation of, a mechanism, such as an offset bank, created prospectively in anticipation of future projects that will later rely on offsets created by those emissions reductions. The Initial Statement of Reasons referred, for example, to community energy conservation projects. (Initial Statement of Reasons, at p. 38.) Such a program could, for example, identify voluntary energy efficiency retrofits that would not occur absent implementation of the program, and then fund the retrofits through the sale of offsets that would occur as a result of the retrofit. Emissions reductions that occur as a result of a regulation requiring such reduction, on the other hand, would not constitute mitigation.

Some comments opined that offsets are highly uncertain and of questionable legitimacy. The Initial Statement of Reasons, however, cites several sources discussing examples of offsets being used in a CEQA context. Further, the ARB Scoping Plan describes offsets as way to “provide regulated entities a source of low-cost emission reductions, and ... encourage the spread of clean, efficient technology within and outside California.” (Scoping Plan, Appendix C, at p. C-21.) The Natural Resources Agency finds that the offset concept is consistent with the existing CEQA Guidelines’ definition of “mitigation,” which includes “[r]ectifying the impact by repairing, rehabilitating, or restoring the impacted environment” and “[c]ompensating for the impact by replacing or providing substitute resources or environments.” (State CEQA Guidelines, §§ 15370(c), (e).)

While the proposed amendments recognize offsets as a potential mitigation strategy, they do not imply that offsets are appropriate in every instance. The efficacy of any proposed mitigation measure is a matter for the lead agency to determine based on the substantial evidence before it. Use of the word “feasible” in proposed Section 15126.4(c) requires the lead agency to find that any measure, including offsets, would be “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.” (State CEQA Guidelines, § 15364.)

Thus, the Natural Resources Agency finds that by expressly requiring that any mitigation measure be feasible, supported with substantial evidence, and capable of monitoring or reporting, section 15126.4(c) adequately addresses the concern stated in the comment that offsets may be of questionable legitimacy.

Use of Plans for the Reduction of Greenhouse Gas Emissions in a Cumulative Impacts Analysis

Section 15183.5 was developed to address tiering and streamlining the analysis of greenhouse gas emissions. Subdivision (a) highlights existing tiering and streamlining mechanisms in CEQA that may be used to address the analysis and mitigation of greenhouse gas emissions. Those mechanisms are often used for general plans and other long range planning documents. Subdivision (a) therefore recognizes that lead agencies may choose to include a programmatic analysis of greenhouse gas emissions in those long range plans. That subdivision did not create any new tiering or streamlining provisions; rather, it cross-references existing mechanisms. Each mechanism has its own benefits and drawbacks, and the use of any analysis of greenhouse gas emissions contained in such a document would be governed by the specific provisions cited in subdivision (a).

Subdivision (b), on the other hand, acknowledges that, in addition to the long range documents mentioned in subdivision (a), some agencies are voluntarily developing stand-alone plans focused specifically on the reduction of greenhouse gas emissions. Subdivision (b) is not a tiering mechanism. Tiering is governed by section 15152 of the existing CEQA Guidelines. The purpose of section 15183.5(b) is much narrower. Because climate action plans and greenhouse gas reduction plans are voluntary, and not subject to any legislative criteria or requirements, subdivision (b) was developed “to assist lead agencies in determining whether an existing greenhouse gas reduction plan is an appropriate document to use in a cumulative impacts analysis under CEQA.” (Initial Statement of Reasons, at p. 54.) Specifically, a project that is consistent with a plan that satisfies the criteria in subdivision (b) may benefit from the presumption created in sections 15064(h)(3) and 15130(d) that the project’s cumulative impacts are less than significant due to compliance with the plan. Subdivision (b) does not create or authorize any plans; rather, it provides a tool to determine whether a plan for the reduction of greenhouse gas emissions may be used in a cumulative impacts analysis as provided in section 15064(h)(3) or 15130(d). Section 15183.5(b) does not require that public agencies develop plans for the reduction of greenhouse gas emissions, nor does it prohibit public agencies from developing individual ordinances and regulations to address individual sources of greenhouse gas emissions.

As an example, if a general plan EIR analyzed and mitigated greenhouse gas emissions, a lead agency would likely use the specific streamlining provision applicable to general plan EIRs in section 15183, and not the more general provision in 15183.5(b). A stand alone “climate action plan” that was not analyzed in a program EIR, master EIR, or other mechanism identified in 15183.5(a) may still be used in a

cumulative impacts analysis pursuant to sections 15064(h)(3) or 15130(d), but only if that climate action plan contains the elements listed in section 15183.5(b)(1).

Some comments suggested that section 15183.5(b) should identify specific types of plans to which it would apply. That section was developed precisely because plans for the reduction of greenhouse gas emissions are not specified in law and are so varied. They have been variously titled “climate action plans”, “sustainability plans”, “greenhouse gas reduction plans”, etc. Contents of such plans also vary widely. Thus, the Natural Resources Agency cannot specifically identify which plans satisfy the criteria in subdivision (b). That determination must be made by the individual lead agency based on whether the specific plan under consideration satisfies each of the criteria in subdivision (b)(1).

Notably, public agencies are required to develop their own procedures to implement CEQA. (State CEQA Guidelines, § 15022.) If a lead agency determines that it does not have a plan for the reduction of greenhouse gas emissions that contains the criteria set forth in section 15183.5(b), but its collective policies, ordinances and other requirements nevertheless ensure that the incremental contribution of individual projects is not cumulatively considerable, and substantial evidence supports that determination, it could include such an explanation and support in its own implementing procedures.

Some comments questioned how a Sustainable Communities Strategy or Alternative Planning Strategy should be treated in light of section 15183.5. SB375 encourages programmatic analysis and planning for greenhouse gas emissions from cars and light-duty trucks, and provides specific CEQA streamlining benefits for certain types of projects that are consistent with a Sustainable Communities Strategy (SCS) or an Alternative Planning Strategy (APS). Given the specificity of those statutory provisions, sections 21155 through 21155.3 and 21159.28 of the Public Resources Code in particular, the Office of Planning and Research and the Natural Resources Agency did not find that additional guidance on those provisions was necessary at this time. Proposed section 15183.5(c), however, clarifies that while certain projects consistent with an SCS or APS may not need to analyze greenhouse gas emissions from cars and light-duty trucks, emissions from other sources still may require analysis and mitigation. As SB97 requires the CEQA Guidelines to be updated every two years to incorporate new information, additional guidance regarding the relationship between CEQA and SB375 may be developed as necessary. (See also the discussion of AB32, SB375 and CEQA, above.)

Definition of Greenhouse Gas Emissions

Several comments objected to the definition of greenhouse gas emissions in the Guidelines. Some suggested that it should be strictly limited to the gases identified in AB32. Other thought it should include all potential greenhouse gas emissions. Still others wanted to exclude biogenic emissions from the definition.

As explained in the Initial Statement of Reasons, the definition of greenhouse gases in AB32 states that GHG “includes all of the following...” (Health and Safety Code, § 38505(g).) The Legislature thus implied that other gases may also be considered GHGs. Further, the ARB Scoping Plan also acknowledged that other gases contribute to climate change. (Scoping Plan, at p. 11.) Consistent with the definition in the Health and Safety Code, the proposed definition in the Proposed Amendments is not exclusive to the six primary GHGs. The purpose of a more expansive definition is to ensure that lead agencies do not exclude from consideration GHGs that are not listed, so long as substantial evidence indicates that such non-listed gases may result in significant adverse effects. This approach is consistent with the Supreme Court’s directive that CEQA be interpreted to provide the fullest possible protection to the environment. (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 390.)

While the definition could not be strictly limited to the six gases identified in AB32, the Natural Resources Agency concluded that specific mention of other potential greenhouse gases was also not appropriate. Notably, the federal Environmental Protection Agency limited its proposed endangerment finding to those same six listed gases. It did so because the six gases are well studied, and have been the focus of climate change research. (Federal Register, v. 74, 18886, 18895 (April 24, 2009).) It is not necessary to list each of the known potential greenhouse gases because the proposed definition in section 15364.5 is written broadly, stating that the greenhouse gas emissions “are not limited to” the listed examples. As further explained in the Initial Statement of Reasons, the “purpose of a more expansive definition is to ensure that lead agencies do not exclude from consideration GHGs that are not listed, so long as substantial evidence indicates that such non-listed gases may result in significant adverse effects.” (Initial Statement of Reasons, at p. 58.) Because the CEQA Guidelines must be updated periodically to reflect developments relating to greenhouse gas emissions, the Natural Resources Agency may expand the definition of greenhouse gas emissions if necessary to reflect the most current science and practice.

The Natural Resources Agency also concluded that the definition of greenhouse gas emissions should not differentiate between biogenic and anthropogenic emissions. SB97 does not distinguish between the sources of greenhouse gas emissions. Notably, neither AB32 nor the Air Resources Board’s Scoping Plan distinguishes between biogenic and anthropogenic sources of greenhouse gas emissions. On the contrary, the Scoping Plan identifies methane from, among other sources, organic wastes decomposing in landfills as a source of emissions that should be controlled. (Scoping Plan, at pp. 62-63.)

Forestry

Some comments objected to the inclusion of questions related to forest resources in the Appendix G questions in the section on agricultural resources.

SB97 called for guidance on the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions. (Public Resources Code, § 21083.05.) As explained in the Initial Statement of Reasons, forest conversions may result in direct greenhouse gas emissions. Further, such conversions remove existing forest stock and the potential for further carbon sequestration. (Initial Statement of Reasons, at p. 63.) Sequestration is recognized as a key mitigation strategy in the Air Resources Board's Scoping Plan. (Scoping Plan, Appendix C, at p. C-168.)

The addition of questions related to forestry does not target the establishment of agricultural operations. The questions ask about *any* conversion of forests, not just conversions to other agricultural operations. Moreover, analysis of impacts to forestry resources is already required. The Legislature has declared that "forest resources and timberlands of the state are among the most valuable of the natural resources of the state" and that such resources "furnish high-quality timber, recreational opportunities, and aesthetic enjoyment while providing watershed protection and maintaining fisheries and wildlife." (Public Resources Code, § 4512(a)-(b).) Because CEQA defines "environment" to include "land, air, water, minerals, flora, fauna, noise, [and] objects of historic or aesthetic significance" (Public Resources Code, section 21060.5), and because forest resources have been declared to be "the most valuable of the natural resources of the state," projects affecting such resources must be analyzed, whether or not specific questions relating to forestry resources appear in Appendix G. (*Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109.) In effect, suggestions that the Appendix G questions be limited to conversions to "non-agricultural uses" ask the Natural Resources Agency to adopt changes that are inconsistent with CEQA, which it cannot do.

Questions related to greenhouse gas emissions in Appendix G are not sufficient to address impacts related to forestry resources. As explained in the Initial Statement of Reasons, not only do forest conversions result in greenhouse gas emissions, but may also "remove existing carbon stock (i.e., carbon stored in vegetation), as well as a significant carbon sink (i.e., rather than emitting GHGs, forests remove GHGs from the atmosphere)." (Initial Statement of Reasons, at p. 63.) Further, conversions may lead to "aesthetic impacts, impacts to biological resources and water quality impacts, among others." The questions related to greenhouse gas emissions would not address such impacts. Thus, the addition of forestry questions to Appendix G is appropriate both pursuant to SB97 and the Natural Resources Agency's general authority to update the CEQA Guidelines pursuant to Public Resources Code section 21083(f).

"Level of Service" and Transportation Impact Analysis

The Natural Resources Agency acknowledges the concern expressed by some comments that the use of level of service metrics in CEQA analysis has led to an auto-centric focus. The Office of Planning and Research and the Natural Resources Agency have participated in extensive outreach with stakeholder groups to revise question (a) in the transportation section of Appendix G to accomplish the following goals:

- Assess traffic impacts on intersections, streets, highways and freeways as well as impacts to pedestrian, non-vehicular and mass-transit circulation
- Recognize a lead agency's discretion to choose methodology, including LOS, to assess traffic impacts
- Harmonize existing requirements in congestion management programs, general plans, ordinances, and elsewhere

In response to public comments submitted on proposed amendments, the Natural Resources Agency further refined question (a) to shift the focus from the capacity of the circulation system to consistency with applicable plans, policies that establish objective measures of effectiveness.

Some comments advocated leaving the existing text in question (a) of the transportation section of Appendix G intact. As explained in the Initial Statement of Reasons,

[Q]uestion (a) changes the focus from an increase in traffic at a given location to the effect of a project on the overall circulation system in the project area. This change is appropriate because an increase in traffic, by itself, is not necessarily an indicator of a potentially significant environmental impact. (Ronald Miliam, AICP, *Transportation Impact Analysis Gets a Failing Grade When it Comes to Climate Change and Smart Growth*; see also Land Use Subcommittee of the Climate Action Team LUSCAT Submission to CARB Scoping Plan on Local Government, Land Use, and Transportation Report (May, 2008) at pp. 31, 36.) Similarly, even if some projects may result in a deterioration of vehicular level of service – that is, delay experienced by drivers – the overall effectiveness of the circulation system as a whole may be improved. (*Ibid.*) Such projects could include restriping to provide bicycle lanes or creating dedicated bus lanes. Even in such cases, however, any potential adverse air quality or other impacts would still have to be addressed as provided in other sections of the checklist. Finally, the change to question (a) also recognizes that the lead agency has discretion to choose its own metric of analysis of impacts to intersections, streets, highways and freeways. (Pub. Resources Code, § 21081.2(e); *Eureka Citizens for Responsible Gov't v. City of Eureka, supra*, 147 Cal.App.4th at 371-373 (lead agency has discretion to choose its methodology).) Thus, “level of service” may or may not be the applicable measure of effectiveness of the circulation system.

(Initial Statement of Reasons, at pp. 64-65.) Further, evidence presented to the Natural Resources Agency indicates that “mitigation” of traffic congestion may lead to even greater environmental impacts than might result from congestion itself. (See, e.g.,

Cervero, Robert. (July, 2001). *Road Expansion, Urban Growth, and Induced Travel: A Path Analysis*. Journal of the American Planning Association, Vol. 69 No. 2. American Planning Association (confirming “induced demand” phenomenon associated with capacity improvements.)

While the terms “volume to capacity ratio” and “congestion at intersections” no longer appear in question (a), nothing precludes a lead agency from including such measures of effectiveness in its own general plan or policies addressing its circulation system. Though the Office of Planning and Research originally recommended specifying “vehicle miles traveled” as a question in Appendix G, it later revised its recommendation to allow lead agencies to choose their own measures of effectiveness. (Letter from OPR Director, Cynthia Bryant, to Secretary for the Natural Resources Agency, Mike Chrisman, April 13, 2009.) Thus, as revised, question (a) accommodates lead agency selection of methodology, including, as appropriate, vehicle miles traveled, levels of service, or other measures of effectiveness.

Other comments objected to any mention of the phrase “level of service” in question (b) of the transportation section of the Appendix G checklist. That question, as revised, would ask whether a project would conflict with the provisions of a congestion management program. The Government Code, beginning at section 65088, requires Congestion Management Agencies, in urbanized areas, to adopt Congestion Management Programs covering that agency’s cities and county, and in consultation with local governments, transportation planning agencies, and air quality management districts. A CMP must, pursuant to statute, contain level of service standards for certain designated roadways. A CMP must also include a land use analysis program to assess the impact of land use decisions on the regional transportation system. A CMA may require that land use analysis to occur through the CEQA process. Thus, level of service standards cannot be deleted from the Appendix G checklist altogether. The proposed amendments did, however, amend question (b) to put level of service standards in the broader context of the entire CMP, which should also contain travel demand measures and other standards affecting the circulation system as a whole. Beyond this amendment, however, the Natural Resources Agency cannot remove level of service standards entirely from the Appendix G checklist.

Notably, the primary purpose of the proposed amendments is to update the CEQA Guidelines on the analysis and mitigation of greenhouse gas emissions. While certain changes to Appendix G were proposed pursuant to the Natural Resources Agency’s general authority to update the CEQA Guidelines, those changes were modest and were intended to address certain misapplications of CEQA in a way that hinders the type of development necessary to reduction of greenhouse gas emissions. Transportation planning and impact analysis continues to evolve, as new multimodal methods of analysis and guidelines on the integration of all modes of transportation and users into the circulation system are being developed. Additional updates to Appendix G may be appropriate in the future to address those developments.

Parking

As explained in the Initial Statement of Reasons, the Natural Resources Agency concluded that the question related to parking adequacy should be deleted from the Appendix G checklist in part as a result of the decision in *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656. The court in that case distinguished the social impact of inadequate parking from actual adverse environmental impacts. In particular, that court explained:

[T]here is no statutory or case authority requiring an EIR to identify specific measures to provide additional parking spaces in order to meet an anticipated shortfall in parking availability. The social inconvenience of having to hunt for scarce parking spaces is not an environmental impact; the secondary effect of scarce parking on traffic and air quality *is*. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. An EIR need only address the *secondary physical* impacts that could be triggered by a social impact.

(*Id.* at p. 698 (emphasis in original).) The Natural Resources Agency is aware of no authority requiring an analysis of parking adequacy as part of a project's environmental review. Rather, the Agency concurs with the court in the *San Franciscans* case that inadequate parking is a social impact that may, depending on the project and its setting, result in secondary effects. Consistent with existing CEQA Guidelines section 15131(a), deletion of the parking adequacy question from Appendix G checklist will ensure that the "focus of the analysis shall be on the physical changes." Specifically, the Appendix G checklist contains questions asking about possible project impacts to air quality and traffic.

Some comments pointed to examples of potential adverse impacts that could result from parking shortages, such as double-parking and slower circulation speeds, and referred specifically to a study of "cruising" behavior by Donald Shoup that noted that cruising could result in emissions of carbon dioxide. The relationship between parking adequacy and air quality is not as clear or direct as some comments imply. Mr. Shoup, for example, submitted comments to the Natural Resources Agency supporting the deletion of the parking question. (See, Letter from Donald Shoup, Professor of Urban Planning, University of California, Los Angeles, October 26, 2009.) In those comments, Mr. Shoup opines that cruising results not from the number of parking spaces associated with a project, but rather from the price associated with those parking spaces. (*Ibid.*) The Natural Resources Agency also has evidence before it demonstrating that providing parking actually causes greater emissions due to induced demand. The California Air Pollution Control Officers Association CEQA White Paper, for example, suggests reducing available parking as a way to reduce greenhouse gas emissions. (Greg Tholen, et al. (January, 2008). CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. California Air Pollution Control Officers Association, at Appendix B, pp. 8-9.)

Moreover, parking analyses do not typically address either air quality or traffic impacts; rather, such analyses often focus on the number of parking spaces necessary to satisfy peak demand, which is often established by a local agency as a parking ratio (i.e., one space per 250 square feet of office space). (See, e.g., Shoup, Donald. (1999). In Lieu of Required Parking. Journal of Planning Education and Research, Vol. 18 No. 4. Association of Collegiate Schools of Planning, at p. 309.) Thus, the question in Appendix G related to parking adequacy does not necessarily lead to the development of information addressing actual environmental impacts.

In sum, nothing in the CEQA statute, or cases interpreting that statute, require an analysis of parking demand. Further, parking supply is not a reasonable proxy for direct physical impacts associated with a project because parking supply may in some circumstances adversely affect air quality and traffic while in other circumstances, it may create air quality and traffic benefits. Thus, maintaining the parking question in the general Appendix G checklist is not necessary to effectuate the purposes of the CEQA statute.

The Natural Resources Agency acknowledges, however, that parking supply may lead to social impacts that agencies may wish to regulate. Cities and counties can, and do, include parking related policies in their municipal ordinances and general plans. (See, e.g., Office of Planning and Research, General Plan Guidelines, at pp. 59-60.) To the extent an agency has developed parking related policies in a general plan, zoning ordinance, or other regulation, consistency with those policies could be analyzed as a potential land use impact. Public agencies must, moreover, develop their own procedures to implement CEQA, and so may include parking-related questions in their own checklist if appropriate in their own circumstances. (State CEQA Guidelines, §§ 15022, 15063(f).)

AB32, SB375 and CEQA

Many comments suggested various links between CEQA, AB32 and SB375. While there is some overlap between the statutes, each contains its own requirements and serves its own purposes. While recognizing the role of regulatory programs in addressing cumulative impacts analysis in CEQA, the Proposed Amendments deliberately avoided linking the determination of significance under CEQA to compliance with AB32. The following addresses the CEQA effect of compliance with AB32 and SB375.

The Effect of Consistency with the Scoping Plan and the Regulations Implementing AB32

The Initial Statement of Reasons explained that the Scoping Plan “may not be appropriate for use in determining the significance of individual projects ... because it is conceptual at this stage and relies on the future development of regulations to

implement the strategies identified in the Scoping Plan.” (Initial Statement of Reasons, at p. 14.) Compliance with the regulations implementing the Scoping Plan, on the other hand, might be relevant in determining the significance of a project’s emissions, if the particular regulation or regulations specifically addresses the emissions from the project. (*Ibid.*) Compliance with regulations is specifically addressed in section 15064(h)(3) and 15064.4(b)(3).

Specifically, both sections provide that a lead agency may consider compliance with such regulations, and if relying on regulations to determine that an impact is less than significant, the lead agency must explain how that particular regulation addresses the impact of the project. Both sections also recognize that a lead agency must still consider whether any evidence supports a fair argument that a project may still have a significant impact despite compliance with the regulation.

The Effect of Consistency with Plans for the Reduction of Greenhouse Gas Emissions, Sustainable Communities Strategies and Alternative Planning Strategies.

Several comments questioned whether the references in the Proposed Amendments to “greenhouse gas reduction plans” were intended to include a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS).

SB375 created both the SCS and APS as strategies to be adopted by metropolitan planning organizations for the purpose of achieving greenhouse gas emissions reductions targets established by the California Air Resources Board. SB375 inserted specific provisions into CEQA governing the review of projects that are consistent with an APS or SCS. (See, e.g., Public Resources Code, §§ 21155-21155.3, 21159.28.) Because of the specificity of those provisions, the Office of Planning and Research and the Natural Resources Agency determined that no further guidance was needed in the Proposed Amendments to address the use of an SCS or APS.

As explained in the Initial Statement of Reasons, however, OPR and the Natural Resources Agency observed that many jurisdictions were adopting plans specifically for the purpose of addressing and reducing greenhouse gas emissions. (Initial Statement of Reasons, at pp. 12-13.) Those plans may be titled Climate Action Plans, Greenhouse Gas Reduction Plans, Sustainability Plans, etc. While recognizing the great variety of such plans, as well as the lack of legislative or other direction regarding the content of such plans, OPR and the Natural Resources Agency proposed the addition of a new Guidelines section 15183.5(b) to establish criteria for those plans if they are to be used in a CEQA cumulative impacts analysis as provided in sections 15064(h)(3) and 15130(d). The proposed amendments to section 15064(h)(3) and addition of section 15183.5(b) were not intended to limit or affect the use of an APS or SCS as provided in the Public Resources Code.

SB375 included provisions that would exempt certain types of projects from CEQA, and would apply the substantial evidence standard of review to other types of projects reviewed under a Sustainable Communities Environmental Assessment. Some

comments raised concerns that the proposed amendments, and section 15064(h)(3) in particular, may conflict with those provisions of SB375. The last sentence of Section 15064(h)(3), which acknowledges the application of the fair argument standard in the determination of whether to prepare an EIR, complies with existing law. (*CBE, supra*, 103 Cal.App.4th at 115-116.) SB375's specific statutory provisions, and not section 15064(h)(3), would control for a project that satisfies the conditions in those provisions. Thus, there is no conflict between the existing language in Section 15064(h)(3) and SB375.

Comments were also raised about the application of section 15125(d), which requires a discussion of a project's consistency with applicable regional plans, to an APS or SCS. One comment suggested that, for CEQA purposes, an SCS and APS are interchangeable. The Natural Resources Agency disagrees. An Alternative Planning Strategy is not a land use plan with which land use consistency should be analyzed under CEQA. (Government Code, § 65080(b)(2)(H)(v).) For that reason, the Natural Resources Agency deliberately did not propose to add "Alternative Planning Strategy" to the list of plans to be considered in an environmental setting pursuant to section 15125. There is no similar statement precluding analysis of consistency with a Sustainable Communities Strategy, however. Thus, the reference to a "regional transportation plan" in the existing section 15125(d) remains appropriate. As explained above, and the Initial Statement of Reasons, the reference to "plans for the reduction of greenhouse gas emissions" is intended to cover a broad range of plans that may be adopted by state and local agencies. The specific statutory provisions governing an Alternative Planning Strategy or Sustainable Communities Strategy would, however, control.

Similarly, some comments expressed concern regarding the application of the new Appendix G question asking about a project's consistency with applicable plans for the reduction of greenhouse gas emissions. That Appendix G question, as revised, asks whether a project would: "Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?" (Emphasis added.) In response to comments, the Natural Resources Agency replaced the word "any" with the word "an" to clarify that only a plan determined to be applicable by the lead agency, and not any plan developed by any person or entity, should be considered in determining whether a project would result in a significant impact relating to greenhouse gas emissions. Government Code section 65080(b)(2)(H)(v) states: an "alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect" for CEQA purposes. By operation of that Government Code Section 65080(b)(2)(H)(v), an alternative planning strategy would not constitute "an applicable plan" for purposes of the Appendix G question. Notably, as explained in the Initial Statement of Reasons, the Appendix G checklist is meant to provide a sample checklist of questions designed to provoke thoughtful consideration of general environmental concerns. (Initial Statement of Reasons, at p. 63.) Because it is provided as a sample only, the Office of Planning and Research and the Natural Resources Agency found that it would not be possible to

identify with specificity each plan that or may not apply to a particular jurisdiction or project.

Lead agencies, however, have discretion to revise the checklist in a way that is most appropriate for their own jurisdiction. If an individual agency in a region where an APS was prepared finds it necessary or desirable to restate Government Code Section 65080(b)(2)(H)(v) in its own checklist, it may do so. Further, while inconsistency with an APS is not, by itself, an indication of a potentially significant impact, other project characteristics would need to be considered as indicated in Section 15064.4 and other provisions of the CEQA Guidelines. Because Government Code Section 65080(b)(2)(H)(v) already provides that an APS is not a land use plan for CEQA purposes, and the Appendix G question asks only about “an applicable plan,” the question need not specify an exception for an APS.

The Effect of Compliance with Regulations Implementing AB32 or Other Laws Intended to Reduce Greenhouse Gas Emissions

Some comments urged that lead agencies should be able to rely on sector-wide reductions in emissions that may result from implementation of AB32 and other regulations in mitigating an individual project’s impacts. Those comments appeared to conflate the requirement that a lead agency consider cumulative impacts (i.e., the impacts resulting from a project’s emissions when added to other past, present and reasonably foreseeable future emissions) with the requirement that a lead agency mitigate the significant effects of a project. The proposed amendments contain several provisions addressing the analysis of greenhouse gas emissions as a cumulative effect. For example, Section 15064(h)(3) and 15130(d) would encourage lead agencies to use existing plans for the reduction of greenhouse gas emissions in cumulative impacts analysis. Additionally, Section 15130(b)(1)(B) is proposed for amendment to allow lead agencies to use projections of emissions contained in certain plans and models. Thus, the proposed amendments would allow a lead agency to consider a project in the context of other emissions resulting from the same or other sectors.

To the extent comments suggested that reductions in emissions resulting from implementation of AB32 elsewhere can mitigate the significant effects of a separate project under CEQA, the Natural Resources Agency disagrees. (See discussion below on off-site mitigation.)

A project’s compliance with regulations or requirements implementing AB32 or other laws and policies is not irrelevant. Section 15064.4(b)(3) would allow a lead agency to consider compliance with requirements and regulations in the determination of significance of a project’s greenhouse gas emissions. Lead agencies should note, however, that compliance with one requirement, affecting only one source of a project’s emissions, may not necessarily support a conclusion that all of the project’s emissions are less than significant.

Projects That Implement AB32 or Otherwise Assist in Achieving the State's Emissions Reductions Goals

Finally, some comments noted that projects implementing AB32, or that would somehow assist the State in achieving a low-carbon future, should not be considered significant under CEQA, and that requiring such projects to mitigate their emissions would frustrate implementation of AB32. CEQA requires analysis and mitigation of a project's significant adverse environmental impacts, even if that project may be considered environmentally beneficial overall. As the Third District Court of Appeal recently explained:

“[I]t cannot be assumed that activities intended to protect or preserve the environment are immune from environmental review. [Citations.]”
There may be environmental costs to an environmentally beneficial project, which must be considered and assessed.

(*Cal. Farm Bureau Fed. v. Cal. Wildlife Cons. Bd.* (2006) 143 Cal. App. 4th 173, 196.) Nothing in SB97 altered this rule. Thus, lead agencies must consider whether the greenhouse gas emissions resulting from beneficial projects may be significant, and if so, whether any feasible measures exist to mitigate those emissions. If such emissions are found to be significant and unavoidable, proposed amendments to section 15093 would expressly allow lead agencies to consider the region-wide and statewide environmental benefits of a project in determining whether project benefits outweigh its adverse environmental impacts.

“Adaptation” and Analysis of the Effects of Climate Change on a Project

Several comments submitted as part of the Natural Resources Agency's SB97 rulemaking process urged it to incorporate the California Climate Adaptation Strategy (Adaptation Strategy) into the CEQA Guidelines. In considering such comments, it is important to understand several key differences between the Adaptation Strategy and the California Environmental Quality Act. First, the Adaptation Strategy is a policy statement that contains recommendations; it is not a binding regulatory document. Second, the Adaptation Strategy focuses on how the State can plan for the effects of climate change. CEQA's focus, on the other hand, is the analysis of a particular project's greenhouse gas emissions on the environment, and mitigation of those emissions if impacts from those emissions are significant. Given these differences, CEQA should not be viewed as the tool to implement the Adaptation Strategy; rather, as indicated in the Strategy's key recommendations, advanced programmatic planning is the primary method to implement the Adaptation Strategies.

There is some overlap between CEQA and the Adaptation Strategy, however. As explained in both the Initial Statement of Reasons and in the Adaptation Strategy, section 15126.2 may require the analysis of the effects of a changing climate under certain circumstances. (Initial Statement of Reasons, at pp. 68-69.) In particular,

Section 15126.2 already requires an analysis of placing a project in a potentially hazardous location. Further, several questions in the Appendix G checklist already ask about wildfire and flooding risks. Many comments on the proposed amendments asked for additional guidance, however.

Having reviewed all of the comments addressing the effects of climate change, the Natural Resources Agency revised the proposed amendments to include a new sentence in Section 15126.2 clarifying the type of analysis that would be required. Existing section 15126.2(a) provides an example of a potential hazard requiring analysis: placing a subdivision on a fault line. The new sentence adds further examples, as follows:

Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.

According to the Office of Planning and Research, at least sixty lead agencies already require this type of analysis. (California Governor's Office of Planning and Research, State Clearinghouse, The California Planners' Book of Lists (January, 2009), at p. 109.) This addition is reasonably necessary to guide lead agencies as to the scope of analysis of a changing climate that is appropriate under CEQA.

As revised, section 15126.2 would provide that a lead agency should analyze the effects of bringing development to an area that is susceptible to hazards such as flooding and wildfire, both as such hazards currently exist or may occur in the future. Several limitations apply to the analysis of future hazards, however. For example, such an analysis may not be relevant if the potential hazard would likely occur sometime after the projected life of the project (i.e., if sea-level projections only project changes 50 years in the future, a five-year project may not be affected by such changes). Additionally, the degree of analysis should correspond to the probability of the potential hazard. (State CEQA Guidelines, § 15143 ("significant effects should be discussed with emphasis in proportion to their severity and probability of occurrence").) Thus, for example, where there is a great degree of certainty that sea-levels may rise between 3 and 6 feet at a specific location within 30 years, and the project would involve placing a wastewater treatment plant with a 50 year life at 2 feet above current sea level, the potential effects that may result from inundation of that plant should be addressed. On the other extreme, while there may be consensus that temperatures may rise, but the magnitude of the increase is not known with any degree of certainty, effects associated with temperature rise would not need to be examined. (State CEQA Guidelines, § 15145 ("If, after thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate the discussion of the impact").) Lead agencies are not required to generate their own original research on potential future changes; however, where specific information is currently available, the analysis should address that information. (State CEQA

Guidelines, § 15144 (environmental analysis “necessarily involves some degree of forecasting. While seeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can”).)

The decision in *Baird v. County of Contra Costa* (1995) 32 Cal.App.4th 1464, does not preclude this analysis. In that case, the First District Court of Appeal held that a county was not required to prepare an EIR due solely to pre-existing soil contamination that the project would not change in any way. (*Id.* at 1468.) No evidence supported the petitioner’s claim that the project would “expose or exacerbate” the pre-existing contamination, which was located several hundred to several thousand feet from the project site. (*Id.* at n. 1.) Moreover, the project would have no other significant effects on the environment, and other statutes exist to protect residents from contaminated soils. Thus, the question confronting that court was whether pre-existing contamination near the project was, by itself, enough to require preparation of an EIR. It held that, in those circumstances, an EIR was not required. That court also acknowledged, however, that where there is a potential for ultimately changing the environment, an EIR could be required. (*Id.* at p. 1469.) Thus, unlike the circumstances in the *Baird* case, the analysis required in section 15126.2(a) would occur if an EIR was otherwise required. Similarly, the addition to that section contemplates hazards which the presence of a project could exacerbate (i.e., potential upset of hazardous materials in a flood, increased need for firefighting services, etc.).

Finally, while the revision in section 15126.2 is consistent with the general objective of the Adaptation Strategy and is consistent with the limits of CEQA, not all issues addressed in the Adaptation Strategy are necessarily appropriate in a CEQA analysis. Thus, the revision in section 15126.2 should not be read as implementation of the entire Adaptation Strategy. Unlike hazards that can be mapped, other issues in the Adaptation Strategy, such as the health risks associated with higher temperatures, are not capable of an analysis that links a project to an ultimate impact. Habitat modification and changes in agriculture and forestry resulting from climate change similarly do not appear to be issues that can be addressed on a project-by-project basis in CEQA documents. Water supply variability is an issue that has already been addressed in depth in recent CEQA cases. (See, e.g., *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 434-435 (“If the uncertainties inherent in long-term land use and water planning make it impossible to confidently identify the future water sources, an EIR may satisfy CEQA if it acknowledges the degree of uncertainty involved, discusses the reasonably foreseeable alternatives—including alternative water sources and the option of curtailing the development if sufficient water is not available for later phases—and discloses the significant foreseeable environmental effects of each alternative, as well as mitigation measures to minimize each adverse impact.”).) Further, legislation has been developed to ensure that lead agencies identify adequate water supplies to serve projects many years in the future under variable water conditions. (See, e.g., Water Code, § 10910 *et seq.*; Government Code, § 66473.7.) Thus, the analysis called for in section 15126.2(a) should be directed primarily at hazards, and not all aspects of the Adaptation Strategy.

Additional Changes

Several comments suggested revisions or requested clarification of issues that were not addressed in this rulemaking package. The Initial Statement of Reasons explained:

[T]he Proposed Amendments suggest relatively modest changes to various portions of the existing CEQA Guidelines. Modifications address those issues where analysis of GHG emissions may differ in some respects from more traditional CEQA analysis. Other modifications are suggested to clarify existing law that may apply both to analysis of GHG emissions as well as more traditional CEQA analyses. The incremental approach in the Proposed Amendments is consistent with Public Resources Code section 21083(f), which directs OPR and the Resources Agency to regularly review the Guidelines and propose amendments as necessary.

(Initial Statement of Reasons, at p. 9.) Additionally, Public Resources Code section 21083.05(c) requires that the CEQA Guidelines be updated periodically “to incorporate new information or criteria established by the State Air Resources Board pursuant to” AB32. Therefore, the CEQA Guidelines will continually be updated to reflect evolving information and practice and to address developments regarding analysis of greenhouse gas emissions in the courts.

Determination Regarding Impacts on Local Government and School Districts

The Natural Resources Agency has determined that the Amendments to the State CEQA Guidelines do not impose additional requirements or costs on local government or school districts. Among other things, Public Resources Code section 21083.05 (reflected in amendments to State CEQA Guidelines sections 15064.4, 15064.7(c), 15126.4(c), 15130, 15183.5, 15364.5, and Appendix G) clarifies that CEQA requires analysis of a project’s greenhouse gas emissions. Public Resources Code sections 21002 and 21004 (reflected in State CEQA Guidelines section 15126.4) require a lead agency to impose feasible mitigation where a project will cause significant adverse environmental impacts. Public Resources Code sections 21003 and 21093 (reflected in the amendments to State CEQA Guidelines sections 15064, 15125, 15130, 15150 and 15183, and new State CEQA Guidelines sections 15064.4 and 15183.5) encourage lead agencies to tier environmental impact reports wherever possible and to use existing analyses to reduce duplication and expense. The decision in *Berkeley Keep Jets Over the Bay Com. v. Board of Port Comm.* (2001) 91 Cal.App.4th 1344, 1370, 1382 (reflected in proposed State CEQA Guidelines section 15064.4), requires that potential adverse impacts be quantified where it is possible to do so and quantification will assist in the determination of significance of the impact.

The Amendments to the State CEQA Guidelines described above merely reflect existing legislative requirements and judicial decision interpreting those requirements. Therefore, this rulemaking activity does not itself impose any costs on local government or school districts.

Determination Regarding Potential Economic Impacts Directly Affecting Business

The Natural Resources Agency has determined that the Amendments will not have a significant, statewide adverse economic impact directly affecting business. The guidelines required by sections 21083 and 21083.05 of the Public Resources Code are promulgated in the California Code of Regulations, title 14, sections 15000-15387 (the "State CEQA Guidelines"). The Natural Resources Agency has determined that most of the amendments will have no impacts on business.

CEQA applies to activities of public agencies, including projects that are funded, proposed, or approved by public agencies. Thus, the amendments to the State CEQA Guidelines would apply to public agencies, and not directly to businesses. The Natural Resources Agency is aware, however, that certain requirements reflected in the amendments that have been enacted by the Legislature and developed in case law interpreting CEQA could have an indirect economic impact on business. Among other things, project proponents could incur additional costs in assisting lead agencies to comply with the requirement to quantify greenhouse gas emissions, if possible, as part of an analysis of the effects of such emissions. Project proponents may also incur costs in implementing mitigation measures to reduce such emissions. However, the amendments to the Guidelines merely reflect existing requirements. (See, e.g., Pub. Resources Code, §§ 21004 ("a public agency may use discretionary powers ... for the purpose of mitigating or avoiding a significant effect on the environment"), 21083.05 (requiring the development of guidelines on the analysis and mitigation of greenhouse gas emissions "as required by this division"); *Berkeley Keep Jets Over the Bay Com. v. Board of Port Comm.* (2001) 91 Cal.App.4th 1344, 1370, 1382 (potential hazardous emissions and noise impacts must be quantified where it is possible to do so and quantification will assist in the determination of significance of the impact).)

Many lead agencies, and some trial courts, have already determined that CEQA requires analysis and mitigation of GHG emissions independent of the SB97 CEQA Guidelines amendments. The Office of Planning and Research, for example, has cataloged over 1,000 examples of CEQA documents, prepared between July 2006 and June 2009, analyzing and mitigating greenhouse gas emissions. (Office of Planning and Research, Environmental Assessment Documents Containing a Discussion of Climate Change (Revised June 1, 2009).) Further, several trial courts have found that existing CEQA law requires analysis and mitigation of GHG emissions. (See, e.g., *Muriettans for Smart Growth v. City of Murrieta et al.*, *Riverside Co. Sup. Ct. Case No. RIC463320* (November 21, 2007); *Env. Council of Sac. et al v. Cal. Dept. of Trans.*, *Sacramento Sup. Ct. Case No. 07CS00967* (July 15, 2008) (citing *Berkeley Keep Jets Over the Bay Committee v. Board of Commissions* (2001) 91 Cal.App. 4th 1344, 1370-

1371 and State CEQA Guidelines section 15144 as requiring a lead agency to “meaningfully attempt to quantify the Project’s potential impacts on GHG emissions and determine their significance” or at least to explain what steps were undertaken to investigate the issue before concluding that the impact would be speculative.) Finally, federal courts have interpreted the National Environmental Policy Act (“NEPA”) to require an analysis of potential impacts of GHG emissions. (See, e.g., *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Ad.*, 538 F.3d 1172, 1215-1217 (9th Cir. 2008).) Thus, the amendments to the CEQA Guidelines developed pursuant to SB97 do not create new requirements; rather, they interpret and clarify existing CEQA law.

Additionally, some of amendments included in this rulemaking activity may tend to reduce costs associated with environmental analysis of greenhouse gas emissions. For example, the amendments to the Guidelines encourage tiering and streamlining of existing environmental analyses to the extent possible in order to reduce duplication. Such tiering and streamlining mechanisms are also consistent with existing law. (See, e.g., Pub. Resources Code, § 21093 (lead agencies shall tier environmental impact reports wherever possible).)

The amendments update the State CEQA Guidelines to be consistent with legislative enactments and judicial decisions that have modified CEQA, but do not themselves impose any new requirements. Therefore, the amendments do not have a significant, adverse economic impact directly affecting business.

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Oxbow Mining, Federal Coal Lease Modification COC-70615

Oxbow Mining LLC (Oxbow) has applied to modify existing Federal Coal Lease COC-70615 by adding approx. 364 acres of Federal coal reserves. Coal in the existing lease is mined by Oxbow from their Elk Creek Mine near Somerset in Gunnison County.

Project Area Google Earth KMZ file (If download file extension is .zip change extension to .kmz)

Location Summary

Near Buck Mesa; Elk Creek Mine near Somerset in Gunnison County, Colorado

District: Paonia Ranger District

Project Documents

Pre-Scoping

[COC-70615 Tract 2 Application](#) (PDF 572kb)
[Lease Modification COC-70615 Map](#) (PDF 1394kb)

Scoping

[Federal Coal Lease Modification COC-70615 Scoping Letter \(29Mar2013\)](#) (PDF 138kb)
[Legal_Notice_Daily Sentinel_04-03-2013](#) (PDF 100kb)
[Legal_Notice_DCI_04-03-2013](#) (PDF 418kb)

Analysis

[Federal Coal Lease Modification COC-70615 Tract 2 EA 17Dec2013](#) (PDF 9213kb)

Decision

[Federal Coal Lease Modification 1 COC-70615 Tract 2 Draft DN-FONSI 17 Dec2013](#) (PDF 559kb)
[Notice of Opportunity to Object Legal Notice 01January2014](#) (PDF 132kb)
[Federal Coal Lease Modification 1 COC-70615 Tract 2 DN-FONSI 26 February 2014](#) (PDF 856kb)
[Request to Forward Consent to BLM includes attachments 26 Feb 2014](#) (PDF 386kb)
[Regional Office Consent to Lease 11 March 2014](#) (PDF 384kb)

Supporting

[No Objections Filed 21 Feb2014](#) (PDF 19kb)

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MAY 16, 2013

AN OPEN LETTER TO ENERGY SECRETARY MONIZ ON NATURAL GAS EXPORTS

By *Deb Nardone*, [Beyond Natural Gas](#) Campaign Director

Dear Secretary Moniz,

Congratulations on being confirmed as Secretary of Energy. You will play a vitally important role leading our country toward a clean-energy future.

As you begin to consider how natural gas will fit into our energy policy, the Sierra Club's 2.1 million members and supporters urge you and the Department of Energy (DOE) to seriously consider whether fracking for gas is really going to benefit Americans.

There are currently 25 proposals the DOE is considering to build terminals that could export up to 45 percent of total U.S. gas production as liquefied natural gas (LNG). We ask you to think through how exports will affect our public health, environment, climate, and economy, which we have detailed in our report, [Look Before the LNG Leap](#).



In December, NERA Consulting (which is known to have close ties with the fossil fuel industry) published an economic study on LNG exports that included a number of major flaws, such as using old data for its projections. Even more concerning is that NERA's report provides no economic assessment associated with risks to public health and the environment. If exporting natural gas has such potential to change the U.S. economic landscape, why would we think it would not also drastically change our environmental landscape?

The reality is that exporting natural gas will mean more fracking in our communities, which will affect not only our air, water, and land, but the health and safety of the public. Fracking is a dangerous and largely unregulated drilling process, which lacks adequate federal and state protections. Even the Environmental Protection Agency's Inspector General warned in its latest [report](#) that poor data on air emissions of toxic pollutants from oil and natural gas production make it difficult to predict the potential health effects fracking will have on the public.



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Continued drilling and fracking is also going to wreak havoc on our climate by increasing greenhouse gas emissions into the atmosphere. Natural gas is made up mostly of methane, an extremely powerful climate-disrupting gas in its own right, which is actually seventy times more potent than carbon dioxide in terms of trapping heat. According to [studies](#) by the International Energy Agency, using more natural gas will put the planet on track toward a 3.5°C global temperature increase, driving us closer to climate disaster.

As the new head of DOE, it is your public responsibility to complete a full environmental impact assessment for LNG export before our nation commits to any exports. The Environmental Protection Agency has repeatedly advised DOE that a comprehensive environmental impact statement is essential to understanding the public health and environmental implications of increased domestic fracking.



In addition to public health and our climate, LNG exports will have significant negative effects on the U.S. economy, especially the middle class. Purdue University conducted an assessment of NERA's study and found, disturbingly, that exports would actually decrease GDP and transfer wealth from the middle class to the already-rich oil and natural gas investors. As stated in the NERA report, "impacts [from LNG exports] will not be positive for all groups in the economy. Households with income solely from wages or government transfers, in particular, might not participate in these benefits." And major job loss, especially in the manufacturing sector, is also expected to be an outcome of LNG exports. A recent [report](#)

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commissioned by Dow Chemical showed that exports could affect hundreds of thousands of planned new jobs in U.S. manufacturing.

In order to fully determine whether sending natural gas overseas is in the public's best interest, DOE must redo the flawed economic study and ensure that it includes costs associated with health and environmental risks. It must also be based on current climate science.

But the real game-changer for exporting LNG will be if the U.S. completes the free trade agreement called the Trans Pacific Partnership (TPP), which is currently under negotiation with 10 countries across the Pacific Rim. And Japan, the world's biggest LNG importer, is likely to join the talks in July. The TPP and another pact the U.S. is initiating with the European Union (EU) are likely to require DOE to approve all gas exports, of any amount and without delay, to nations in the agreement. The TPP could be finalized as early as October of this year, and the U.S.-EU trade pact in 2015.

To keep domestic control of our natural gas resources, the DOE must insist that the trade negotiations do not remove DOE's authority to examine the environmental and economic impacts of LNG exports, even to free-trade countries.

Gas exports will transform the U.S. energy landscape and affect communities across the country. They are already altering our climate. We urge the DOE to conduct a thorough scrutiny of the nation's energy policy and take a hard look at the economic and environmental consequences of gas exports. Until these steps have been taken, we must not move forward on extracting any more natural gas. Let's keep it in the ground and fully understand what's at stake before making any decisions that cannot be easily undone. The American public and our future generations deserve no less.

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**Applications Received by DOE/FE to Export Domestically Produced LNG
from the Lower-48 States (as of April 2, 2013)**

All Changes Since March 7, 2013 Update Are In Red

Company	Quantity ^(a)	FTA Applications ^(b) (Docket Number)	Non-FTA Applications ^(c) (Docket Number)
Sabine Pass Liquefaction, LLC	2.2 billion cubic feet per day (Bcf/d) ^(d)	Approved (10-85-LNG)	Approved (10-111-LNG)
Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC	1.4 Bcf/d ^(d)	Approved (10-160-LNG)	Under DOE Review (10-161-LNG)
Lake Charles Exports, LLC	2.0 Bcf/d ^{(e)**}	Approved (11-59-LNG)	Under DOE Review (11-59-LNG)
Carib Energy (USA) LLC	0.03 Bcf/d: FTA 0.01 Bcf/d: non-FTA ^(f)	Approved (11-71-LNG)	Under DOE Review (11-141-LNG)
Dominion Cove Point LNG, LP	1.0 Bcf/d ^(d)	Approved (11-115-LNG)	Under DOE Review (11-128-LNG)
Jordan Cove Energy Project, L.P.	1.2 Bcf/d: FTA 0.8 Bcf/d: non-FTA ^(g)	Approved (11-127-LNG)	Under DOE Review (12-32-LNG)
Cameron LNG, LLC	1.7 Bcf/d ^(d)	Approved (11-145-LNG)	Under DOE Review (11-162-LNG)
Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC ^(h)	1.4 Bcf/d ^(d)	Approved (12-06-LNG)	Under DOE Review (11-161-LNG)
Gulf Coast LNG Export, LLC ⁽ⁱ⁾	2.8 Bcf/d ^(d)	Approved (12-05-LNG)	Under DOE Review (12-05-LNG)
Gulf LNG Liquefaction Company, LLC	1.5 Bcf/d ^(d)	Approved (12-47-LNG)	Under DOE Review (12-101-LNG)
LNG Development Company, LLC (d/b/a Oregon LNG)	1.25 Bcf/d ^(d)	Approved (12-48-LNG)	Under DOE Review (12-77-LNG)
SB Power Solutions Inc.	0.07 Bcf/d	Approved (12-50-LNG)	n/a
Southern LNG Company, L.L.C.	0.5 Bcf/d ^(d)	Approved (12-54-LNG)	Under DOE Review (12-100-LNG)
Excelerate Liquefaction Solutions I, LLC	1.38 Bcf/d ^(d)	Approved (12-61-LNG)	Under DOE Review (12-146-LNG)
Golden Pass Products LLC	2.6 Bcf/d ^(d)	Approved (12-88-LNG)	Under DOE Review (12-156-LNG)
Cheniere Marketing, LLC	2.1 Bcf/d ^(d)	Approved (12-99-LNG)	Under DOE Review (12-97-LNG)
Main Pass Energy Hub, LLC	3.22 Bcf/d***	Approved (12-114-LNG)	n/a
CE FLNG, LLC	1.07 Bcf/d ^(d)	Approved (12-123-LNG)	Under DOE Review (12-123-LNG)
Waller LNG Services, LLC	0.16 Bcf/d	Approved (12-152-LNG)	n/a
Pangea LNG (North America) Holdings, LLC	1.09 Bcf/d ^(d)	Approved (12-174-LNG)	Under DOE Review (12-184-LNG)
Magnolia LNG, LLC	0.54 Bcf/d	Approved (12-183-LNG)	n/a

**Applications Received by DOE/FE to Export Domestically Produced LNG
from the Lower-48 States (as of April 2, 2013)**

All Changes Since March 7, 2013 Update Are In Red

Company	Quantity ^(a)	FTA Applications ^(b) (Docket Number)	Non-FTA Applications ^(c) (Docket Number)
Trunkline LNG Export, LLC	2.0 Bcf/d**	Approved (13-04-LNG)	Under DOE Review (13-04-LNG)
Gasfin Development USA, LLC	0.2 Bcf/d	Approved (13-06-LNG)	n/a
Freeport-McMoRan Energy LLC	3.22 Bcf/d***	Pending Approval (13-26-LNG)	Under DOE Review (13-26-LNG)
Sabine Pass Liquefaction, LLC	0.28 Bcf/d ^(d)	Pending Approval (13-30-LNG)	Under DOE Review (13-30-LNG)
Sabine Pass Liquefaction, LLC	0.24 Bcf/d^(d)	Pending Approval (13-42-LNG)	Under DOE Review (13-42-LNG)
Total of all Applications Received		29.93 Bcf/d(**) (***)	28.54 Bcf/d

** Lake Charles Exports, LLC (LCE) and Trunkline LNG Export, LLC (TLNG), the owner of the Lake Charles Terminal, have both filed an application to export up to 2.0 Bcf/d of LNG from the Lake Charles Terminal. The total quantity of combined exports requested between LCE and TLNG does not exceed 2.0 Bcf/d (i.e., both requests are not additive and only 2 Bcf/d is included in the bottom-line total of applications received).

*** Main Pass Energy Hub, LLC (MPEH) and Freeport McMoRan Energy LLC (FME), have both filed an application to export up to 3.22 Bcf/d of LNG from the Main Pass Energy Hub. (The existing Main Pass Energy Hub structures are owned by FME). The total quantity of combined FTA exports requested between MPEH and FME does not exceed 3.22 Bcf/d (i.e., both requests are not additive and only 3.22 Bcf/d is included in the bottom-line total of FTA applications received). FME's application includes exports of 3.22 Bcf/d to non-FTA countries and is included in the bottom line total of non-FTA applications received, while MPEH has not submitted an application to export LNG to non-FTA countries.

- (a)** Actual applications were in the equivalent annual quantities.
- (b)** FTA – Applications to export to free trade agreement (FTA) countries. The Natural Gas Act, as amended, has deemed FTA exports to be in the public interest and applications shall be authorized without modification or delay.
- (c)** Non-FTA applications require DOE to post a notice of application in the Federal Register for comments, protests and motions to intervene, and to evaluate the application to make a public interest consistency determination.
- (d)** Requested approval of this quantity in both the FTA and non-FTA export applications. Total facility is limited to this quantity (i.e., FTA and non-FTA volumes are not additive at a facility).
- (e)** Lake Charles Exports, LLC submitted one application seeking separate authorizations to export LNG to FTA countries and another authorization to export to Non-FTA countries. The proposed facility has a capacity of 2.0 Bcf/d, which is the volume requested in both the FTA and Non-FTA authorizations.
- (f)** Carib Energy (USA) LLC requested authority to export the equivalent of 11.53 Bcf per year of natural gas to FTA countries and 3.44 Bcf per year to non-FTA countries.
- (g)** Jordan Cove Energy Project, L.P. requested authority to export the equivalent of 1.2 Bcf/d of natural gas to FTA countries and 0.8 Bcf/d to non-FTA countries.
- (h)** DOE/FE received a new application (11-161-LNG) by FLEX to export an additional 1.4 Bcf/d of LNG from new trains to be located at the Freeport LNG Terminal, to non-FTA countries, and a separate application (12-06-LNG) to export this same 1.4 Bcf/d of LNG to FTA countries (received January 12, 2012). This 1.4 Bcf/d is in addition to the 1.4 Bcf/d FLEX requested in dockets (10-160-LNG and 10-161-LNG).
- (i)** An application was submitted by Gulf Coast on January 10, 2012, seeking one authorization to export LNG to any country not prohibited by U.S. law or policy. On September 11, 2012, Gulf Coast revised their application by seeking separate authorizations for LNG exports to FTA countries and Non-FTA countries.
- (j)** Total does not include 2.0 Bcf/d



SIERRA CLUB STATEMENT ON JAPAN JOINING THE TRANS-PACIFIC PARTNERSHIP

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[Executive Director Michael Brune](#)

Friday, March 15, 2013

Contact:

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TOKYO Today, Japanese Prime Minister Shinzo Abe announced Japan's intention to join the Trans-Pacific Partnership trade pact. This brings the number of negotiating nations to 12: The United States, Japan, Australia, New Zealand, Chile, Peru, Mexico, Canada, Singapore, Malaysia, Vietnam, and Brunei.

In response, Sierra Club Trade Representative Ilana Solomon issued the following statement:

"The Sierra Club is deeply concerned that the Trans-Pacific Partnership – which is being called "NAFTA on Steroids" – would threaten the health of our families and the future of our environment, and the inclusion of Japan in this pact amplifies our concerns tenfold.

"We understand the trade pact would allow for automatic exports of natural gas to countries in the bloc, overriding the Department of Energy's ability to thoroughly review environmental and economic impacts of the exports. Japan -- the world's largest importer of liquefied natural gas -- is seeking to import the dirty fuel from the United States. Exporting natural gas would raise domestic energy prices, harm the middle class and U.S. manufacturing, and significantly increase the practice of hydraulic fracturing, or fracking. That means we'll be paying the price here, with more fracking in our backyards, near our schools, and next to our hospitals – only to help a handful of big gas companies profit by shipping natural gas overseas.

"Fracking jeopardizes ecologically sensitive areas, contaminates the water our families drink, and pumps climate-disrupting pollution into our air. Ultimately, exporting natural gas will only prolong America's reliance on dirty fuels and deepen our climate crisis. The risk to our families and to public health is too important to overlook. The trade pact must be crafted in a way which allows the United States to responsibly manage its natural gas.

"What's equally troubling is that the Trans-Pacific Partnership is being negotiated in almost complete secrecy. We must bring these negotiations into the open. If we can bring transparency to trade negotiations, we can help protect the environment, workers, and the health of our families and communities."

###

For more information, please see these Sierra Club fact sheets (PDFs):

- [The Trans-Pacific Partnership Agreement: What it could mean for the Environment](#)
- [An Explosion of Fracking? One of the dirtiest secrets of the Trans-Pacific Partnership Free Trade Agreement](#)

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EXPORTING LIQUEFIED NATURAL GAS (LNG) TO OVERSEAS MARKETS IS A DIRTY, DANGEROUS PRACTICE THAT LETS THE INDUSTRY MAKE A KILLING AT THE EXPENSE OF HUMAN HEALTH.

NEW REPORT: LOOK BEFORE THE LNG LEAP

Why Policymakers and the Public Need Fair Disclosure Before Exports of Fracked Gas Start

While drillers continue to carve up private property and ignore basic environmental laws, the natural gas industry is pressuring local governments and coastal communities to build new pipelines and processing plants so gas can be turned into a liquid form, also known as liquefied natural gas (LNG) and shipped overseas.

Exporting natural gas would increase fracking and carbon emissions, put sensitive ecological areas at risk, and do nothing to address our country's energy challenges. Natural gas companies envision a network of winding pipelines and noisy, polluting compressors that connect the drills to the docks, slicing through wild lands, rivers, and backyards. Pipelines and gas wells will inevitably leak or rupture, risking lives and fouling the environment where people live and further polluting the air we breathe and the water we drink.

Not only that, the super-cooling process that turns fossil fuel vapor into LNG requires an immense amount of energy -- so much energy, in fact, that the LNG lifecycle is as dirty as coal. The industry wants to build enormous shipping terminals that would pave over fields, fill wetlands, and destroy estuaries.

The industry claims natural gas is the key to America's energy independence, yet they want to export almost half of daily U.S. production, leaving our communities polluted while the gas industry profits.


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[AN OPEN LETTER TO ENERGY](#)

SECRETARY MONIZ ON NATURAL
GAS EXPORTS



Preventing these facilities from being built will dramatically decrease the pressure to drill for more gas and in turn prevent more destruction of our land and pollution of our water and air. The Sierra Club believes the Department of Energy should not authorize export facilities until a complete environmental assessment is completed and the flawed economic study is redone. Until then, the Sierra Club continues to intervene in each and every [proposed LNG facility](#) across the country.

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PACIFIC

After Fukushima disaster, Japan looks to coal power

Published March 28, 2014

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The Wall Street Journal

Japan is turning into a rare bright spot in the world coal market, stepping up coal-fired power generation to replace nuclear plants that went offline after the 2011 Fukushima accident.

Plans by Japanese companies to spend billions of dollars on new coal-fired plants offer a striking contrast with the U.S., which has effectively blocked new coal plants using existing technology over concerns about global warming. And they show how deeply Japan's energy picture has changed since the March 2011 earthquake and tsunami caused meltdowns at Fukushima Daiichi nuclear reactors.

On Thursday, Kyushu Electric Power Co. said it would restart a long-frozen project to build a one-gigawatt coal-fired unit in southern Japan. Other utilities including Tokyo Electric Power Co. have announced similar plans for more coal-fired power.

If the plans all come to fruition, Japan's coal-fired power capacity would increase to around 47 gigawatts over the next decade or so, up 21 percent from the time right before the Fukushima accident.

All 48 of Japan's nuclear-power plants are currently offline. While regulators are expected to allow several to restart this year and next, many older plants are too expensive to retrofit to meet tightened safety standards.

Imported natural gas is filling some of the gap, but it is costly. Solar power and residential fuel cells still account for a fraction of Japan's power demand. That leaves coal, which is relatively inexpensive, readily available from nations such as Australia and usable 24 hours a day.

"We can import coal from politically stable countries, and its prices are very competitive," said Hiroya Harada, general manager of Tohoku Electric Power Co.'s Tokyo branch. He spoke at a news conference Thursday where Tohoku Electric said it would seek contracts for 1.2 gigawatts of fossil-fuel-fired power, half of which it expects to come from coal.

The downside is the effect on the environment. Japan's coal use has already been edging higher since the Fukushima accident and as a result, the nation's carbon dioxide emissions climbed to their second-highest level on record in the year ended March 2013.

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