



**Consumers  
Power  
Company**

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March 19, 1985

Director  
Nuclear Reactor Regulation  
US Nuclear Regulatory Commission  
Washington, DC 20555

DOCKET 50-255 - LICENSE NO DPR-20 -  
PALISADES PLANT - FIRE PROTECTION - EXEMPTION REQUESTS AND MODIFIED  
COMMITMENTS - REVISION 6

Enclosure 1 to this submittal provides notification of the existence of plant conditions which are different than those previously docketed.

As committed to in Consumers Power Company letter dated December 28, 1984, Enclosure 2 provides a description of post-fire operator actions which may require the operator to enter the fire area in which the fire has occurred.

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ENCLOSURE 1

CONSUMERS POWER COMPANY  
Palisades Plant  
Docket 50-255

FIRE PROTECTION - 10CFR50.48 - APPENDIX R

A LISTING OF PLANT CONDITIONS WHICH ARE DIFFERENT  
THAN DESCRIBED IN PREVIOUS SUBMITTALS  
March 19, 1985

3  
Pages

Enclosure 1 to  
the 3/19/85 CPC  
Fire Protection  
Submittal

A LISTING OF PLANT CONDITIONS WHICH ARE DIFFERENT  
THAN DESCRIBED IN PREVIOUS SUBMITTALS

The ongoing internal audit and review of the Palisades Fire Protection Compliance status has made the following findings of differences between previously docketed descriptions of plant conditions and plant conditions as they exist at present. The differences do not represent a violation of scheduler or other requirements of 10CFR50.48 and Appendix R and are submitted here in order to ensure uniform understanding of all fire protection conditions and commitments for the Palisades Plant.

The findings are:

1. Sprinklers in the Fuel Pool Area

Docketed

The requirement for a sprinkler system in the fuel pool area first appears in Consumers Power Company letter dated March 31, 1977, submitting the Fire Hazards Analysis (FHA). In Section IV of the FHA (Response to Appendix A Guidelines of Branch Technical Position APCS 9.5-1) page IV-81 paragraph F.12, CPCo states that detection is not necessary in the area. On page IV-82, paragraph F.13, CPCo then states "Automatic sprinklers will be installed in the north end area".

Page VII - 64 (Specific plant area - Spent Fuel Area) of the FHA states "smoke detectors will be installed in the north end area". Apparently an initial decision to install sprinklers was subsequently changed to the installation of detection equipment only. Pages IV 81 and 82 were not corrected to reflect this decision change. All future correspondence states that only detection will be installed. Listed below is a summary of that correspondence.

Existing

Sprinklers are not needed in the Palisades fuel pool area. The low fuel loading and the lack of hazards does not warrant a sprinkler system in the area. There are no sprinklers in the Spent Fuel Pool Area.

<u>Date of Correspondence</u>	<u>Summary</u>
06-10-77	CPCo to NRC Schedule for installation of detection and sprinklers. Sprinklers not scheduled for fuel pool area; Detection only.
04-07-78	CPCo to NRC Revised schedule same as 06-10-77.
05-15-78	CPCo to NRC List where sprinklers will be installed. Fuel pool area <u>not</u> included.

09-01-79 NRC to CPCo The SER page 3-1 paragraph 3.2.1 detectors will be added to fuel pool area. Page 3-1, paragraph 3.1.1, gives areas where sprinklers will be installed. Fuel pool area not mentioned. Page 5-11, paragraph 5.11.6 NRC states CPCo will install detection in fuel pool area and this is acceptable.

02-22-80 CPCo to NRC List of where sprinklers will be installed. Fuel pool area not mentioned.

02-10-81 NRC to CPCo NRC acknowledges detectors are installed in the fuel pool area.

## 2. Local Indication of Charging Pump Flow

### Docketed

In Attachment C, Section C.1. of CPC's July 1, 1982 reply to the NRC Draft SER dated 4/7/82, we stated that local indication of charging pump flow, that does not require electrical power, is available to operators. The requirement for this instrument was also stated in the NRC's Final SER on Compliance with Appendix R Sections III.G. and III.L.

### Existing

The instrument referred to, FI-0212, was changed to a more recently developed type of flow indicator. The new instrument requires electrical input and has no local indicator. Before the Alternate Shutdown Panel is made operational, CPC will install local flow indication, requiring no electrical input, in the charging pump room or an adjacent area.

## 3. Specific Fire Area Compliance

In the final SER, dated May 26, 1983, on Palisades compliance with Appendix R Sections III.G. and III.L., the NRC interprets CPC's statements to mean that all areas of the plant, except areas 1-4, comply with the separation requirements of III.G. That interpretation is correct except in those areas for which exemption requests have been filed and those areas where manual action may be needed after the fire has been suppressed.

## 4. Safe Shutdown Operating Crew Requirements

### Docketed

Part IV of the April 7, 1982 Draft SER states that Palisades has agreed that procedures will be written verifying that two operating crew members can safely shut the plant down after a fire from either the Alternate Shutdown Panel (ASP) or the control room. The May 26, 1983 SER on Appendix R, Sections III.G. and III.L., states that Palisades Tech Specs require three members of the operating crew to be free from other duties during a fire emergency.

### Existing

Palisades fire brigade requirements and operating crew requirements are such that 5 of the 6 member operating crew can be available to safely shut the plant down after a fire. The fire brigade requires up to five people, one of whom is familiar with plant systems, for the first two hours after a fire. After two hours, because of emergency plan requirements, there will be a

number of other trained people on location to man the Fire Brigade to its required number of five. Palisades Procedures are written to permit and, under certain conditions, require the use of two to five operating crew members for post fire safe shutdown. This is in accordance with existing Technical Specifications.

5. Essential Equipment for Safe Shutdown

Docketed

In the Draft SER dated April 7, 1982, and in CPC correspondence to the NRC including the CPC letter dated March 19, 1981, it is assumed that the component cooling water pumps are necessary to allow the plant to achieve and maintain the cold shutdown condition.

Existing

At the present time, it is planned that if all three component cooling water pump motors were destroyed by a fire in the CCW Room, and the spare motor was offsite for repair, Service Water would be directed into the CCW System. An analysis of the ability to be in cold shutdown within 72 hours of the Reactor Trip caused by a CCW room fire is being made. Until that analysis is complete, if the existing spare CCW pump motor is installed, an hourly fire patrol, as a compensatory measure, will be installed until a spare CCW pump motor is again onsite.

Consumers Power Company will notify the NRC of any measures that will be taken if the analysis shows that CCW is required for cold shutdown.

ENCLOSURE 2

CONSUMERS POWER COMPANY  
Palisades Plant  
Docket 50-255

FIRE PROTECTION - 10CFR50.48 - APPENDIX R

MANUAL OPERATOR ACTIONS WHICH MAY BE NEEDED  
INSIDE THE FIRE AREA OF CONCERN - POST FIRE  
March 19, 1985

3 Pages

Enclosure 2 to  
the 3/19/85 CPC  
Fire Protection  
Submittal

MANUAL OPERATOR ACTIONS WHICH MAY BE NEEDED  
INSIDE THE FIRE AREA OF CONCERN - POST FIRE

Consumers Power Company submittal dated December 28, 1984 provided supplementary information as agreed upon during an October 5, 1984 conference call between CPC and the NRC. Revisions to the Index and Attachments 1, 1A and 14 of the Palisades Fire Protection Compliance Exemption Requests were included in the December 28, 1984 letter. That submittal also stated that "a detailed description of manual operator actions which may be needed after a fire will be submitted in a subsequent letter." This enclosure provides that description.

CPC Fire Protection Engineers have analyzed all postulated "worst case" fires in areas vital to safe shutdown and have determined that access to valves and other equipment in the area of the fire will be possible within one hour of the time the fire is reported. The following is a listing of occurrences or cases when operator action may be needed. In each case sufficient time is available for operators to perform manual actions to assure the plant will not reach an unsafe or unrecoverable condition.

Case No 1: Two pairs of redundant valves (ie, CV-0844, CV-0845, CV-0876, and CV-0877) that supply service water for the diesel generator cooling are located in the Component Cooling Water (CCW) room (Room No 123, el. 590'-0") -along with their associated solenoid valves. In addition, circuitry for redundant valves CV-0876 and C-0877 pass through the same fire area (el. 590'-0", south corridor) after leaving the CCW room. A fire in the CCW room or the corridor could cause spurious closing of redundant valves. Before the diesel generator is started, a fire in the CCW room or corridor would be extinguished, the air supply removed from the valves, (which are air-to-close) and service water flow directed to the diesels.

Case No 2: Redundant valves MO-2169 and MO-2170, which feed borated water to the charging pumps from the Boric Acid Tanks (BAT's), are both located in the boric acid tank room (Room No 107, el. 590'-0") and their power and control circuitry run together to the bus and control room, respectively. There is no separation between redundant circuitry. This does not present a problem in the event of a fire because boric acid from the boric acid tanks is not needed before 2.4 hours have elapsed after a reactor trip and any malfunction of the valves caused by a fire can be corrected by manual actuation of the valve within this time period.

Case No 3: Valve CV2111, in the Charging Pump Room No 104, controls flow to the regenerative heat exchangers from the charging pumps, and may spuriously close, shutting off charging flow to the primary coolant system. The primary coolant will stay sub-cooled for up to 2.4 hours

without the addition of any coolant and this valve is equipped with a handwheel. There is enough time to perform manual actuation of the valve.

Case No 4: Valve CV1359, in the Screen house Room No.136, which feeds the non-critical service water header with service water, could spuriously open and divert service water from the diesel generator cooling system. However, there will be time to close the valve by removing air since the diesel generator can operate for up to 30 minutes without any coolant.

Case No 5: a. Shutdown cooling heat exchanger valves CV3055, CV3212, CV3213, CV3223, CV3224, CV3006 and CV3025 are all located in the West Engineered Safeguards Room; b. there is only one flowpath from the primary coolant system which contains shutdown cooling-primary coolant system interface valves M03015 and M03016 (located in Containment). Spurious operation of these valves, particularly CV3055, CV3006, CV3025, M03015, and M03016, could threaten shutdown cooling. Before shutdown cooling is needed, enough time exists to perform manual actuation of any of these valves. Handwheels exist on CV3006, CV3025, M03015, and M03016, making manual operation possible. The other valves do not have handwheels and would fail in the normally open position except for CV3055 which would fail in the normally closed position. Therefore, manual actuation such as removing air and pushing the valve open with a jack or pulling the valve open with rigging gear, would be necessary. A second method would involve supplying air from the air receiver tank directly to the vent side of the solenoid that opens these valves. These valves will not be used until the PCS temperature is equal to or less than 325°F.

Case No 6: One of the valves CV0879, CV0913 (located in the CCW Room No. 123) and CV0949 (located in the West Engineered Safeguard Room No. 5) that supply service water to the CCW side of the shutdown heat exchangers and then back through CV0950 and CV0951 (located in the West Engineered Safeguard Room) to the service water system could close spuriously as the result of a fire. There is enough time after a reactor trip for an operator to manually open these valves if service water is needed in the CCW System for achieving the cold shutdown condition. All of the valves except CV0951 and CV0879 open upon a loss of air, the operator needs only to remove air from the closed valve or valves. Valves CV0951 and CV0879 closes upon a loss of air; so manual manipulation by jacking may be necessary in order to open the valve. These valves will not be used until the PCS temp is equal to or less than 325°F.

Case No 7: Valve M02160, located in the Boric Acid Tank Room No. 107, controls flow from the Safety Injection and Refueling Water Tank (SIRWT) to the charging pumps and may spuriously close. There is adequate time to manually open the valve, which has a handwheel, before flow from the SIRWT is required. Flow from the SIRWT is not required until the BAT's are empty.

Case No 8: Spurious closing of redundant valves CV0633 and CV0634, both located in the Turbine Building, would shut off steam going to the hogging air ejector. However, the ejector is only utilized upon transition from hot to cold shutdown, so there is enough time (at least 5 hours) for an

operator to remove air from one of the valves, which are both air-to-close before they are required to be open.

Case No 9: Valve CV0522A, located in the CCW Room, and valve CV0525, located in the Turbine Building, dump steam from steam generator E-50B to the atmosphere, via a 1" drain line, and could spuriously close. However, this flowpath is not needed until transition from hot to cold shutdown occurs. Each of these valves has a handwheel. Manual actuation of the valves is possible before their use is required.

Case No 10: A fire in the 590' corridor may destroy the normal electrical power supply to all three charging pumps. An operator will have to pass through the area of the fire to switch the power supply to either P-55A or P-55B from the alternate power supply source. Charging pumps are not needed for at least 2.4 hours after the reactor trip and/or loss of power. There is adequate time and access is available.

Case No 11: MO-0501 and MO-0510 are Main Steam Isolation Valve (MSIV) by-pass valves and are both located in the CCW room at the 607' level. These valves are not needed until transition from hot shutdown to cold shutdown begins. Both have handwheels and are accessible when they are needed.