



**Consumers  
Power  
Company**

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Director, Nuclear Reactor Regulation  
Att Mr Dennis L Ziemann, Chief  
Operating Reactors Branch No 2  
US Nuclear Regulatory Commission  
Washington, DC 20555

DOCKET 50-255 - LICENSE DPR-20 -  
PALISADES PLANT - FIRE PROTECTION  
MODIFICATIONS: DESCRIPTION  
OF FIRE BARRIERS

Amendment 42 to License DPR-20 required that certain modifications be made to the Palisades Plant for fire protection. Specific modifications to be made are specified in the Safety Evaluation Report (SER) accompanying Amendment 42. Certain modifications described in the SER are annotated to indicate additional information, in the form of design detail, and must be submitted to the NRC to assure that the design is acceptable. One modification so annotated for Palisades is Item 3.1.5, "Fire Barriers."

Item 3.1.5 includes new fire barriers in the cable spreading room, the switchgear room 1-C, the safeguards area, and the charging pump room. Barrier design information is provided below for each area:

- a. Cable Spreading Room - "Fire barriers" to be installed in this area include sealing cable penetrations and providing barriers to protect cables from a possible transformer fault. The method to be used to seal cable penetrations was described in Consumers Power Company letters dated September 29, 1978 and February 22, 1980 and was reported acceptable by NRC letters dated March 11 and March 19, 1980. The requirement for a barrier to shield the transformer was based on an erroneous assumption by our consultant that the transformer could possibly burn. The transformer in this area is, in fact, a dry-type transformer sealed in a nitrogen-filled steel case. Accordingly, no barrier is needed.
- b. Switchgear Room 1-C - "Fire barriers" identified for this area in NRC's SER include sealing cable penetrations and installing dampers in ventilation ducts penetrating fire barriers. The method to be used for sealing cable penetrations was described in Consumers Power Company

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letters dated September 29, 1978 and February 22, 1980 and was reported acceptable by NRC letters dated March 11 and March 19, 1980. Underwriters Laboratory (UL) listed curtain fire doors, rated for three hours, will be installed in ventilation ducts penetrating fire barriers. These curtain doors are manufactured by Air Balance Inc. Construction of the curtain doors is as shown on attached Drawing 1000574. Locations in which these curtain doors will be installed are shown on attached Drawings M-118, M-119 and M-120. The installation affecting switchgear room 1-C is shown on M-118 (location C-6) and identified as "HCD-2."

- c. Safeguards Area - "Fire barriers" were to be installed in this area between redundant cable trays which are in one fire zone. Consumers Power Company initially proposed installing these barriers in the west engineering safeguards room in the fire hazards analysis submitted March 31, 1977. This proposal was based on a preliminary evaluation which did not include detailed investigation of the contents of cable trays. Such an investigation was subsequently made. The investigation showed that the cable trays contain, with two exceptions, only circuits of the single safety grade power supply (left channel) for the equipment in the room. The exceptions were:

1. The room air cooler temperature indicator system was powered from the right channel instrument power supply. This indicator system is being modified to be powered by the left channel supply.
2. Circuits to the electrical/pneumatic (E/P) converters for operating the auxiliary feedwater valves were conveyed in the same conduit and tray system and are powered from both power supply channels. (Both auxiliary feedwater valves are located in the west engineering safeguards room.) The circuit from the right channel power supply has been rerouted, in conduit, through the wall dividing the safeguards rooms and into the east safeguards room right channel tray system.

In addition, high-pressure safety injection pump P66C is located in the west safeguards room but is powered from the right channel bus. Cabling to this pump, however, has always been carried to the room and to the motor terminal in conduit rather than in the tray systems.

The detailed investigation described above, with the correction of noted exceptions, identified that "redundant" cable trays do not exist in any one fire zone. Accordingly, no fire barriers are needed. Consumers Power Company's intention not to install such barriers was previously reported by letter dated September 29, 1978.

- d. Charging Pump Room - "Fire barriers" to be installed in this room include barriers, insulation, or shields to provide separation between redundant charging pump cables and a curb between pump A and the other pumps to prevent spread of an oil fire. Consumers Power Company letter dated September 29, 1978 informed the NRC that physical separation would be used to protect redundant charging pump cables. The power cables for each charging pump are conveyed in conduit between the pump and the appropriate

cable tray systems outside the charging pump room. Redundant conduits are separated by a minimum of six feet (at the point where conduit from two pumps on the same channel pass the third pump). The major runs of redundant conduit are against opposite walls (east and west) of the charging pump room. A four-inch curb will be provided between pump A and the other pumps by installing a steel angle iron. This installation is shown on attached Drawing 1000572.

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Attachments