

Docket Nos.: 50-369
and 50-370

27 MAY 1986

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

Dear Mr. Tucker:

Enclosed for your information is a "Notice of Consideration of Issuance of Amendment to Facility Operating License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing" related to your May 20, 1986, request concerning discharge of waste waters containing trace concentrations of tritium from the conventional wastewater Basin.

The notice has been forwarded to the Office of the Federal Register for publication.

Sincerely,

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Darl Hood, Project Manager
PWR Project Directorate #4
Division of PWR Licensing-A

Enclosure: As stated

cc: w/enclosure
See next page

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Mr. H. B. Tucker
Duke Power Company

McGuire Nuclear Station

cc:

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UNITED STATES NUCLEAR REGULATORY COMMISSIONDUKE POWER COMPANYDOCKET NOS. 50-369 AND 50-370NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENTS TO
FACILITY OPERATING LICENSES AND PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION AND DETERMINATION

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. NPF-9 and NPF-17 issued to Duke Power Company for operation of the McGuire Nuclear Station, Units 1 and 2, located in Mecklenburg County, North Carolina.

The amendments would authorize on an emergency basis a one-time release of the existing contents of the Conventional (non-radioactive) Wastewater Basin, containing trace amounts of tritium, into the Catawba River. Technical Specification (TS) 3.11.1.1 and its referenced Figure 5.1-4, "Site Boundary for Liquid Effluents" define the authorized discharge point for radioactive material released in liquid effluents to unrestricted areas as being only to Lake Norman. The proposed authorization would be accomplished by the addition of a footnote to TS Figure 5.1-4 at the discharge point for the Conventional Wastewater Basin into the Catawba River, stating that this discharge point is authorized for a one-time discharge of water which contains trace amounts of tritium in addition to the normally processed effluents of the Waste Water Collection Basin, effective the date of Commission approval. The change would not affect any existing limits or procedures regarding the processing of conventional (i.e., non-radioactive) contaminants.

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These revisions to the technical specifications would be made in response to the licensee's application for amendments dated May 20, 1986.

Before issuance of the proposed license amendments, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations.

An unexpected release of tritium into the Conventional Wastewater Basin has created the need for prompt action as proposed above for two reasons, both stemming from the fact that the Basin is nearly full. First, excessive rainfall could result in an overflow of the Basin, resulting in an uncontrolled release. Second, lack of available volume in the Basin will impair the station's ability to process conventional (non-radiological) liquid waste as required by the NPDES permit issued by the State of North Carolina and, thereby, result in an extended plant outage.

Non-radioactive chemical wastes from the McGuire Station (e.g., turbine building drains, water treatment system filter backwashes, demineralizer regeneration wastes) are routed through the Conventional Waste Water Treatment System (CWWTs) and subjected to physicochemical treatment. The CWWTs includes a Basin of two parallel stream settling ponds with a capacity of about 2 million gallons each. Upon completion of treatment, the discharges from this system are released to the Catawba River downstream of Cowans Ford Dam. The discharge from the CWWTs may also be mixed with water from the Standby Nuclear Service Water Pond to dilute waste concentrations prior to discharge to the river. Waste containing radioactive material is not intended for the CWWTs; rather such waste is routed to separate Liquid Radwaste Systems (see FSAR Section 11.2) for recycling, processing and disposal.

By letter dated May 20, 1986, the licensee noted that tritium, but no other radionuclide, had entered the Basin and had subsequently been diluted to a concentration of 1.4×10^{-5} microcuries per milliliter. The licensee proposed

to discharge the 4 million gallons of water in the Basin, along with its tritium, to the river at a rate of 500 gpm over a duration of 133 hours. The Basin discharge would also be mixed by equal flow from the Standby Nuclear Service Water Pond, such that the tritium concentration at the river release point would be 7×10^{-6} microcuries per milliliter. This concentration is well within the limit of 3×10^{-3} microcuries per milliliter specified by 10 CFR 20.106 and associated Appendix B, Table II, for tritium concentrations in water.

The NRC has evaluated doses resulting from the proposed discharge using models and assumptions in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Release of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I." For tritium the dominant exposure pathway is drinking water. The fish consumption pathway also makes a small contribution to the dose. Other potential pathways (such as due to irrigation or swimming) are negligible because of the properties of tritium, i.e. tritium does not accumulate either in the food chain or the body and it does not constitute a significant source of external radiation. The total body dose to a child or infant assumed to drink water from the river release point and to consume fish located at this release point was calculated by the Commission to be about 0.01 millirem. Corresponding doses to an adult or teenager were lower (i.e., about 0.008 and 0.006 millirem, respectively). Section II.A of Appendix I to 10 CFR 50 states that the calculated annual total quantity of all radioactive material above background to be released from each nuclear power reactor to unrestricted areas should not result in an estimated annual dose or dose commitment from liquid effluents for any individual in an unrestricted area from all pathways of exposure in excess of 3

millirems to the total body. Because the doses calculated for the proposed river discharge represent only a very small contribution to this annual dose criterion of Appendix I, we find the proposed action to be consistent with Appendix I criterion.

The licensee calculated similar but lower doses in its letter of May 20, 1986. Unlike the licensee's calculations, the NRC results conservatively assume no credit for dilution of the tritium concentration within the river. Nevertheless, we find that the discharge concentrations of tritium and resultant doses determined by the NRC are sufficiently low as to represent no significant safety concern.

The Commission has made a proposed determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The Commission has provided guidance for the application of these criteria by providing examples of amendments that are considered not likely to involve significant hazards considerations (48 FR 14870). The proposed changes do not match any of the examples. However, based upon our review of the amendment requests and our independent dose calculations discussed above, we find that the proposed action is limited to the one-time release of very low concentrations of tritium within the Conventional Wastewater Basin which are

well below limits permitted by 10 CFR 20, and if discharged to the Catawba River as proposed, would result in insignificant doses consistent with the guidance of Appendix I to 10 CFR 50. No changes in plant design, limiting safety system setpoints or allowable values, limiting conditions for operations or plant operating procedures would result from the proposed action. Therefore, operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

Therefore, based on these considerations and the three criteria given above, the Commission has made a proposed determination that the amendment request involves no significant hazards consideration.

The Commission has determined that failure to act in a timely way would result in extending shutdown because those activities which result in the generation of or need to process conventional (non-radiological) waste must be curtailed or deferred due to the inability to process conventional waste in compliance with the NPDES permit. The potential for uncontrolled release of the Basin with its tritium due to overflow as a result of rain also exists. Therefore, the Commission has insufficient time to issue its usual 30-day notice of the proposed action for public comment.

Normally, the Commission will not issue the amendment until the expiration of the notice period. However, should circumstances change during the notice period, the Commission may issue the license amendment before the

expiration of the notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

If the proposed determination becomes final, an opportunity for a hearing will be published in the Federal Register at a later date and any hearing request will not delay the effective date of the amendment.

If the Commission decides in its final determination that the amendment does involve a significant hazards consideration, a notice of opportunity for a prior hearing will be published in the Federal Register and, if a hearing is granted, it will be held before any amendment is issued

The Commission is seeking public comments on this proposed determination of no significant hazards consideration. Comments on the proposed determination may be telephoned to B. J. Youngblood, Director of PWR Project Directorate No. 4, by collect call to 301-492-8060 or submitted in writing to the Rules and Procedures Branch, Division of Rules and Records, Office of Administration, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555 and should cite the publication date and page number of this Federal Register notice. All comments received by June 16, 1988 will be considered in reaching a final determination. A copy of the application may be examined at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and

at the Atkins Library, University of North Carolina, Charlotte (UNCC Station),
North Carolina 28223.

Dated at Bethesda, Maryland this 27th day of May 1986.

FOR THE NUCLEAR REGULATORY COMMISSION

Kahtan Jabbour

Kahtan Jabbour, Acting Director
PWR Project Directorate #4
Division of PWR Licensing-A

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DOCKET NO. 50-369 & 50-370

MEMORANDUM FOR: Rules and Procedures Branch
Division of Rules and Records
Office of Administration

FROM: Office of Nuclear Reactor Regulation

SUBJECT: Duke Power Company - McGuire Nuclear Station, Units 1 & 2

One signed original of the *Federal Register* Notice identified below is enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies (6) of the Notice are enclosed for your use.

- Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.
- Notice of Consideration of Issuance of Amendment to Facility Operating License.
- Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
- Notice of Availability of NRC Draft/Final Environmental Statement.
- Notice of Limited Work Authorization.
- Notice of Availability of Safety Evaluation Report.
- Notice of Issuance of Construction Permit(s).
- Notice of Issuance of Facility Operating License(s) or Amendment(s).
- Order.
- Exemption.
- Notice of Granting Exemption.
- Environmental Assessment.
- Notice of Preparation of Environmental Assessment.
- Other: _____

Office of Nuclear Reactor Regulation

Enclosure:
As stated

Contact:
Phone: K. Jabbour, X27367

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DATE	5/27/86						