FIRST AMENDMENT TO CONTRACT NO. 29217

29217

THIS FIRST AMENDMENT TO CONTRACT NO. 22917 is made and entered, in duplicate, as of January 8, 2007 for reference purposes only, pursuant to a minute order adopted by the City Council of the City of Long Beach at its meeting held on January 2, 2007, by and between GENERAL PHYSICS CORPORATION, a ~~California~~ Delaware corporation, with a place of business at 2430 Vineyard Avenue, Suite 103, Escondido, California 92029 ("Design-Builder"), and the CITY OF LONG BEACH, a municipal corporation ("Owner").

WHEREAS, Owner requires specialized services requiring unique skills to be performed in connection with the design/build of the LNG/LNCG Fuel Station ("Project");

WHEREAS, Owner has selected Design-Builder in accordance with Owner's administrative procedures to perform such specialized services, and Owner has ascertained that Design-Builder and its employees are qualified, licensed, if so required, and experienced in performing such specialized services;

WHEREAS, Design-Builder is willing and able to perform such specialized services on the terms and conditions in this Contract; and

WHEREAS, Owner and Design-Builder desire to amend Contract No. 29217 to include additional Work;

NOW, THEREFORE, in consideration of the mutual terms and conditions herein contained, the parties agree as follows:

1. Article 2.1 of Contract No. 29217 is amended to add Section 2.1.8, which will read as follows:

"**.8** Design-Builder's upgrade proposal submitted to Owner, attached hereto as Exhibit "H."

2. Article 5.2.1 of Contract No. 29217 is amended in its entirety to read as follows:

"**5.2.1** Substantial Completion of the entire Work shall be achieved no later

Robert E. Shannon
City Attorney of Long Beach
333 West Ocean Boulevard
Long Beach, California 90802-4664
Telephone (562) 570-2200

than four hundred twenty (420) calendar days after the Design-Builder's receipt from the Owner of Notice to Proceed ("Scheduled Substantial Completion Date")."

3. Article 6.1 of Contract No. 29217 is amended in its entirety to read as follows:

"**6.1 Contract Price.** Owner shall pay Design-Builder in accordance with Article 6 of the General Conditions of Contract the sum of One Million Six Hundred Eighty Three Thousand Three Hundred Dollars ($1,683,300) ("Contract Price"), subject to adjustments made in accordance with the General Conditions of Contract. Unless otherwise provided in the Contract Documents, the Contract Price is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements."

4. Except as expressly modified herein, all of the terms and conditions contained in Contract No. 29217 are ratified and confirmed and shall remain in full force and effect.

///

///

///

///

///

///

///

///

///

///

///

///

///

Robert E. Shannon
City Attorney of Long Beach
333 West Ocean Boulevard
Long Beach, California 90802-4664
Telephone (562) 570-2200

IN WITNESS WHEREOF, the parties hereto have caused this document to be duly executed with all formalities required by law as of the date first stated herein.

GENERAL PHYSICS CORPORATION, a Delaware ~~California~~ corporation

January 12, 2007

By _____
Sr. Vice President
Alan P. Tattersall
(Type or Print Name)

January 12, 2007

By _____
Secretary
Kenneth Crawford
(Type or Print Name)

"Design-Builder"

1.25, 2007

By _____
City Manager

"City"

This First Amendment to Contract No. 29217 is approved as to form on

1/22, 2007.

ROBERT E. SHANNON, City Attorney

By _____
Deputy

Robert E. Shannon
City Attorney of Long Beach
333 West Ocean Boulevard
Long Beach, California 90802-4664
Telephone (562) 570-2200

LAC:bg
04-01600
03-05L:\APPS\CtyLaw32\WPDOCS\D008\P005\00098810.WPD

EXHIBIT "H"

December 12, 2006
GP-L-SD-135037 (Rev 1)

Mr. Mark Christoffels
City Engineer
City of Long Beach
333 West Ocean Blvd,
Long Beach, CA 90802

Leading the World to Better Performance
Training • Engineering • Technical Services • Consulting

Dear Mr. Christoffels:

LNG Fuel Station Upgrade

General Physics Corporation (GP), with our teaming partner NorthStar, Inc., is pleased to submit this firm fixed price cost proposal to the City of Long Beach to upgrade the existing liquefied natural gas (LNG) fueling station located at the City's 2929 East Willow Drive. This proposal assumes the terms and conditions of our existing contract will apply.

In general, the scope of work includes all engineering design, fabrication, and construction to install a 2nd LNG storage vessel and pump skid adjacent to the existing LNG fuel station. The second vessel will serve as cold storage. The new pump skid will have the capability to offload LNG into the new LNG storage vessel and transfer LNG from the new LNG vessel to the existing LNG vessel. Additonal piping and controls will be provided to enable this pump to serve as a backup pump for dispensing operations. The switch to the backup pump will be a manual operation.

Due to steel price volatility, this price is valid for 30 days from the date of this proposal. Price includes performance and payment bond to meet the requirements of our current contract.

Cost	Description
$25,500	Engineering
$12,000	Demo, Excavation, Removal
$98,100	Foundation, Containment, Misc. Concrete
$564,400	LNG Vessel and Equipment
$5,500	Electrical
$7,800	Misc (stair, bollards, fire extinguisher, signage)
$46,100	Configured as backup system for dispensing
$759,400	**Total**

General Physics Corporation
2430 Vineyard Ave., Suite 103
Escondido, CA 92029-1226 USA
760.233.9880
fax: 760.233.9881
www.gpworldwide.com

The current lead time on LNG vessels is approximately 30 weeks. Until we place an order, our vessel supplier can not commit to a delivery date. We estimate approximately 4 weeks after the LNG vessel is delivered to complete the project.

GP's proposal is based on the following invoice milestones. Per the existing contract, there will be a 10 percent retention for each milestone. GP will invoice at the completion of each milestone with net 30 day terms.

Amount	%	Description
$75,940	10.0%	Award of Contract and execution of bond
$12,500	1.6%	Execution of Performance bond
$25,500	3.4%	Submit design for permitting
$78,100	10.3%	Complete LNG foundation and containment
$358,000	47.1%	Set LNG vessel
$152,000	20.0%	Set pump skid
46,100	6.1%	Backup dispensing system
$11,260	1.5%	Installation Complete
$75,940	10.0%	Award of Contract and execution of bond

Equipment Description

1 Bulk Storage Vessel: We propose to use a 16,400 gallon, 10 ft diameter vertical LNG storage vessel similar to the existing vessel.

Base Proposal: This vessel will serve as a cold storage vessel only. The system will have the capability to saturate the contents on the tank as required to dispense LNG.

Tank specifications are as follows:

Tank Configuration	Vertical
Color	White
Gross Working Volume	16,400 gallons
Net Working Volume	14,750 gallons
Maximum Allowable Working Pressure	175 psig
Inner Vessel Material	SA-353 9% Nickel Steel
Inner Vessel Design Code	ASME Section VIII Division 1
Outer Vessel Material	A-36 Carbon Steel
Outer Vessel Design Code	CGA-341
Insulation	Vacuum & Perlite
Piping and Plumbing Components	All Stainless Steel with automatic fire block valves provided by plastic control air tubing to valves.
Piping Design Code	ANSI B31.3
Seismic Design Code	1997 UBC Zone 4

Warranty	12 Months

2 LNG Trailer Offloading and Transfer Station: We propose to use an ACD model TC-34 1.5x2.5x6 (or equal) two-stage pump submerged in an ASME Section VIII coded vacuum insulated pump pot.

Base Option: This will be a dual-purpose pump: 1) offload LNG from trailer to new LNG vessel and 2) transfer LNG from the new LNG storage vessel to the existing LNG storage vessel, and 3) will be configured to supply LNG to the existing dispensers and saturate the contents of the second vessel using the existing vaporizer. Thus will allow the second pump will serve as a backup dispensing pump in the event the primary pump is out of service. Switch over to the backup pump will be a manual operation.

Specifications for the LNG pump are:

Quantity	1 each
Nominal Flow Rate	90-100 gallons per minute
Nominal Head Pressure	125 psi in LNG service
Motor Horsepower	25 HP
Warranty	1000 hours or 12 Months

3 Saturation Control (Conditioning): The existing vaporizer will be utilized to saturate the second vessel if required to support dispensing operations.

4 LNG Dispenser: New dispensers were not requested but could be provided as an option.

5 LNG Fueling Authorization: No new system required.

6 LNG Station Controls: The existing LNG control panel will be modified to accommodate the additional LNG offload/transfer pump, storage vessel, and safety systems.

7 Safety Systems: As provided for the existing LNG fuel stations, safety systems for the proposed second LNG storage vessel and transfer pump system include the following:

- All Engineering will be performed under the direction of in-house California registered Professional Engineers with extensive cryogenic and high pressure gas experience and experience in the design and installation of LNG and LCNG fuel stations in California.
- Additional methane detection in the process piping and transport offload area. At 20% of the lower flammability limit (LFL), these detectors will trigger a visual and audible alarm. At 40% LFL, the detectors will initiate an emergency shut down (ESD) of the station. New detectors will be tied into the site Fire Alarm Control Panel (FACP)
- Additional fire detection using dual-sensor ultraviolet/infrared (UV/IR) heads covers the LNG containment and LNG transfer areas. Fire detection automatically initiates an ESD of the station. New detectors will be tied into the site Fire Alarm Control Panel (FACP) via existing relays. We do not anticipate any changes to the existing FACP.
- Additional Manual push buttons at the new offload area, at the new exits from the new containment area.
- Additional process valves are air-to-open, spring-to-close for fail-safe operation. The release of control air in an ESD will close all process valves. For extra safety, the actuators on the tank valves will be supplied with plastic control air tubing. In the event of a fire, the tubing will fail and cause the valves to close.
- Our Team has Registered California Professional Engineers on staff that will certify compliance with

current and pending California Title 8 requirements and all design documents as required by the state and local regulations.
- Additional fire extinguishers will be installed in fiberglass cabinets.

In addition to these safety systems, GP will update the failure modes and effects analysis to insure the safety of the system.

8 Electrical Upgrades: We will make required modifications to accommodate the new LNG transfer pump, LNG storage vessel, lights, and safety systems.

9. Civil Improvements: Our proposal includes the following.
- Provide and install additional LNG storage foundation and secondary containment
- Provide and install additional bollards
- Provide and install one new stairs in a ship ladder type configuration. A smaller ship ladder is required due to limited spacing.

10. Warranty: A one year warranty will be per provided per the current contract terms and conditions.

11. Start-up: We will utilize LNG in the existing storage vessel to cold shock and test the new LNG vessel and pump skid. Cost associated with a liquid nitrogen cool down is not included.

OFFER EXCLUSIONS:

We exclude the following items from our cost estimate:
1. Relocation of underground utilities.
2. Design and installation of fire suppression systems, if required by the local authority having jurisdiction since a fire suppression system is typically not required for an LNG fuel stations such as that described in the specification.
3. Any cleanup or soil work that may be caused by underground contamination not already identified in the RFP documents.
4. Plan Check and building permit fees (Assumed waived by City of Long Beach).
5. Liquidated damages (none specified).
6. Additional insurance beyond what was specified in the current contract.
7. We look forward to the opportunity to provide periodic maintenance of the facility under a long-term contract. These costs are not included in our pricing.

NOTE

We had a preliminary discussion with Mr. Tim Buzbee of the Long Beach Fire Department about the installation of the second LNG storage vessel. If this proposal is acceptable to the City of Long Beach, we recommend a meeting w/ Mr. Buzbee prior to executing the bond and ordering the vessel o make sure we are able to increase the onsite storage from 16,400 gallons to 32,800 gallons (gross water volume) as NFPA 52 required setbacks for a two vessel storage system is open to interpretation. We are confident we can get approval but recommend getting approval prior to initiating the contract. GP will provide preliminary drawings and NFPA 52 code analysis for Mr. Buzbee to review.

SUMMARY

Thank you for your interest in GP. We look forward to supporting the City of Long Beach on this important fuel station project. We believe the GP team is the best team available to upgrade your new station and this is the best option to provide the City with additional storage and redundant pump system.

If you have any questions regarding this proposal or require additional information, please call me at (858) 259-5081 or email me at mmackey@genphysics.com.

Sincerely,

Mike Mackey, PE
Alternative Fuels Director
General Physics Corporation.
CA Contractors License A-759845

cc: *Proposal File*
CLB.1.1.1
Greg Keppler
Ken Gillette
Gillis Monroe