



**Consumers
Power
Company**

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June 7, 1982

Harold R Denton, Director
Office of Nuclear Reactor Regulation
Division of Licensing
US Nuclear Regulatory Commission
Washington, DC 20555

MIDLAND PROJECT
MIDLAND DOCKET NOS 50-329, 50-330
SAFETY EVALUATION REPORT INFORMATION
FILE: 0505.16 SERIAL: 17300

Enclosure: Post Accident Access to the DHR Manual Valves

The enclosure provides confirmatory information requested by the NRC Staff in the Safety Evaluation Report for the Midland Plant (NUREG-0793). This information will close out the subject issue.

James W. Cook

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RHernan, US NRC
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POST ACCIDENT ACCESS TO THE DHR MANUAL VALVES

The manual valves (410-009, 410-016, 411-003 and 411-008) in the decay heat removal (DHR) system which must be opened to allow the DHR system to take suction from the reactor coolant system hot leg are located in the engineered safety features (ESF) pump rooms on the 568'-0" level of the auxiliary building (AB). These valves will have extended handwheels reaching into the north-south AB corridor at this level. The corridor runs between the Unit 1 and Unit 2 ESF pump rooms. The north end of the corridor has a watertight door separating it from that end of the AB. The south end of the corridor expands into an area containing low level radwaste tanks and pumps and one of the AB sumps.

Access to the corridor can be either from a stairway into the south area of the corridor or by a stairwell just north of the corridor watertight door. The stairs and pathways to the 568'-0" level do not go directly past any equipment that might contain post-accident source terms and are accessible from the control room through access control.

Two concerns arise when discussing post-accident access to this corridor. These concerns are flooding and radiation.

The ESF pump rooms are sealed from the corridor by watertight doors. There is no flooding concern from these rooms. There are two sources for flooding the corridor on the 568'-0" level. The first is the low level radwaste tanks located in the south area of the corridor. These tanks are two laundry drain tanks (OT-84A, B), having a 4000 gallon capacity each and the chemical waste receiver tanks (OT-83A, B), having a capacity of 1500 gallons each. The tanks are not seismically designed. If all four tanks were to spill their design capacities to the corridor floor, the depth of water would be approximately 10 inches. Additional water from rooms which drain to these tanks via process drain lines was not considered.

The second source of flooding in the area is the fire suppression water system used for fire protection in the south end of the corridor. The floor above the corridor also has a fire suppression water system and this source would add to the above. The water headers have flow alarms in the control room to indicate that water is being discharged.

As mentioned above, one of the two AB sumps is located at the south end of the corridor. This sump has two sump pumps and is capable of draining the entire corridor.

If flooding occurs in the corridor, the operator could be notified by high radiation levels if the radwaste tanks fail, by the fire suppression water system flow alarm if the lines fail or by excess liquid being pumped to the liquid radwaste system for either flooding source. The operator should have sufficient warning to prevent further flooding or to remove the water prior to the time necessary to gain access to the corridor. Even if the water cannot be removed prior to the time when the valves need to be operated, it is not

expected that the flooding would cause an environment that would prevent access to the valve handwheels.

The second concern when discussing post accident access to the corridor is the radiation level in the corridor. In response to NUREG-0737, Item II.B.2, a post-accident vital area access study was performed for Midland. This study is described in the Responses to Post TMI-2 Issues and Events included with the Midland FSAR. This study showed that even with the ESF pumps and piping containing degraded core source terms (the reactor building sump source as described in Responses to Post TMI-2 Issues and Events, NUREG-0737, Item II.B.2), at 6 hours after an accident, the corridor dose rate is 8.5 rem/hr. Because the DHR system is designed to be put in operation when the RCS temperature and pressure are reduced to 280°F and 300 psig, the earliest an operator could start DHR system operation is at least 6 hours after reactor shutdown. At 6 hours therefore, after a TMI type accident, an operator will have about 20 minutes in the corridor before receiving a 3 rem dose. This 20 minutes is more than enough time to open the DHR valves.

Based on the above discussion, we feel that the manual DHR valves will be accessible after accidents.

CONSUMERS POWER COMPANY
Midland Units 1 and 2
Docket No 50-329, 50-330

Letter Serial 17300 Dated June 7, 1982

At the request of the Commission and pursuant to the Atomic Energy Act of 1954, and the Energy Reorganization Act of 1974, as amended and the Commission's Rules and Regulations thereunder, Consumers Power Company submits the analysis for Post Accident Access to the DHR Manual Valves.

CONSUMERS POWER COMPANY

By J W Cook
J W Cook, Vice President
Projects, Engineering and Construction

Sworn and subscribed before me this 10 day of June, 1982 .

Barbara B. Burson
Notary Public
Jackson County, Michigan

My Commission Expires September 8, 1984