



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 104 TO FACILITY OPERATING LICENSE NO. DPR-38

AMENDMENT NO. 104 TO FACILITY OPERATING LICENSE NO. DPR-47

AMENDMENT NO. 101 TO FACILITY OPERATING LICENSE NO. DPR-55

DUKE POWER COMPANY

OCONEE NUCLEAR STATION, UNITS NOS. 1, 2 AND 3

DOCKETS NOS. 50-269, 50-270 AND 50-287

1.0 Introduction

By letter dated November 30, 1976, Duke Power Company (Duke or the licensee) submitted an application which proposed revisions to the common Oconee Nuclear Station (ONS) Technical Specifications (TSs) related to the testing requirements of Appendix J to 10 CFR Part 50. By letters dated October 24 and December 29, 1980, Duke submitted revisions and supplements to the above application, but did not include air lock leak rate testing requirements. On October 22, 1980, Appendix J was revised regarding Type B tests of air locks. Duke submitted a supplement to the above application on July 24, 1981, to incorporate air lock leak testing. The NRC provided a preliminary Safety Evaluation Report (SER) of the Appendix J review to Duke by letter dated July 29, 1981. In response to the open items contained in this preliminary SER, Duke submitted a revised application on September 3, 1981, which included a composite resubmittal of the previously proposed TSs.

2.0 Background

Included in the preliminary SER mentioned above, was a Draft Technical Evaluation Report (TER) dated February 1981 provided by the NRC's consultant, Franklin Research Center. The NRC has recently received the final TER on Containment Leakage Rate Testing dated August 6, 1981, (copy attached). The NRC has reviewed this TER and agrees with the findings and conclusions contained therein with the exception of the testing requirements for Penetration 59. In addition, the NRC has reviewed the July 24, 1981, application related to containment air-lock testing which was incorporated into the September 3, 1981 resubmittal.

3.0 Evaluation

3.1 Airlocks

By letters dated September 5, 1975, February 15 and September 14, 1977, Duke requested an exemption to the leak testing requirements of Appendix J to 10 CFR Part 50. On October 22, 1980, Appendix J was revised to allow testing of air lock door seals in lieu of full pressure tests for those doors in frequent use, provided full pressure tests are performed at least once each six months.

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By letter dated July 24, 1981, Duke submitted an application to include air lock leakage testing requirements in the common ONS TSs. The proposed TS would require that full pressure tests (i.e., Pa=59 psig) be performed quarterly and at the end of periods when containment integrity is not required if the airlock was opened. In addition, the proposal would require that within three days, either a full hatch leak test or a leak test of the outer door double seal at a pressure of 59 psig be performed if the airlock door is opened when containment integrity is required. The NRC has reviewed this proposal and finds it to be in accordance with the requirements of Appendix J to 10 CFR Part 50 and, therefore, to be acceptable.

### 3.2 Other Penetrations

As mentioned above, the NRC's consultant reviewed the Containment Leakage Rate Testing requirements for the ONS with the exception of the air locks. We have reviewed the attached August 6, 1981, TER and agree with the conclusions contained therein with the exception of Penetration 59, Core Flood Tank sample lines. Other conclusions contained in Section 4 of the TER relate to: 1) leak testing of valves in Penetration 47 for Unit 1, 2) justification for reverse direction testing of certain isolation valves, and 3) the acceptance of the submitted TSs subject to certain corrections.

By letter dated September 3, 1981, Duke provided additional information regarding the conclusions contained in the Draft TER and a complete resubmittal of TSs related to this subject. The NRC evaluation of this submittal is as follows:

1) Duke reevaluated the necessity of performing a Type C test on the Unit 1 valves associated with Penetration 47 (Demineralized Water Supply to Reactor Coolant Pump (RCP) seal vents) and determined that modifications necessary to allow Type C testing were not required. Nevertheless, Duke accepted the NRC's position and committed to modify Penetration 47 on ONS Unit 1 to allow Type C leak testing. The NRC finds this change to be acceptable.

2) The justification for reverse direction testing of certain containment isolation valves has been reviewed and approved by the NRC's Office of Inspection and Enforcement.

3) Modifications to the TSs to incorporate the corrections contained in the Draft TER (and subsequently the TER) were included by Duke in this supplement. The NRC has reviewed the revised TSs and finds them to be acceptable.

Included in the September 3, 1981, submittal is a refutation of the position taken in the TER that the valves associated with Penetration 59 should be Type C leak tested. The basis for this position (TER pages 18 & 19) is that the core flood tank (CFT) sample isolation valves can become a barrier to the escape of containment air when the location of the Loss of Coolant Accident (LOCA) break causes the contents of a tank to be discharged into the containment. In this case, a leaking sample line could allow the CFT nitrogen to be vented such that containment atmosphere can then enter the CFT by leaking through check valve CF-11 or CF-13. Since the isolation valves may be relied upon to prevent the escape of containment air in this situation, Type C testing is required.

Duke's response to this position stated that: "for a postulated break between valves CF-11(-13), CF-12(-14) and LP-47(-48), a core flood tank (CFT) would depressurize to containment but it would most likely not be a LOCA. Check valves CF-12 and -14 tend to seat with RC pressure and would prevent any loss of coolant from occurring. They are also periodically leak checked pursuant to Technical Specifications 3.1.6.10 and 4.5.1.2.3. If the break is postulated to continue, operators would isolate the affected core flood tank (CFT) by closing CF-1, -2 when directed by procedure. With a core flood tank (CFT) isolated, a unit shutdown would then be required by Specifications 3.0 and 3.3.

"If the break were postulated to occur between CF-12(-14) and the reactor vessel, a LOCA would occur and the CFTs would depressurize and Low Pressure Injection would be initiated. As the Reactor Coolant System is depressurized, coolant would flow out the break and make-up would be provided by ECC systems. In all cases it is predicted that ambient pressure in the containment is less than, or at most, equal to system pressure. Furthermore, by the design of the system, this piping is low in the containment relative to the entry point in the vessel. CF-12, -14 are located in vertical runs of piping, just prior to entry into the Reactor Vessel. Also, operators are directed to isolate the depressurized CFTs by closing CF-1, -2. Regardless of where the break is, cooling water would tend to seat CF-11, -13. Thus, regardless of break location, it is not credible to conclude that the CF Tank Sample isolation valves will ever see containment atmosphere following a postulated break that discharges the content of a tank into the containment."

Duke concluded that, based on the above, Type C testing need not be performed on Penetration 59.

The NRC has reviewed Duke's response, and in light of the additional TS surveillance requirements incorporated by Order dated April 20, 1981, agrees with the conclusion that Type C testing need not be performed on Penetration 59.

Based on the above findings, we conclude that the TSs submitted on September 3, 1981, are acceptable and the requirements of Appendix J to 10 CFR Part 50 have been met at the ONS.

By letter dated November 6, 1981, Duke requested a change to the September 3, 1981 application related to the local leak test requirements for Penetrations 21 and 22. These Penetrations serve the Low Pressure Service Water (LPSW) to the Reactor Coolant Pumps motors and lube oil coolers (21-inlet and 22-outlet). The September 3, 1981 application indicates a Type C leakage rate test should be performed on the associated valves (21-LPSW 6 and 22-LPSW 15) which are located outside of the containment. On further review of the leak testing requirements, Duke concluded that Type C testing of these valves was not required since the outboard side of both valves would remain pressurized by the LPSW system throughout a LOCA. We have evaluated the leak testing require-

ments for these Penetrations and have concluded that sufficient assurance exists that pressurized LPSW will be maintained on the outboard of both of these penetrations to preclude leakage of containment atmosphere. Therefore, we find this proposed change to be acceptable.

#### 4.0 Environmental Consideration

We have determined that the amendments do 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 amendments involve 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 these amendments.

#### 5.0 Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Attachment: TER

Dated: November 6, 1981