

Fred Dong – Canyon Hills EIR Comments

Angeles, demanding that the city stop its frequent sewage spills, which are occurring at a rate of almost two per day. An EPA audit revealed that 2,065 spills of raw sewage occurred in the city between January 1995 and Aug. 31, 2000. Making matters worse, the rate of reported spills is increasing, the study says. In 1999, spills averaged 47 per month, up from a reported 20 per month in 1995 and 1996. Between 1997 and 1999, more than 46 million gallons of sewage was spilled.

Most of the sewage comes up through manhole covers and flows into city streets, posing a health threat to people who come in contact with it. In South-Central Los Angeles, raw sewage frequently spills into the street in front of Manual Arts High School. About one-third of the city's spills reach rivers and other surface waters that flow to the ocean, which violates the federal Clean Water Act.

The city's system, which serves 3.7 million residents, is the largest in the country, handling almost half a billion gallons of raw sewage every day. The EPA audit blames old sewers with insufficient capacity, as well as inadequate cleaning of grease, roots and debris from the lines. The largest spills occur when the system is overtaxed during rainstorms, but more than 40% of spills occur because grease, mostly from restaurants and food processing plants, builds up in lines. The EPA and the state water board want the city to adopt an ordinance that requires food establishments to capture grease, but the city objects, saying the proposal would be too expensive.

Los Angeles has already recently spent \$1.6 billion to upgrade its Hyperion sewage treatment plant to meet environmental standards, but the massive but outdated system of 6,500 miles of sewer pipes leading to it is insufficiently maintained. The city has also made substantial repairs to the system as part of a current \$600-million sewer improvement project and has another \$1.4 billion worth of work planned over the next 10 years, but EPA officials want the city to complete the work more quickly. The suits seek an enforceable schedule for increasing the capacity of sewers, improved cleaning of lines to prevent grease and root blockages, and an enhanced odor control program.

The EPA, however, has not taken similar action against Orange County to the south of Los Angeles, where health officials last year recorded 376 sewage spills that released at least 4.6 million gallons of waste. Sewage spills forced at least 38 Orange County beach closures last year. Millions of gallons of sewage leaked from old and cracked pipes during the 1990s. City officials estimated four years ago that more than 71,000 gallons of sewage was escaping each day but did not begin fixing the problem pipes until 1999.

U.S. DEPARTMENT OF JUSTICE PRESS RELEASE-APRIL 22, 2003-

CITY OF LOS ANGELES ADMITS LIABILITY IN THOUSANDS OF SEWER SPILL INCIDENTS SINCE 1994

LOS ANGELES – The Department of Justice, the Environmental Protection Agency and the

Fred Dong – Canyon Hills EIR Comments

Los Angeles Regional Water Quality Control Board today announced that the City of Los Angeles has admitted liability for more than 3,600 sewer spills dating back to 1994.

The city's admission of these federal Clean Water Act violations is part of an ongoing lawsuit in U.S. District Court in Los Angeles. This suit was originally filed by Santa Monica Baykeeper. The EPA and the LARWQCB joined the lawsuit in January 2001. A number of local community groups joined in the summer of 2001.

With this lawsuit, the EPA, the LARWQCB and its co-plaintiffs are seeking a firm commitment from the city to reduce sewage spills and repair and improve its system. The city's sewer system includes 6,500 miles of pipes and dozens of pump stations that collect and send both household and industrial wastewater to four sewage treatment plants.

The city is now liable for a total of 3,670 spills that occurred between 1994 and July 31, 2002. On Dec. 23, U.S. District Court Judge Ronald Lew found the city liable for 297 sewage spills that occurred between July 1, 2001 and July 31, 2002. With liability for all of these spills established, the parties can now focus on resolving issues relating to corrective measures and penalties.

The city's penalty obligations will be determined when the case goes to trial in January 2004. The maximum Clean Water Act penalty that can be applied is \$25,000 per spill prior to Feb. 1, 1997 and \$27,5000 per spill thereafter.

"We are pleased with the progress in resolving this case, as the beneficiary will be the community," said Wayne Nastri, the EPA's regional administrator for the Pacific Southwest. "The city now needs to commit to a comprehensive compliance plan that will ensure everything possible is done to prevent future spills."

LARWQCB Chairperson Susan Cloke said, "This is a good day for Angelenos. So many in our city, especially in our minority communities, have had to live with the public health risks and noxious odors that came with each one of these 3,895 sanitary sewer overflows. It is my hope that the court's action will help in the speedy resolution of this problem to protect our residents, our water quality and our beaches."

The EPA's lawsuit against Los Angeles is only one of several the agency and the Justice Department have pursued recently. The list of localities the EPA and the Justice Department have taken to court for sewage spills include Atlanta, Miami, New Orleans, Baltimore, Jefferson County (Birmingham), Ala. and Mobile, Ala.

Unfortunately, Los Angeles and neighboring beach communities throughout Southern California experience some of the country's highest rates of beach health advisories and closures due to sewage spills and contaminated storm water runoff. Los Angeles has about 50 spills per month. At 10 spills per 100 miles of sewer per year, the Los Angeles sewage spill rate is more than double the median spill rate for Southern California municipalities.

Fred Dong – Canyon Hills EIR Comments

The city is spending about \$700 million for repairs and upgrades to improve the system's wet weather capacity problems, but needs to do more to control blockage spills, which represent more than 90 percent of the spills, and sewer odors.

The consultant must do additional work on the capacity of the sewer system. With projected growth rate on the system, the EIR must make the finding that this development will cause a significant impact on the sewer system potentially creating sewage spills or overflows. Mitigation measures must be adopted to mitigate this impact to a less than significant level.

Section IV. L.3. UTILITIES AND SERVICE SYSTEMS-SOLID WASTE AND DISPOSAL

Though it is the goal to cut the solid waste that goes into land fills by 50%, the actual development may not be in compliance with that mandate. There is no mitigation measure that has been proposed that in the CC&R's that all residents must reduce their solid waste by 50%. As there is no legal or other requirement that residents do not have to reduce their waste output by 50%, it cannot be assumed that the residents will do so. The residents will generate 6,848 pounds of garbage per day. The EIR must show the maximum expected impact of the project. This would mean that if the maximum impact were expected, that the project would be expected to generate 3.4 tons of garbage per day. That is almost 1% of the current intake of the Sunshine Canyon Landfill. That does indicate that this project will have a significant impact on the available landfill resources.

Also, each household may generate more than the average City of Los Angeles household. These are 4,000 square foot average homes with 3-5 bedrooms and probably 3-6 persons per household. If the average Los Angeles household may have 2.6 or 2.7 persons per household, these units may have twice the Los Angeles city average. That would mean that the development when it is operational would generate as much as 6.8 tons of garbage per day. That would be about 2% of the current intake at the Sunshine Canyon Landfill. This is a significant impact. The EIR must discuss a more realistic solid waste generation amount per household than what is reflected currently in the EIR. It cannot rely on use of average numbers as these are not average households and the houses and households are substantially larger than the average.

The EIR failed to do a projection of the average daily intake that would be expected for the Sunshine Canyon Landfill in 2009 or later years when the development would be operational. This must be done because, if this landfill serves the entire San Fernando Valley portion of the City of Los Angeles or greater, with all the development in the San Fernando Valley that is expected, this landfill may be at capacity in 2009 or later years. If the Sunshine Canyon Landfill is at capacity by the time the development becomes operational or at any time after it does become operational, it will have a significant impact under CEQA. It is a serious omission to

Fred Dong – Canyon Hills EIR Comments

omit this information from the EIR. This omission might result in a different finding about the project's impact on solid waste.

The applicant should be required to contribute his fair share toward the acquisition and construction of new solid waste disposal facilities as the current landfills have a limited life.

The Duke EIR, though there were only 41 units proposed, about 1/7 the size of the Canyon Hills development came to a very different conclusion of about the project's impact on solid waste. In the Duke EIR it says, "Project implementation would result in the generation of approximately 9,300 pounds per month of solid waste. **The solid waste generated by the proposed project during its operational life would add to the demand for long-term waste disposal facilities, and incrementally reduce the available capacity of those landfills. As landfills are a finite resource, any new sources of solid waste generation may be considered significant.**"

Section L did not discuss any impacts that this project may have on telephone, cable, or other communication services. These must be stated in the EIR. If there is no impact, this must be stated too.

Chapter 9 of the General Plan of Los Angeles states about these services, "Telecommunications is an emerging field with the potential to significantly alter the way Southern Californians communicate, work, and commute. The concentration of business and population in the City of Los Angeles and rapid technological advances offer the opportunity to provide an integrated network serving as the regional hub for public and private users. Following the 1994 Northridge earthquake, the use of telecommunications expanded significantly as traditional travel corridors were closed, demonstrating the potential for such use." This is an important omission from a development that should be modern and seek ways to reduce traffic flows in and out of this development.

Section IV. M.1. HAZARDS AND HAZARDOUS MATERIALS-ENVIRONMENTAL SITE ASSESSMENT

Though the DEIR does discuss the current inventory of potential environmental hazards on site and future environmental hazards on site after the development is built, it fails to identify, discuss, and recommend mitigation measures for the site during the construction period.

During the site preparation, grading, construction of the infrastructure, and buildings, there will be machines that might require the use of hazardous materials and hazardous materials used during this process. **The DEIR discusses in several places the possibility of blasting on site. Yet, the report does not discuss the proper handling and storage of dynamite.** There are other materials used in the construction process that could be hazardous. These potential materials need to be identified and mitigation measures must be recommended for the safe storage and use of these materials.

Fred Dong – Canyon Hills EIR Comments

As there will be construction equipment that will be used, it would be expected that fluids associated with these machines such as gas, oil, lubrication fluids, and other materials that could be potentially hazardous that will be stored on site. Again, a discussion of what these materials may be and mitigation measures must be recommended for the safe storage and use of these materials.

Mitigation for hazardous materials stored on the site during construction must include proper storage and securing of these materials to avoid leaks, theft, spills, or other release of these materials into the area. The consultant has not even proposed having an emergency plan that might help mitigate these effects of an accidental release of hazardous materials during construction.

The applicant must be required to clean-up or pay for the removal of any hazardous wastes that are found on the project site and any hazards, hazardous spills, or other problems involving hazardous materials as a result of construction activities or site disturbance.

Also, if any hazardous materials such as dynamite will be transported through the surrounding community to the project site, discussion and identification of these materials and mitigation measures must be discussed in the EIR.

If any materials are potentially carcinogenic or cause birth defects, disclosure must be made of those hazards. The DEIR must discuss these issues relating to expected hazardous materials. The DEIR must not compromise the safety of the residents and site workers due to inadequate disclosure.

U.S. Department of Human Services, Public Health Service, Agency for Toxic Substance and Disease Registry in their publication Managing Hazardous Materials Incidents Volume I, Emergency Medical Services, provide recommendations of aiding emergency response with hazardous materials.

Hazard Recognition

When dispatched to the scene of an incident, emergency response personnel may not be aware that the incident involves hazardous materials. As a result, emergency medical services personnel should always be alert to the possibility that they may be dealing with a chemically contaminated individual, and should ask the victims and dispatch personnel about the nature of the incident. Although an injury at a hazardous material incident need not invariably involve a chemical exposure (it could have resulted from a purely physical occurrence, such as slipping off a ladder), as a routine precaution, the involvement of hazardous materials should be considered a possibility in such situations. As outlined in the National Fire Academy/National Emergency Training Center Manual, Recognizing and Identifying Hazardous Materials, there are six clues that may confirm the presence of hazardous materials. These clues are included in this guidance document to facilitate and expedite prompt identification of any hazardous materials at the scene of the incident. Dispatch personnel, familiar with these clues, will subsequently find the communication with field personnel enhanced. For example, patient symptoms reported from the field-such as nausea, dizziness, burning eyes, or cyanosis or cyanosis -could suggest to the dispatch staff the presence of hazardous materials. Knowledgeable dispatch staff could then request field personnel to examine the site for these six clues:

Fred Dong – Canyon Hills EIR Comments

- **Occupancy and Location.** Community preplanning should identify the specific sites that contain hazardous materials. In addition, emergency personnel should be alert to the obvious locations in their communities that use hazardous materials - for example laboratories, factories, farm and paint supply outlets, and construction sites.
- **Container Shape.** Department of Transportation (DOT) regulations dictate certain shapes for transport of hazardous materials. There are three categories of packaging: stationary bulk storage containers at fixed facilities that come in a variety of sizes and shapes; bulk transport vehicles such as rail and truck tank cars that can vary in shape depending upon the cargo; and smaller hazardous materials that may be packaged in fiberboard boxes, drums, or cylinders with labeling.
- **Markings/Colors.** Transportation vehicles must use DOT markings, including identification (ID) numbers. Identification numbers, located on both ends and both sides, are required on all cargo tanks, portable tanks, rail tank cars, and other small packages that carry hazardous materials. A marking system designed by the National Fire Protection Association (NFPA) identifies hazardous materials at terminals and industrial sites but does not provide product specific information. This system uses a diamond divided into four quadrants. Each quadrant represents a different consideration: the left, blue section refers to health; the top, red quarter pertains to flammability; the right, yellow area is for reactivity; and the bottom, white quadrant highlights special information. In addition, a number from zero through four indicates the relative risk of the hazard with zero being the minimum risk.
- **Placards/Labels.** These convey information by use of colors, symbols, Hazard Communication Standard, American National Standard Institute (ANSI) Standards for Precautionary Labeling of Hazardous Industrial Chemicals, United Nations Hazard class numbers, and either hazard class wording or four-digit identification numbers. Placards are used when hazardous materials are in bulk such as in cargo tanks; labels designate hazardous materials on small packages.
- **Shipping Papers.** These can clarify what is labeled "dangerous" on placards. They should provide the shipping-name, hazard class, ED number, and quantity, and may indicate "waste" or "It poison." (Shipping papers must accompany all hazardous material shipments.)
- **Senses.** Odor, vapor clouds, dead animals or dead fish, fire, and irritation to skin or eyes can signal the presence of hazardous materials. Generally, if one detects the odor of hazardous materials, one should assume that exposure has occurred. Some chemicals, however, can impair an individual's sense of smell (i.e., hydrogen sulfide), and others have no odor at all (i.e., carbon monoxide).

Appendix A provides illustrations and greater detail on the National Fire Protection Association 704M system, the Department of Transportation hazardous materials marking, labeling, and

Fred Dong – Canyon Hills EIR Comments

placarding guide, and the Department of Labor Material Safety Data Sheet (MSDS). It is important that any and all available clues are used in the process of substance identification, especially the most obvious, such as the information provided on a label or in shipping papers (shipping papers should remain at the incident scene for use by other response personnel). The aim of the health provider should be to make a product specific identification. Every effort should be taken to prevent exposure to chemicals. Identifying the hazardous material and obtaining information on its physical characteristics and toxicity are steps that are vital to the effective management of the hazardous materials incident. Since each compound has its own unique set of physical and toxicological properties, early and accurate identification of the hazardous material involved in the incident allows the emergency responders and emergency department staff to initiate appropriate scene management steps.

These recommendations must be incorporated in mitigation measures recommended for this development regarding construction hazards.

Additionally OSHA has identified in their hazardous waste site study a number of hazard issues. Even though these related to hazardous waste sites, they are relevant and applicable to construction sites. A discussion of these and mitigation measures must be discussed in the DEIR. We have listed some of these hazard areas below from their November 2002 report titled, "Summary Report: Hazardous Waste Site Safety Hazards Study".

Electrical

Electrical hazards were the most common safety hazards identified during the site visits. Many of the electrical hazards identified involved improper use of flexible cords (e.g. cords threaded through walls). Damaged cords and cords missing ground prongs were frequently observed. Other common electrical hazards reported by site representatives included unlabeled circuit breakers and missing doors on electrical panels. Site representatives described injuries and near misses to workers exposed to shock from energized parts as well as cords that were driven over. It was reported that at one site a worker suffered a shock injury from cutting into a live 480-volt line that was lying on the ground outside a building. An unqualified electrician had removed the line from the building.

Excavations

Excavation hazards were not often observed but were frequently discussed by site representatives. Several instances of striking underground installations during trenching activities at other sites were described. At one site, a local utility locator was not used to identify existing lines. Instead, old facility blueprints were relied upon. In another case, an operational cable bundle was struck and damaged because of an inadequate site walkover. A monument indicating the presence of the cable bundle was present relatively near the excavation area, but wasn't noted until the post-incident investigation. In still another case, an electrical line was hit because a foreman and his technical manager did not communicate vital information.

Fred Dong – Canyon Hills EIR Comments

The field team *did* observe hazards associated with soil stockpiles. During trenching operations, a competent person must watch the trench walls for cracks and fissures that may signify weaknesses. This practice is used less often for the sides of soil stockpiles. At one site, sizable cracks and fissures were observed in the side of a large soil stockpile. Heavy equipment was operating at the top of the pile. A road, used by both cars and pedestrians, was at the bottom of the banked soil. At this site, the field team promptly informed site representatives of the hazard.

Other common excavation hazards reported by site representatives included workers entering into unshored or improperly shored excavations and workers falling into unmarked trenches.

Walking Working Surfaces

Walking-working surface hazards were often identified during the site visits. The most common hazard mentioned was a lack of fall protection on elevated working surfaces such as scissor lifts. Two other examples of reported hazards included a worker who fell into a manhole with no cover and another worker who slipped and fell from a catwalk because the non-skid coating was worn off and there was inadequate fall protection.

General Environmental Controls

Hazards involving general environmental controls such as confined spaces, lockout/tagout operations, and sanitation were common. Of these, the most frequently observed hazard was a lack of written procedures for lockout/tagout and confined space. On several of the sites visited, there were no *specific* written lockout/tagout procedures and no list of who was authorized to implement lockout/tagout procedures. In addition, on one site visited, appropriate lockout devices were not immediately available. A sanitation hazard commonly reported was that water for onsite showers froze during winter months.

Material Handling Equipment and Motor Vehicles

Material handling equipment, including earth moving equipment, cranes, and motor vehicles, contributed to the safety hazards. Many unsafe conditions discussed by site personnel were caused by inappropriate use of heavy equipment that resulted in rollovers. On one site, an operator was observed using the front bucket of a backhoe to move an intermodal container.

Several site representatives reported that unsafe hoists resulting in crane rollovers were a common concern. Frequent causes of crane rollovers included miscalculating load weight (wet load), unstable surfaces, inexperienced operators, and high wind conditions.

Other common hazards discussed by site personnel included operating heavy equipment too close to power lines, not barricading the swing radius, leaving running equipment unattended, not wearing seat belts, and stacking supplies improperly. At one site, an excavator was traversing under overhead lines and the boom pulled down an inactive communications line. At another site, a drill rig being moved with the mast up struck overhead power lines.

Fred Dong – Canyon Hills EIR Comments

Site representatives reported that workers driving leased or rented vehicles were a source of many traffic accidents. Reasons include crossing dangerous intersections frequently and falling asleep at the wheel while driving to and from job sites.

Hand and Portable Powered Tools

Site representatives reported that site clearing activities (i.e., clearing trees) resulted in several accidents. Hard hats and face shields reduced the severity of the injuries. Several site representatives expressed the need for chain saw training and the importance of adequate PPE.

Welding and Cutting

Safety hazards involving welding and cutting activities were observed and reported at several of the sites. Some of the common hazards reported included oxygen cylinders and fuel cylinders stored together and hoses or cables not protected from traffic. Inappropriate repairs to cables, and welding screens insufficient to protect adjacent workers from the arc were actually observed. On one site, welding screens were used on one side of an arc welding operation, but did not shield the other side that was in direct view of on-coming traffic and adjacent residences. Arc welding produces ultraviolet light that can injure eyes.

Other Hazards

The emphasis of the site visits was on safety, not health hazards. Nevertheless, tick bites resulting in Lyme disease were reported as a serious problem on one site. Other biological hazards reported included insects, snakes, and vegetation. It was reported that on two sites burns from hot incinerator surfaces were common injuries.

One health deficiency is noted here because it occurred at all six sites. None of the sites maintained a written Exposure Control Plan for Bloodborne Pathogens as required by 29 CFR 1910.1030(c)(1). Certain sites also lacked a list of designated first aid responders. An Exposure Control Plan is required if personnel are required to provide first aid, and sites with permit-required confined spaces are required to have first aid providers. Since first aid has changed in the age of bloodborne pathogens, this may be a good topic for OSHA outreach.

Additional mitigation measures that must be implemented to minimize hazardous materials from impacting the area during construction include the prohibition of herbicides to remove vegetation in the development area. Removal of vegetation must be done with mechanized equipment or by hand crews. Herbicides will pollute the surrounding areas and pose an environmental hazard to plants and animals nearby that are not supposed to be impacted by vegetation removal. Also, during construction, all hazardous material must be stored on concrete slabs or other impermeable surfaces to prevent spillage into the soil of these hazardous materials.

The EIR does not discuss use of potentially hazardous materials to the environment such as use

Fred Dong – Canyon Hills EIR Comments

of pesticides, fertilizers, and other yard care chemicals. These chemicals may be used in the project landscaping and also in the landscaping of these lots. Hazards such as these must be identified and mitigation measures must be recommended to minimize the impact of these. If there are no adequate mitigation measures that can be recommended, the EIR must make the finding that the project will have a significant impact regarding hazards and hazardous materials.

Health hazards to humans should be mentioned in the report due to wildlife displacement during construction. This may include possible attacks from coyotes and a number of rodents. Local area rodents are known to carry the bubonic plague. Some animals have rabies. A 2 year old Glendale resident was killed by a coyote in Glendale a few years ago.

The DEIR cannot understate the hazards associated with the construction of the development. These hazards must be properly identified, disclosed, and mitigation measures discussed. The construction activities may have a significant impact regarding hazards and hazardous materials. We need to know what they are and if they can be mitigated to a less than significant level. The EIR consultant must better identify Operational Impact hazards and identify additional ways to mitigate these hazards.

Section IV. M.2. HAZARDS AND HAZARDOUS MATERIALS- ELECTROMAGNETIC FIELD EMISSIONS

The studies cited in the DEIR do indicate that there are health hazards associated with being close to Electromagnetic Field Emissions. Also, estimates of EMF radiation are provided from studies. However, the DEIR is inadequate because no actual field measurements of electromagnetic radiation from the Edison Transmission Lines have been done on the project site to measure the intensity of the radiation at different distances from the Transmission lines.

The level of EMF radiation from the Edison Transmission lines can be quantified and it must be reported in the DEIR. Measurements should be taken several different times accounting for fluctuations in electricity that may occur during the day or during different seasons. The studies that are cited give average EMF radiation from Transmission Lines. The actual EMF radiation from the Edison Transmission Lines on site could be significantly higher or significantly lower than those studies. If actual measurements are not taken, it could understate a significant risk that cannot be mitigated unless the Edison Transmission Lines are removed from the site.

Also, the mitigation measures recommended in the DEIR are completely inadequate and do not mitigate the risk to certain residents below the threshold of not being significant. The studies referred to in the DEIR have indicated a significant risk to residents living within 150' of electrical transmission lines. The mitigation measure recommended of merely informing residents purchasing lots within 150' feet of the transmission lines to be given a warning about the potential dangers of the transmission lines is inadequate. The studies indicate that no residences including usable yard area that residents would utilize should be located 150' or less from the transmission lines.

Fred Dong – Canyon Hills EIR Comments

The danger to residents whose area falls within that zone remains significant. **Therefore, we recommend as a mitigation measure that no residences or yard area where residents especially children be located within 150' of the Edison transmission lines located in the development.** This would mean the removal of 28 homes and lots from development in Development Area A. The DEIR must recommend this as a mitigation measure to reduce the threshold of significance to a level of less than significant after mitigation. Of course, actual measurements of the EMF radiation from the transmission lines must be done to determine if the zone of safety should be greater or less than 150' from the transmission lines.

If the EMF radiation from the Edison transmission lines on site is greater than the maximum thresholds recommended in the EMF health studies, then more lots should be removed from being developed. If the EMF radiation from the lines is less than the thresholds recommended in the EMF health studies then less than 28 lots in Development Area A would be impacted.

Also, the DEIR does not discuss the potential impact of construction workers who will be working near the Edison transmission lines in Development Area A. Some workers could possibly according the build-out timetable indicated in the DEIR work in the area up to 5 years. Mitigation measures should be recommended for the construction workers to avoid prolonged exposure to the EMF radiation generated by the Edison transmission lines.

There are studies that recommend safe household electrical practices. These should be incorporated into the development when homes are designed. We have included one such report below:

THE MITIGATION OF ELECTRICAL POLLUTION IN THE HOME

Martin Graham

Professor Emeritus
Electrical Engineering and Computer Sciences Department
University of California, Berkeley

ABSTRACT

The electrical pollution that is mitigated is the electric fields produced by the ubiquitous Marconi Transmitters present in today's high technology environment. Individuals should be able to determine if this mitigation in their home is beneficial to them.

THE MITIGATION OF ELECTRICAL POLLUTION IN THE HOME

The electrical pollution considered in this report is electrostatic fields that vary rapidly in a random or noiselike pattern. When Guglielmo Marconi transmitted wireless signals from Polphu, England to St. John's, New Foundland on December 12, 1901 he used a spark transmitter that generated fields of this type. The antenna and the ground were connected to the spark gap. The wireless signals used today are much more orderly, since this is the basic way to enable multiple communication channels that share a common medium [1]. These modem signals have sinusoidal waveforms that are similar