UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JAN 17 1979

The Honorable William Proxmire
United States Senate
Washington, D. C. 20510

Dear Senator Proxmire:

The Nuclear Regulatory Commission (NRC) Staff has reviewed the letter of November 6, 1978 from Albert and Helen Wiedemann, Route 2, Sheboygan, Wisconsin 53081. The following comments are provided in response.

The Wiedemanns have expressed concern over the storage of spent nuclear fuel at the Haven plant, in particular, Amendment 15 which would allow increased fuel storage capability at Haven. All nuclear plants have the capability for storage of spent nuclear fuel. The safety of such storage is carefully evaluated and monitored by the NRC to assure the protection of public health and safety.

As a result of the current national posture not to reprocess spent nuclear fuel, additional storage capacity is required to provide interim storage until permanent high level waste storage facilities are established. The increased capacity proposed for Haven would have negligible safety significance and approval of such fuel storage expansion is given only if all appropriate safety criteria are met and if environmental impacts are judged acceptable.

As an example of the procedures being followed for review of the proposed Haven fuel storage expansion, I am enclosing a copy of the NRC Staff's Safety Evaluation and Environmental Impact Appraisal relating to modification of the spent fuel storage pool at the Kewaunee Nuclear Power Plant. Our review addressed all important aspects of the licensee's request for an increase in the spent fuel pool storage capacity. These documents identify the issues reviewed by the Staff and provide the basis for the conclusion that such an increase is consistent with our requirements for the protection of public health and safety and will not adversely affect the environment. You will find a summary of the safety evaluation on pages 11 and 12 of that report and a summary of the environmental analysis on page 19 of that document.

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The Wiedemanns expressed concern about the "radiation belcher" near their home. Part of NRC staff's routine evaluation of a construction permit application for Haven addresses the dose that will result from the radiological effluents. No plant is granted a construction permit until it is determined that the radioactive waste treatment systems are adequate to assure that population doses resulting from nuclear effluents meet the requirements of 10 CFR 50.34a of the Commission's regulations and Appendix I thereto. These requirements effectively limit releases so that resultant doses are far below those which any individual receives from natural background radiation, and from other sources of radiation. For example, each individual receives on the average over 100 millirem/year from natural background radiation emanating from the air, water, earth, and objects we all come into contact with. On the average, every individual in the U.S. receives an additional 100 millirem/year from medical and dental uses of radiation for both diagnostic and therapeutic purposes. Nuclear plants on the other hand expose the average individual in the U.S. to less than 0.1 millirem/year, which is an increase of less than 0.1 percent due to nuclear power. The most affected individual, living nearest to a nuclear power plant, is likely to receive no more than 10 millirem/year. The Wiedemanns, living about one mile from the Haven plant would likely receive substantially less. We feel that the risks from exposures to the very low levels of radiation associated with routine operation of nuclear power plants are extremely small in relation to the other competing risks associated with living a useful and satisfying life.

The letter mentions the effects of the high power poles on "the molecules in your body". Part of the Staff's environmental evaluation concerns the possible effects of the transmission lines. The Electric Power Research Institute and the Department of Energy are carrying out extensive programs on the effect of electric fields on large animals (EPRI project EA-458). Other research bodies have also studied these matters, both in the U.S. and abroad. It has been shown that for the electric field gradients currently present below transmission lines of over 300 kilovolts there would be no measurable effects. The studies are primarily to determine the existence of biological effects from higher voltages and to establish whether changes in design and operation are necessary.

The letter also implies that coal is somewhat better than nuclear fuel for the generation of power. We have enclosed a report that compares the health effects of power production by coal and by nuclear means. It was determined that production of a given amount of power by nuclear means carries fewer health effects than if the same amount of power is produced by coal.

Thank you for providing NRC the opportunity to assist you in responding to this inquiry.

Sincerely,

Leo V. Gossick
Executive Director
for Operations

Enclosures:
1. Kewaunee SER on Spent Fuel Pool Expansion
2. Kewaunee EIA on Spent Fuel Pool Expansion
3. NUREG-0332

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Telephone concurrence obtained

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