

August 4, 1982

Nuclear Regulatory Commission
Washington, D.C. 20555
Attn: Director, Division of Licensing,
Office of Nuclear Reactor Regulation

Dear Sir,

The Nuclear Regulatory Commission staff has issued a Draft Environmental Statement on the environmental considerations associated with the Seabrook Station Nuclear Power Plant. The following judgement appears in para. 5.5.1.2, page 5-8 of that statement:

"Research data on the potential biological effects from electrical fields associated with transmission lines have been reviewed by the staff (Department of Energy 1980; EPRI). While experimental work is still underway on the biological effects of electric fields along transmission lines, the staff has found no evidence at this time to support a conclusion that the operation of the Seabrook 345-kV transmission lines will have an adverse effect on the health of humans or that their operation will adversely affect plant or animal life."

The thrust of this response is to take issue, not only with the Staff conclusion, but their source of opinion as well. To accomplish this, one must consider the objectivity of "expert" opinion, or lack of same.

When the EPRI (Energy Producers Research Institute) was founded in 1972, it assumed responsibility for almost all industry research on OH-HV lines. In 1974 their scientists defined the threshold at which OH-HV type fields were 100% lethal to isolated cells. The report was not accepted or published by EPRI. The following year, the same scientists discovered that OH-HV type fields altered the physiology and behavior of animals. At this point, the entire study was abandoned, never published (although its cost was more than 1/2 million dollars), and EPRI's present research does not acknowledge that the previous studies even existed.

Note: Drs. Gibson and Moroney from the Naval Aerospace Medical Research Laboratory in Pensacola discovered ELF lines to cause diminished thought process and cognitive skills in humans exposed for brief periods.

In 1976 EPRI funded a project to study the possibility of conducting a study of the health status of individuals who worked on OH-HV lines. EPRI has not released the details or results of the study, nor have they revealed whether the actual study is being, or has been, performed.

Note: Investigations in the Soviet Union concluded that

long term exposure by men working near OH-HV lines resulted in alterations of the central nervous system, heart, and blood vessels, in changing the biochemical components of the blood, and low sperm counts. Further, the U.S. Public Health Service has published a report that men frequently exposed to AC magnetic fields as a group show a higher cancer rate than the total population.

Also in 1976, EPRI funded a study at Battelle Laboratories relative to animal reproduction. No data has been released, although an excess of 1 million dollars has been expended.

In the same year, the Department of Energy (DOE) became concerned whether OH-HV fields caused biological effects and contracted with Battelle for a 2 million dollar study. At that time, at least 40 scientific investigators had already reported biological changes in animals due to ELF fields. The DOE study did not attempt to simulate any previous study-finding and has been carried out at such intensities and experimental conditions so as to be inherently incapable of confirming or conflicting with any other investigation. Add to this the fact that it is so heavily funded, no independent researchers can ever attempt to prove or disprove DOE.

Enter the Navy. The relationship between OH-HV lines and their Project Sanguine has led to a cooperation between them and the utilities. The Navy's chief civilian contractor (IIT Research Institute) has taken the position that there are no health or environmental effects resulting from OH-HV lines. They offer, however, no research data, but function in a public relations capacity producing reports to inform the public and advise the Federal Government.

Note: The Boston Globe, reporting on Project Sanguine stated, "One study that the Navy did not release for two years showed that some changes in blood chemistry could result from prolonged exposure to electromagnetic fields."

At present, the Navy, DOE, and EPRI fund most all of the studies regarding ELF bioeffects. The relationship between DOE and EPRI is such that money, personnel and project designs for research flow openly and freely between them. Research costs at Battelle Labs are approximately evenly split between EPRI and DOE.

Many individual power companies, the source of EPRI's funding, employ the Rochester Group. This Group is, in part, supported by the Navy, and DOE. It is an advisor and consultant to EPRI, LLTRI, and the Navy. The Group has not published any ELF research. However, they are amongst the only active people recognized by EPRI as experts within the domain of ELF

bioeffects. They travel the U.S. and Canada, representing various power companies th defend OH-HV lines and their (lack of) adverse effects.

Note: Dr. Edwin Carstensen of the Rochester Group was the N.E. Power expert witness at Mass. Dept. of Public Utilities (DPU) public hearings. During his conflicting testimony, he made the following statements:

"If you can't feel it, it won't hurt you."

Entering the electric field, all a person would sense is "movements of hairs on the skin--like a gentle breeze."

And in regards to evidence that 400,000 pace-makers in this country would be effected by the voltages requested he replied, "Only those who would be hospitalized would be effected."

All of the above flys in the face of independent discoveries by scores of laboratory and field scientists from all over the world. The sole interest of those scientists, most of whose findings have been published and corroborated, is study and discovery in terms of ill effects on mankind.

I believe therefore, that your decision to rely upon the offerings of DOE and EPRI as major fodder for your position should be reconsidered. Their challenge of a "Small number of research studies" (many repeated and which, in fact, number in the hundreds) is nearly humorous, issued not from a position of clinical verification but, rather, one of uncorroborated theories. In view of all testimony, logic dictates that the power company(s) are holding fast to those who would serve only to justify their position. That position appears to be dictated, in turn, by a refusal to change methods and habits, although viable alternatives have been proven to be cost effective and health conscious world-wide.

Your own conclusion is that "further research is needed". In the interim, we must chance exposure to OH-HV fields while this "further research" is conducted. Conducted by whom? DOE and EPRI, whose collective motives must be opened to unbiased, if not moral, scrutiny? Given the facts, whom do you trust? Please consider the following:

An article from the Dept. of Preventative Medicine of the U. of Colorado Medical Center in the Journal of Epidemiology cited the findings of investigators Wertheimer and Leeper. These scientists carried out studies on 344 children who died prior to age 19. The cancer death rate among those who lived near OH-HV lines exceeded a 2:1 ratio, when compared to those who lived elsewhere. Their environments were not impacted by any other common factors.

A 1976 Public Health Service, U.S. Dept. of H.E.W. publication "Human Health and the Environment--Some Research Needs", cited concern for "biological effects of OH-HV fields---with respect to both short-term and long-term exposures", and "possible interactions---with the central nervous system".

The American Cancer Society's Cancer Information Service told me their "records indicate that high voltage and relative radiation can cause cancer and male impotency, high blood pressure and heart disease".

On October 3, 1980, a judge ruled that the Philadelphia (Pa.) Electric Co. had violated Mr. Albert Goadby's civil rights by not informing him of the potential health hazard from their OH-HV power lines.

The New York Public Service Commission, after 3 years and 13,000 pages of testimony, concluded the following in its brief:

"The evidence presented prompts us to conclude that biological effects will probably be induced in humans exposed to overhead lines and that such effects may be harmful.---reports contained unrefuted inferences of possible risks that we cannot responsibly ignore." They further ruled the power authority to purchase or relocate homes within a 1200 foot zone.

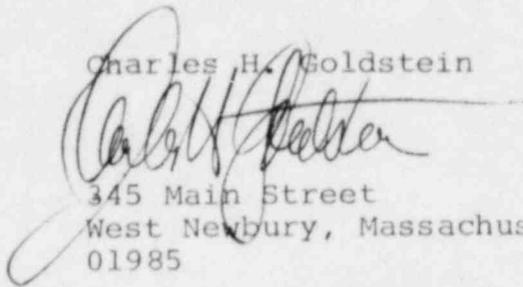
Given the above facts, I must be concerned with the social regard and sincerity of the NRC staff conclusions. While I do understand that public agencies are political in nature, and must act accordingly from time to time, I am bewildered at the lack of depth evident in their judgement. When the public health is the primary issue, politics and short-term dollars must be set aside. Unlike nuclear power facilities themselves, which have checks and balances, warning systems and evacuation plans, OH-HV lines simply exist. They are always there emitting constant and incredible doses of electricity into whomever and whatever approaches them.

Agencies such as yours, which are empowered, obligated, and theoretically dedicated to preserving the public health and welfare, must not be party to inter-agency, agency-industry volleyball. The NRC cannot leave those critical decisions, which revolve around this issue to the whim of others. You are legally responsible for final judgements as regard the initial source of energy. As such, you cannot close your eyes to that energy's distributed effect on life beyond Seabrook.

Beaurocratic indifference and ignorance has for too long made Americans subjects of government, rather than citizens of the United States. We, in West Newbury and elsewhere in this country, have always expected more. Now we are forced to demand more.

Sincerely,

Charles H. Goldstein

A handwritten signature in cursive script, appearing to read "Charles H. Goldstein", written over the typed name.

345 Main Street
West Newbury, Massachusetts
01985

CHARLES H. GOLDSTEIN
345 MAIN STREET
WEST NEWBURY, MASS., 01855

FIRST CLASS



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NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C.

20555

ATTN: DIRECTOR, DIVISION OF LICENSING,
OFFICE OF NUCLEAR REACTOR REGULATION

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