



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 27 TO FACILITY OPERATING LICENSE NO. NPF-7
VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION, UNIT NO. 2
DOCKET NO. 50-339

Introduction

By letters dated September 27, 1982 and October 13, 1982 (Serial Nos. 542 and 542a, respectively), the Virginia Electric and Power Company (the licensee) requested an amendment to Operating License NPF-7 for the North Anna Power Station, Unit No. 2 (NA-2). The proposed amendment would revise the implementation dates specified in License Conditions 2.C.(15)(h)(2) and 2.C.(15)(h)(4) to Operating License NPF-7.

License Condition 2.C.(15)(h)(2) currently states, "The lube oil system shall be modified to the manufacturer's recommendations for providing continuous lubrication of the lower portions of the engine. The modifications shall further provide for partial filling of the upper lube oil supply header and lube oil booster/accumulator system which will force oil into the upper lube oil header during engine startup. The modifications shall be completed no later than the October 1982 Fall maintenance outage." The licensee has requested that the completion date for License Condition 2.C.(15)(h)(2) be revised from the October 1982 outage to the NA-2 second refueling outage.

License Condition 2.C.(15)(h)(4) currently states, "The fuel oil storage and transfer system shall be modified to include the installation of a separate high level alarm for each day tank, the installation of independent pressure switches for each pump which will be set to stop the pumps on high day tank level, and the submittal of Technical Specifications verifying proper operation of all transfer pump control switches and day tank high level alarms. The modifications shall be completed no later than the October 1982 Fall maintenance outage." The licensee's proposed change is to complete License Condition 2.C.(15)(h)(4) by the end of the second refueling outage.

A discussion and our evaluation and conclusions of the licensee's amendment request is presented below.

Discussion:

License Condition 2.C.(15)(h)(2)

The modifications, as specified above in License Condition 2.C.(15)(h)(2), were completed for the NA-2 "2H" diesel generator lube oil system during the unscheduled NA-2 outage of July 8, 1982 to August 30, 1982. However, completion of the required modifications for the NA-2 "2J" lube oil system have been delayed because of a broken terminal on the diesel generator lube oil heater. The lube oil heater was returned to the manufacturer, Fairbanks-Morse, for repairs. As yet, the licensee has not received a commitment from the manufacturer as to when the "2J" lube oil heater repairs will be completed.

Therefore, based on the above, the licensee has requested that the completion date for License Condition 2.C.(15)(h)(2) be extended from the NA-2 October 1982 maintenance outage to the 1983 Spring 2nd refueling outage.

License Condition 2.C.(15)(h)(4)

The modifications, as specified above in License Condition 2.C.(15)(h)(4), have been delayed because of the unavailability of Seismic Category I pressure switches for the diesel generator day tank modifications. License Condition 2.C.(15)(h)(4) requires that the Category I switches be installed in the drain line to preclude diesel oil day tank overflow. Two (2) pressure switches will be installed in the drain line on the bottom of the day tank. These pressure switches will be redundant to the existing level switches which stop the lead and back-up transfer pumps on high level indication. One pressure switch will provide a redundant signal to stop the lead transfer pump when the pressure indicates tank hi-level, and the second switch will provide a similar signal to the backup transfer pump. These modifications will provide redundancy to prevent the pumps from running which could cause an overflow condition and thereby reduce the probability of a fire due to oil spills.

The delay in obtaining the Seismic Category I pressure switches is due to the manufacturer's qualification program for the switches. The manufacturer, the Automatic Switch Company (ASCO), has stated to the licensee that the qualification program for the switches in question is now scheduled to be completed in January 1983.

By letter dated October 13, 1982 (Serial No. 542a), the licensee stated that the presently non-qualified pressure switches will be installed on the NA-2 diesel generator day tank prior to October 31, 1982. In addition, the licensee has stated that any pressure switch modifications required as a result of the ASCO qualification program will be installed on the NA-2 diesel generator day tank.

Therefore, based on the above, the licensee has requested that the completion date for License Condition 2.C.(15)(h)(4) be extended from the NA-2 October 1982 maintenance outage to the 1983 Spring 2nd refueling outage.

NA-2 1982 October Maintenance Outage

The licensee's previously scheduled NA-2 October 1982 maintenance outage stated in both License Conditions 2.C.(15)(h)(2) and 2.C.(15)(h)(4) has been cancelled by the licensee. Cancellation of this outage is due to the impact of unplanned outages which occurred in the 1982 summer and fall for NA 1&2 and which significantly curtailed power generation.

NA-2 was shutdown (an unplanned outage) from July 8 to August 30, 1982 to remove thermal sleeves, replace a main transformer, and to repair steam generator tube lane blocking devices.

NA-1 has been shutdown since May 1982 due to replacement of all 171 control rod guide tube assemblies, thermal sleeve removal, flow splitter plate removal, and reactor coolant pump diffuser adapter bolt problems. The NA-1 shutdown is presently estimated to continue till late November 1982. Therefore, continued operation of NA-2 during the Fall 1982 is essential for the licensee.

Evaluation

We have reviewed all aspects of the licensee's request for extending the completion dates for license conditions 2.C.(15)(h)(2) (Automatic Prelubrication Modifications) and 2.C.(15)(h)(4) (Fuel Oil Day Tank Level Alarm Installation) from October 1982 to the 2nd refueling outage scheduled for Spring 1983.

The licensee's request for an extension in time is due to defective equipment supplied by the manufacturer for the "2J" diesel generator lube oil system and a delay by the manufacturer in qualifying pressure switches for the diesel generator day tank modifications. The delay in completing these modifications as previously scheduled is the result of conditions beyond the licensee's control.

We have already stated (NA-2 Amendment No. 22/April 1982) that the NA-2 diesel engine lubricating oil system and the diesel engine fuel oil storage and transfer system meet General Design Criteria 2, 4, 5 and 17 to Appendix A, 10 CFR 50; meet the guidance of cited Regulator Guides and Standard Review Plan 9.5.7 and, therefore, can perform design safety functions.

The stipulations of Paragraph (2) and (4) to License Condition 2.C.(15)(h) address the recommendations of NUREG CR/0660 regarding the enhancement of diesel generator reliability through the design life of the plant.

Regarding License Condition 2.C.(15)(h)(2), as discussed above, the requirements so specified have now been completed on one of the two redundant diesel generators (2H and 2J, respectively). Completion of the requirements at this time on the "2H" diesel provides added assurance for NA-2 long term diesel generator reliability.

Regarding the "2J" diesel for which the modifications have yet to be completed, NA-2 operating records show that there have been only twelve (12) starts without prelubrication for the "2J" diesel during its 2½ year operating life-time. These starts were due to spurious safety injection signals and surveillance testing. In all twelve (12) starts without prelubrication, the "2J" diesel performed as designed for safety functions.

Also, current surveillance for the "2J" diesel is once per 14 days. This periodic testing is performed with approved procedures and with prelubrication. This surveillance also provides added assurance for reliability of the "2J" diesel generator for the period of relief requested by the licensee.

Based on all of the above, we have concluded there is sufficient assurance for "2J" diesel generator reliability during plant operations for the period November 1982 to the Spring 1983 2nd refueling outage.

Therefore, we conclude that the licensee has complied with the stipulations of License Condition 2.C.(15)(h)(2) and 2.C.(15)(h)(4) to the extent practicable at this time and has shown good cause for requesting relief from the implementation clause of License Conditions 2.C.(15)(h)(2) and 2.C.(15)(h)(4).

Therefore, License Condition 2.C.(15)(h)(2) is revised to state that the completion date for the diesel generator lube oil system modifications shall be completed no later than the second refueling outage.

In addition, License Condition 2.C.(15)(h)(4) is being modified to reflect the licensee's commitment specified in its letter dated October 13, 1982. License Condition 2.C.(15)(h)(4) is revised to state that:

"The fuel oil storage and transfer system shall be modified to include the installation of a separate high level alarm for each day tank, the installation of independent pressure switches for each pump which will be set to stop the pumps on high day tank level, and the submittal of Technical Specifications verifying proper operation of all transfer pump control switches and day tank high level alarms. Pressure switches will be installed by October 31, 1982. These switches are being qualified by the manufacturer. If these switches fail qualification tests, the pressure switches shall be replaced with qualified units. The modifications shall be completed no later than the second refueling outage.

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.

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 an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, 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: October 29, 1982

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