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AUG 30 1972

Docket Nos. 50-247  
and 50-286

Honorable Ogden R. Reid  
House of Representatives

Dear Mr. Reid:

Thank you for your letter of August 3, 1972, forwarding material sent to you by Mary Hays Weik regarding her contentions of radiological hazards associated with nuclear power plants, with particular reference to the Indian Point reactor plants of the Consolidated Edison Company of New York, Inc.

We have reviewed the articles by Ms. Weik enclosed in your letter. We find that her allegations are the same as those she made at the public hearings held in Buchanan, New York, before Atomic Safety and Licensing Boards for the purpose of considering (1) the issuance of an operating license for Indian Point Unit 2 (this hearing began in December 1970) and (2) the issuance of a construction permit for Indian Point Unit 3 (this hearing began in March 1969). Ms. Weik participated as a party to both of these proceedings. During the aforementioned proceedings, the Consolidated Edison Company of New York, Inc. and the AEC responded to these concerns and the testimony of these proceedings is a matter of public record. The AEC's testimony in these proceedings is essentially the same as that given by Dr. Glenn Seaborg, previous Chairman of the AEC, in response to Ms. Weik's allegations at hearings held in 1969 before the Joint Committee on Atomic Energy (JCAE) on the environmental effects of producing electric power. Dr. Seaborg's testimony concluded that, "We are not able to substantiate her allegations." A copy of Dr. Seaborg's testimony, excerpted from the JCAE hearing record is enclosed.

Regarding Ms. Weik's letter to Mr. W. B. McCool, we are enclosing a copy of the AEC Memorandum and Order that was forwarded to Ms. Weik. By letter to the AEC dated December 4, 1971, Ms. Weik filed a request for a special public hearing on the AEC's determination not to suspend

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Honorable Ogden R. Reid

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construction activities on Indian Point Unit 3 pending completion of the associated environmental review being conducted under the provisions of Appendix D. to 10 CFR Part 50 of the AEC's regulations, pursuant to the National Environmental Policy Act of 1969. The enclosed Memorandum and Order describes the basis for the denial of Ms. Weik's request.

If we can be of further assistance to you in this regard, please advise us.

Sincerely,

Original signed by A. Giambusso

A. Giambusso, Deputy Director  
for Reactor Projects  
Directorate of Licensing

Enclosures:

1. Excerpt from JCAE Hearings
2. Memorandum and Order

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# ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER

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HEARINGS  
BEFORE THE  
JOINT COMMITTEE ON ATOMIC ENERGY  
CONGRESS OF THE UNITED STATES  
NINETY-FIRST CONGRESS  
FIRST SESSION  
ON  
ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER

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OCTOBER 28, 29, 30, 31; NOVEMBER 4, 5, 6, AND 7, 1969

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PART 1

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mental agents for the Hanford employees has been completed. It is anticipated that an equivalent state of data processing on the Oak Ridge employees will be achieved within another year. By late 1970, analysis of the causes of death can begin for an estimated 50,000 deaths within the approximate 770,000 members of the study population.

Dr. SEABORG. I think we should emphasize that it is too early to draw definitive conclusions. I think what we should make clear here is that we just have large samples of populations upon which observations have been made over a long period of time and that eventually we will be able to come out with some meaningful statistics on this important point.

Representative MAY. Dr. Seaborg, I really wanted to bring this up for the record because when it comes to calming people's fears it is not easy to calm them when you just say, "we think."

This is a situation where we know that after a really meaningful number of years and a really good sample of the population, that there have not developed any of the unexpected or unpleasant effects that people continually bring up.

Thank you very much.

That is all, Mr. Chairman.

Representative HOSMER. Mr. Chairman, since we have gone around the country somewhat in geography, I wonder if at this point you might furnish us for the record some comment relative to what an intervenor at the Indian Point 3 hearings, named Mary Hays Weik, said concerning the epidemiological situation in the community of Montrose and explain what her allegations were and what the facts are.

Dr. SEABORG. Yes; we will be glad to do that. We have looked into that quite carefully. We are not able to substantiate her allegations. We have that information and will furnish it for the record.

Chairman HOLIFIELD. Fine.

(The information referred to follows:)

#### STATEMENT FOR THE RECORD

(At the AEC public hearing on April 28, 1969, concerning Consolidated Edison Company's application for a construction permit for Unit 3 of its Indian Point Nuclear Generating Plant, Mrs. Mary Hays Weik presented a list of seventeen citizens of Montrose, New York, whose deaths from cancers had occurred in a sharply localized area directly downwind of the Indian Point plant during the period 1964-1968.)

The AEC has investigated the statements of Mary Hays Weik at the Indian Point #3 hearings and earlier statements by her. Mrs. Sandra Kinch, Director Health Statistics of the New York State Department of Health was contacted and has provided mortality statistics for the Montrose area of New York. Montrose is a district in the Courtland township and is not a separate registration district for the New York State Department of Health; therefore mortality statistics for the Montrose area *per se* are not available. Since the death certificates are not recorded specifically for Montrose, we are unable to state where the number 17 came from. It is fair to say, however, that without some reference to the incidence of cancer prior to the operation of the nuclear power reactor, and consideration of the increase in the size of population in Montrose, the number by itself has no meaning epidemiologically.

In earlier statements by Mary Hays Weik, she reported that lung cancer is 35% over the U.S. rate, digestive cancer is 108% higher, leukemia 43% higher, and birth defects are up by 38% in the Indian Point area. On the basis of the mortality statistics provided by the New York State Department of Health, it is clear that the communities in question are small (about 20,000 people), and the number of cases of cancer of digestive organs, respiratory system, lymphatic

hematopoietic and congenital malformations were too small to be of significance in terms of reporting percentages such as are used by Mrs. Weik. With a small population base considerable variation would be expected from year to year in the incidence of most diseases and fairly large percentage changes may be meaningless.

Furthermore, extrapolation from small population sizes to 100,000 for comparison with national figures is considered not valid by experts in this field. For instance, in Peekskill in 1966 there were two deaths reported from lymphatic-hematopoietic tissue cancer and five reported in 1967. This would appear to be an increase from 10.8 to 27.2 per 100,000 population or almost a three fold increase in the rate in one year. On the other hand, it would appear that the occurrence of 4 congenital malformations in Ossining in 1966 and 2 in 1967 represented a reduction of 50% in congenital malformations. Neither of these represent meaningful changes. However, when the whole of Westchester County with a population of 859,359 is examined, it is clear that there is little change in any of the causes of death reported. The death rate due to lymphatic-hematopoietic tissue cancer in 1966 and 1967 has remained at approximately 18 deaths per 100,000 population which compares with the national average of approximately 15 per 100,000 population.

It might be pointed out that radiation effects are commonly studied by exposing groups of experimental animals to high levels of radiation and then comparing the incidence of various biological effects with the incidence of these effects in a control group of identical animals that have not had unusual exposure to radiation. The incidence of effects increases or decreases as the exposure is increased or decreased. As lower exposures are tried the difference between the incidence of a given biological abnormality in the exposed group and in the control group becomes so small that if a difference exists it is masked by normal variation from one group of experimental animals to another. Under these conditions, it becomes impossible to determine whether the observed effect is occurring more frequently in the irradiated group of animals or in the unirradiated groups. Exposure of the population from the operation of nuclear power reactors is far below the lowest levels at which observable results of any kind have been identified in animals or could be expected in humans.

It has been impossible to demonstrate radiation effects due to differences in the radiation exposure rate from natural background cosmic radiation in the Denver, Colorado, area when compared with lower background areas such as Chicago. Since reactor-produced radiation in the vicinity of nuclear power plants is far less than the difference in natural background between Denver and Chicago, it would not be possible to demonstrate any rising incidence of cancer near atomic plants as a result of radiation exposure from the plant.

Chairman HOLIFIELD. I am going to call on Dr. Totter, who is the Director of the AEC's Biology and Medicine Division and ask him if he has anything to add to the subject matter that we just discussed.

Dr. TOTTER. Thank you, Mr. Chairman.

I could add that studies supplementary to the very large epidemiological study that the chairman and Commissioner Johnson spoke about have been made by others.

The U.S. Public Health Service made a very careful survey along the Columbia River of the incidence of leukemia and other types of cancers. They found no basis for believing there was any change whatsoever from the statewide incidence of leukemia.

Representative HOSMER. Does that follow some publication in some magazine of an article by somebody who expressed a contrary view?

Dr. TOTTER. Yes.

Representative HOSMER. This sets forth the facts with clarity and detail. I suppose, that would refute that article.

Dr. TOTTER. Yes; it does.

Representative HOSMER. Thank you.

Chairman HOLIFIELD. Now on the subject of mutations, of course, in order to make the record complete, we do not know as much as we would like about the mutation of genes, do we?

Dr. TOTTER. We have certainly reduced the uncertainty in our knowledge to a great extent, but there is still, of course, a degree of uncertainty which we may never be able to eliminate because of the size of the population needed for such an evaluation and the random occurrence of natural mutations.

Mr. RAMEY. There is always, of course, background radiation that has affected people for centuries.

Chairman HOLIFIELD. Yes. There is background radiation everywhere just as there is in this room. It varies, of course, with altitude and therefore to differentiate between the effect of natural radiation on genes and chemical effects on the mutation of genes and other sources that might adversely affect them, is difficult if not impossible.

Dr. TOTTER. It seems to be so far.

Chairman HOLIFIELD. In that situation, can you say that we are proceeding in a prudent fashion, taking into consideration from every reasonable and practical standpoint, protective measures for the people who are working in the nuclear industry and, of course, the population at large?

Dr. TOTTER. Yes, sir; we certainly are. We have built-in safety factors. For example, the estimated genetic doses are based on acute—rapidly given—high doses of radiation and we know now that lower doses given over a longer period of time are less damaging by a factor of from 4 to 15.

In other words, while we base our standards on the effects of acute doses, most of the exposures that will ever occur will be at the lower dose rate and therefore the standards that we use have a factor of somewhere between 8 and 12 already built into them.

Chairman HOLIFIELD. Of course, the Russell experiments at Oak Ridge and other experiments of that type on mice and other mammals have been going on for many, many years.

Dr. TOTTER. That is correct.

Chairman HOLIFIELD. And we have gained a great deal of knowledge in the field of mutation of genes from those experiments.

Dr. TOTTER. Yes, sir.

Chairman HOLIFIELD. And we are making use of it in every way we can?

Dr. TOTTER. We certainly are.

#### AEC RESEARCH IN BIOLOGICAL EFFECTS OF RADIATION

Chairman HOLIFIELD. What is the financial support of your division this year?

Dr. TOTTER. It is \$80.5 million.

Chairman HOLIFIELD. Is that about the level of, let us say, the past 10 or 15 years?

Dr. TOTTER. For the last 3 years, that is about the level at which the program has been supported. Before that, it was less but it has been quite well supported for the last 20 years or so.

Chairman HOLIFIELD. Do you feel that you are funded in that division to the extent that you are able to do research and development on problems which are important? Do you need more money? [Laughter.]

I hesitate to ask that question because I know that everybody needs more money.