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May 21, 1980.

Dr. Roger J. Mattson  
Director of the Division of the Safety Technology  
U.S. Office of Nuclear Reactor Regulation NRC  
Washington, D.C.

Dear Dr. Mattson:

I am indebted to Hon. Richard Schweiker of the U.S. Senate for advising that you were the proper party to write to regarding the plan that I have arrived at to reduce the chance of an accident of the type that occurred at Three Mile Island nuclear plant over a year ago to a very negligible possibility as compared with such plants as they are today. It will of course be necessary that the NRC issue strict rules for the necessary changes in both design and operation of the plants.

First I will briefly identify myself and background. I am an Electrical Engineering graduate of the U. of Texas 1916. I worked in various capacities for Westinghouse for approximately 30 years and for a considerable portion of that time with problems of power companies. Then I went with Ebasco Services, Inc. in New York City and supervised the Electrical design of numerous generating units for many of the operating companies. When I first retired in 57, altho the generating units were much smaller than today the total was several million kilowatts. So much for experience.

The plan I have evolved is relatively simple and will not add very much to the plant costs it does not require anything new in equipment than is now available and for that reason under present Patent Law does not allow me protection for the idea. Therefore if the plan gets into the hands of the media the result will be bedlam so far as who did solve the problem. I have noted very recently that a case or two of methods which in the past have been ruled as unpatentable are now under review by the Supreme Court to determine if they should be patentable as interpreted by the Court on a wider basis. An article on this appears in a publication of the IEEE vol 4, No.3, March 1980. Incidentally I have been a member of IEEE for many years and am a Fellow and a Life Member.

While I am principally interested in getting credit for evolving the nuclear plant protection plan, I feel that I should get some reasonable compensation because the value of the plan in substantially preventing TMI type of accidents will be worth a tremendous amount to both the public and the power industry. For instance would it be in order for NRC to retain me as a consultant in helping to finalize the regulatory part of the requirements set forth by the NRC? Checking the requirements on each nuclear plant design will be necessary to be sure the the NRC requirements are fully met.

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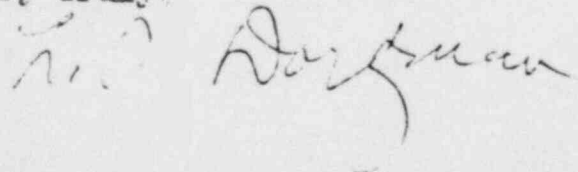
First I will give the scheme of the plan in general terms and then give my reasons for following the proposed design modifications and making the operating procedures of the plan mandatory. The plan is predicated on the fact that only a predetermined amount of time will be allowed for an operator to try to correct any plant operating change that occurs either automatically or by operator error or through apparatus malfunction or failure. That time allowed must be well within the fuel melt down time of the reactor involved and must be determined for each nuclear generating unit. When that time has elapsed the entire control of the unit must be taken from the plant operators and be transferred to automatic control and the unit shut down. As you can see if that method had been used at TMI there would have been no partial melt down and it would have been the same as any ordinary shut down. Sure everyone prefers an orderly shut-down but not when the possible alternative is looked at. Why was this method used from the first nuclear unit to the present? Because the industry reasoned that such satisfactory results had been had with fossil fuel plants that there would be no problems in just following through in the case of nuclear units. TMI shows that is not true. And as I look back over my more than 50 years of close contact with the power industry I realize why. I noticed quite a few years ago that an operator in a power plant might be as good as they come as long as operating procedures were normal would become excited and confused whenever the unexpected occurred or he happened to make a miss move. One suggestion that has been made was that the operators be trained much better. I can see how that might even work against the operator doing better. So I must insist that the operator be given only the time I have suggested above and then the control for shut down be taken completely away from him. Some engineers may want to make a modification of procedure during the pre-melt down time, but that will be a matter of opinion.

A study of the entire nuclear unit will have to be studied and present protective schemes modified to fulfill the above requirements. That means that if a cooling water pump for instance is relayed to trip off and sound an alarm if a circuit failure occur to the motor of the pump that is not satisfactory. For example if the pump shaft breaks or the impeller seizes, or any conceivable thing happens to stop the water stop flowing the time must start immediately to automatically shut down the unit after the above mentioned time allowed the operator. This principle must be applied to all functions that in any way are part of the reactor operation.

Dr. Mattson I realize that it is not easy to handle this matter perhaps to your complete satisfaction by mail so I would be glad to have any question that occur to you in order to make the plan clear. And I will even consider coming to Washington if necessary.

Yours Very Truly,

C.C. Senator Richard S. Schweiker.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20545

MAY 06 1980

The Honorable Richard S. Schweiker  
United States Senate  
Washington, D.C. 20510

Dear Senator Schweiker:

Your memorandum of April 11, 1980 forwarded for NRC consideration Mr. L.O. Dorfman's March 26, 1980 letter to you. Mr. Dorfman requested you inform him of the proper individual within the NRC to send his recommendations concerning improvements in nuclear power plants.

Dr. Roger J. Mattson, Director of the Division of Safety Technology within the Office of Nuclear Reactor Regulation, would be happy to receive Mr. Dorfman's comments and recommendations. He is responsible for assuring that the Commission's basic safety and environmental policies, goals and requirements are satisfied by the regulatory process including the setting of regulatory priorities for reactor safety research and for reactor safety standards development.

We will be pleased to consider any comments and recommendations Mr. Dorfman may have on improvements in nuclear power plants.

Sincerely,

(Signed) T. A. Rehm

William J. Dircks  
Acting Executive Director  
for Operations

Enclosures:

Letter from R. Schweiker dated 4/11/80  
Letter from L. Dorfman dated 3/26/80

*Dupe of*

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