

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:

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 May 20, 1986, request for amendments to change the McGuire technical specifications to authorize, on a one-time basis, the discharge to the Catawba River of waste waters from the Conventional Wastewater Basin containing tritium.

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

Sincerely,
ISI

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

Enclosure: As stated

cc: See next page

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Mr. H. B. Tucker
Duke Power Company

McGuire Nuclear Station

cc:

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May 23, 1986

DOCKET NO.s. 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: McGuire Nuclear Station, Units 1 and 2 (DUKE POWER COMPANY)

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 (5) 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: Marilee Duncan
Phone: 28928

OFFICE	PD#4						
SURNAME	MDuncan						
DATE	5/23/86						

UNITED STATES NUCLEAR REGULATORY COMMISSIONDUKE POWER COMPANYDOCKET NOS. 50-369 AND 50-370ENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to the Duke Power Company (the licensee) for the McGuire Nuclear Station, Units 1 and 2, located in Mecklenburg County, North Carolina.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action: The proposed 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.

The proposed amendment is in accordance with the licensee's request of May 20, 1986.

The Need for the Proposed Action: 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.

Environmental Impacts of the Proposed Action:

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.

A. Radiological

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 total activity which would be released by the proposed discharge would be about 0.25 curies of tritium, which is well within the annual tritium release from the plant estimated by the Commission in Table 3.3 of the Final Environmental Statement (NUREG-0063) to be about 940 curies per year.

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 adverse impact on the quality of the human environment.

B. Non Radiological

The licensee states that the waste within the Conventional Wastewater Basin has completed the treatment process, and (except for the presence of tritium) is otherwise within the specifications for discharge required by the NPDES permit. The change does not affect any existing limits or procedures regarding the processing of conventional (i.e., non-radioactive) contaminants. Therefore, no additional or unanalyzed impact on the environment would result from non-radioactive effluents as a result of this proposed change.

C. Conclusions

Except for the presence of tritium, no additional or unanalyzed impact on the environment would result from non-radioactive effluents as a result of the proposed change. The very low concentrations of tritium within the Conventional Wastewater Basin 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. Accordingly, the Commission concludes that the proposed action would result in no significant adverse impact to the quality of the human environment.

Alternative to the Proposed Action: Since we have concluded that the environmental effects of the proposed action are negligible, any alternatives to the actions proposed would not result in substantial improvement in the quality of the environment and therefore need not be evaluated.

The principal alternative would be to deny the requested amendments. That alternative, in effect, is the same as the "no action" alternative. Neither alternative would significantly reduce environmental impacts but would result in extended plant outage, and possibly result in uncontrolled discharges due to rain.

Alternative Use of Resources: This action does not involve the use of resources not previously considered in connection with the Nuclear Regulatory Commission's Final Environmental Statement dated April 1976 or its addendum dated January 1981 related to this facility.

Agencies and Persons Consulted: The NRC staff reviewed the licensee's request of May 20, 1986, and except for the State of North Carolina, did not consult other agencies or persons.

Finding of No Significant Impact: The Commission has determined not to prepare an environmental impact statement for the proposed license amendments.

Based upon this environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the request for amendments dated May 20, 1986, and the Commission's Final Environmental Statement dated April 1976 with its addendum dated January 1981, which are available for public inspection 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 28242.

Dated at Bethesda, Maryland this day of .

FOR THE NUCLEAR REGULATORY COMMISSION



Paul O'Connor, Acting Director
PWR Project Directorate #4
Division of PWR Licensing-A

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