

2340 Richards Avenue
Idaho Falls
Idaho 83401
September 21, 1974

Ms. Dixie Lee Ray
USAEC 1717
H Street NW
Washington, D. C. 20545

Dear Ms. Ray:

I am resigning my position as an Associate Scientist with Aerojet Nuclear Company in order to be free to tell the American people the truth about the potentially dangerous condition in the nation's nuclear power plants. As an employee of Aerojet Nuclear I have not been able to freely express my concerns about the nuclear reactor safety issues. Consequently I will be working for the Union of Concerned Scientists in an attempt to more fully inform the public about the current state of knowledge concerning reactor safety, particularly the emergency core cooling systems.

I have been employed at the Idaho National Engineering Laboratory for the past seven years for Aerojet Nuclear and its predecessors. During that time I have been involved in the development of computer codes which are used in the thermal-hydraulic predictions of loss-of-coolant situations. I was the principal author of the THETA1-B code which was adopted by the AEC as an accepted method of predicting the thermal behavior of a fuel rod during a LOCA. The last several years I have been working on a new thermal-hydraulic loop code. The primary goal of this project is to develop analytical models which will more realistically describe the physical processes that could occur during a LOCA.

While analytical models for predicting the fluid behavior during a LOCA have been developed by both the nuclear industry and the AEC, the techniques in general are not capable of describing actual physical situations with a reasonable degree of reliability. The AEC is using shaky and unproven computer predictions as a basis for answering such vital questions as the effectiveness of reactor safety systems in preventing catastrophic accidents. This is wholly unacceptable.

Adequate experimental programs to determine the workability of reactor safety systems are also urgently needed. Experimental verification of the analytical computer codes is a necessity if we are to place our faith in these methods.

Aerojet Nuclear employees were used by the AEC as consultants during the ECCS hearings. In 1971 the AEC adopted the methods we had developed, but completely ignored our reports concerning the serious limitations of those methods. They were the best that could be developed based on the limited analytical and experimental

research the AEC and nuclear industry had carried out, but they were preliminary and definitely not an adequately proven way of determining nuclear reactor safety. Little has changed in the past few years, and the safety of nuclear reactors is still uncertain and unverified.

The AEC is ignoring advice from many of its experts on reactor safety problems, a situation that has given rise to numerous resignations. Several of my colleagues have gone to work trying to help the utility companies understand the reactor safety problems that the AEC would prefer to ignore, but I believe that the general public, and not just the companies investing in nuclear generating equipment, must be told the truth about the potential hazards.

I also have personal reservations concerning the radioactive waste problems. While I am not an expert in waste management I find the long term radioactive waste question deeply disturbing. The present generations get the electricity from nuclear plants and we leave the radioactive wastes for our children and future generations to take care of. Plutonium, an extremely hazardous material that retains its radioactive potency for hundreds of thousands of years, is hardly a legacy that future generations should be given.

In spite of the soothing reassurances that the AEC gives to an uninformed, misled public, unresolved questions about nuclear power plant safety are so grave that the US should consider a complete halt to nuclear power plant construction while we see if these serious questions can, somehow, be resolved. The most prudent course of action that we can take is to proceed cautiously.

Sincerely,

Carl J. Hocevar

Cc: Dan Ford, Union of Concerned Scientists