

SUPPLEMENT NO. 2 TO THE SEPTEMBER 1, 1978
FIRE PROTECTION SAFETY EVALUATION REPORT
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
U. S. NUCLEAR REGULATORY COMMISSION
PROVISIONAL OPERATING LICENSE NO. DPR-20
CONSUMERS POWER COMPANY
PALISADES PLANT
DOCKET NO. 50-255

Date: February 10, 1981

8103990 762

1.0 INTRODUCTION

On September 1, 1978, the Commission issued Amendment No. 42 to Provisional Operating License No. DPR-20 for the Palisades Plant. This amendment added a condition to the license which required completion of the modifications identified in Paragraphs 3.1.1 through 3.1.23 of the NRC's Fire Protection Safety Evaluation (FPSE) for the Palisades Plant dated September 1, 1978.

By letter dated September 28, 1979, the licensee requested a delay in the implementation of the Independent Shutdown Path, Item 3.1.11 of Table 3.1 of the FPSE until completion of the Systematic Evaluation Program. The original implementation schedule in the FPSE is October 1980. This supplement to the FPSE addresses this proposed implementation schedule change and the impact of Appendix R to 10 CFR Part 50 and 10 CFR 50.48 on the licensee's request.

In Table 3.2 of the FPSE, certain items were identified as incomplete and requiring further information from the licensee and evaluation by the NRC staff. This supplement to the FPSE also addresses those items that were identified as incomplete.

2.0 DISCUSSION AND EVALUATION

The section numbers indicated are those corresponding to the section numbers in the FPSE.

3.1.5 FIRE BARRIERS

Our original concern expressed in our SER was that a single exposure fire could impair redundant cables in the cable spreading room, the switchgear room 1-c, the safeguards area, and the charging pump room. By letter dated April 24, 1980, the Consumers Power Company provided information on an open fire protection modification identified as item 3.1.5, "Fire Barriers."

We have reviewed this information for each of the affected areas.

- a. Cable Spreading Room - Our concern stated in the SER was that an existing transformer could fail, possibly burn, and, thereby, present an excessive fire hazard for the cable spreading room cables. We requested that a fire barrier be installed to protect the cables located near the transformer. The licensee has now stated that the transformer is, in fact, a dry-type and sealed in a nitrogen filled case; therefore, an excessive fire hazard is not present. The licensee has proposed that no fire barrier be required in this area.

Based on our evaluation, we conclude that a fire barrier is not required for the cables near the cable spreading room transformer. The cable spreading room has a sprinkler system, smoke detection system, and is separated from the rest of the plant by fire rated walls, floors, and ceiling. In addition, the licensee will provide an alternate shutdown system independent of the cable spreading room. We find that the fire protection for the cable spreading room meets our guidelines, the proposed Appendix R, and, therefore, is acceptable.

- b. Switchgear Room 1-C - Our concern stated in the SER was that ventilation duct penetrations in the fire barriers did not have fire rated dampers. The licensee proposes to install UL listed 3-hour fire dampers and drawings were provided showing locations and construction. We have reviewed this information and determined that an appropriate design has been selected.

Based on our evaluation, we conclude that the UL listed 3-hour dampers will adequately protect the duct penetration locations and, therefore, is acceptable.

- c. Safeguards Area - Our stated concern in the SER was that redundant safety system cables could be affected by a single fire exposure. We requested that the licensee provide cable fire barriers to protect one of the systems. The licensee subsequently performed a detailed study of the cable tray contents and showed that, with two exceptions, only circuits of a single safety system existed in this room. The two exceptions were eliminated by re-routing their conduits outside of the area. Therefore, because redundant cable trays do not exist in this area, the licensee now proposed not to install fire barriers between the cable trays in this area.

Based on our evaluation, we conclude that with the absence of redundant cables in this area the lack of fire barriers is acceptable.

- d. Charging Pump Room - Our concerns stated in the SER were that redundant cables could be exposed to a single fire and/or that an oil fire could spread between the pumps. The licensee has proposed to install a four-inch curb to contain any oil spills. To preclude the effects of a fire on redundant cables, the licensee will install an alternate shutdown system independent of this area and provide physical adequate separation for the redundant control cables within the area. Sprinklers and smoke detectors will also be provided in this area.

Based on our evaluation, we conclude that the fire protection for this area meets our fire protection guidelines and is, therefore, acceptable.

3.1.11 Alternate Safe Shutdown System

By letter dated September 28, 1979, the licensee requested that the implementation date of Item 3.1.11 Independent Shutdown Path (alternative safe shutdown system) be deferred until the completion of the Systematic Evaluation Program (SEP) review. The reason provided by the licensee for deferring the schedule for this item is that various topics currently being reviewed in the SEP (e.g., Topic VII-1.A, Isolation of Reactor Protection System from Non-Safety Systems; Topic VII-3, Systems Required for Safe Shutdown; Topic VII-4, Effects of Failure in Non-Safety Related Systems on Selected Engineered Safety Features, and Topic XV-23, Loss of All A-C Power) may result in additional requirements or modifications of the alternative shutdown capability. Because the SEP requirements could affect various parameters (e.g., location, size, detailed engineering design), adequate information is not available to design a system to meet all possible requirements.

However, on November 19, 1980, the Commission issued a revised 10 CFR 50.48 and a new Appendix R to 10 CFR 50 concerning fire protection in nuclear power plants. Section 50.48 specifies a schedule for implementation of modifications necessary to meet the requirements of Appendix R including those associated with alternative safe shutdown capability. Therefore, the requested delay until the end of the SEP is unacceptable and the licensee is expected to meet the requirements of 10 CFR 50.48.

3.1.15 REACTOR COOLANT PUMP OIL COLLECTION SYSTEM

In the SER, it was our concern that an unmitigated lube oil fire could cause loss of cables located in the vicinity of the reactor coolant pumps that may affect safe shutdown.

By letters dated May 2, 1980 and September 9, 1980, the licensee provided information regarding the proposed reactor coolant pump oil collection system. An oil collection system will be installed at each reactor coolant pump to collect and contain any leakage or spills from the lift pump, drain and fill plugs, oil level sight glasses, external oil coolers, flanged connections in oil lines, and upper and lower oil reservoirs.

Based on our evaluation, we find that the RCP oil collection system meets Section D.2(a)(3) of Appendix A to BTP 9.5-1 and, therefore, is acceptable.

3.2.2 ADMINISTRATIVE CONTROLS

The administrative controls for nuclear plant fire protection consist of the fire protection organization and its qualifications, fire brigade training, the controls over combustibles and ignition sources, methods for assuring the availability of the fire protection systems and equipment; procedures for fighting fires, fire watch, and quality assurance provisions for the fire protection program. The licensee has provided a description of proposed administrative controls for fire protection, as detailed in his submittals of June 19, 1978, September 29, 1978, March 1, 1979, and March 15, 1979. We reviewed this information and compared it with the specific guidance found in "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls, and Quality Assurance" dated June 14, 1977.

We find that the Licensee's Administrative Controls conform to the above referenced guidance, meets the criteria of Appendix A to BTP 9.5.1 and is, therefore, acceptable.

3.0 SUMMARY

Status of the Other Open Items in the FPSE

- 3.1.1 Sprinklers - Approved by letter dated March 11, 1980
- 3.1.10 Cable Fire Stops - Approved by letter dated March 11, 1980
- 3.2.1 Cable Penetration Fire Stop Qualification - Approved by Supplement No. 1 to FPSE issued March 19, 1980
- 3.2.3 Technical Specifications - Approved and issued by Amendment No. 60 to the license dated August 21, 1980
- 3.2.4 Fire Brigade - Approved and issued by Amendment No. 60 to the license dated August 21, 1980
- 3.2.5 Non-approved Components - Approved by Supplement No. 1 to FPSE issued March 19, 1980

Revised Table 3.1

Table 3.1 of the FPSE is incorporated into the operating license for this facility by the license condition 3.E. Table 3.1 specifies the completion dates for the modifications required by Paragraphs 3.1.1 through 3.1.23 of the FPSE. All of the modifications but one (3.1.11) have been completed and Table 3.1 has been revised to reflect this. The date for Item 3.1.11, Independent Shutdown Path, has been changed in Table 3.1 to show conformance with the requirements of 10 CFR 50.48 as discussed in a previous section of this supplement.

4.0 ENVIRONMENTAL CONSIDERATION

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

5.0 CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: February 10, 1981

Attached: Table 3.1

TABLE 3.1

Implementation Dates for Proposed Modifications

3.1.1	Sprinklers	Completed
3.1.2	Detectors	Completed
3.1.3	Cable Penetration Seals	Completed
3.1.4	Conduit Penetrations	Completed
3.1.5	Fire Barriers	Completed
3.1.6	Rerouting of Power and Control Circuits	Completed
3.1.7	Fire Door and Sill	Completed
3.1.8	Fire Enclosure	Completed
3.1.9	Fire and Backdraft Dampers	Completed
3.1.10	Cable Fire Stops	Completed
3.1.11	Independent Shutdown Path	*
3.1.12	Emergency Lighting	Completed
3.1.13	Battery Room Loss of Ventilation	Completed
3.1.14	Equipment Removal	Completed
3.1.15	Reactor Coolant Pump Oil Collection System	Completed
3.1.16	Portable Smoke Removal	Completed
3.1.17	Charging Pump Curb	Completed
3.1.18	Fire Brigade Equipment	Completed
3.1.19	Yard Area Hydrant Equipment	Completed
3.1.20	Hose Stations in the Reactor Containment Building	Completed
3.1.21	Supervision of Fire Door	Completed
3.1.22	Fire Hose	Completed
3.1.23	Breathing Air Supply	Completed

*To be in conformance with the provisions of 10 CFR 50.48