

Docket No.: 50-414

FEB 12 1986

Mr. H. B. Tucker, Vice President  
Nuclear Production Department  
Duke Power Company  
422 South Church Street  
Charlotte, North Carolina 28242

Dear Mr. Tucker:

Subject: Environmental Assessment

Enclosed for your information is a copy of the "Notice of Environmental Assessment and Finding of No Significant Impact" related to your July 30 and December 17, 1985, and January 21, 1986, requests for exemptions from certain requirements for completing ice loading, ice weighing, and reinstallation of ice condenser components prior to fuel load and from certain requirements for airlock leakage tests.

The Notice has been forwarded to the Office of the Federal Register for publications.

Sincerely,

Original signed by:  
D. Hood

B. J. Youngblood, Director  
PWR Project Directorate #4  
Division of PWR Licensing-A, NRR

Enclosure: As stated

cc: See next page

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FEB 12 1986

Mr. H. B. Tucker  
Duke Power Company

Catawba Nuclear Station

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- 2 - Catawba (amendments)

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UNITED STATES NUCLEAR REGULATORY COMMISSIONDUKE POWER COMPANY, ET. AL.CATAWBA NUCLEAR STATION, UNIT 2DOCKET NO. 50-414NOTICE OF ENVIRONMENTAL ASSESSMENTAND FINDING OF NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of partial exemptions from the requirements of Appendices A and J to 10 CFR Part 50 to Duke Power Company, North Carolina Municipal Power Agency No. 1 and Piedmont Municipal Power Agency (the licensees) for the Catawba Nuclear Station, Unit 2, located at the licensees' site in York County, South Carolina.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Actions: The first proposed exemption would provide relief to the licensees, in relation to General Design Criteria (GDC) 16, 38 and 50 of Appendix A to 10 CFR Part 50, from completing ice loading, ice weighing and reinstallation of ice condenser components prior to fuel load. These items will be completed prior to the Reactor Coolant System (RCS) temperatures' exceeding 200 degrees F (Mode 4). The ice condenser is not required to be operable in Modes 5 and 6 because there is insufficient energy stored in the RCS to challenge containment integrity, and the unit will have no fission product inventory. The second exemption would relieve licensees from the requirement of conducting a full pressure airlock leakage test, pursuant to Paragraph III.D.2(b)(ii) of Appendix J to 10 CFR Part 50, whenever airlocks are opened during periods when containment integrity is not required.

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Licensees would rely, instead, on the seal leakage test described in Paragraph III.D.2(b)(iii) when the reactor is in cold shutdown (Mode 5) or refueling (Mode 6) and when no maintenance has been performed on the airlock. The third exemption would relieve the licensees from complying with Paragraph III.B of Appendix J insofar as it requires that a type B leakage rate test be performed, at full pressure (Pa, peak calculated accident pressure), on piping penetrations fitted with expansion bellows. The fourth exemption would allow licensees to exclude certain piping which penetrates the containment from the venting and draining requirements in Paragraph III.A.1(d) of Appendix J. These types of exemptions were previously approved and granted for Catawba Unit 1.

Licensees' requests for exemptions and the bases therefor are contained in letters dated July 30, 1985, December 17, 1985 and January 21, 1986.

The Need for the Proposed Actions: The partial exemption from GDCs 16, 38 and 50 regarding completion of the ice loading and weighing and reinstallation of ice condenser components is needed to allow efficient and expeditious fuel loading and testing of facility components prior to completion of the ice condenser which may not be completed for several weeks after fuel loading. Thus partial exemption from the above GDCs, when the ice condenser is not required, would provide the licensees with greater plant availability to perform precriticality testing. The second exemption, described in the staff's Safety Evaluation Report, Supplements 3 and 4, for Catawba Nuclear Station,

is from performance of the leakage rate test required by Paragraph III.D.2(b)(ii) of 10 CFR Part 50, Appendix J, which takes at least 6 hours per airlock. Exemption from full pressure leakage tests on airlocks opened during a period when containment integrity is not required would provide the licensees with greater plant availability over the lifetime of the plant. Exemption from Type B leakage rate tests on piping penetrations fitted with expansion bellows is required because the bellows design for mechanical penetration will not allow the space to be pressurized to peak accident pressure, Pa, as required by Paragraph III.B of Appendix J. Exemption of certain piping penetrations from the Appendix J venting and draining requirements is needed to prevent leakage, during Integrated Leak Rate Tests, through process containment isolation valves which receive a sealing fluid.

Environmental Impacts of Proposed Actions: The first proposed exemption would permit fuel loading and precriticality testing when the unit is in cold shut-down (Mode 5). During this time period, the unit will have no fission product inventory and the RCS has insufficient energy to challenge containment integrity. This exemption does not affect the risk of facility accidents. Thus, post-accident radiological releases will not, due to the proposed exemption, be greater than previously determined nor does the proposed exemption otherwise affect radiological plant effluents, or result in any significant occupational exposure. Likewise the exemption does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with this proposed exemption.

The second proposed exemption would permit the substitution of an airlock seal leakage test (Paragraph III.D.2(b)(iii) of Appendix J, 10 CFR Part 50) for the full pressure airlock test otherwise required by Paragraph III.D.2(b)(ii) when the airlock is opened while the reactor is in a cold shutdown or refueling mode. If the tests required by III.D.2(b)(i) and (iii) are current, no maintenance having been performed on the airlock and with it properly sealed, this exemption will not affect containment integrity and does not affect the risk of facility accidents. Thus, post-accident radiological releases will not be greater than previously determined nor does the proposed exemption otherwise affect radiological plant effluents, nor result in any significant occupational exposure. Likewise, the exemption does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with the proposed exemption.

The third proposed exemption will provide alternative tests of piping penetrations fitted with expansion bellows such that there is adequate assurance that containment integrity is not affected. Appendix J requires that leak testing of expansion bellows assemblies on containment penetrations be conducted at a test pressure of  $P_a$ , the peak calculated accident pressure; for the Catawba plant,  $P_a$  is 14.7 psig. The bellows assemblies cannot be pressurized beyond 3 to 5 psig. The exemption, therefore, is from the requirement that the test pressure equal  $P_a$ . During testing of the bellows assemblies, the inner ply is pressurized in a direction opposite to that which would be imposed in the event of an accident. Testing at  $P_a$  would jeopardize integrity of the inner ply. Alternatively, stiffening of the inner ply to

better accommodate an increased test pressure would necessitate engineering compromises contrary to overall safety. Since the expansion bellows must flex during plant heat-up and cooldown, additional rigidity would increase the likelihood of inner ply failure. However, the proposed test pressure (3 to 5 psig) is sufficient for monitoring bellows assembly integrity. Therefore, from the standpoint of overall safety, plant operation with the exemption is at least as safe as requiring compliance with the leak testing requirement of the regulations. Consequently, the probability of an accident has not been increased and the post-accident radiological releases will not be greater than previously determined, nor does the proposed exemption otherwise affect radiological plant effluents, nor result in any significant occupational exposure. Likewise, the exemption does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with the proposed exemption.

The fourth proposed exemption will allow the licensees to use an alternative to the vent and drain method for accounting for the leakage of certain containment isolation valves. Granting of this exemption would allow use during Integrated Leak Rate Tests (ILRTs) of the seal water system which has been installed at Catawba. Containment isolation valves served by this system will not leak containment atmosphere to the environment during an accident and so need not be exposed to test pressure by being vented and drained during ILRTs. Other valves which are not served by the seal water system, but which are in the lines to be exempted from the venting and draining requirements,



will be subjected to local leakage rate testing and the results will be added to the ILRT results. Thus, all leakage will be accounted for. Consequently, the post-accident radiological releases will not be greater with the alternative tests than they would be without the requested exemption, nor does the proposed exemption otherwise affect radiological plant effluents, nor result in any significant occupational exposure. Likewise, the exemption does not affect non-radiological plant effluents and has no other environmental impact.

Therefore, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with the proposed exemption.

Alternative to the Proposed Actions: Because we have concluded that there is no measurable environmental impact associated with the proposed exemptions, any alternatives to the exemptions will have either no environmental impact or greater environmental impact.

The principal alternative would be to deny the requested exemptions. Such action would not reduce environmental impacts of Catawba Unit 2 operations and would result in reduced operational flexibility or unwarranted delays in power ascension.

Alternative Use of Resources: These actions do not involve the use of resources not previously considered in connection with the "Final Environmental Statement Related to Operation of Catawba Nuclear Station, Units 1 and 2," dated January 1983.

Agencies and Persons Consulted: The NRC staff reviewed the licensees' requests that support the proposed exemptions. The NRC staff did not consult other agencies or persons.

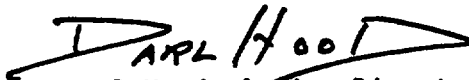
FINDING OF NO SIGNIFICANT IMPACT

Based upon the foregoing environmental assessment, we conclude that the proposed exemptions will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed exemptions.

For further details with respect to the proposed actions, see the licensees' requests for exemptions dated July 30, 1985, December 17, 1985, and January 21, 1986, which are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C., and at the York County Library, 138 East Black Street, Rock Hill, South Carolina 29730.

Dated at Bethesda, Maryland, this 11<sup>th</sup> day of February 1986.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink that reads "DARL HOOD". The signature is stylized with a large, sweeping "D" and "H".

Darl Hood, Acting Director  
PWR Project Directorate #4  
Division of PWR Licensing-A, NRR