



CITY OF LONG BEACH

DEPARTMENT OF DEVELOPMENT SERVICES

333 West Ocean Blvd., 4th Floor Long Beach, CA 90802

(562) 570-5237

Fax: (562) 570-6205

November 20, 2012

HONORABLE MAYOR AND CITY COUNCIL City of Long Beach California

RECOMMENDATION:

Receive the supporting documents into the record, conclude the public hearing, reject the appeal, and uphold the Planning Commission's decision to approve a Conditional Use Permit (Application No. 1111-02) for the installation of an AT&T wireless telecommunications facility on the rear of the rooftop of a four-story apartment building located at 4205 East Anaheim Street. (District 4)

DISCUSSION

On September 20, 2012, the Planning Commission approved a Conditional Use Permit for the installation of a new AT&T wireless telecommunications facility ("cell site") located at the rear of the building rooftop of a four-story apartment building at 4205 East Anaheim Street, in the Community Commercial (CCN) zoning district (Exhibit A – Location Map). This approval was appealed on October 1, 2012, by Kirt Ramirez, a third party (Exhibit B – Appeal). Staff recommends that the City Council deny the appeal and uphold the Planning Commission's decision.

The applicant, AT&T Mobility, requests to construct a new roof-mounted wireless telecommunications facility consisting of three arrays of four antennas each, all located in a single 20' x 12' screening enclosure at the rear of the building's rooftop (Exhibit C – Plans and Photo-simulations). The base station equipment is proposed to be located in a laundry utility room on the building's top floor, rather than the rooftop, due to structural requirements. Currently, no wireless site is present on the building, making this one of the first all-new wireless sites to be requested under the City's July 2011 wireless telecom Ordinance.

One of the most important requirements of the new wireless Ordinance is the "five-year build-out plan" that requires the applicant to provide a master plan for site development with as much detail as possible (Exhibit D – Five-year Build-out Plan). This master plan then allows future modifications to the site to be processed administratively, as long as such modifications are within the scope of the master plan. AT&T has provided a five-year plan that essentially consists of a statement that the AT&T site is not projected to be significantly expanded or modified in the next five years. In effect, this will cause any future

HONORABLE MAYOR AND CITY COUNCIL November 20, 2012 Page 2 of 3

AT&T projects at this site, including those in the next five years, to be subject to the normal planning entitlement process, rather than administrative review and approval.

Another major requirement of the new wireless Ordinance is that all new sites must be designed to allow co-location by other wireless carriers to the greatest extent possible. The goal of this requirement is to achieve single, unified, architecturally compatible and harmonious screening enclosures capable of accommodating future co-locations by one or more carriers without the need for any further visible changes or disruptions to the building. In this case, due to the building's roof configuration of numerous different roof decks at different levels, AT&T has not been able to design their screening enclosure to be of a size that would allow co-location by another wireless carrier.

AT&T has submitted a five-year plan that indicates the proposed screening area will meet all of AT&T's foreseeable needs for the future. AT&T also has identified two other rooftop locations that may be suitable for other carriers to co-locate upon; however, these areas are outside of AT&T's screening area, and these areas may have structural issues preventing location of either antennas, or equipment cabinets, or both. One of the major goals of the new ordinance's co-location requirement is to prevent a proliferation of mismatched, piecemealed rooftop screening devices. Staff has concerns that this may occur on this site in the future, if other carriers co-locate in the manner indicated by AT&T. For these reasons, staff recommended and that the Planning Commission approved a condition of approval requiring AT&T to submit (but not construct) an expanded rooftop screening plan that could be implemented upon co-location of another carrier. This rooftop screening plan should enclose all carriers' antenna arrays within a unified screening device, and not allow screening areas to proliferate across the rooftop.

Also, the proposed screening device, as designed, slightly exceeds the height limit of 10 feet above the building's roof deck. Staff recommended and the Planning Commission approved a condition of approval to correct this (Exhibit E – Findings and Conditions of Approval).

In accordance with the Guidelines for Implementation of the California Environmental Quality Act, a Categorical Exemption (CE) was prepared for the proposed project (Exhibit F – CE-11-079).

This matter was reviewed by Assistant City Attorney Michael Mais on November 5, 2012, and by Budget Management Officer Victoria Bell on November 1, 2012.

TIMING CONSIDERATIONS

The Zoning Regulations require that an appeal be heard within 60 days of its receipt. In order to comply with this requirement, the item must be heard prior to December 1, 2012.

HONORABLE MAYOR AND CITY COUNCIL November 20, 2012 Page 3 of 3

FISCAL IMPACT

There is no fiscal or local job impact associated with this request.

SUGGESTED ACTION:

Approve recommendation.

Respectfully submitted,

AMY J. BODEK, AICP

DIRECTOR OF DEVELOPMENT SERVICES

APPROVED:

AJB:DB

P:\Planning\City Council Items (Pending)\Council Letters\2012\2012-11-20\4205 E Anaheim St\Council Letter 1111-02 for appeal 2012-11-20.doc

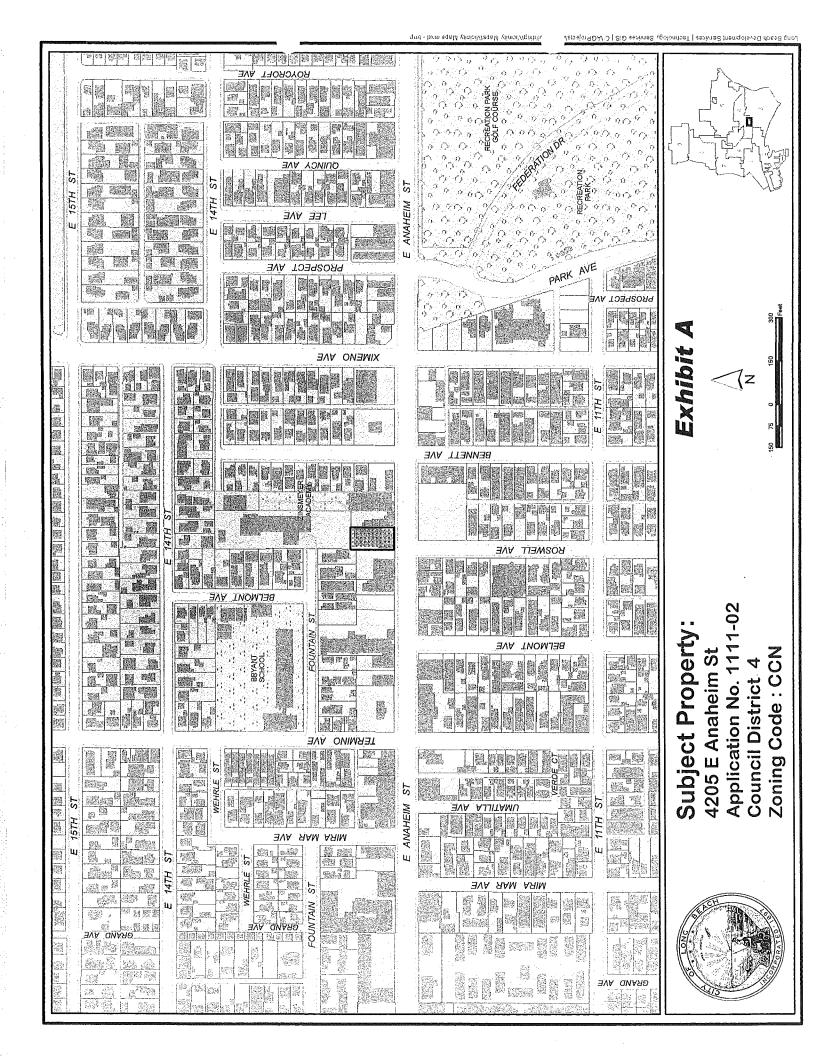
Attachments:

Exhibit A - Location Map

Exhibit B - Appeal

Exhibit C – Plans and Photo-simulations Exhibit D – Five-year build-out plan

Exhibit E – Findings and Conditions of Approval Exhibit F – Categorical Exemption CE-11-079





CITY OF LONG BEACH

DEPARTMENT OF DEVELOPMENT SERVICES

333 West Ocean Blvd., 5th Floor

Long Beach, CA 90802

(562) 570-6194

FAX (562) 570-6068

PLANNING BUREAU

APPLICATION FOR APPEAL

An appeal is hereby made to Your Honorable Body	from the decision of the
☐ Zoning Administrator	
☑ Planning Commission	th. 5 / / / / / / / / / / / / / / / / / /
☐ Cultural Heritage Commission on the <u>≪</u> ○	th day of <u>September</u> , 20 <u>12</u>
☐ Site Plan Review Committee	
Project Address: 4205 E. Anghe,	im Street
Reasons for Appeal: <u>health</u> dangers improper notice, procedulately conserved	écedence,
Your appellant herein respectfully requests that You decision and Approve / Deny this application	ur Honorable Body reject the n.
Appellant 1	Appellant 2
Name: Kirt Ramirez	, appoint 2
Organization	
Address: 6285 E. Spring St. PMB 325	N
City/ZIP: Long Beach J 90808	
Phone: (562) 494-2515	
Signature: Rint Ramy	
 Date: /o - / - / 2 A separate appeal form is required for each appell the same address, or those representing an organ Appeals must be filed within 10 days after the dec You must have established aggrieved status by prhearing where the decision was rendered; otherwing see reverse of this form for the statutory provision 	ilization. ision is made (LBMC 21.21.502). resenting oral or written testimony at the se, you may not appeal the decision.
(Below This Line for Staf	f Use Only)
☐ Appeal by Applicant, or ☑ Appea	- /
Received by: 100 App. No.: 111-02 Fee: 55. Fee Paid Project (rece	Filing Date: 10/1/2

City of Long Beach
Department of Development Services
333 West Ocean Blvd
Long Beach, CA 90802

RE: OPPOSITION TO WIRELESS TELECOMMUNICATIONS FACILITY BEING PLACED AT 4205 E. ANAHEIM ST., LONG BEACH, CA 90804

Dear City Staff and Council:

I object to a telecommunications facility being placed on the roof of an apartment at 4205 E. Anaheim St. The area is heavily populated and a soon-to-be-completed apartment building directly across the street will be housing new tenants in the future, adding more to the already dense population.

I am concerned about the health effects of having such a tower zapping electromagnetic radiation through the air. I have attached various studies concluding that such towers are not safe.

Jacqueline Krohn, MD, who is board certified in Pediatrics and Environmental Medicine, has written a book on environmental issues and her chapter on "Our Body Electric" is enclosed as well.

Please consider placing the cell tower elsewhere, away from the public.

Thank you,

Kirt Ramirez

6285 E. Spring St. PMB 325N

Long Beach, CA 90808

The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer

Horst Eger, Klaus Uwe Hagen, Birgitt Lucas, Peter Vogel, Helmut Voit

Published in Umwelt·Medizin·Gesellschaft 17,4 2004, as: 'Einfluss der räumlichen Nähe von Mobilfunksendeanlagen auf die Krebsinzidenz'

Summary

Following the call by Wolfram König, President of the Bundesamt für Strahlenschutz (Federal Agency for radiation protection), to all doctors of medicine to collaborate actively in the assessment of the risk posed by cellular radiation, the aim of our study was to examine whether people living close to cellular transmitter antennas were exposed to a heightened risk of taking ill with malignant tumors.

The basis of the data used for the survey were PC files of the case histories of patients between the years 1994 and 2004. While adhering to data protection, the personal data of almost 1,000 patients were evaluated for this study, which was completed without any external financial support. It is intended to continue the project in the form of a register.

The result of the study shows that the proportion of newly developing cancer cases was significantly higher among those patients who had lived during the past ten years at a distance of up to 400 metres from the cellular transmitter site, which has been in operation since 1993, compared to those patients living further away, and that the patients fell ill on average 8 years earlier.

In the years 1999-2004, ie after five years' operation of the transmitting installation, the relative risk of getting cancer had trebled for the residents of the area in the proximity of the installation compared to the inhabitants of Naila outside the area.

Key words: cellular radiation, cellular transmitter antennas, malignant tumours

The rapid increase in the use of mobile telephony in the last few years has led to an increasing number of cell phone transmission masts being positioned in or near to residential areas. With this in mind, the president of the German governmental department for protection against electromagnetic radiation (Bundesamtes für Strahlenschutz) Wolfram König, has challenged all doctors to actively help in the work to estimate the risks from such cell phone masts. The goal of this investigation was therefore to prove whether on not people living near to cell phone masts have a higher risk of developing cancerous tumours.

The basic data was taken from the medical records held by the local medical authority (Krankenkasse) for the years 1994 to 2004. This material is stored on computer. In this voluntary study the records of roughly 1,000 patients from Naila (Oberfranken) were used, respecting the associated data protection laws. The results from this study show a significantly increased likelihood of developing cancer for the patients that have lived within 400 metres of the cell phone transmission mast (active since 1993) over the last ten years, in comparison to those patients that live further away. In addition, the patients that live within 400 metres tend to develop the cancers at a younger age. For the years 1999 to 2004 (ie after

five or more years of living with the cell phone transmission mast), the risk of developing cancer for those living within 400 metres of the mast in comparison to those living outside this area, was three times as high.

Introduction

A series of studies available before this investigation provided strong evidence of health risks and increased cancer risk associated with physical proximity to radio transmission masts. Haider et al. reported in 1993 in the Moosbrunn study frequent psychovegetive symptoms below the current safety limit for electromagnetic waves (1). In 1995, Abelin et al. in the Swiss- Schwarzenburg study found dose dependent sleep problems (5:1) and depression (4:1) at a shortwave transmitter station that has been in operation since 1939 (2).

In many studies an increased risk of developing leukaemia has been found; in children near transmitter antennas for Radio and Television in Hawaii (3); increased cancer cases and general mortality in the area of Radio and Television transmitter antennas in Australia (4); and in England, 9 times more leukaemia cases were diagnosed in people who live in a nearby

area to the Sutton Coldfield transmitter antennas (5). In a second study, concentrating on 20 transmitter antennas in England, a significant increased leukaemia risk was found (6). The Cherry study (7) indicates an association between an increase in cancer and living in proximity to a transmitter station. According to a study of the transmitter station of Radio Vatican, there were 2.2 times more leukaemia cases in children within a radius of 6 km, and adult mortality from leukaemia also increased (8).

In 1997 Goldsmith published the Lilienfeld-study that indicated 4 times more cancer cases in the staff of the American Embassy in Moscow following microwave radiation during the cold war. The dose was low and below the German limit (9).

The three studies of symptoms indicated a significant correlation between illness and physical proximity to radio transmission masts. A study by Santini *et al.* in France resulted in an association between irritability, depression, dizziness (within 100m) and tiredness within 300m of a cell phone transmitter station (10).

In Austria there was an association between field strength and cardiovascular symptoms (11) and in Spain a study indicates an association between radiation, headache, nausea, loss of appetite, unwellness, sleep disturbance, depression, lack of concentration and dizziness (12).

The human body physically absorbs microwaves. This leads to rotation of dipole molecules and to inversion transitions (13), causing a warming effect. The fact that the human body transmits microwave radiation at a very low intensity means that since every transmitter represents a receiver and transmitter at the same time, we know the human body also acts as a receiver.

In Germany, the maximum safe limit for high frequency microwave radiation is based on purely thermal effects. These limits are one thousand billion times higher than the natural radiation in these frequencies that reaches us from the sun.

The following study examines whether there is also an increased cancer risk close to cellular transmitter antennas in the frequency range 900 to 1800 MHz. Prior to this study there were no published results for long-term exposure (10 years) for this frequency range and its associated effects to be revealed. So far, no follow-up monitoring of the state of health of such a residential population has been systematically undertaken.

Materials and-Methods

Study area

In June 1993, cellular transmitter antennas were permitted by the Federal Postal Administration in the Southern German city of Naila and became operational in September 1993.

The GSM transmitter antenna has a power of 15 dbW per channel in the 935MHz frequency range. The total

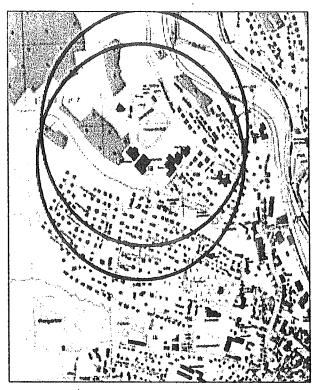


Fig. 1: Schematic plan of the antenna sites

transmission time for the study period is ca. 90,000 hours. In December 1997 there followed an additional installation from another company. The details are found in an unpublished report, appendix page 1-3 (14).

To compare results an 'inner' and 'outer' area were defined. The inner area covered the land that was within a distance of 400 metres from the cellular transmitter site. The outer area covered the land beyond 400 metres. The average distance of roads surveyed in the inner area (nearer than 400m) was 266m and in the outer area (further than 400m) 1,026m. Fig. 1 shows the position of the cellular transmitter sites I and 2, surrounded by circle of radius 400 metres. The geographical situation shows the transmitter sites (560m) are the highest point of the landscape, which falls away to 525m at a distance of 450m. From the height and tilt angle of the transmitter it is possible to calculate the distance where the transmitter's beam of greatest intensity strikes the ground (see Fig. 2).

The highest radiation values are in areas of the main

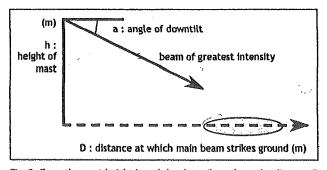


Fig. 2: From the mast height h and the downtilt angle a, the distance D at which the main beam reaches ground is given by $D = \tan(90-a) \times h$

beam where it hits the ground and from the expected associated local reflection; from this point the intensity of radiation falls off with the square of the distance from the transmitter.

In Naila the main beam hits the ground at 350m with a beam angle of 6 degrees (15). In the inner area, additional emissions are caused by the secondary lobes of the transmitter; this means in comparison that from purely mathematical calculations the outer area has significantly reduced radiation intensity.

The calculations from computer simulations and the measurements from the Bavaria agency for the environmental protection, both found that the intensity of radiation was a factor of 100 higher in the inner area as compared to the outer area. The measurements of all transmitter stations show that the intensity of radiation from the cell phone transmitter station in Naila in the inner area was higher than the other measurement shown in the previous studies of electromagnetic fields from radio, television or radar (14).

The study StSch 4314 from the ECOLOG Institute indicates an association between a vertical and horizontal distance from the transmitter station and expected radiation intensity on the local people (16). The reason for setting a distance of 400m for the differentiation point is partly due to physical considerations, and partly due to the study of Santini et al. who chose 300m (10).

Data Gathering

Similar residential streets in the inner area and outer areas were selected at random. The large old people's home in the inner area was excluded from the study because of the age of the inhabitants. Data gathering covered nearly 90% of the local residents, because all four GPs in Naila took part in this study over 10 years. Every team researched the names of the patients from the selected streets that had been ill with tumours since 1994. The condition was that all patients had been living during the entire observation time of 10 years at the same address.

The data from patients was handled according to data protection in an anonymous way. The data was evaluated for gender, age, tumour type and start of illness. All cases in the study were based on concrete results from tissue analysis. The selection of patents for the study was always done in exactly the same way. Self-selection was not allowed. Also the subjective opinion of patients that the radio mast detrimentally affected their health has not affected this study. Since patients with cancer do not keep this secret from GPs, it was possible to gain a complete data set.

Population study

In the areas where data was collected 1,045 residents were registered in 31.12.2003. The registration statistics for Naila at the beginning of the study (1.1.1994) show the number of old people in the inner and outer areas, as shown in Table 1. The average age at the beginning

erenes anno esta espera <u>esta de la comprese de p</u> erio de comprese de la comprese de la comprese de la comprese de	female	male	total
Inner area	41.48	38.70	40.21
Outer area	41.93	38.12	40.20
Naila total	43.55	39.13	41.45

Table 1 : Overview of average ages at the beginning of the study in 1994

1994 inner 22.4%	outer 2.8%	Naila total 24.8%
2004 inner 26.3%	outer 26.7%	Commence de La Caracteristic de la Caracterist

Table 2: Proportion of patients aged over 60

of the study (1.1.1994) in both the inner and outer areas was 40.2 years. In the study period between 1994-2004, 34 new cases of cancer where documented out of 967 patients (Table 3). The study covered nearly 90% of local residents.

The average age of the residents in Naila is one year more than that of the study due to the effects of the old people's home. From the 9,472 residents who are registered in Naila, 4,979 (52.6%) are women and 4,493 (47.4%) are men. According to the register office, in 1.1.1994 in the outer area, the percentage was 45.4% male and 54.5% female, and in the inner area 45.3% male and 54.6% female. The number of people who are over 60 years old is shown in Table 2.

The social differences in Naila are small. Big social differences like in the USA do not exist here. There is also no ethnic diversity. In 1994 in Naila the percentage of foreigners was 4%. Naila has no heavy industry, and in the inner area there are neither high voltage cable nor electric trains.

Results

Results are first shown for the entire 10 year period from 1994 until 2004. Secondly, the last five-year period 1999 to 2004 is considered separately.

Period 1994 to 2004

As a null hypothesis it was checked to see if the physical distance from the mobile transmission mast had no effect on the number cancer cases in the selected population, ie that for both the group nearer than 400 metres and the group further than 400 metres the chance of developing cancer was the same. The relative frequencies of cancer in the form of a matrix are shown in Table 3. The statistical test method used on this data was the chi-squared test with Yates's correction. Using this method we obtained the value of 6.27, which is over the critical value of 3.84 for a

Period 1994-2004	Inner area	Outer area	total
new cases of cancers	18	16	34
with no new cancer	302	631	933
total	320	647	967

Table 3: numbers of patients with and without cancers, 1994-2004

statistical significance of 0.05).

This means the null hypothesis that both groups within the 400-metre radius of the mast and beyond the 400 metre radius, have the same chance of developing cancer, can be rejected with a 95% level of confidence. With a statistical significance of 0.05, an even more significant difference was observed in the rate of new cancer cases between the two groups.

Calculating over the entire study period of 1994 until 2004, based on the incidence matrix (Table 3) we arrive at a relative risk factor of 2.27 (quotient of proportion for each group, eg 18/320 in the strongly exposed inner area, against 16/647 in the lower exposed comparison group). If expressed as an odds ratio, the relationship of the chance of getting cancer between strongly exposed and the less exposed is 2.35.

The following results show clearly that inhabitants who live close to transmitter antennas compared to inhabitants who live outside the 400m zone, double their risk of developing cancer. In addition, the average age of developing cancer was 64.1 years in the inner area whereas in the outer area the average age was 72.6 years, a difference of 8.5 years. That means during the 10 year study that in the inner area (within 400 metres of the radio mast) tumours appear at a younger age.

In Germany the average age of developing cancer is approximately 66.5 years, among men it is approximately 66 and among women, 67 (18).

Over the years of the study the time trend for new cancer cases shows a high annual constant value (Table 4). It should be noted that the number of people in the inner area is only half that of the outer area, and therefore the absolute numbers of cases is smaller.

Table 7 shows the types of tumour that have developed in the cases of the inner area.

Period 1994 to 1999

No. of cases of tumours per year of study	inner of the 3	area: 20 people	outer area: of the 647 people	
	total cases	per 1,000	total cases	per 1,000
1994		_	ı	1.5
1995	-	-		-
1996	11	6.3	1	1.5
1997	ı	3.1	181	4.6
1998	11	6.3	111	4.6
1999	11	6.3	I	1.5
2000	11111	15.6	ı	1.5
2001	11	6.3	II .	3.1
2002	ll l	6.3	. 11	3.1
2003-3/2004	11	6.3	ll l	3.1

Table 4: Summary of the total tumours occurring per year (no. and per thousand)

Period 1994-1999	Inner area	Outer area	total
new cases of cancers	5	. 8	13
with no new cancer	315	639	954
total	320	647	967

Table 5: numbers of patients with and without cancers, 1994-1999

For the first five years of the radio transmission mast operation (1994-1998) there was no significant increased risk of getting cancer within the inner area as compared to the outer area (Table 5).

Period 1999 to 2004

Under the biologically plausible assumption that cancer caused by detrimental external factors will require a time of several years before it will be diagnosed, we now concentrate on the last five years of the study between 1999 and 2004. At the start of this period the transmitter had been in operation for 5 years. The results for this period are shown in Table 6. The chisquared test result for this data (with Yates's correction) is 6.77 and is over the critical value of 6.67 (statistical significance 0.01). This means, with 99% level of confidence, that there is a statistically proven difference between development of cancer between the inner group and outer group. The relative risk of 3.29 revealed that there was 3 times more risk of developing cancer in the inner area than the outer area during this time period.

Period 1999-2004	inner area	Outer area	total
new cases of cancers	13	8	31
with no new cancer	307	639	946
total	320	647	967

Table 6: numbers of patients with and without cancers, 1999-2004

The odds-ratio 3.38 (VI 95% 1.39-8.25, 99% 1.05-10.91) allows us with 99% confidence to say that the difference observed here is not due to some random statistical effect.

Discussion

Exactly the same system was used to gather data in the inner area and outer areas. The medical chip card, which has been in use for 10 years, enables the data to be processed easily. The four participating GPs examined the illness of 90% of Naila's inhabitants over the last 10 years. The basic data for this study were based on direct examination results of patients extracted from the medical chip cards, which record also the diagnosis and treatment. The study population is (in regards to age, sex and cancer risk) comparable, and therefore statistically neutral. The study deals only with people who have been living permanently at the same address for the entire study period and therefore

Type of tumour (organ)	no. of tumours found	total expected	incidence per 100,000	ratio inner: outer
breast	8	5.6	112	5:3
ovary	1	1.1	23	0:1
prostate	5	4.6	101	2:3
pancreas	m 3	0.6	14	2:1
	f 2	0.9	18	1:1
bowel	m 4	3.7	81	2:2
	f 0	4.0	81	0:0
skin	m 1	0.6	13	1:0
melanoma	f 0	0.7	14	0:0
lung	m 3	3.6	79	2;1
	f 0	1,2	24	0:0
kidney	m 2	1.0	22	1:1
	f 1	0.7	15	1:0
stomach	m 1	1.2	27	0:1
	f 1	1.1	23	0:1
bladder	m 1	2.0	44	0:1
	f 0	0.8	16	0:0
blood	m 0	0.6	14	0:0
	f 1	0.7	15	1:0

Table 7: Summary of tumours occurring in Naila, compared with incidence expected from the Saarland cancer register

have the same duration of exposure regardless of whether they are in the inner area or outer area.

The result of the study shows that the proportion of newly developing cancer cases was significantly higher (p<0.05) among those patients who had lived during the past ten years within a distance of 400 metres from the cellular transmitter site, which has been in operation since 1993, in comparison to people who live further away. Compared to those patients living further away, the patients developed cancer on average 8.5 years earlier. This means the doubled risk of cancer in the inner area cannot be explained by an average age difference between the two groups. That the transmitter has the effect that speeds up the clinical manifestations of the illness and general development of the cancer cannot be ruled out.

In the years 1999-2004, ie after five years and more of transmitter operation, the relative risk of getting cancer had trebled for the residents of the area in the proximity of the mast compared to the inhabitants of Naila in the outer area (p>0.01). The division into inner area and outer area groups was clearly defined at the beginning of the study by the distance to the cell phone transmission mast. According to physical considerations people living close to cellular transmitter antennas were exposed to heightened transmitted radiation intensity.

Both calculated and empirical measurements revealed that the intensity of radiation is 100 times higher in the inner area compared to the outer area. According to the research StSch 4314 the horizontal and vertical position in regards to the transmitter antenna is the most important criterion in defining the radiation intensity area on inhabitants (16).

The layered epidemiological assessment method used in this study is also used in assessment of possible chemical environmental effects. In this case the layering is performed in regards to the distance from the cell phone transmitter station. Using this method it has been shown that there is a significant difference in probability of developing new cancers depending on the exposure intensity.

The number of patients examined was high enough according to statistical rules that the effects of other factors (such as use of DECT phones) should be normalised across the inner area and outer area groups. From experience the disruption caused by a statistical confounding factor is in the range between 20% and 30%. Such a factor could therefore in no way explain the 300% increase in new cancer cases. If structural factors such as smoking or excessive alcohol consumption are unevenly distributed between the different groups this should be visible from the specific type of cancers to have developed (ie lung, pharyngeal or oesophageal). In the study inner area there were two lung cancers (one smoker, one non-smoker), and one in the outer area (a smoker), but no oesophageal cancers. This rate of lung cancer is twice what is statistically to be expected and cannot be explained by a confounding factor alone. None of the patients who developed cancer was from a family with such a genetic propensity.

Through the many years experience of the GPs involved in this study, the social structures in Naila are well known. Through this experience we can say there was no significant social difference in the examined groups that might explain the increased risk of cancer.

The type and number of the diagnosed cancers are shown in Table 7. In the inner area the number of cancers associated with blood formation and tumour-controlling endocrine systems (pancreas), were more frequent than in the outer area (77% inner area and 69% outer area).

From Table 7, the relative risk of getting breast cancer is significantly increased to 3.4. The average age of patients that developed breast cancer in the inner area was 50.8 years. In comparison, in the outer area the average age was 69.9 years, approximately 20 years less. In Germany the average age for developing breast cancer is about 63 years. The incidence of breast cancer has increased from 80 per 100,000 in the year 1970 to 112 per 100,000 in the year 2000. A possible question for future research is whether breast cancer can be used as a 'marker cancer' for areas where there is high contamination from electromagnetic radiation. The report of Tynes et al. described an increased risk of breast cancer in Norwegian female radio and telegraph operators (20).

To further validate the results the data gathered were compared with the Saarland cancer register (21). In this register all newly developed cancers cases since 1970 are recorded for each Bundesland. These data are accessible via the Internet. Patents that suffer two separate tumours were registered twice, which increases the overall incidence up to 10%. In this

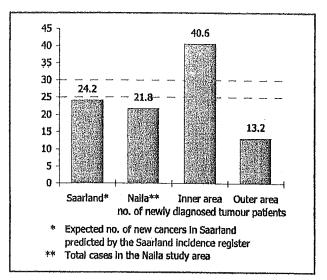


Fig. 3: Number of new cancer cases 1999 to 2004, adjusted for age and gender, calculated for the 5,000 patient years

register there is no location-specific information, for instance proximity to cell phone transmission masts. The data in the cancer register therefore reflect no real control group but rather the effect of the average radiation on the total population.

From the Saarland cancer register for the year 2000 the incidence of new cancer cases was 498 per 100,000 for men and 462 per 100,000 for women. When adjusted for age and sex one would expect a rate of between 480 and 500 per 100,000 in Naila. For the years 1999 to 2004 there were 21 new cases of cancer among 967 patients. The expected number was 24 cases per 1,000 patients.

The results of the study are shown graphically in Fig. 3. The bars of the chart represent the number of new cancer cases per 1,000 patients in the separate areas, over the five years (bars 2 to 4). The first bar represents the expected number from the Saarland cancer register.

in spite of a possible underestimation, the number of newly developed cancer cases in the inner area is more than the expected number taken from the cancer register, which represents the total population being irradiated. The group who had lived during the past five years within a distance of 400 m from the cellular transmitter have a two times higher risk of developing cancer than that of the average population. The relative risk of getting cancer in the inner area compared with the Saarland cancer register is 1.7 (see to Table 7).

Conclusion

The result of this retrospective study in Naila shows that the risk of newly developing cancer was three times higher among those patients who had lived during past ten years (1994-2004), within a distance of 400m from the cellular transmitter, in comparison to those who had lived further away.

Cross-sectional studies can be used to provide the decisive empirical information to identify real problems. In the 1960s just three observations of birth deformities were enough to uncover what is today an academically indisputable Thalidomide problem.

This study, which was completed without any external financial support is a pilot project. Measurements of individual exposure as well as the focused search for further side effects would provide a useful extension to this work, however such research would need the appropriate financial support.

The concept of this study is simple and can be used everywhere, where there it a long-term electromagnetic radiation from a transmitting station.

The results presented are a first concrete epidemiological sign of a temporal and spatial connection between exposure to GSM base station radiation and cancer disease.

These results are, according to the literature relating to high frequency electromagnetic fields, not only plausible and possible, but also likely.

From both an ethical and legal standpoint it is necessary to immediately start to monitor the health of the residents living in areas of high radio frequency emissions from mobile telephone base stations with epidemiological studies. This is necessary because this study has shown that it is no longer safely possible to assume that there is no causal link between radio frequency transmissions and increased cancer rates.

Acknowledgements

Our thanks go to all those involved in developing this study, in particular, Herrn Professor Frentzel-Beyme for his advice on all the epidemiological questions.

(Received 14.09.2004; Accepted 08.10.2004)

Footnotes

- (1) HAIDER, M., KUNDI, M., KNASMÜLLER. S., HAIDER, T., GROLL KNAPP, E. & G. OBERMEIER (1993): Medizinisch-hygienische Untersuchungen und Beurteilungen der Kurzwellensendeanlage Moosbrunn, Institut für Umwelthygiene, Universität Wien.
- (2) ABELIN, T., ALTPETER, E.S., PFLUGER, D.H., KREBS, T., KÄNEL, J.V., STÄRK, K. & C. GRIOT (1995): Gesundheitliche Auswirkungen des Kurzwellensenders Schwarzenburg, BEW Schriftenreihe Studie Nr. 56 (BEW: Bundesamt für Energiewirtschaft).
- (3) MASKARINEC, G., COOPER, J. & L. SWYGERT (1994): Investigation of increased incidence in childhood leukemia near radio towers in Hawaii: Preliminary observations, J. Environ. Pathol. Toxicol. and Oncol. 13: 33-37.
- (4) HOCKING, B., GORDON, IR., GRAIN HL. et al. (1996): Cancer Incidence and Mortality and Proximity to TV-Towers. Med. J. Australia 165, 11-12: 601-605.

- (5) DOLK, H., SHADDICK, G., WALLS, P., GRUNDY, C., THAKRAR, B., KLEINSCHMIDT, I. & P. ELLIOT (1997a):Cancer Incidence Near Radio and Television Transmitters in Great Britain, Part 1. Sutton Coldfield Transmitter, Am. J. Epidemiol. 145: 1-9.
- (6) DOLK, H., ELLIOT, G., SHADDICK, G., WALLS, P. & B. THAKRAR (1997b): Cancer Incidence Near Radio and Television Transmitters in Great Britain, Part 2. All High Tower Transmitters, Am. J. Epidemiol. 145: 10-17.
- (7) CHERRY, N. (1999): Critism of the proposal to adopt the ICNIRP guidelines for cellsites in New Zealand, ICNIRP Guideline Critique, Lincoln University, Environmental Management and Design Division, Canterbury, NZ.
- (8) MICHELOZZI, P., CAPON, A., KIRCHMAYER, U., FORASTIERE, F., BIGGERI, A., BARCA, A. & C.A.PERUCCI (2001):Department of Epidemiology.Local Health Authority RME Rom, Italy.
- (9) GOLDSMITH, JR. (1997): European EpiMarker 2(4): 4-7; Lilienfeld 1978 Final report US Dept. of State, NTIS PB-288163, 1978.
- (10) SANTINI, R., SANTINI, P., DANZE, J. M., LE RUZ, P. & SEIGNE,M. (2002): Symptoms experienced by people living in vicinity of cell phone base stations: I. Incidences of distance and sex, Pathol. Biol. 50: 369-373.
- (11) KUNDI, M. (2002): Erste Ergebnisse der Studie über Auswirkungen von Mobilfunk-Basisstationen auf Gesundheit und Wohlbefinden. Bericht des Instituts für Umwelthygiene der Universität Wien,
- (12) NAVARRO EA., SEGURA J., PORTOLES M., GOMEZ-PERRETTA de MATEO C. (2003): Das Mikrowellensyndrom: Eine vorläufige Studie in Spanien. Electromagnetic Biology an Medicine (früher: Electro- and Magnetobiology) 22(2): 161-169,www.grn.es/electropolucio/TheMicrowaveSyndrome.doc.
- (13) BROCKHAUS (1973): abc Physik, VEB F.A. Brockhaus Verlag, Leipzig: 991 ff.
- (14) EGER, H., HAGEN, K.U., LUCAS, B., VOGEL, P. & H. VOIT (2004): Einfluss der räumlichen Nähe von Mobilfunksendeanlagen auf die Krebsinzidenz, Tabellarischer Teil, unveröffentlicht, Naila

- (15) Regulierungsbehörde für Post und Telekom (oJ): Standortbescheinigungen,
- (16) ECOLOG-INSTITUT (2003): Bestimmung der Exposition von Personengruppen, die im Rahmen des Projektes "Querschnittsstudie zur Erfassung und Bewertung möglicher gesundheitlicher Beeinträchtigungen durch die Felder von Mobilfunkbasisstationen" untersucht werden, Berichtszeitraum: 1.2.2003 bis 31.5.2003, Förderkennzeichen: StSch 4314, ECOLOG-Institut für sozial-ökologische Forschung und Bildung gGmbH, Hannover.
- (17) KLEINBAUM, D.G., KLEIN, M. (2002): Logistic Regression A. Self learning text, Springer Verlag
- (18) AG BEVÖLKERUNGSBEZOGENER KREBSREGISTER IN DEUTSCHLAND (Hrsg.) (2004):Krebs in Deutschland, 4. überarb., akt.Ausgabe, Arbeitsgemeinschaft bevölkerungsbezogener Krebsregister in Deutschland in Zusammenarbeit mit dem Robert Koch-Institut, Saarbrücken.
- (19) LEGATOR, M.S. & B. STRAWN (1998): Umwelt-Risiko: Chemie, Haug-Verlag.
- (20) TYNES, I., HANNEVIK, M., ANDERSEN, A., VISTNES, AI. & HALDORSEN T. (1996): Incidence of breast cancer in Norwegian female radio and telegraph operators. Cancer Causes Control 7: 197-204.
- (21) www.krebsregister.saarland.de

Kontakt:

Dr. med. Klaus Uwe Hagen Birgitt Lucas Peter Vogel Dr. med.Helmut Voit

Korrespondenz: Dr. med.Horst Eger Marktplatz 16 95119 Naila Tel.: 09282-1304 horst.eger@arcormail.de Share 0 More Next Blogs

Create Blog Sign in



weepinitiative.org

The Canadian Initiative to Stop Wireless, Electric, and Electromagnetic Pollution

WEEP News

by: Martin Weatherall

As a Canadian independent foundation, WEEP acts as an umbrella organization and focuses on progressive initiatives that bring increased awareness, policy change, and entrepreneurial activity around the issues of safe Electro Magnetic emissions.

WEEP News is a service provided by WEEP to keep those interested in and affected by Wireless, Electric, & Electromagnetic Pollution, informed on a daily basis, of all the current issues and initiatives in the world today.

weepinitiative.org

<u>Ար ու դերերերեր արերերի հերերի հետարարերի կանարի հանահանանում և հերերի հետարարի հետարի հետերի հետ հետ հետ հետ</u>

The opinions expressed in the WEEP news are not necessarily those of WEEP and its members.

Please see Content Disclaimer

View current news and search for past articles.

Search by category or by date in the Archives section (below)

To get back to the main news page just click on "Show all Posts" at the top of the page

Subscribe	Tα	WEEP	News

🖾 Posts	Æ.
間 Comments ,	V 6

This Month's Popular Posts

Negligence by School Board? / Dangers accepted far too nalvely / WFI in public places / WFI making kids sick / serious condition / only chance / Hempstead W.E.E.P. News Wireless Electrical and Tuesday, July 1, 2008

Kempten West Study 2007 - English version

HAI
This is a very important study which shows the adverse health effects caused soon after a cell phone transmitter commenced operation.
It is easy to understand the long term serious effects that may occur because of microviewe radiation exposure.
Marcin Westherell.
—— Original Message ——
From: Margaret E White
Sent: Thursday, June 28, 2008 5:53 PM
Subject: Kempton West Study 2007 - English version

Nor let eine Ueberestrung von 07 (0028budie Kempten West (2007). Here is a translation of the Studie (Study) Kempten West as a Word file plus the original German varsion (PDF). The study was certied out in 2007. Manparet

Mobile Telecommunications in Kempten West

Blood levels alarmingly altered

The Citizens Initiative Kempten West, which was established after the installation of the T-Mobile fransmitter on the bank building (in Lindauerstraße) is now able to present the first results of the blood tests, Unfortunately, the results confirm the fears of the Initiative.

The initial blood samples were taken in November 2006 before the transmitter commenced operation (Dec. 2006). The second set of blood samples were taken in May 2007, 5 months after the transmitter commenced normal operation.

All 28 participating residents had already removed DECT-Telephones and MLAN from their homes weeks before the first blood sampling took piece and also reduced their mobile phone use to a few conversations outside home. Furthermore, 6 families had the electromagnetic exposure in their houses measured by technician Herr W. Jogschles, Widpokished, both before and also after the installation of the transmitter mast. The second text results showed a several fold increase in the electromagnetic RF radiation exposure (the medical team has the measurements).

At the suggestion of Dr. med. M. Kern, the initiator of the 'Aligituer Doctor's Initiative', and of alternative practitioner E. Strotti, the citizen's initiative decided to investigate the effects of the telecommunications must on diverse laboratory parameters. At the same time, this series of analyses is part of a German-wide investigation into the effects of mobile telecommunications on humans (Dr. med. Hans-C. Scheiner in Munich (München). The organisation, implementation and medical supervision of the project Suburb and the first summary of the results were handled by physician Anna Blanz.

The following laboratory values were established:

- o The differential blood picture using whole-blood
- o Serotonin daytime level from the blood serum (8 a.m. -9:00 a.m.)
- o Melesonin and from the blood serum (daytime level)
- Determination of the noctumel meximum melatonin excretion through determination of the melatonin metabolite

6-Hydroxy-Melatonin-Sulphate (6-OH-M-S) in the noctumal total collected urine

It is established that both, the "mood hormone" serotonin and also the "sleep-" and "immune defence hormone" melatonin is formed in the pineal gland of the brain, whereby serotonin represents a precursor of melatonin.

In healthy conditions a maximum of the sleep hormone metatorin is formed from serotoria during the right, whilst, during the daytime, the 'mood hormone' serotoria is shown to be clearly increased, at the expense of the then severely reduced amount of the 'sleep hormone', melatoria.

In addition, undisturbed melatonin excretion synchronises various blological and hormonal rhythms in the human body and ensures deep revitabling sleep.

At the same time, melatorin represents one of the most important immune enhancing substances of our body and, as a free radical scavenger, it protects all body- and brain cells against genetic damage considered as a precursor to cancer.

Serotonin acts especially as a messenger for the nervous system and in the brain as a mood hormone. A reduction of the serotonin level is therefore associated with depression, letharpy and listlesaness, inner agitation and many psychiatric disturbances.

The systemion/analysis of 26 study carticlosate (13 women, 8 man, 3 young people) who sli live within



News Archive

- ≥ 2012 (87)
- ▶ 2011 (244)
- ≥ 2010 (358)
- ≥ 2009 (378)
- ▼ 2008 (415)
 - ▶ Dec 2008 (42)
 - Nov 2008 (43)Oct 2008 (44)
 - ▶ Sep 2008 (58)
 - ≥ 38p 2000 (00)
 - ▶ Aug 2008 (46) ▼ Jul 2008 (38)
 - Poster? A strong message in a few words.

Cell phone cancer scare poses dilemma / Letter to ...

EMR News from Newfoundla

nd

Suspend WiFI in Schools

Larry King To Revisit Cell Phone Risks

EMR cancer and other illnesses

Extremely
LowFrequency,
Radiofreque
ncy, &
Related...

EMF-Omega-News 26. Electromagnetic Pollution News 12 August 2010 Negligence by a School Board? High School Hopes ...

Response to the Ottawa Citizen / Board plans more wireless / PG&E Smart Meters / Tree dieoff W.E.E.P. News Wireless Electrical and Electromagnetic Poliution News 23 August 2010 Response to the Ottawa Citizen submitted today ...

Kempten West Study 2007 -English version
Hi All This is a very important study which shows the adverse health effects caused soon after a cell phone transmitter commenced opera...

Cell phones dangers / CFLs / Risks of Smart Meters / Not Wi FI / Pigeons vanish / Texas / Schools wired / Baby cancer / Compilation / Dr Kendali / Right to know / Bees harmed / Wildlife radiation

W.E.E.P. News Wireless Electrical and Electromagnetic Pollution News 28 August 2012 Cell Phone Safety Report by the Lint

BC Smart Meter Class Action / Safe? / Birth Deffects / EHS Disability / Blackmail / Bluetooth / Decline / Different standards / Dr Kendail / Towers on buildings / Letter / Dare / Support / Safety / Grand

W.E.E.P. News Wireless Electrical and Electromagnetic Pollution News 31 August 2012 BC Human Rights Tribunal approve...

290% Increased Risk of Brain Tumor / Meter burns / Fires / Toxic meters / Tower attacks / Rejected / Blocked / Sleep trouble / Reply / Judge / EMF / Gimmicks / Decision/ Mental Crisis on Campus

W.E.E.P. News Wireless Electrical and Electromagnetic Pollution News 8 September 2012 Study: 290% Increased Risk of ...

Stop Wi Fi - Minister / Port Franks / Meter Fire / Dangerous meters / Effects / Rebuttel / Neurological Disorder in US Kids on the Rise / Doctors Letter / BC Lie / Texas / Meter Fires Wi.E.E.P. News Wireless Electrical and Electromagnetic Pollution News 26 August 2012 Stop Wi-Fi in Schools, Dep...

a radius of 18-390 metres of the telecommunications must produced the following results:

Melatonin in the Urine:

Only 8 out of 25 participants (28%) at the initial testing exhibited initial blood levels which were in the region considered to be normal, it was therefore a group of people that had already been pre-exposed.

For 14 of 25 participants (58 %), there was a decrease for the 6-OH-M-8 in the collected nocturnal urine.

For 7 of 25 participants (28%), there was an increase, in most cases, within a region considered to be severely pathological.

Only one out of 25 participants (4 %) with normal initial level exhibited on increased level of 6-OH-M-S at the 2nd [blood] test.

Daytime melatonia in the blood serum:

As a rule, the daytime meletonin level in the blood serum is very much lower than the noctumel maximum meletonin level.

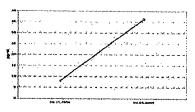
The paradox increase in the daytime melatonin levels reflects the general tendency to marked daytime tiredness of people exposed to radiation.

Melatonin levels clearly increased on average by about 4.5 times of the initial level for all 25 participants.

This effect is shown below based on the mean value (of 26 participants).

Graph

Melatonin in the serum



<|--|if lvmi]-><|--(endir)-->

Serotonin in the blood:

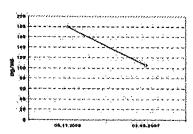
At the second measurement 21 of 25 participants (=84%) presented a reduction of the 'mood hormons serotonin (in the daytime blood serum) by an average of 46.3%.

Of these, 10 participants showed a decrease of about 50% and above, with a maximum serotonin decrease of up to 68 %. For 3 participants it remained unchanged, for 1 participant the level was slightly increased.

The following graph shows this change based on the mean value of 21 participants:

Graph 2

Scrotonin in the Serum



Summary Evaluation of the Results:

Especially alarming is the fact, that 84 % of participants, almost the whole group, reacted with a messive decrease in the serotonin lavel (everage 46%) following increased exposure from the operation of the newly erected telecommunications mast.

The clear increase in depressive mood disturbances, isthargy and listieseness, appetite disturbances, inner agitation and reduced quality of life experienced by nearly all nearby residents must be acknowledged by orthodox medicine

Alarming is also the fairly steep nightly melatonin decrease in the presence of increasing telecommunication signal exposure, which is nearly half of the normal level for more than half of the group (56%). Even the slow increased tendency of nearly one that Gabby represents ultimately, despite a sight increase, only an upturn within a mainly deeply lowered pathological region. July 2008

Frying our brains?

Celiphone signal concerns raised again

Director of the University of Pittsburgh Cancer in...

Children's Brain Tissue Gets More Cell Phone Radia...

News from Intomobile,c

Philipine Interphone questions

Honey bee, the most efficient of God's creation

Israel - safer recommenda tions

EMF-Omega-News 19, July 2008

Radiation travels / Antiradiation maternity cloth...

Stopping an Antenna

Compact Fluorecsent Lamps

Cell phone masts at schools?

Interview with Offe Johansson, Interview Magda Hav...

Toronto Star cellphone and children story, CBC cel...

Tsawwassen video

Global Coalition

new articles -Hardell,Salfo

Reply to Stray Voltage Staff Discussion Paper

EMF-Omega-News 12, July 2008

New Study on

Cancer horror over cell phone tower radiation / NZ / Melbourne / Failures / Meter Harm / DC Investigates / Wind Harm / Fires / Poor editorial / Brain cancer / Cell towers / Protest / Crow

W.E.E.P. News Wreless Electrical and Electromagnetic Pollution News 12 September 2012 Cancer horror over cell pho...

Adverse Health Effects / Meter guarantee / ES Workshops / Archives / WI FI High Court / Cell / Police radio / Hazardous / School cells / Quebec / IARC Implications / FDA / WI Fi Children / Weapons

W.E.E.P. News Wireless Electrical and Electromagnetic Pollution News 22 August 2012 Is human saliva an in...

New Mobile Radiation Levels / Hot spots and Pinging / Towers / Class Action / Radar effects / Smart Presentation / Fukushima / Wi Fi / No cell phones / Vulnerable children W.E.E.P. News Wreless Electrical and Electromagnetic Pollution News 4 September 2012 New mobile tower radiation norms ...

We therefore have to expect considerable sleep disturbance and immune deficiencies in 84% (28 plus 56%). Since, from the medical viewpoint, sleep disturbance is increasingly seen as a cencer promoting risk factor, these numbers must be considered as alarming

The increase of the daytime meletonin level, that is also normally aubstantially lower in comparison to the noctumal melatonin peak, also indicates a displacement of the fiattened noctumal distribution graph in the morning direction. Normally, the level increases about 1-2 hours after going to bed, it reaches a maximum between 2 a.m. and 3 a.m. and then drops off again steeply until the morning hours.

The blood sampling took place in the morning between 8 a.m. and 9 a.m. All participants went to bed the night before at the latest by 11 p.m. This increase indicates, in addition to the nocturnel melatorin reduction, also a displacement of melatonin excretion in the morning direction.

1. relative melatonin deficiency at night with shortened phases of deep sleep. This is indicated by restless sleep

with frequency awakening and
2. increased melatonin level at the tine of arising from bed, it is symptomatic of this, that one has difficulty getting out of bed in the morning and feels "absolutely whacked". During the day, consecutive symptoms appear, such as tiredness, initiability, loss of concentration etc. Actually, 16 participants completed about sleep disburbances, 6 complained that they were regularly awakened between 2 s.m. and 4 s.m. and that they then had difficulty getting off to sleep again.

Since the group of participants had no other obvious change in their living conditions, apart from the operation of the mobile telecommunications meet with the messured, appreciably increased radiation exposure, it must be assumed that there is a direct relationship.

Since the medically conducted tests carried out on residents living in the vicinity of the commissioned operational telecommunications most proves a drastically increased health risk, immediate action by political and requistory authorities, at the municipal, provincial- and federal level are demanded.

In order to prevent further endengement of the health of residents, the medical point of view is that the operation of the telecommunications mast must immediately be stopped.

Dr Anna Blanz, -Dr. med. Markus Kern -Dr. med. Hens-C. Scheiner

Posted by WEEP News

Recommend this on Google

Reactions:

LIKE (0)

Home Older Post

Diabetes and Power quality

Recent recommenda tions by the City of Tomnto Boar...

EMF-Omega-News 28. June 2008

Sperm Quality and (extremely low) Magnetic Fields

PROGRESSIV LIBRARIAN S GUILD STATEMEN T ON WIFI

EMF-Omega-News 5. July 2008

IN ...

SPA (ARABA ARABA ARAB

Excellent Environment al Petition

Important council decision on WFI

The state of EMR in 'the

Kempten West Study 2007 -English version

▶ Jun 2008 (27)

May 2008 (31)

▶ Apr 2008 (28)

Mar 2008 (33)

▶ Feb 2008 (24)

▶ Jan 2008 (3)

*ֈՠֈՠ*ֈ**>**ֈ2007(2)արդարդարաբ

Search by Category

Aizheimer's Disease (16)

Announcement (49)

Autism (21)

Brain Tumors (101)

Cancer (319)

Cancer Cluster (37)

cell phones/towers (838)

CFL (44)

Child Health (432)

controversy (189)

diabetes (10)

. The state of the contract of (54)

EHS (404) EMF (156)

EMF mitigation (63)

Flora and Fauna (88)

French (28)

government (385)

health (600)

Heart (14)

Heavy Melais (41)

High-voltage power lines (

Human Experience (49)

initiatives (177)

legal action (115)

media (43)

Multiple Chemical Sensitivity (MCS) (27)

Multiple Scierosis (2)

News Report (52)

Omega News (122)

other (41)

professional exposure (29)

Radio Interview (27)

RFID (6)

Scientific Research (305)

Seizures (15)

Sleep Disturbance (9)

smart meters (261)

stray voltage/dirty electricity

video (79)

WIFI (529)

wind turbines (37)

world commentary (117)

From the Institute of Pharmacology, Toxicology and Pharmacy at the Veterinary Faculty of Hannover (Director: Prof. Dr. W. Löscher) and the Scientific Institute of Electronics and Radar at the University of the German Federal Armed Forces (Prof. G. Käs)

Conspicuous behavioural abnormalities in a dairy cow herd near a TV and Radio transmitting antenna

W. Löscher and G. Käs (Authors)

Prakt. Tierarzt 79: 5, 437-444 (1998)
[Practical Veterinary Surgeon 79: 5, 437-444 (1998)]
Schlütersche GmbH & Co. KG, Verlag und Druckerei
[Schlütersche GmbH & Co. KG, Publisher and Printer]
ISSN 0032-681 X

SUMMARY: In addition to a considerable reduction of milk yield and increasing occurences of health problems, behavioural abnormalities that have not yet been examined, have been observed over the last two years in a herd of dairy cows maintained in close proximity to a TV and Radio transmitting antenna. The evaluation of possible factors which could explain the abnormalities in the livestock did not disclose any factors other than the measurable high-frequency electromagnetic fields. An experiment in which a cow with abnormal behaviour was brought to a stable in a different area resulted in normalisation of the cow within five days. The symptoms returned, however, when the cow was brought back to the stable in close proximity to the antenna in question. In view of the previously known effects of electromagnetic fields it may be possible that the observed abnormalities are related to the electromagnetic field exposure.

Key words: transmitting antennas, electromagnetic fields, milk yield, behaviour, cow.

Introduction

Because of the ubiquitous usage of electric power and the increasing spread of highfrequency transmitters for mobile communication and TV & Radio broadcasting, humans and animals in highly industrialized countries are these days exposed to electrical and magnetic fields to a degree which exceeds the natural tension levels of relevant fields by a magnitude and presents a new influencing quantity in the evolutionary history of humans and animals (Katalyse 1994). For a long time the possibility of an influence of weak electrical and magnetic fields on the well-being of humans and animals has simply been ignored. The limits were only relating to acute cases of health impairment which can occur at some workplaces under extremely high exposure rates. The ever increasing knowledge of the biological effects of even weak electrical and magnetic fields as well as numerous epidemiological studies with the focus on a possible increase in the risk of cancer through field exposure have, however, led in the last ten to fifteen years to an altered discussion of the possible risk potential of such fields (Adey 1993; Hendee and Boteler 1994; Katalyse 1994; Meinert and Michaelis 1996; Robert 1993; Savitz 1995; Shaw and Croen 1993; Sobel et al. 1996; Wertheimer and Leeper 1994). As one can be protected well from electrical fields in contrast to magnetic fields, the effects of such fields on human and animal health are rarely the focus of scientific research. In comparison, low-frequency magnetic fields can practically penetrate any matter without being slowed down, and high-frequency electromagnetic fields and waves can cause biological effects - even in greater distance from their source - which are possibly connected to health risks (Katalyse 1994). Fields of this type which are a necessity of civilisation and have certain health effects are commonly known as "Electrosmog".

The question of a possible risk of cancer which today cannot be discounted mainly because of numerous findings based on experiments with animals (Liburdy and Löscher 1997;

Löscher and Mevissen 1994), occupies the foreground of public debate about possible health risks through exposure to low-frequency magnetic or high-frequency electromagnetic fields. In addition, there are extensive indications of interactions of magnetic fields with the hormonal balance, biorhythm, immune system, nervous system, behavioural patterns and psychological functions, interactions which can have a detrimental effect on health (Katalyse 1994; Liburdy u. Löscher 1997; Löscher u. Liburdy 1998). In this connection it is often forgotten that not only humans but also pets and farm animals who are exposed can suffer such impairments to their health because of field exposure, for example in the vicinity of high tension pylons or transmitting antennas (Marks et al. 1995). Similarly to epidemiological studies on humans with field exposed workplaces the risk of breast cancer for hundreds living in apartments with high flux densities of low-frequency (60 Hertz) magnetic fields was seven times higher in comparison with animals that were not exposed (Reif et al. 1995), a finding that can be explained by the "Melatonin Hypothesis" of magnetic field effects (Löscher and Mevissen 1997).

A series of earlier studies looked at the effect of magnetic fields on farm animals. Lee et al. (1997) discovered that sheep which had been grazing in close proximity to a high tension mast, showed an impaired immune system. Examinations of dairy cows that had been exposed to magnetic fields resulted in inconsistent findings which ranged from no influence at all to a reduction in milk yield, changed milk composition and fertility problems (Algen and Hultgren 1985a, b, 1987; Amstutz and Miller 1980; Angell et al. 1990; Burchard et al. 1996; Marks et al. 1995; Martin et al. 1986). The predominant share of the examinations on dairy cows was conducted under exposure to low-frequency (50 or 60 Hertz) fields, whereas only few studies deal with the effect of high-frequency electromagnetic fields, for example in the vicinity of transmitting antennas.

A recently publicized study discovered a significant increase of micronuclei in erythrocyte in the blood of cattle grazing on a farm near a transmitting facility. This is an indication of a genotoxic effect of the exposure (Balode 1996).

In the case described by this study a farmer asked a veterinary department for help after he had experienced major problems with his herd of dairy cows since the previous year. The farm is situated in close proximity to a transmitting tower with several transmitters (see Table 1 and Figure 1). The problems with the herd described in the following started after several transmitters for mobile radio communication had been installed in addition to the already existing TV transmitting antennas. As the farmer himself and his family were experiencing considerable health problems since the additional transmitters were installed, and none of the medical tests conducted had shed any light on the source of these health problems, the farmer came to the conclusion that the high-frequency electromagnetic fields that were produced by these transmitters had to be the cause of the problems including the problems experienced by his dairy cow herd. The relevant veterinary department then conducted observational studies and research which were complemented by measurements of the electromagnetic fields, with its focus on the dairy cow herd.

Table 1: Transmitting antennas in close proximity of the farm (all installed in the TV tower of Figure 1)

Transmitting Antenna	Frequency	Performance	
39 directional radio transmitters	2.2 - 18.7 GHz	124 W	
(Mean)	•		
C-Net	461 MHz	34 W	
D-Net	935 MHZ	25 W	
B-Net	160 MHz	20 W	
Cityruf	460 MHz	50 W	
Eurosignal	87,361 MHz	2 kW	
TV-Channel 2	510 MHZ	20 kW	
TV-Channel 3	734 MHZ	20 kW	
Modacom	427 MHz	15 kW	

Ground Plan for Measurements outdoors

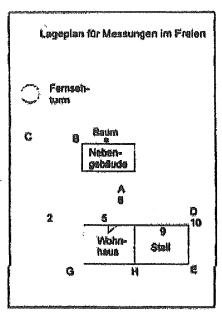


Figure 1: Ground plan for the measurements of electromagnetic fields in the vicinity of the transmitting antennas (for examples re the measurements see Table 2 and 3).

Observations of the dairy cow herd

Many of the biological effects and discussed health risks of electromagnetic fields are similar to the effects of chronic stress pressure (Blank 1995; Smith 1996). Apart from apparent problems caused by stress such as increased aborting without detectable causes, frequent fertility disorders in the form of an acyclic tendency and reduction in milk yield all of which have already been observed in herds grazing in close proximity to high tension lines (see overview in Burchard et al. 1996), the following abnormalities occurred in the affected dairy cow herd:

Most of the cows in this herd displayed conjunctivitis with heavy flood of tears (continuously wet cheeks) and itching (some cows rubbed their eye areas continuously against items in the stable within reach as well as against neighbouring cows).

Several animals were pushing their heads against the chest area of neighbouring cows turning their heads in the same direction (away from the transmitting antenna). One cow showed very conspicuous behaviour by shuffling backwards and forwards moving her head continuously (Weaving). Resting phases alternated with the described behaviour which often lasted more than 30 minutes.

Cows in calf as well as dry cows that were put out on pasture land close to the farm, only grazed for a few minutes each time then taking "cover" from the transmitting tower in or behind an outbuilding.

Cows that have calved three or four times showed rapid decline. When these cows tried to get up their hind legs showed trembling and over time they found getting up increasingly difficult. The decline continued and led to their death after only a few weeks.

Conducted Examinations

1. Fodder analysis and feeding calculation

To exclude that a feeding fault had caused any metabolic disorders which in turn could be responsible for causing other health problems, a fodder analysis and feeding calculation was initiated by the relevant agricultural authority. The research and calculation yielded that the fodder was of high quality and that the amount of feed stuffs administered by the farmer was in relation to the performance of the dairy cows.

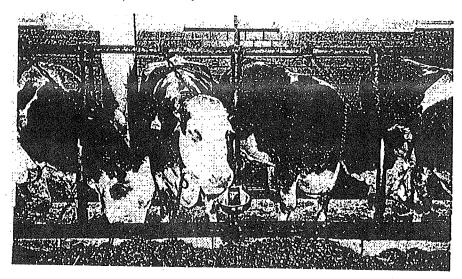


Figure 2: Typical turning of the head (away from the transmitting antennas) displayed by cows of the herd in question (see detailed description in text).

2. Autopsy of a perished dairy cow

The autopsy of a four-year-old cow that had died in the stable building and had previously displayed symptoms of the same illness as described above, provided the following result: Death from acute heart & circulatory collapse with bleeding from several organs. No indication as to the cause, in particular no acute or chronic inflammatory changes to organs. The autopsy was kindly performed by Dr. Geisel, Institute of Animal Pathology at the University of Munich.

3. Examination of aborted foetal material

The examination of aborted foetal material at the Landesuntersuchungsamt für das Gesundheitswesen Südbayern (Federal Examination Authority for the Health Service of Southern Bavaria) did not disclose any indication of pathogenic causes for aborting the foetus based on the microscopic and cultural examination and on the serological tests performed.

4. Switching stables

To obtain further indications with regard to the causes for the behavioural changes the dairy cow which displayed very obvious changes in behaviour and which was described under 3 in the section Observations of the dairy cow herd, and another dairy cow were separated from the original herd and joined another dairy cow herd in an identically partitioned stable which was approx. 20 kilometres away from the original location. After five days in the new stable the affected dairy cow did not show any of the conspicuous behavioural abnormalities any more. Both cows were relocated to the original stable after approximately two weeks. The previously affected cow displayed the described conspicuous behavioural abnormalities again after only a few days.

5. Measurement of the electromagnetic fields

Measurements of the electromagnetic fields in front of and on the farm property itself were conducted by the Bundesamt für Post und Telekommunikation (Federal Office for Postal Services and Telecommunication) and by the Abteilung für Elektronik und Radar der Universität der Bundeswehr München (Department of Electronics and Radar of the University of the German Federal Armed Forces in Munich). The most important results of these measurements are displayed in Table 2 and 3. The measurement values are considerably below the limits set out in the 26. Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes (Verordnung über elektromagnetische Felder; 26. BlmSchV) (26. Ordnance/Decree** for the Implementation of the Federal Air Pollution Laws (Ordnance/Decree for electromagnetic fields; 26. BlmSchV (Abbreviation for 26th Bundes-Immissionsschutzgesetz)) dated 16. December 1996.

Discussion

The health disorders and behavioural abnormalities described in this paper as well as the results of the conducted examinations point to the electromagnetic tension as the cause of the occurrences in the affected herd of dairy cows. The main problem in conducting an definitive assessment is the constant change in circumstances/ conditions because the farmer is forced to continue to run his farm and to keep the losses as small as possible. Therefore he tries to have cows which display the first signs of being affected such as worsening general condition after calving, either slaughtered early or taken to alternative grazing paddocks which are situated about 10 kilometres away from his farm. The relocation and exchange of dairy cows continuously creates a new situation because every cow reacts to the electromagnetic tension in an individual manner. Only a scientifically structured test of the affected dairy cow herd with set parameters could provide more definite findings in this case. Such a test of the affected herd is planned to clarify the causes of the observed behavioural abnormalities and health problems further. A causal relation could best be determined in this case by switching off the transmitting antennas for the mobile radio communication temporarily.

Table 2: Measurements of the electromagnetic field output in the attic storey of the farm house

Attic window	Frequency Sig	ınal	Level (dBm)	Power	density (μW/cm2)
closed	512.2	TV-2		12.8	0.044
closed	464.2	C-Network	(43	0.00003
closed	936.2	D-Network	(-	46.8	0.000051
closed	735.7	TV-3	•	15.8	0.04
open	511.4	TV-2	. •	13.2	0.035
open	735.7	TV-3	ou.	7.6	0.26

Table 3: Measurements of the electromagnetic field output at different sites in the vicinity of and in the stable and living area (see Figure 1 for the measurement locations). The measurements were predominantly conducted at one frequency (512 MHz) because all other signals can be put in relation to the measurements inside the farm house (see Table 2) if we assume that the attenuation values through the wall of the building will not differ much within the relatively narrow frequency band (see Figure 1).

Measurement Location	Frequency (MHz)		Level (dBm) Power density		
		•			(μW/cm2)
In the stable	Entrance (10)	512	•	- 9.6	0.08
In the stable	Middle part	512	•	- 24	0.003
In the stable	Rear part	512		- 26	0.002
Surrounding area	Α	512	,	- 10.6	0.06

Surrounding area	В	512	0	0.7
Surrounding area	С	512	- 3.2	0.35
Surrounding area	F	512	- 10.8	0.06
In front of stable	D	512	- 3.8	0.36
Beside the stable	E	512	- 22.4	0.004
Beside the house	G	512	- 2	0.46
Behind the stable	Н	512	- 13.4	0.03
Inside the house		735.7	- 15.8	0.04
In front of the house	5	88.8	- 4.8	0.006

Should the scheduled examination confirm the correlation described above between exposure to magnetic fields and health disorders or behavioural abnormalities then this would provide further indications that the limits set out in the 26. BlmSchV (Abbreviation for 26th Bundes-Immissionsschutzgesetz = 26th Federal Air Pollution Laws) are too high and require correction (see Karus u. Nießen 1996). In this case one has to take into consideration that even though the measurements for the different electromagnetic fields turned out to be below the limits set out in the 26. BlmSchV, interactions between the fields when animals and humans were exposed to them cannot be excluded because of the multitude of existing fields with different frequencies. Synergic interactions between electromagnetic fields with different frequencies have already been described on a cellular level (Löscher and Liburdy, 1998) and should not be neglected in future discussions regarding any limits of this kind.

After the above case had been published by the media and agricultural magazines more farmers have come forward describing similar cases. The above case description is mainly intended to alert the Veterinary Association to the obvious possibility of behavioural abnormalities and health problems caused by electromagnetic field exposure of animals.

Expression of Thanks

We would like to thank Prof. Klee (Veterinary Faculty of the Ludwig-Maximilians-University Munich) for the critical checking of this paper's manuscript.

Literature

- ADEY. W. R.: Biological effects of electromagnetic fields. J. Cell. Biochem. 51. 410-416 (1993).
- ALGERS, B. and K. HENNICHS: The effects of exposure to 400 kV transmission lines on the fertility of cows. A retrospective cohort study. Prev. Vet. Med. 3,352-361 (1986 a).
- 3. ALGERS. B. and J. HULTGREN: Cows ander 400 kV power lines: effects on ovulation and fertility. Svensk Veterinartidning 38, 229-235 (1986 b).
- ALGERS, B. and J. HULTGREN: Effects of long-term exposure to 400-kV, 50 Hz transmission line on estrous and fertility in cows. Prev. Vet. Med. 5. 21-27 (1987).
- AMSTUTZ H. E. and D. B. MILLER: A study of cattle near 765 kV transmission line. XI. International Congress on diseases of cattle. Reports and Summaries, vol. 1: 609-621 (1980).
- ANGELL R. F.. M. R. SCHOTT, R. J. RALEIGH and T. D. BRACKEN. Effects of a high-voltage direct-current transmission line on beef cattle production. Bioelectromagnetics 11, 273-282 (1990).
- BALODE. S.: Assessment of radio-frequency electromagnetic radiation by the micronucleus test in bovine peripheral erythrocytes. Sci. Total Environm. 180, 81-.85 (1996).

- 8. BLANK, M.: Biological effects of environmental electromagnetic fields: Molecular mechanisms. Biosystems 35,175-178 (1995).
- BURCHARD, J. F., D.H. NGUYEN, L. RICHARD and E.. BLOCK. Biological effects of electric and magnetic fields on productivity of dairy cows. J. Dairy Sci. 79,1549-1554 (1996).
- 10. HENDEE, W. R. and J.C. BOTELER: The question of health effects from to electromagnetic fields. Health Physics 66, 127-136 (1994).
- KARUS, M. and P. NISSEN.: Niederlage fur Umwelt- and Verbraucherschutz.. Elektrosmogverordnung verabschiedet Strahlentelex mit Elektrosmog-Report 10, 8-12 (1996).
- 12. KATALYSE E. V.: Elektrosmog Gesandheitsrisiken. Grenzwerte, Verbraucherschutz. Heidelberg, Verlag C. F. Muller (1994).
- 13. LEE, J. M.. F. STORMSHAK. J. THOMPSON, D. L. HESS and S. HEFENEIDER: Studies on melatonin, cortisol, progesterone, and interleukin-1 in sheep exposed to EMF from a 500-kV transmission line. In: R. G. STEVENS. B. W. WILSON and L. E. ANDERSON (eds.): The melatonin hypothesis Breast cancer and use of electric power. Columbus. Battelle Press. 391-427 (1997).
- 14. LIBURDY. R. P. and W. LOSCHER: Laboratory studies on extremely low frequency (50-60Hz) magnetic fields and carcinogenesis. In: R. G. STEVENS, B. W. WILSON and L. E. ANDERSON (eds.): The melatonin hypothesis Breast cancer and use of electric power. Columbus. Battelle Press, 58-67 (1997).
- 15. LOSCHER. W. and R. P. LIBURDY: Animal and cellular studies on carcinogenic effects of low frequency (50-60-Hz) magnetic fields. Mutation Res. In press (1998).
- 16. LOSCHER. W. and M. MEVISSEN: Animal studies on the role of 50/60-Hertz magnetic fields in carcinogenesis. Life Sci. 54, 1531-1543 (1994).
- 17. LOSCHER, W. and M. MEVISSEN: Magnetic fields and breast cancer: Experimental studies on the melatonin hypothesis. In: R. G. STEVENS. B. W. WILSON and L E. ANDERSON (eds.): The melatonin hypothesis Breast cancer and use of electric power. Columbus. Battelle Press. 555-584 (1997).
- 18. MARKS, T. A., C. C. RATKE and W. O. ENGLISH. Stray voltage and developmental. reproductive and other toxicology problems in dogs. cats and cows: a discussion. Vet. Hum. Toxicol., 37,163-172 (1995).
- 19. MARTIN, F. B., A. BENDER, G. STEUERNAGEL, R. A. ROBINSON, R. REVSBECH D. K. SORENSEN, N. WILLIAMSON and A. WILLIAMS: Epidemiological study of Holstein dairy cow performance and reproduction near a high-voltage direct-current powerline. J. Toxicol. Environmental Health 19, 303-312 (1986).
- 20. MEINERT, R. and J. MICHAELS: Meta analyses of studies on the association between electromagnetic fields and childhood cancer. Radiat. Environ. Biophys, 35. 11-18 (1996).
- 21. REIF, J. S., K. S. LOWER and G.K. OGILVIE: Residential exposure to magnetic fields and risk of canine lymphoma. Am. J. Epidemioi. 14 1. 352-359(1995).
- 22. ROBERT. E.: Birth defects and high voltage power lines An exploratory study based on registered data. Reprod. Tox. 7. 283-287 (1993).

- 23. SAVITZ, D. A.: Overview of occupational exposure to electric and magnetic fields and cancer. Advancements in exposure assessment. Environ. Health Perspect. 103.69-74 (1995).
- 24. SHAW, G. M. and L A. CROEN: Human Adverse Reproductive Outcomes and Electromagnetic Field Exposures Review of Epidemiologic Studies. Environ. Health Perspect. 101. 107-119 (1993).
- 25. SMITH, 0.: Cells, stress and EMFS. Nature Med. 2.23-24 (1996).
- 26. SOBEL, E., M. DUNN. Z. DAVANIPOUR, Z. QIAN and H. C. CHUI. Elevated risk of Alzheimer's disease among workers with likely electromagnetic field exposure. Neurology 47.1477-1481 (1996).
- 27. WERTHEIMER, N. and E. LEEPER.. Are electric or magnetic fields affecting mortality from breast cancer in women? J. Nal. Cancer Inst. 86,1797 (1994).

an Watel

EMF Safety and Health

Contact us

Home What GEMFY EMF Health Effects Who is at risk? EMF-Protection EMF Survey

Now find out about:

More cell tower radiation

Select Language

Powered by GoogleTranslate

Get Instant Access!

Problem Solvers.

Grab Yours!

digitalistix.com

Share this Page:

☐ SHARE ■□□□□□

Inspiration Builders. Initiative Rewarders.

World's Best eBooks

Cell Phone Radiation Cell Tower Health Risks

Computer Radiation. Appliance/TV Radiation

Smart Meter Radiation House Wiring EMF **Microwave Radiation**

Living near Power Lines Other sources of EMF

EMF Table EMF Survey **EMF Meters/Detectors**

More EMF Websites Useful EMF Articles <u>Privacy Policy</u>

Cell Towers are the base stations which control cell phone communication. The generic term "cell site" can also be used to include all cell phone towers, antenna masts and other base station forms. Each cell site services one or more "cells".

Cell Tower Health Risks

Cell tower numbers have grown exponentially in recent years, as service providers raced to improve their coverage.

Increased cell phone traffic also contributes to cell tower density. When a cell becomes too busy, a frequent solution is to divide it into smaller cells, which then require more cell sites.

In 2009 there were over 200,000 cell sites in the USA alone, and 50,000 in U.K.

Cell tower radiation from chimneys?

Cell sites may take the form of a mast or tower, but may also be disquised, in some cases so they cannot be visually discerned at all.

You might notice the camouflaged "trees", but perhaps not the cell sites on top of buildings, looking like elongated loudspeaker boxes.

You'd almost certainly miss the cell sites installed inside chimneys and church steeples, even flagpoles.

Where a base station is installed on top of a building where people live or work, those occupants may be quite unaware that they are in very close proximity to equipment which produces substantial electromagnetic radiation.

Cell tower health dangers

Cellular phone industry spokespersons continue to assert that cell phone towers pose no health risk. Almost all scientists in this field would disagree, at the very least claiming that no such assurance can be given.

There is strong evidence that electromagnetic radiation from cell phone towers is damaging to human (and animal) health.

A study into the effects of a cell tower on a herd of dairy cattle was conducted by the Bavarian state government in Germany and published in 1998. The erection of the tower caused adverse health effects resulting in a measurable drop in milk

Overwhelmed?

Our eBooks & software solutions will help you solve any problem. Instant download. digitalistix.com_

Help a friend to learn about EMF health dangers click here

Suggest improvements to this website, click here

RESONANCE

Support the cause on Facebook!

yield. Relocating the cattle restored the milk yield. Moving them back to the original pasture recreated the problem. <u>Dairy Cow Study</u>

A human study (Kempten West) in 2007 measured blood levels of seratonin and melatonin (important hormones involved in brain messaging, mood, sleep regulation and immune system function) both before, and five months after, the activation of a new cell site.

Twenty-five participants lived within 300 metres of the site. Substantial unfavourable changes occurred with respect to both hormones, in almost all participants. <u>Kemptem West Study</u>

Over 100 scientists and physicians at Boston and Harvard Universities Schools of Public Health have called cell phone towers a radiation hazard.

Cell phone towers cancer risk

A study performed by doctors from the German city of Naila monitored 1000 residents who had lived in an area around two cell phone towers for 10 years. During the last 5 years of the study they found that those living within 400 meters of either tower had a newly-diagnosed cancer rate three times higher than those who lived further away. Breast cancer topped the list, but cancers of the prostate, pancreas, bowel, skin melanoma, lung and blood cancer were all increased. Naila Study

Another study by researchers at Tel Aviv university compared 622 residents who lived within 350 meters of a cell phone tower with 1222 control patients who lived further away. They found 8 cancer cases in the group affected by the cell tower, compared with only 2 cases amongst the controls. Further info

Very few studies have specifically concentrated on cancer risk from cell phone towers. This lack of studies is in itself a cause for concern, especially since anecdotal evidence is plentiful.

For example, in a case known as "Towers of Doom", two cell masts were installed (in 1994) on a five story apartment building in London. Residents complained of many health problems in the following years. Seven of them were diagnosed with cancer. The cancer rate of the top floor residents (closest to the tower) was 10 times the national average. Further info.

We agree that more research is needed, but it may be slow in coming. Those who might fund major studies are the very same organisations who would be disadvantaged if a definite link between cell towers and cancer were established.

In the meantime, it is reasonable to apply the precautionary principle.

If cell towers are causing cancer, we would expect that several years of exposure (with only minor effects on people's health) might be required, followed by an unexpectedly high occurrence of the disease amongst the exposed population.

The damage from radiation exposure accumulates over many years, but the breakdown in health happens only after all body defences and repair mechanisms have been exhausted.

Cell phone tower radiation limits

The current US standard for cell site radiation in the US is 580-1000 microwatts per square centimetre.

Many other countries have set levels hundreds of times lower.

The reason for the disparity is that no one really knows what level of cell tower radiation is safe,

Current limits have been influenced more by economic and political imperatives than by research into health and safety.

More important than the intensity of electromagnetic radiation emitted at the tower is the strength of the resulting EMF wherever people live and work. This depends on the intensity at the source - and one's distance from it.

Cell towers safe distance

Different cell sites emit different amounts of radiation.

Radiation levels from a single cell site vary, depending on usage. Even maintenance issues can affect how much radiation a cell site is currently producing.

Radiation around a single cell tower may not be uniform - there can be hot and cold spots.

Measurement with a suitable meter is the only way to know how much radiation you are receiving at a particular spot.

But it seems that 400 metres is a safe distance for most people, and smaller distances may also be safe in some cases.

Cell tower health effects

Individuals differ in their response to similar levels of EMF radiation.

For some people, short term effects from cell tower radiation exposure may include headaches, sleep disorders, poor memory, mental excitation, confusion, anxiety, depression, appetite disturbance and listlessness.

This list is not intended as a diagnostic aid, as each symptom here can have many causes.

But if you and your family do not experience any of these symptoms you are probably not being overwhelmed by cell tower radiation.

Cell tower safety - personal action plan

If you are still concerned, try to obtain the use of an RF (radio frequency) gauss meter designed for measuring electromagnetic radiation in the cell phone frequency (microwave) range.

Switch off all wireless devices including computer networks,

modems and mobile phones before measuring RF radiation. What remains will probably be mainly cell tower radiation, although TV and radio station signals may also contribute.

How much cell tower radiation is too much for your long-term health? No one is exactly sure. But if you detect more than 100 mv/m (millivolts per metre) in places where you spend several hours a day, you might consider moving.

If you cannot obtain a meter, you must rely on estimating the distance to the nearest cell site. If that distance exceeds 400 metres you are probably not being harmed - although high risk groups may need to be more cautious. See our page who.is.at.risk?

Also bear in mind that it is getting harder and harder to be sure where the nearest cell site is situated, especially in builtup areas.

Cell sites are often disguised. And many units are much smaller than the old familiar towers (though probably not less potent), and installed in unexpected locations.

When you next change your job or your house, find out how far away you are going to be from the nearest cell site, and let that influence your decision. Do the same when you decide where to send your child to school.

If you have reason to be concerned about your exposure to cell tower radiation - but there is nothing you can do about it yet - then concentrate on reducing EMFs from other sources. For suggestions see our page EMF Protection.

In the long term, we need to find ways of providing cell phone convenience without exposing people to the existing dangers of cell tower radiation.

<u>Top</u>

EMF Pollution EMF Explanation Health Effects Who is at risk? EMF Protection EMF Survey EMF Meters

Smart Meters Cell phone EMF Cell Tower EMF Computer EMF Microwave Ovens Power Lines EMF Table

Disclosure: The website owner may derive financial benefit from product links and advertisements on this website.

Copyright 2008-2012 @ EMwatch.com

Last updated: July-2012

Cell Tower Health Risks

The Whole Way to Allergy Relief Corevention REVISED EDITION

A Doctor's Complete Guide to Treatment & Self-Care

JACQUELINE KROHN, MD
FRANCES A. TAYLOR, MA
ERLA MAE LARSON, RN

Hartley & Marks

Our Body Electric

We have evolved and adapted in an environment containing a full spectrum of magnetic and electric pulsations. Our body rhythms respond to and resonate with the regular rhythms of the earth, moon, sun, and major planets, whose gravitational, magnetic, and electrical variations also affect tides, radio waves, electrical transmissions, plants, and animals.

The presence of electrical and magnetic forces has been documented for thousands of years. Inscriptions on Egyptian tombs describe the effects of electricity generated by a species of fish. Later, the Greeks described the use of electric eels to control pain. Shamans in all cultures have used the magnetic forces in stones and crystals to treat unhealthy people.

The Chinese have perfected the art of acupuncture for healing and anesthesia, based on stimulation of the body's electromagnetic pathways. Louis Pasteur observed that fermentation was speeded up by placing a magnet near fermenting fluids and wines. In 1941, Dr. Albert Szent Gyorgyi proposed that the newly discovered electrical conductivity, semi-conduction, played a role in living cell function. Oysters, placed in a water tank at great distance from the ocean, continue to open and close in rhythm with the rise and fall of the ocean tides, which are governed by the magnetic energy of the moon's gravitational force fields.

Our bodies interact with the electrical and

magnetic forces of the earth. Sometimes these effects are harmful. Admissions to psychiatric clinics are higher during magnetic disruptions in the ionosphere. Major biological and genetic effects such as immune system dysfunctions may be related to exposures to abnormal electromagnetic fields. Our bodies also interact with electromagnetic pollution created by man. The effects of this pollution are considerable, and are a very important issue in this century.

Electromagnetic Cell Function

All chemical reactions in our body are electrical in nature, as they involve the exchange or sharing of electrons and the formation of positive and negative ions. In fact, our cells function as batteries for which electricity is the driving force. The charges inside the cell are different from those outside the cell, with the fatty cell membrane acting as an electrical barrier. When a nerve cell is stimulated, a wave of current travels down the nerve fiber. Potassium is released, and sodium moves into the cell. When the current passes, the cell wall re-establishes the charge difference, and potassium returns to the inside of the cell. This exchange of ions across the cell membrane initiates a series of complex electrical/chemical events that produces a measurable voltage charge.

For this system to work, the proper amounts of potassium, sodium, calcium, magnesium,

fatty acids, and water must be present. Intracellular fluid contains more potassium and magnesium, while extra-cellular fluid contains more sodium and calcium ions.

Nerve and muscle cells can allow differences in the exchange between sodium, potassium, magnesium, and calcium. This allows "signals," as well as nutrients, to be more readily transferred between cells. Nerve and muscle cell membranes can change their electrical potential hundreds of times in a second. This capability is described as the cell's excitability.

The following examples illustrate the correlation between chemical and electrical influences on cell function.

- Lowering extracellular calcium concentrations temporarily increases the cell's excitability. Lowering the calcium concentration still further may cause a complete loss of membrane excitability.
- Magnesium deficiency produces electrical instability in the heart muscle and nerve cells.
 This can result in arrhythmias and coronary vasospasms (contraction of blood vessels), and electrocardiograph abnormalities.
- Many drugs, chemicals, and toxins are capable of changing the permeability and electrical potential of the cell membrane.

Physics tells us that any flowing electrical current produces a magnetic field in the space around it. This field, carrying energy and information, is capable of producing an action at a distance. Our bodies have magnetic properties. Our brain and spinal cord carry a positive magnetic pole orientation, and the peripheral tissues carry a negative orientation. Every chemical bond has a magnetic field or vibration associated with its electrical field.

It is important to understand that our body has chemical, electrical, and magnetic properties. The pineal gland, for example, responds to light wave impulses in its production of the hormone melatonin. The gland's level of secretion also changes with geomagnetic rhythms. Trace amounts of magnetite are present in the soft tissues of the human brain. Biophysical elements probably govern biochemistry in our body rather than vice versa.

Electromagnetism Applied

Dr. Robert Becker, in his book *The Body Electric*, shows that growth and development, metabolism, and communication between organs and between cells cannot be explained only on the biochemical level. He proved that, in the healing process, electrical currents play a role in cell communication and division. By applying this knowledge Dr. Becker learned to heal bone fractures by applying minuscule electric currents on either side of the fractures.

Electrosleep, used as a method for anesthesia, also developed as a result of Dr. Becker's work. The front of the skull is negative in electrical potential, while the back of the skull is positive. When electrodes are placed on the head (negative in front and positive in back) and small voltages and currents are applied, a feeling of well-being is produced. If the electrical potential is reversed, unconsciousness results.

The production of electrical and magnetic currents in our body can be measured using highly sophisticated electronic and magnetic devices such as an electrocardiogram (ECG), an electroencephalogram (EEG), galvanic skin response electrodes, and electromyelography. The nuclear magnetic resonance instrument (MRI) is replacing the X-ray for internal body imaging.

In 1970, Brian C. Josephson completed the development of the squid (superconducting quantum interferometric device). Through the use of this instrument, it is now known that our body contains both AC (alternating) and DC (direct) electrical fields of current. Magnetic fields are also associated with these currents. The brain produces a steady DC magnetic field which is one-billionth the strength of the earth's geomagnetic field.

ENERGY MEDICINE

In addition to electromagnetic procedures for imaging and diagnoses, techniques are now applied for beneficial treatments as well. The term energy medicine is used to describe this type of treatment. Examples of energy medicine include:

- short-wave diathermy, in which the generation of heat in body tissues by electric current is used for both surface and deep heating to relieve muscle and joint pain
- oscillators, which are used to disintegrate gall bladder and kidney stones so they can be excreted more readily
- electrocautery and electrosurgery, which employ a fine wire probe that produces a high frequency electric arc between the probe and the tissue to be treated
- TENS units (transcutaneous electrical nerve stimulation), which are in widespread use for pain relief, particularly after surgery. Their use reduces the amount of analgesics needed by the patient.
- electroacupuncture, often called Neuro Electric Therapy, which is gaining favor in England. Originally used for pain relief, it is now used as treatment for drug dependency, by measurably increasing the amount of natural brain endorphins. Unfortunately, its use has not yet been approved in North America.

Effects of Electromagnetism

Our sun produces solar winds composed of high-energy atomic particles, which travel at enormous speeds and collide with the magnetic force exerted by the earth. Some of these high-energy particles are trapped in two areas, known as the Van Allen belts, encircling the earth. These belts shield the earth from solar wind, X-rays, and other ionizing, high-energy radiation. Without this protection, life on earth could not exist. The interaction between the sun's high energy and the earth's magnetic force produces extra low frequency (ELF) electromag-

netic waves (between 0-100 cycles per second) and very low frequency (VLF) waves (between 100-1,000 cycles per second).

In an 11-year cycle, solar storms erupt on the sun, thrusting energy particles of increased intensity out into space. This, in turn, affects the strength of the earth's magnetic field. These surges disrupt radio and electrical transmissions on earth, including the electrical function and behavior of biological organisms, including humans. We have all observed human and animal behavioral disturbances during magnetic storms.

Telecommunications, electrical power plants, transmission lines, appliances, and microwave, radar, and radio transmissions have all increased at an dramatic rate during the past 50 years. We generate and manipulate electromagnetic forces, but since we are beneath the Van Allen belts, we have no protection from the effect of these forces.

Long-term exposure to ELF waves causes biological effects. Effects include: increased serum triglycerides (linked with high cholesterol); increased cancer cell growth; decreased production of dopamine, serotonin, and norepinephrine (neurotransmitters) in the brain; alterations in biological cycles; and increased chronic stress responses that lead to immune system deficiencies. Though we have a very adaptable biological system, when faced with overwhelming insults, our normal mechanisms begin to fail. These effects are magnified in people who already have impaired immune, endocrine, or nervous systems.

Since the potential danger of high levels of electromagnetic waves has been demonstrated, and in the absence of appropriate regulation, protection against the long-term effects of exposure requires personal precaution measures.

Symptoms of Electromagnetic Imbalance

The following may indicate an electromagnetic imbalance:

- symptoms of any type that worsen before a thunderstorm or wind storm
- symptoms that improve after a storm has begun
- an electrical discharge that occurs when touching any object after walking across a rug
- telephone use causes nervousness, anxiety, and headaches
- malfunction of electrical equipment or appliances in the presence of a person
- watches that stop, lose or gain time, or cause sleepiness
- fluorescent lighting causing hyperactivity, headaches, or blurred vision
- symptoms that worsen when near highpowered electric lines or transformers
- nervousness or headaches occur when wearing hearing aids
- taking a shower or bath, or standing barefoot on damp grass, relieves many adverse symptoms
- sleep disturbances or insomnia (may signal an electromagnetic imbalance, which can be caused by a toxic body burden of metals)

Symptoms associated with electric or magnetic field sensitivity or imbalance vary according to one's state of health and the intensity of exposure. Symptoms can be as mild as dizziness or headache, occurring only when you are exposed to an electromagnetic field. Repeated exposure can cause neurological reactions of confusion, hyperactivity, memory loss, paresthesia (tingling skin), or convulsions; chronic stress syndromes; lowered immune responses to infection; aggravated immune responses resulting in increased hypersensitivity reactions; and general debility, as in chronic fatigue syndrome.

How to Reduce Electromagnetic Effects

Our society, with its many advantages, is not risk-free. We must continually weigh the benefits

derived from new materials and products against their potential hazards. Many problems arising from external sources of electromagnetic force are beyond our control—but we can make evaluations, take precautions, and exercise control over our own use of electromagnetic devices. Consider the length of time that you use appliances each day. Although the electromagnetic field generated by an electric razor or hair dryer is greater than that of a television set or computer, exposure time to these appliances is much shorter.

There are a number of simple precautions we can take to protect against low-frequency waves.

- Keep as few electrical appliances in your bedroom as possible. This will lower electrical exposure for at least eight hours of the day.
- Position the head of your bed facing north to take advantage of the earth's magnetic force.
- Do not use electric blankets or heating pads.
- Check microwave ovens for possible leaks that can occur if food or other particles are stuck in the rubber insulating gasket on the door. Inspect the gasket for cracks or nicks. Stay at least four feet away from an operating microwave.
- Use a screening shield to reduce the waves that emanate from your computer screen.
- Check all electrical cords to be sure that their insulation is intact.
- Choose a bedroom location in your home that is far removed from the entry of the main electrical source to the house.
- If possible, choose a home site that is a long distance from high-voltage wires or transformers.
- Have a satellite dish mounted away from your house rather than on top of it.
- Use the telephone as little as possible. Cellular telephones may cause symptoms for some hypersensitive people.
- · Hearing aids contain batteries that can cre-

ate electrical imbalance, causing dizziness, sinus congestion, or headaches.

- Removal of mercury amalgam fillings is advantageous for electrically sensitive people because opposing charges build up on the amalgam, causing an electrical field discharge between the fillings.
- Go barefooted or in stockings as much as possible.
- When travelling by automobile, try to get out of the car and walk around every halfhour to have ground contact.
- Air travel for extended periods may pose a problem because of lack of grounding.
- Both trace and macro minerals should be supplemented if your drinking water is filtered or distilled. The minerals are essential to proper electrical function in the body.
- Purchase an automobile that does not have computer regulated systems.
- Avoid using free-standing or individual room electric heaters.
- Negative ion generators are helpful for some people. Take care in choosing a generator because some types produce ozone.
- The use of very diluted solutions of homeopathic imponderables such as X-ray, electricity, radiation, cathode rays, negative magnetic, positive magnetic, and others is helpful for some people.
- There is new evidence that wearing specially prepared magnets may help balance your body's electromagnetic function and reduce the effect of external electromagnetic forces.

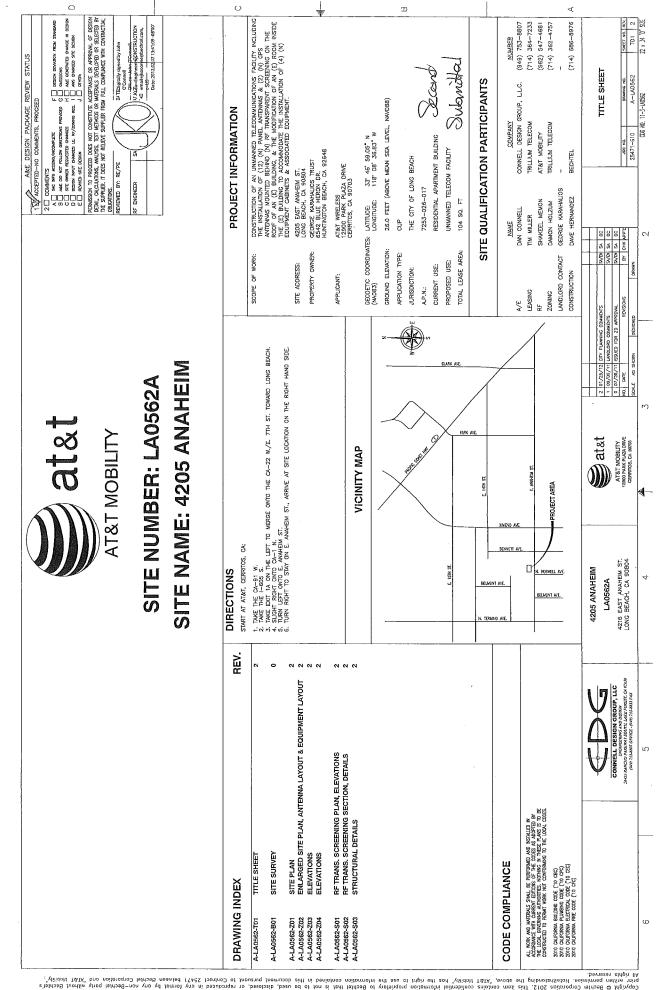
Air particles become positively charged before a storm or during periods of high, dry winds. Water droplets change the positive ion accumulation in their immediate surroundings to negative. Once a rain or snow storm has begun, the positive ions are shifted to a negative charge.

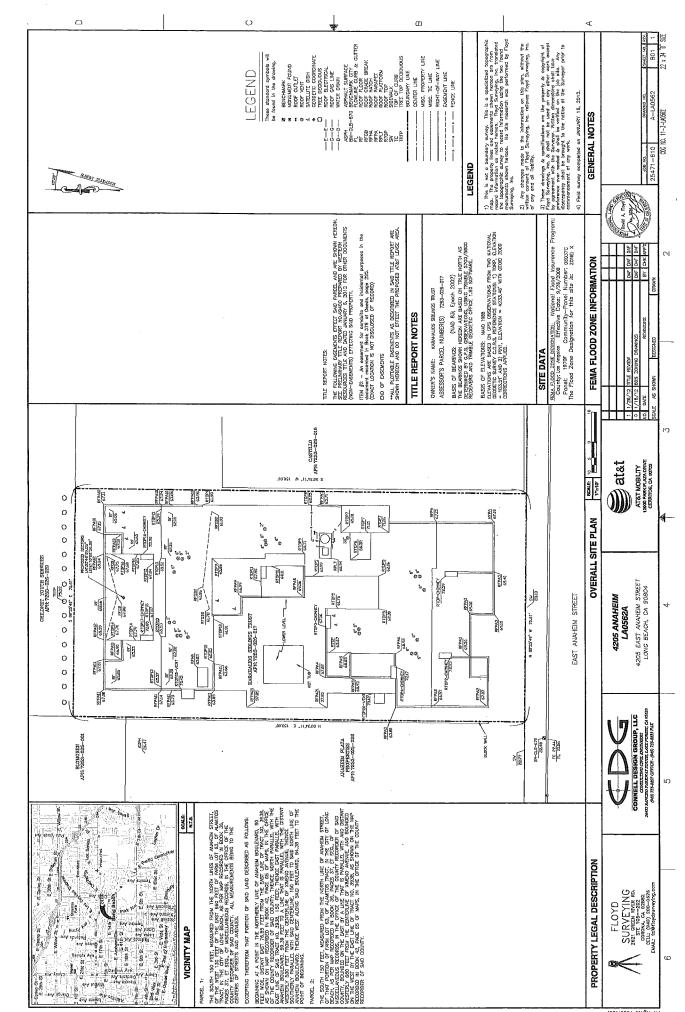
Many people do not feel well when the air has a high positive ion level. Teachers are well aware of discipline problems in children prior to a storm. Hospital staff see worsening of symptoms in their very ill or elderly patients during weather changes. Animals are also known to be very restless when positive ion levels are high.

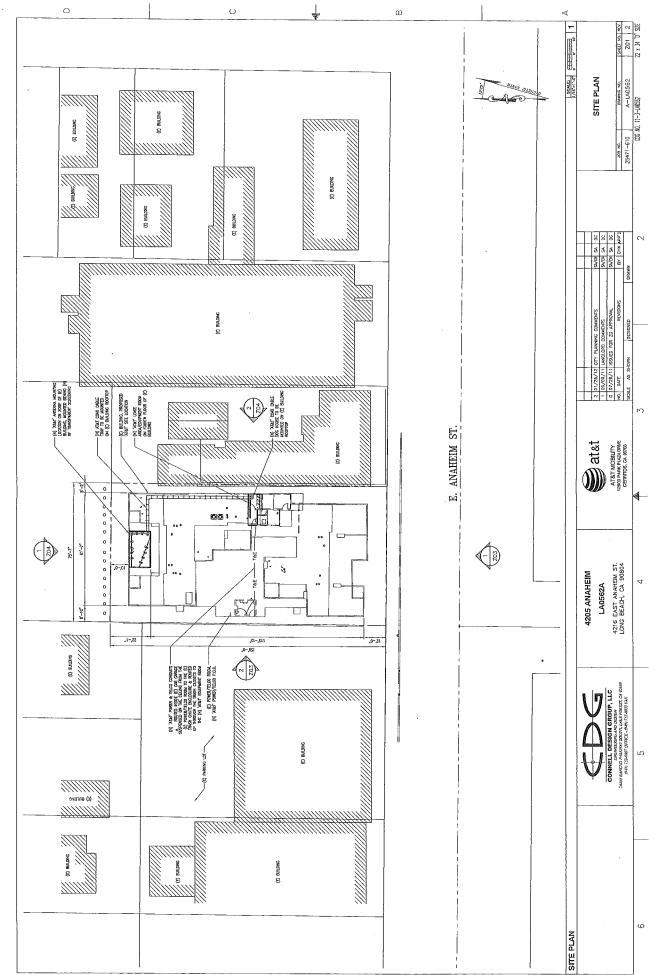
If you are electrically sensitive, you will find that being near moving water is helpful when the positive ion level is high. You can find some relief if you can be near a stream, lake, or ocean. Since this is not possible for most people, an alternative is to stand in a running shower. Even running water over your lower arms and hands a number of times each day can provide relief.

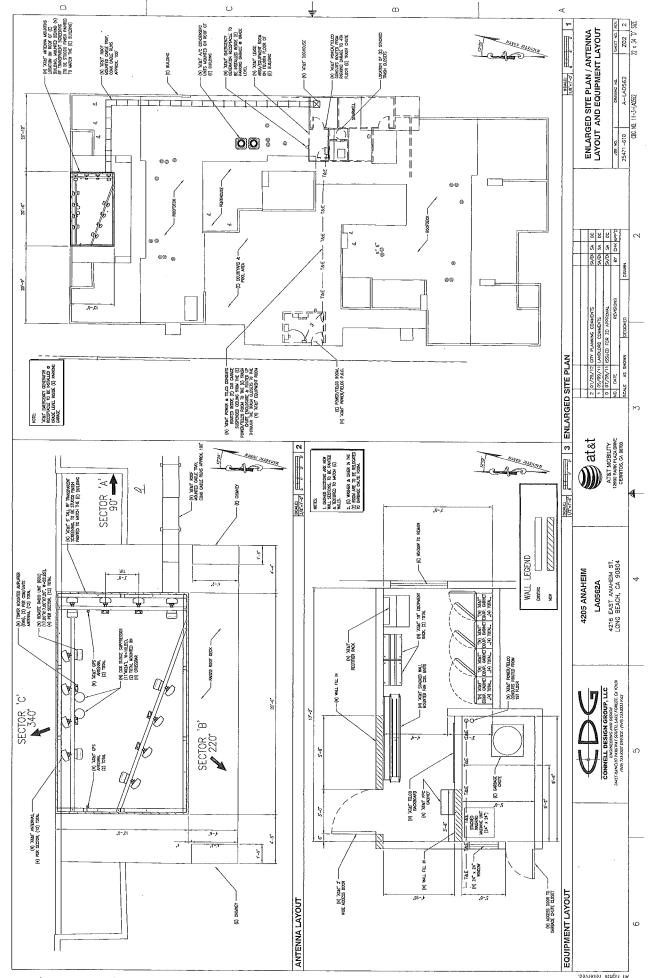
Mobile homes can be problematic for people with electromagnetic imbalances because the electrical wiring runs the length of both sides of the structure. Also, the sides and roof are nearly always metal, and the home is frequently not sufficiently grounded for electrically sensitive people. For extra grounding drive a copper pipe two feet, into the ground and attach a copper wire from the pipe to the metal frame or siding of the mobile home. This should be done at two different places on the mobile home.

The sensitivity of biosystems to electromagnetic fields has been known for a long time. With the increase in man-made force fields, sensitivities are becoming more evident. Intricate cell structure and functions in biosystems are affected. More research into these effects is needed to find solutions to the associated problems. The time has also come for medical science to incorporate new knowledge from the discipline of bio-physics, and to apply a new dimension of electrical and magnetic components to clinical practice. Diagnosing and treating illness can no longer be confined strictly to biochemical functions, but must take into account bioelectrical and biomagnetic factors.

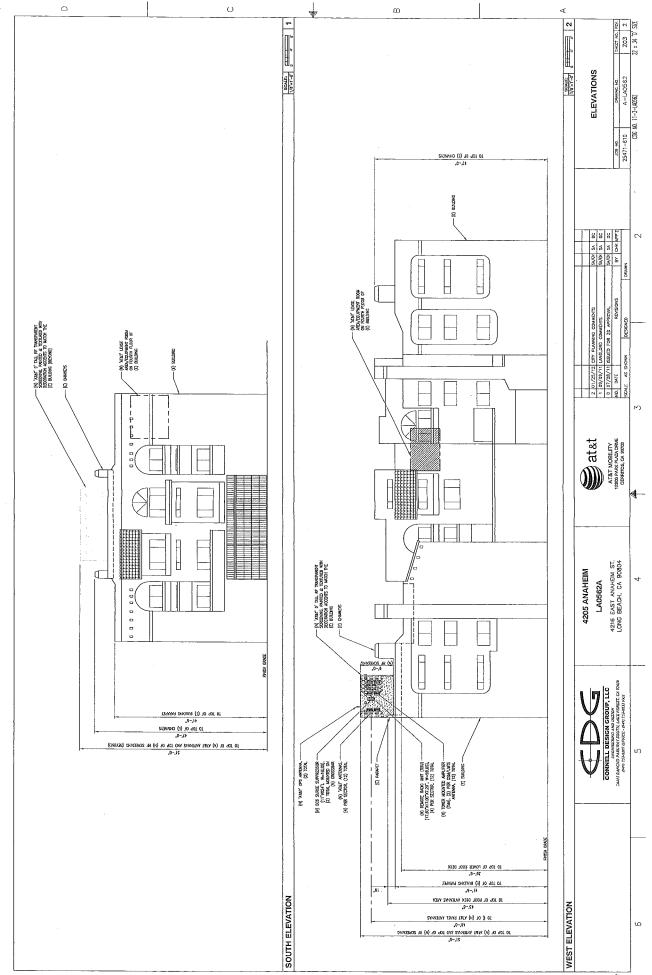


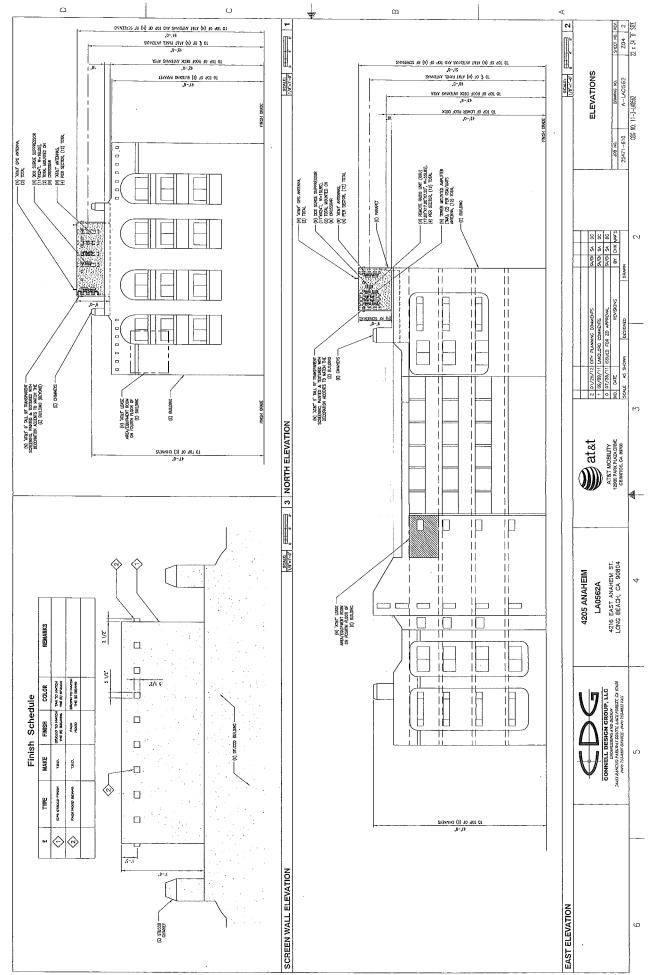


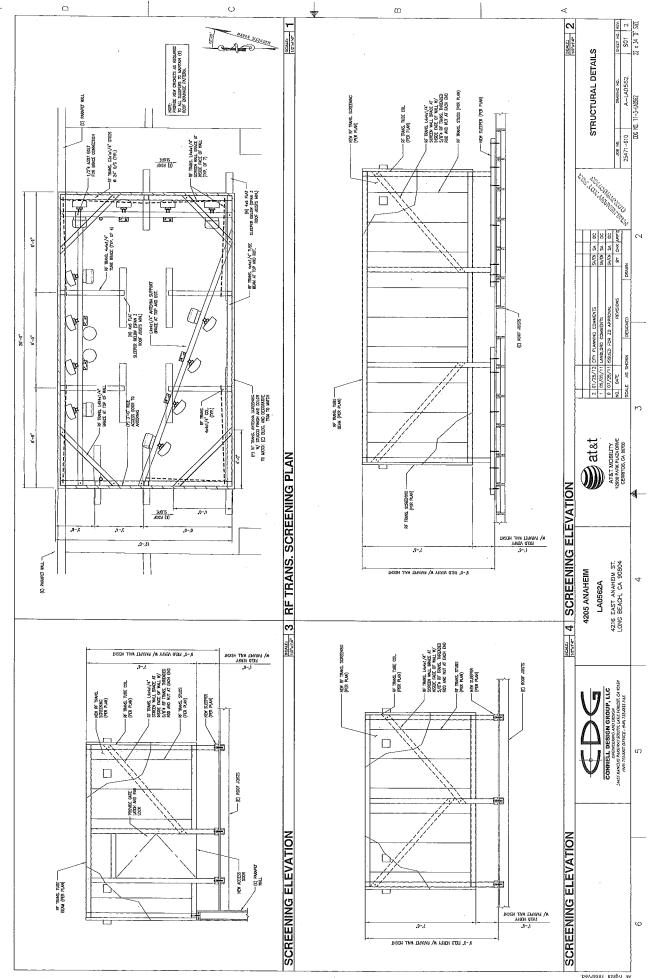




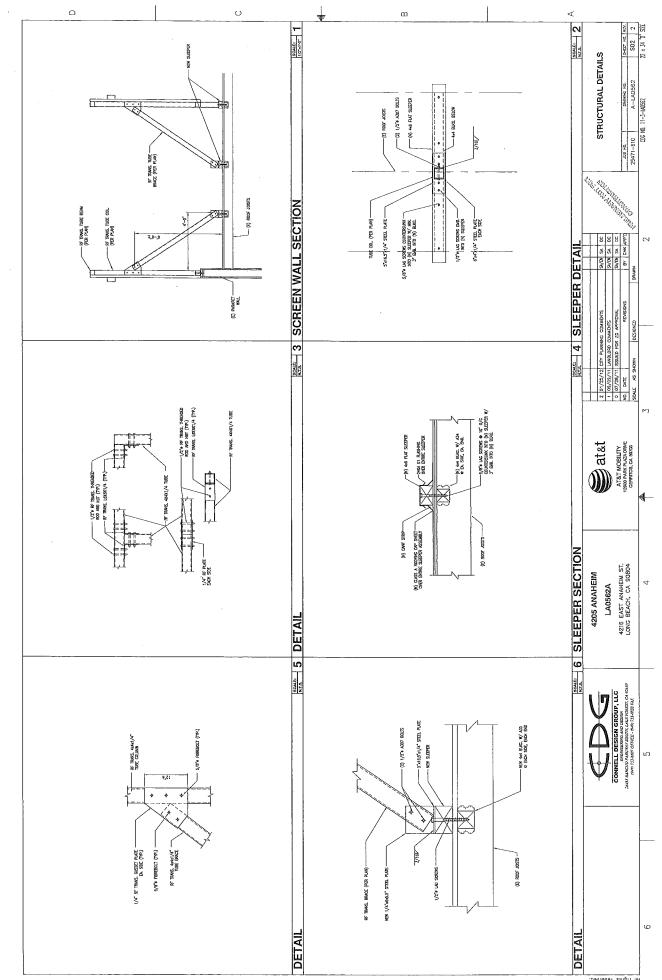
Copyright © Bechte Corporation X012. This item contoins confidential information proprietory to Bechtel that is not to be used, disclosed, or reproduced in any format by any non-Bechtel party without Bechtel's price written permission. Notwithstanding the above, AT&T Mobility' has the right to use the information confoined in this document pursuant to Confroct 25471 between Bechtel Corporation and AT&T Mobility.

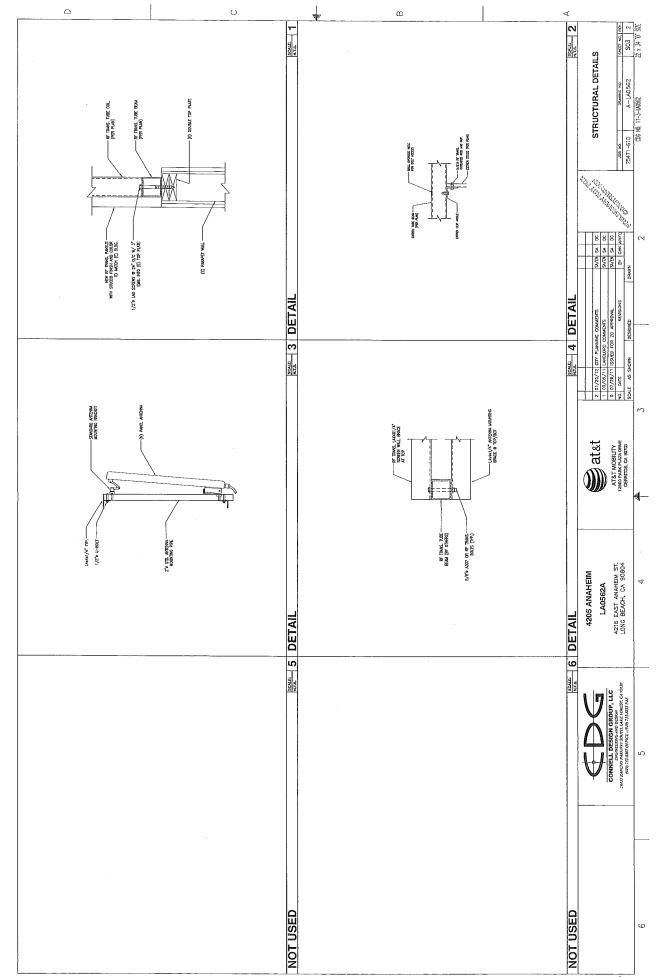






Copyright © Bechlet Corporation X012. This item contains contidential information proprietary to Bechlet that is not to be used, disclosed, or reproduced in any formal by any non-Bechlet party without Bechlet producing the above, AT&T Mobility' has the right to use the information contained in this document pursuant to Contract 2547) between Bechlet Corporation and 'AT&T tiability' All the information and 'AT&T tiability' has teserved.





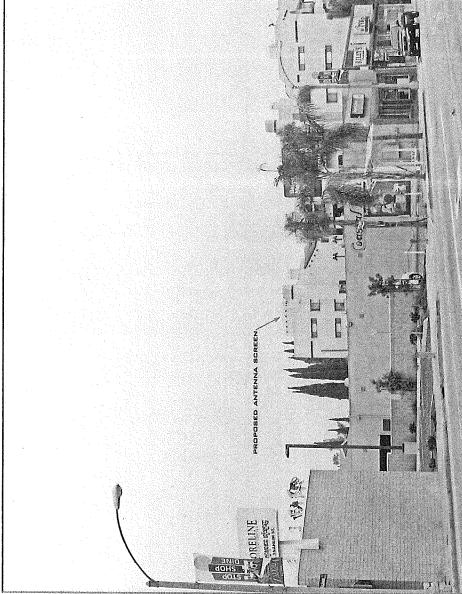


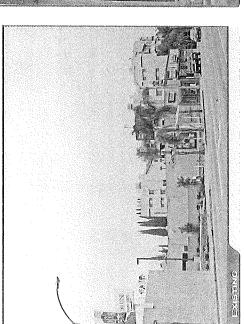
LAD562A

4205 ANAHEIM

4216 EAST ANAHEIM STREET LONG BEACH CA 90804







ACCURACY OF PHOTO SIMULATION BASCO UPON INFORMATION PROVIDED BY PROJECT APPLICAN

LOOKING NORTHEAST FROM ANAHEIM STREET



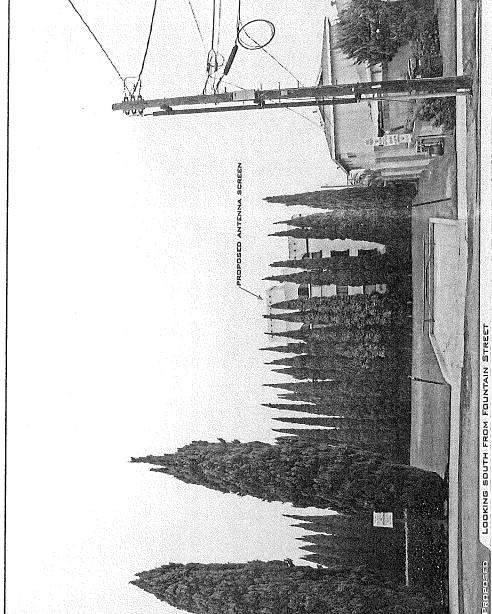
4205 ANAHEIM LA0562A

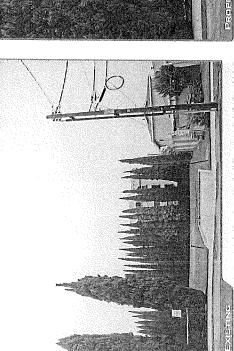
4216 EAST ANAHEIM STREET LONG BEACH

90804 ٥



(8) (8) (8)







LA0562A

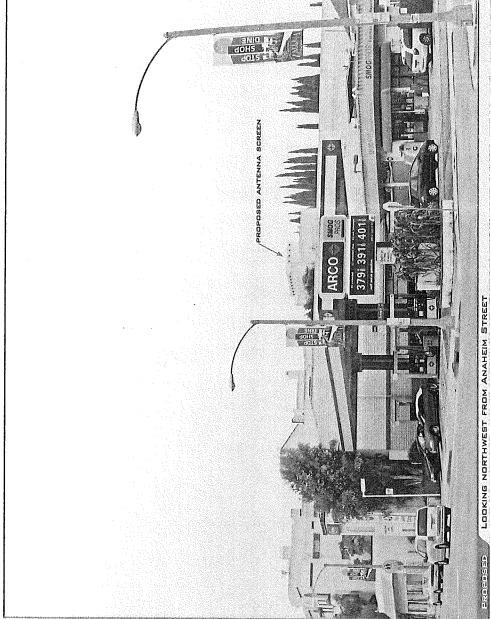
4205 ANAHEIM

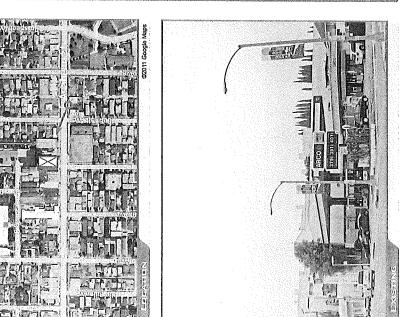
4216 EAST ANAHEIM STREET LONG BEACH CA 90804



[19]

jui Z

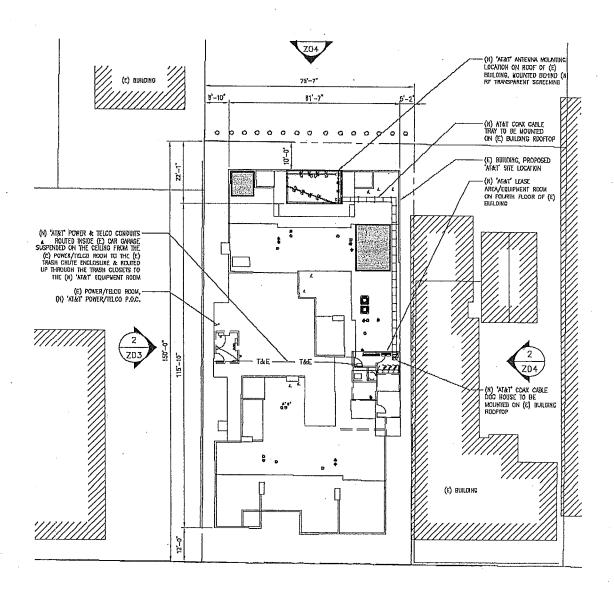






As part of the City's Wireless Ordinance, a five-year build out plan is required to accommodate future carriers' antennas. AT&T does not, and cannot, preclude other carriers from locating on rooftops where they operate existing wireless facilities. The code requires that the applicant design its facility is such a manner as to maximize the potential for future co-location and to minimize interference with a future carrier's signal propagation. However, it is difficult for AT&T to provide accurate information regarding its competitors' future network site construction plans given the rapid pace of technological developments and the fact that network architecture is closely-held, proprietary information. AT&T can provide possible locations a carrier could utilize for the placement of their antennas. Although these proposed locations are currently available, an in-depth analysis will be required by any carrier to determine if they are feasible in terms of the buildings' structural capacity to hold the additional weight, the ability to meet coverage objectives from these locations, and the costs of leasing, constructing and maintaining the facility.

Below are two possible locations (marked by red rectangles filled in with blue) for another carrier's antennas. If these locations prove feasible for a future carrier based on the previously mentioned criteria, AT&T's screen walls can be extended to incorporate the new project at that time.



AT&1 - 5 Year Build Out Plan [LAU562]

AT&T is proposing to locate their support equipment inside a room on the top floor rather than on the roof of the subject building due to the weight of the equipment. It is safe to assume that a future carrier will have the same issue for their equipment unless significant structural modifications are made to the roof. There are no ground level locations on the property for the proposed equipment as it would require a variance to remove required parking stalls in the garage or removal of existing landscaping to the north side of the building.

CONDITIONAL USE PERMIT FINDINGS

4205 E. Anaheim St. Application No. 1111-02 September 20, 2012

Pursuant to Section 21.25.206 of the Long Beach Municipal Code, a Conditional Use Permit can be granted only when positive findings are made consistent with the following criteria set forth in the Zoning Regulations. These findings and staff analysis are presented for consideration, adoption and incorporation into the record of proceedings:

1. THE APPROVAL IS CONSISTENT WITH AND CARRIES OUT THE GENERAL PLAN, ANY APPLICABLE SPECIFIC PLANS SUCH AS THE LOCAL COASTAL PROGRAM AND ALL ZONING REGULATIONS OF THE APPLICABLE DISTRICT;

Positive Finding: The project site is located in Land Use District #8M—Mixed Office/Residential Strip District. LUD #8M does not address the need for wireless telecommunications facilities; however, the Conditional Use Permit process exists for commercial uses needing an additional level of review to ensure they do not cause adverse impacts to nearby uses. The proposed project is consistent with the intent of this LUD, as it has been designed to lessen the negative visual impacts created by the existing wireless facility. The project is not located in the Coastal Zone and no specific plans apply to this location. The project site is located in the CCN zoning district. Freestanding/monopole wireless installations are allowed in this zone through the Conditional Use Permit process, subject to the Special Conditions enumerated in Section 21.52.210 of the Municipal Code. Approval of this project would be consistent with the General Plan and the Zoning Regulations.

2. THE PROPOSED USE WILL NOT BE DETRIMENTAL TO THE SURROUNDING COMMUNITY INCLUDING PUBLIC HEALTH, SAFETY, GENERAL WELFARE, ENVIRONMENTAL QUALITY OR QUALITY OF LIFE; AND

Positive Finding: The proposed use will not be detrimental to the surrounding community. The site will be required to comply with the regulations and development standards of the Federal Communications Commission (FCC), and the United States standards for radio emissions set by the American National Standards Institute (ANSI). Furthermore, this project will not have a negative visual impact upon the surrounding area. The proposed facility will be concealed within a rooftop screening enclosure extending no more than 10 feet above the height of the roof deck, and less than 10 feet above the height of the parapet wall. No public health, safety, general welfare, environmental quality, or quality of life impacts are foreseen for this project.

Conditional Use Permit Findings Application No. 1111-02 September 20, 2012 Page 2 of 3

3. THE APPROVAL IS IN COMPLIANCE WITH THE SPECIAL CONDITIONS FOR THE USE ENUMERATED IN CHAPTER 21.52.

The special conditions specified in Chapter 21.52 for personal communication services have been replaced with new findings for wireless telecommunications facilities, enumerated in Section 21.56.150.G, as follows:

A. The proposed Wireless Telecommunications Facility has been designed to achieve compatibility with the community to the maximum extent reasonably feasible.

<u>Positive Finding</u>: The proposed facility is designed to be enclosed within a rooftop screening device that will be constructed and finished to match the architecture of the existing building. Further, it is located at the very rear of the subject building's roof, so its visibility and prominence from Anaheim Street will be reduced, although it will still be visible from several angles.

B. An alternative configuration will not increase community compatibility or is not reasonably feasible.

<u>Positive Finding</u>: The proposed configuration is the most compatible installation that is reasonable feasible. An alternative configuration will not increase community compatibility. The rooftop enclosure is proposed to be located at the rear of the roof, away from the street, and the screening device will be designed to blend with the architecture of the existing apartment building.

C. The location of the Wireless Telecommunications Facility on alternative sites will not increase community compatibility or is not reasonably feasible.

<u>Positive Finding</u>: Staff does not believe that location of this facility on a nearby alternative site would increase community compatibility. The four-story apartment building, with its easily adaptable architecture, is a good candidate for installation of a community-compatible roof-mounted wireless facility. The applicant considered a list of alternative sites and found them not to be feasible as well.

Conditional Use Permit Findings Application No. 1111-02 September 20, 2012 Page 3 of 3

D. The proposed facility is necessary to close a significant gap in coverage, increase network capacity, or maintain service quality, and is the least intrusive means of doing so.

<u>Positive Finding</u>: The applicant has provided coverage data, and a list and map of the applicant's facilities in Long Beach, to demonstrate the necessity of constructing this site in this general location. Another method of construction (pole-mounted) would not be less intrusive.

E. The applicant has submitted a statement of its willingness to allow other wireless services providers to co-locate on the proposed Wireless Telecommunications Facility wherever technically and economically feasible and where co-location would not harm community compatibility.

<u>Positive Finding</u>: The applicant has submitted the statement as required. Additionally, conditions of approval #5 and #6 make specific requirements to ensure that this site will be developed in a manner that can accommodate future co-location.

F. Noise generated by equipment will not be excessive, annoying, or be detrimental to the public health, safety, and welfare.

The facility will not consist of any equipment that will cause significant noise detrimental to the public health, safety, or welfare. The facility will, in any case, be required to comply with the City's Noise Ordinance, Chapter 8.80 of the Long Beach Municipal Code.

CONDITIONS OF APPROVAL

4205 E. Anaheim St. Application No. 1111-02 September 20, 2012

Special Conditions:

- 1. The use permitted on the subject site, in addition to the other uses permitted in the CCN zoning district, shall be the use and operation of a wireless telecommunications facility mounted on the rooftop of a four-story apartment building, with 12 panel antennas in 3 sectors of 4 antennas each, and accessory base station equipment located in a laundry/utility room inside the building.
- 2. All antennas shall be fully concealed behind the approved screening device, including GPS antennas, and any future antennas added by the applicant carrier or other carriers, except as modified by future planning permit approvals.
- 3. The rooftop screening device shall have a maximum height of 10 feet above the height of the roof deck. Plans shall be revised as necessary to meet this requirement.
- 4. A 10-year review shall be completed for this subject wireless site not later than September 20, 2022, 10 years from the date of final action of this permit.
- 5. The applicant shall submit an expanded rooftop screening plan, showing an enlarged screening area large enough to accommodate co-location by at least one additional wireless carrier. The applicant shall not be required to build this expanded screening area upon approval of this permit, but may be required to build it, or cooperate in the building of it, or assent to the building of it, at a later date upon any request for co-location by another wireless carrier. The applicant shall make best efforts to design this plan so as to accommodate all co-location facilities' antenna arrays within the same screening device as the applicant's antenna arrays.
- 6. In addition to the above requirement for the screening device, the applicant also may be required at a future date to move, adjust, or modify the applicant's antennas, arrays, cable runs, and other rooftop equipment, or provide for or assent to the same to be carried out by others, to the extent reasonably necessary to accommodate or facilitate co-location by another wireless carrier within the same screening enclosure.
- 7. The approved screening device shall be painted, textured, and finished to match the architecture of the existing building to the satisfaction of the Director of Development Services.

Conditions of Approval Application No. 1111-02 September 20, 2012 Page 2 of 6

Standard Wireless Telecommunications Conditions:

- 8. No new cable trays or utility equipment associated with the proposed installation shall be visible from any public right-of-way. All appurtenant equipment shall be appropriately screened, and the screening shall be subject to the approval of the Director of Development Services prior to the issuance of a building permit.
- 9. Prior to issuance of a building permit, the City Telecommunications Bureau shall determine that the new cellular or personal communications services will not interfere with any City communication system. Approval by the City Telecommunications Bureau shall be provided to the Planning Bureau prior to the issuance of a building permit.
- 10. The operator shall obtain a City of Long Beach Business License for the telecommunications site at the conclusion of the Planning Final Inspection.
- 11. Each new cellular or personal communication station will be subject to a ten (10) year review by the Staff Site Plan Review Committee. The review will determine whether or not the originally approved number of antennas and design are still appropriate and necessary to provide adequate communication service. This review shall also evaluate the visual and aesthetic condition of the site. The site operator shall be required to make visual or aesthetic improvements to the satisfaction of the Director of Development Services.
- 12. The use shall not adversely affect the health, peace, or safety of persons residing or working on the premises or in the surrounding area.
- 13. Prior to issuance of a building permit, the applicant shall provide to the Planning Bureau contact information for the party or parties responsible for maintenance of the approved wireless facility in the event that it becomes discolored, deformed, damaged or dilapidated. Upon notification by the Department of Development Services or its designee that said facility has become discolored, deformed, damaged or dilapidated, the responsible party shall commence all necessary repairs and renovations within 72 hours of notification.
- 14. If any wireless operator seeks a modification or new approval of any wireless facility on this property, all wireless installations on this property, including those owned or operated by other carriers, shall be evaluated for co-location and visual improvement opportunities, to the satisfaction of the Director of Development Services.
- 15. The addition or replacement of any antennas, equipment cabinets, cable runs, screening, or any other materials not specifically identified on plans approved by the Department of Development Services shall require a new application for the appropriate planning permit.

Conditions of Approval Application No. 1111-02 September 20, 2012 Page 3 of 6

- 16. Should use of the wireless facility and appurtenant equipment cease, they shall be removed to the satisfaction of the Director of Development Services within 90 days of discontinuance of use.
- 17. If antennas are not screened completely by a visually solid wall, the attachment structure to which each panel antenna is affixed (typically, but not limited to, a metal pipe) shall not extend above or below the panel antenna and shall not be outwardly visible. At positions in antenna arrays where no panel antennas are installed, these attachment structures (metal pipes, etc.) shall not be installed onto the larger array support structure. The purpose of this requirement is to prevent the negative visual impact created by unnecessary structures in the antenna arrays.
- 18. For roof- or building-mounted wireless facilities, all rooftop and penthouse areas shall be secured to prevent access by unauthorized persons.

Standard Conditions – Plans, Permits, and Construction:

- 19. Prior to the issuance of a building permit, the applicant shall submit a revised set of plans reflecting all of the design changes set forth in the conditions of approval, to the satisfaction of the Director of Development Services.
- 20. All conditions of approval must be printed verbatim on all plans submitted for plan review to the Department of Development Services. These conditions must be printed on the site plan or a subsequent reference page.
- 21. The plans submitted for plan review must explicitly call out and describe all materials, textures, accents, colors, window, door, planter, and paving details that were approved by the Site Plan Review Committee or the Planning Commission. No substantial changes shall be made without prior written approval of the Site Plan Review Committee or the Planning Commission.
- 22. Prior to the issuance of a building permit, the applicant must depict all utility apparatus, such as, but not limited to, backflow devices and Edison transformers, on both the site plan and the landscape plan. These devices shall not be located in any front, side, or rear yard area that is adjacent to a public street. Furthermore, these devices shall be screened by landscaping or another screening method approved by the Director of Development Services.
- 23. The Director of Development Services is authorized to approve minor modifications to the approved design plans or to any of the conditions of approval if such modifications shall not significantly change or alter the approved project. Any major modifications shall be reviewed by the Zoning Administrator or Planning Commission, respectively.

Conditions of Approval Application No. 1111-02 September 20, 2012 Page 4 of 6

- 24. All rooftop mechanical equipment shall be fully screened from public view. Said screening must be architecturally compatible with the building in terms of theme, materials, colors and textures. If the screening is not specifically designed into the building, a rooftop mechanical equipment screening plan must be submitted for approval by the Director of Development Services prior to the issuance of a building permit.
- 25. Upon plan approval and prior to issuance of a building permit, the applicant shall submit a reduced-size set of final construction plans for the project file.
- A permit from the Department of Public Works shall be required for any work to be performed in or over the public right-of-way.
- 27. Separate building permits are required for fences, retaining walls, flagpoles, and pole mounted yard lighting foundations.
- 28. The applicant shall file a separate plan check submittal to the Long Beach Fire Department for review and approval prior to the issuance of a building permit.
- 29. Prior to the issuance of a building permit, the applicant shall submit architectural, landscaping and lighting drawings for the review and approval of the Police Department for their determination of compliance with Police Department security recommendations.
- 30. All structures shall conform to the Long Beach Building Code requirements. Notwithstanding this subject permit, all other required permits from the Building Bureau must be secured.
- 31. Site development, including landscaping, shall conform to the approved plans on file with the Department of Development Services. At least one set of approved plans containing Planning, Building, Fire, and, if applicable, Redevelopment and Health Department stamps shall be maintained at the job site, at all times for reference purposes during construction and final inspection.
- 32. Energy conserving equipment, lighting, and construction features shall be utilized in this project.
- 33. Demolition, site preparation, and construction activities are limited to the following (except for the pouring of concrete which may occur as needed):
 - a. Weekdays and federal holidays: 7:00 a.m. to 7:00 p.m.;
 - b. Saturday: 9:00 a.m. 6:00 p.m.; and
 - c. Sundays: not allowed

Conditions of Approval Application No. 1111-02 September 20, 2012 Page 5 of 6

Standard Conditions - General:

- 34. This permit and all development rights hereunder shall terminate one year from the effective date of this permit unless construction is commenced or a time extension is granted, based on a written and approved request submitted prior to the expiration of the one year period as provided in Section 21.21.406 of the Long Beach Municipal Code.
- 35. This permit shall be invalid if the owner(s) and/or applicant(s) have failed to return written acknowledgment of their acceptance of the conditions of approval on the *Conditions of Approval Acknowledgment Form* supplied by the Planning Bureau. This acknowledgment must be submitted within 30 days from the effective date of approval (final action date or, if in the appealable area of the Coastal Zone, 21 days after the local final action date).
- 36. If, for any reason, there is a violation of any of the conditions of this permit or if the use/operation is found to be detrimental to the surrounding community, including public health, safety or general welfare, environmental quality or quality of life, such shall cause the City to initiate revocation and termination procedures of all rights granted herewith.
- 37. This approval is required to comply with these conditions of approval as long as the use is on the subject site. As such, the site shall allow periodic re-inspections, at the discretion of city officials, to verify compliance. The property owner shall reimburse the City for the inspection cost as per the special building inspection specifications established by City Council (Sec. 21.25.412, 21.25.212).
- 38. In the event of transfer of ownership of the property involved in this application, the new owner shall be fully informed of the permitted use and development of said property as set forth by this permit together with all conditions that are a part thereof. These specific requirements must be recorded with all title conveyance documents at time of closing escrow.
- 39. Approval of this development project is expressly conditioned upon payment (prior to building permit issuance or prior to Certificate of Occupancy, as specified in the applicable Ordinance or Resolution for the specific fee) of impact fees, connection fees and other similar fees based upon additional facilities needed to accommodate new development at established City service level standards, including, but not limited to, sewer capacity charges, Park Fees and Transportation Impact Fees.
- 40. The property shall be developed and maintained in a neat, quiet, and orderly condition and operated in a manner so as not to be detrimental to adjacent properties and occupants.
- 41. Any graffiti found on site must be removed within 24 hours of its appearance.

Conditions of Approval Application No. 1111-02 September 20, 2012 Page 6 of 6

- 42. Any off-site improvements found to be damaged as a result of construction activities related to this project shall be replaced to the satisfaction of the Director of Public Works.
- 43. All required utility easements shall be provided to the satisfaction of the concerned department, agency, or utility company.
- 44. As a condition of any City approval, the applicant shall defend, indemnify, and hold harmless City and its agents, officers, and employees from any claim, action, or proceeding against City or its agents, officers, and employees to attack, set aside, void, or annul the approval of City concerning the processing of the proposal/entitlement or any action relating to, or arising out of, such approval. At the discretion of the City and with the approval of the City Attorney, a deposit of funds by the applicant may be required in an amount sufficient to cover the anticipated litigation costs.



CITY OF LONG BEACH NOTICE OF EXEMPTION

Long Beach Development Services 333 W. Ocean Blvd., 5th Floor, Long Beach, CA 90802 Information: (562) 570-6194 Fax: (562) 570-6068 www.longbeach.gov/plan

EXHIBIT F

TO: Office of Planning & Research 1400 Tenth Street, Room 121 Sacramento, CA 95814	FROM: Long Beach Development Services 333 W. Ocean Blvd, 5 th Floor Long Beach, CA 90802
L.A. County Clerk Environmental Fillings 12400 E. Imperial Hwy. 2 nd Floor, Room 2001 Norwalk, CA 90650	
Project Location/Address: 4205 East Anaheim Street	
Project/Activity Description: Installation of an unmanned won the roof of an existing building. Equipment cabinets building.	vireless telecommunications facility will be located in a room inside the
Public Agency Approving Project: City of Long Beach, Los Angeles County, California Applicant Name: Trillium Consulting for AT&T Mobility (Tim Miller from Trillium Consulting) Mailing Address: 5912 Bolsa Avenue, Suite 202, Huntington Beach, CA 92649	
Phone Number: 714-799-2000 x314 Applicant Signature:	ton Beach, CA 92049
(TO BE COMPLETED BY CITY STAFF ONLY)	
Case Number: 1111-0-2	Planner's Initials:
Required Permits:	
THE ABOVE PROJECT HAD BEEN FOUND TO BE EXIMITED STATE GUIDELINES SECTION / 530	
Statement of support for this finding:	NGE IN USE.
Contact Person: MA Brown Contact Pho Signature:	ne: 124 1310WN Date: 11- 2-11