

November 3, 1999

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

**DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT**

Reply to NRC Questions Regarding Primary Coolant Pump Oil Collection Systems

In a letter dated August 13, 1999, Consumers Energy Company submitted a request for exemption from the requirements of 10 CFR 50, Appendix R, as they affected the Primary Coolant Pump Oil Collection Systems installed at Palisades. On September 30, 1999, a telephone conference was held regarding that request. During that call Consumers Energy responded to several questions raised by the NRC staff reviewer, and agreed to provide those responses in writing as a follow up to that call.

In the August 13, 1999, letter we stated that the motor for Primary Coolant Pump D would be replaced during the 1999 refueling outage with a new motor which contains a considerably larger volume of lubricating oil than the existing motors. In conjunction with this motor change, the oil collection tank for Primary Coolant Pump D will be replaced with a new tank of appropriate size. Since the 1999 refueling outage has now begun, and the oil collection tank replacement will be completed prior to plant startup, an exemption is no longer required for Primary Coolant Pump D. The attachment to this letter provides the requested responses.

SUMMARY OF COMMITMENTS

This letter contains no new commitments and no revisions to existing commitments.

  
Nathan L. Haskell  
Director, Licensing

CC Administrator, Region III, USNRC  
Project Manager, NRR, USNRC  
NRC Resident Inspector - Palisades

Attachment

**ATTACHMENT**

**CONSUMERS ENERGY COMPANY  
PALISADES PLANT  
DOCKET 50-255**

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**2 Pages**

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NOTE: A new oil collection tank is being installed for the D Primary Coolant Pump (PCP) during the current refueling outage. Since this tank is being resized to accept the entire volume of oil from the new PCP motor, an exemption is no longer being requested for this pump. Therefore, responses to the NRC requests are provided only for the A, B, and C PCPs.

NRC Request: Describe the drain path for potential leakage from the oil collection tanks

Response: The oil collection tanks for the A and B Primary Coolant Pump (PCP) motors are on the 607 foot elevation of the containment, and the tank for the C PCP is on the 625 foot elevation. Should the A, B, or C collection tank overflow out its vent line, oil would drip onto the concrete pedestals and floor areas below the tanks. From under the tanks oil would migrate down the pedestals and across concrete floors toward nearby floor drains. These floor drains combine into drain headers (part of the Reactor Cavity Flooding system) which discharge on to the 590 foot elevation floor in proximity to other floor drains. The 590 foot elevation floor drains discharge directly to the containment sump.

NRC Request: Describe the environmental conditions of the area to which potential oil leakage from the oil collection tanks would be exposed

Response: The lower areas of the containment where the oil collection tanks are located are relatively cool. The areas do not have remote temperature indication, but temperatures are not so extreme as to preclude personnel access when the plant is at normal operating temperature. These areas are cooler than the containment dome region where the highest general area containment atmosphere air temperatures are expected to occur. When the plant is in operation the indicated temperatures in the dome region range from approximately 100°F - 140°F. The maximum dome temperature is judged to represent a reasonable upper bound for the air and concrete temperatures in the vicinity of the oil collection tanks. The maximum dome temperature is well below the flash point for the PCP lubricating oil of approximately 400°F.

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NRC Request: Describe the electrical sources of ignition in the area should oil from the oil collection tanks overflow out of the tanks

Response: There are no electrical ignition sources of concern on the 625, 607, or 590 foot elevations, or in the containment sump, that would come into contact with oil overflowing from the oil collection tanks. The small amount of oil that could overflow and the proximity of the various floor drains would preclude the oil from accumulating any significant volume in one area.

NRC Request: Characterize the risk of a potential fire due to oil overflowing from the oil collection tank(s).

Response: The risk of a potential fire due to oil overflow from the oil collection tanks is considered to be low. The likelihood that a large volume of oil could leak from a PCP motor is very low because of the operating limitations imposed on the motors by their design and by the operating procedures. Leakage of only a small volume of oil, well within the oil collection tank capacity, would be sufficient to require shutdown of the PCP due to a low oil level in a motor reservoir. Shutting down a PCP would also require plant shutdown. Even if one were to postulate a PCP oil loss large enough to overflow a collection tank, the risk of fire would still be low because any potential oil overflow from the collection tanks would flow onto cool surfaces, with temperatures below the flash point of the oil, in areas which would not cause contact with ignition sources.