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Docket No. 50-320

NOV 6 1980

U.S. NUCLEAR REGULATORY COMMISSION
GENERAL SERVICES
NOV 7 11 3 01

Ms. Deanne L. Berry
22184 Via Camino Court
Cupertino, California 95014

Dear Ms. Berry:

I am writing in response to your letter of March 4, 1980, to the Department of Energy requesting information about the Three Mile Island Nuclear Station. Your letter was referred to the Nuclear Regulatory Commission for response.

With regard to your concern about the release of contaminated water, except for releases of liquids containing only low or nondetectable levels of radioactivity to the Susquehanna River, such releases are not currently permitted. The Commission has authorized use of EPICOR-II water treatment system for processing the waste water stored in tanks in the auxiliary building. We do not currently permit the discharge of water processed by the EPICOR-II system. The disposal of the water processed by EPICOR-II is addressed in the Programmatic Environmental Impact Statement (PEIS) on the decontamination and disposal of radioactive waste at Three Mile Island. Enclosed for your information is a copy of the PEIS.

As a result of releases containing only low or nondetectable levels of radioactivity, the levels of radioactivity in the Susquehanna are indistinguishable from existing background levels at public water supply intakes from the river. These levels have been confirmed by independent measurements made by the NRC, the Environmental Protection Agency (EPA), and the Commonwealth of Pennsylvania.

The valve that opened at the Florida Power Corporation's Crystal River-3 Plant in February 1980 was identical to the valve used at Three Mile Island Unit-2. The valves were not built by Babcock and Wilcox, but by Dresser Industries. Babcock and Wilcox, the designer of the nuclear steam supply system, utilized the Dresser electromatic valve on both the Crystal River and Three Mile Island Unit-2 systems. The valve is designed to open when a high pressure condition is sensed in the reactor coolant system.

We are not aware of other firms refusing to build this "part" or comments that the valve was inefficient.

To reduce the likelihood of the relief valve opening after the TMI-2 accident, modifications to the high pressure reactor scram set point (decrease) and the relief valve opening set point (increase) were required, so that the valve should not open for loss of feedwater or turbine trip transients (the type of event which started the TMI-2 accident). Since these modifications were

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made, there have been no transients which caused the relief valve to open on high reactor coolant system pressure at B&W reactors. The relief valve at Crystal River 3 opened due to an erroneous opening signal which was caused by an instrumentation and control system malfunction rather than an actual high system pressure which existed at TMI-2. The CR-3 valve operated correctly, reclosing when the malfunction was corrected.

The failure of the valve to reclose at TMI-2 (cause to be determined) and the failure to be "commanded" closed at Crystal River, while both undesirable, should not by themselves cause severe consequences. The emergency core cooling system (ECCS) was interrupted by the operator at TMI-2 and core damage resulted. The ECCS was allowed to perform at Crystal River and no core damage occurred. The corrective measures directed by the NRC following the Three Mile accident, which included operator training and specific requirements on ECCS operation, contributed to the correct actions by the operator during the Crystal River event. Corrective actions have since been taken to reduce the likelihood of the type of instrumentation malfunction that occurred at Crystal River 3.

The NRC has recently established a Division of Human Factors Safety. One of the functions of this division is to review and evaluate the interaction of systems and equipment with humans in the design and operation of nuclear reactors. A draft "Human Engineering Guide to Control Room Evaluation" has been published for comment. Following publication of final guidelines, all licensees and applicants for operating licenses will be required to conduct a detailed control room design review. We expect these reviews to be initiated within the next several months and to be completed by the end of 1982. The reviews will include assessment of control and display, panel layout, annunciator design, labelling of panel components, work station layout including visibility and reach envelopes, and control room environment, specifically noise and illumination.

I appreciate your concerns and assure you that every effort is being made to ensure the continued protection of the health and safety of the public, not only at the Three Mile Island Station, but also at all nuclear power plants.

Sincerely,

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Bernard J. Snyder, Program Director
TMI Program Office
Office of Nuclear Reactor Regulation

Enclosure:

PEIS

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