



October 6, 2000

C1000-06  
10 CFR 50, Appendix R

Docket Nos.: 50-315  
50-316

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Stop O-P1-17  
Washington, D.C. 20555-0001

Donald C. Cook Nuclear Plant Units 1 and 2  
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
REGARDING REACTOR COOLANT PUMP OIL COLLECTION TANK  
SYSTEM (TAC NOS. MA8183 AND MA8184)

- References:
1. Letter from S. A. Varga (NRC) to J. Dolan (I&M), "Donald C. Cook Nuclear Power Plant, Unit Nos. 1 and 2 Fire Protection – Request for Exemption from Requirements of Appendix R to 10 CFR 50, Sections III.G and III.O," dated December 23, 1983.
  2. Letter from R. P. Powers (I&M) to NRC Document Control Desk, "Correction to Information Used to Grant Appendix R, III.O Exemption," C0200-07, dated February 29, 2000.
  3. Letter from J. F. Stang (NRC) to R. P. Powers (I&M), "Donald C. Cook – Summary of Telephone Conversation July 26, 2000, and Resulting Request for Additional Information Regarding (TAC Nos. MA8183 and MA8184)," dated August 11, 2000.

In Reference 1, the Nuclear Regulatory Commission (NRC) granted Indiana Michigan Power Company's (I&M) request for an exemption from a 10 CFR 50, Appendix R, Section III.O requirement that the reactor coolant pump lubricating oil collection system be sized to collect oil from all potential leakage sites. In Reference 2, I&M corrected some of the information that the NRC used as the basis for granting the exemption. On July 26, 2000, members of the NRC staff and I&M representatives discussed the information provided in Reference 2. In Reference 3, the NRC provided a summary of this discussion and requested additional information. I&M's response to the request for additional information is provided in the attachment to this letter.

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There are no new commitments made in this submittal.

Should you have any questions, please contact Mr. Randall M. Crane, acting Manager of Regulatory Licensing, at (616) 697-5020.

Sincerely,



M. W. Rencheck  
Vice President Nuclear Engineering

/jen

Attachment

c: J. E. Dyer  
MDEQ – DW & RPD, w/o attachment  
NRC Resident Inspector  
R. Whale, w/o attachment

ATTACHMENT TO C1000-06

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Indiana Michigan Power Company (I&M), the Licensee for Donald C. Cook Nuclear Plant (CNP) Units 1 and 2, provides the following response to Nuclear Regulatory Commission (NRC) letter, "Donald C. Cook – Summary of Telephone Conversation July 26, 2000, and Resulting Request for Additional Information Regarding (TAC Nos. MA8183 and MA8184)," dated August 11, 2000. This request is in regard to the information provided to the NRC by letter dated February 29, 2000, in which I&M stated that there were potential electrical ignition sources in the vicinity of the reactor coolant pump (RCP) lubricating oil collection tanks.

NRC Request 1:

- 1) "Provide a description of the additional ignition sources and the specific action used to address them."

I&M Response to Request 1:

The potential ignition sources and their disposition are given in the table below.

CNP Unit	Potential Ignition Source	Disposition
1 & 2	<p>Energized 480 volt alternating current (vac) welding transformer and associated welding outlets in containment.</p> <p>Open power take-off box B-420.</p> <p>Energized temporary extension cords on the lower containment floor.</p>	<p>Containment inspections are performed prior to ascending into Mode 4 in accordance with plant procedures. The Unit 1 procedure requires revision to specifically verify that the breaker to the 480-vac welding transformer is open, there are no electrical cords plugged into power outlets in lower containment and the 120-vac and 480-vac receptacles are secured (covers closed where applicable) with all temporary/extension cords removed and stored above floor level. The Unit 2 procedure already reflects these changes. CNP previously committed to revise the Unit 1 procedure prior to Mode 4 by a letter dated February 29, 2000.</p>
1 & 2	<p>Improperly sealed junction boxes – RCP lubricating oil collection tank level circuits.</p>	<p>These junction boxes have been resealed per the CNP corrective maintenance program.</p>

NRC Request 2:

- 2) "Provide a description of where the oil collection tank overflow would go and address any fire hazards that may result."

I&M Response to Request 2:

Each CNP unit has one RCP lubricating oil collection tank to collect the oil leakage from the four RCP motors. The tanks are sized to collect the approximately 265 gallons of lubricating oil contained in one RCP motor without overflowing. The combined loss of lubricating oil from all four RCPs would result in an overflow of approximately 785 gallons. Any overflowing oil would be discharged out of the RCP lubricating oil collection tank vent piping tee, located approximately 6.5 feet above the lower containment floor. This oil would flow onto the tank exterior, then onto the lower containment flooring around the tank. There are no floor drains in the RCP lubricating oil collection tank area. The lower containment floor does not have a significant slope in any direction, and there is no berm surrounding the RCP lubricating oil collection tank.

There are no physical barriers to prevent overflowing oil from migrating toward the lower containment sump and containment recirculation sump. These two sumps are located in the lower containment, approximately 180 degrees from the RCP lubricating oil collection tank.

The lower containment sump is approximately 9.75 feet deep from the lower containment floor to the bottom of the sump. The containment recirculation sump is approximately 7.67 feet deep from the lower containment floor to the bottom of the sump, and includes a curb surrounding the top of the sump that is approximately 6 inches high. Therefore, the top of the containment recirculation sump is approximately 6 inches higher than the lower containment floor. The bottom of the lower containment sump is approximately 2 feet lower than the bottom of the containment recirculation sump. The two sumps are inter-connected by an 8-inch pipe. This pipe is connected to the lower containment sump approximately 2 feet above the bottom of the sump, and slopes upwards approximately 5 inches to connect to the bottom of the containment recirculation sump.

Oil reaching the sump area would flow directly from the lower containment floor elevation into the lower containment sump. However, in the absence of flood water, the oil reaching the containment recirculation sump would not flow directly into the sump due to the approximately 6-inch high curb blocking the inlet. Once approximately 175 gallons of oil flows into the lower containment sump, the containment recirculation sump would also begin to fill with the oil via the open inter-connecting piping. Should the entire 785 gallons of overflow oil migrate into the two sumps, the approximate final sump levels would be 30 inches in the lower containment sump and 5 inches in the containment recirculation sump.

Any oil pooling is most likely to begin in the immediate vicinity of the RCP lubricating oil collection tank due to the lack of a significant lower containment floor slope. The identified combustible materials in the area around the RCP lubricating oil tank include cable insulation and RCP lubricating oil.

Both the migrating and pooling oil from an overflow of the RCP lubricating oil collection tank represent a relatively insignificant fire hazard. Unit 2 has administrative controls to ensure that there are no ignition sources in the lower containment when the RCPs are required to be operable. CNP has committed to establish similar administrative controls for Unit 1 prior to entry into Mode 4 by a letter dated February 29, 2000. Even if ignition of the overflowing RCP lubricating oil were postulated, the small amount of intervening combustibles would tend to limit the spread of a fire and subsequent damage to plant equipment.

The Fire Hazards Analysis (FHA) for CNP Unit 1 and Unit 2 lower containment fire zones already considers the effects of 1060 gallons of RCP lubricating oil and the quantity of cable insulation in determining fire loading. The FHA demonstrates that the plant can be safely shut down in accordance with the requirements of 10 CFR 50, Appendix R, in the event of a fire in the lower containment fire zone.