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Dockets Nos. 50-269, 50-270
and 50-287

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Mr. H. B. Tucker
Vice President - Nuclear Production
Duke Power Company
P. O. Box 33189
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

The Commission has issued the enclosed Amendments Nos. 140, 140, and 137 to Facility Operating Licenses Nos. DPR-38, DPR-47 and DPR-55 for the Oconee Nuclear Station, Units Nos. 1, 2 and 3. These amendments consist of changes to the Station's common Technical Specifications (TSs) in response to your request dated April 30, 1984.

These amendments revise the TSs to incorporate monitoring and control limits of hydrogen concentration in the Waste Gas Holdup Tanks. Other changes requested in the April 30, 1984 submittal were approved in Amendments Nos. 133, 133 and 130 dated January 9, 1985.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance of the enclosed amendments will be included in the Commission's monthly notice.

Sincerely,

Original signed by

Helen Nicolaras, Project Manager
Operating Reactors Branch #4
Division of Licensing

Enclosures:
1. Amendment No. 140 to DPR-38
2. Amendment No. 140 to DPR-47
3. Amendment No. 137 to DPR-55
4. Safety Evaluation

cc w/enclosures:
See next page

ORB#4:DL	ORB#4:DL	ORB#4:DL	OELD	AD/OR:DL
RIngram	HNicolaras;cf	JStolz	GSJohnson	GLainas
4/2/85	4/2/85	4/6/85	6/12/85	6/18/85

Sig. made 6/19/85

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Duke Power Company

cc w/enclosure(s):

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

DUKE POWER COMPANY

DOCKET NO. 50-269

OCONEE NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 140
License No. DPR-38

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Duke Power Company (the licensee) dated April 30, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-38 is hereby amended to read as follows:

   3.B Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 140 are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 24, 1985

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

DUKE POWER COMPANY

DOCKET NO. 50-270

OCONEE NUCLEAR STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 140
License No. DPR-47

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Duke Power Company (the licensee) dated April 30, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-47 is hereby amended to read as follows:

   3.B Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 140 are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 24, 1985

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

DUKE POWER COMPANY

DOCKET NO. 50-287

OCONEE NUCLEAR STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 137
License No. DPR-55

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Duke Power Company (the licensee) dated April 30, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-55 is hereby amended to read as follows:

   3.B Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 137 are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 24, 1985

ATTACHMENTS TO LICENSE AMENDMENTS

AMENDMENT NO. 140 TO DPR-38

AMENDMENT NO. 140 TO DPR-47

AMENDMENT NO. 137 TO DPR-55

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

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by amendment numbers and contain vertical lines indicating the area of change.

Remove Pages	Insert Pages
3.10-3	3.10-3
3.10-4	3.10-4
4.1-12	4.1-12

3.10.4 Waste Gas Holdup Tanks

a. The quantity of radioactivity contained in each waste gas holdup tank shall be limited to $\leq$ 3.8E+05 curies noble gases (considered as Xe-133).

b. Daily, when radioactive materials are being added to a waste gas holdup tank, the quantity of radioactive material contained in the tank being filled shall be determined.

c. If the quantity of radioactive material in any waste gas holdup tank exceeds the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours, reduce the tank contents to within the above limit.

3.10.5 Used Oil Incineration

Used oil, contaminated by radioactivity, may be incinerated in the Station auxiliary boiler provided releases do not exceed one-tenth of one percent (0.1%) of the limits in Technical Specification 3.10.2.b.2.

3.10.6 Explosive Gas Mixture

a. The concentration limit of hydrogen in the Waste Gas Holdup Tanks is 3% by volume.

b. If the concentration of hydrogen in the Waste Gas Holdup Tanks exceeds 3% by volume, but is less than or equal to 4% by volume, then within 48 hours, reduce the concentration of hydrogen to within the limit.

c. If the concentration of hydrogen in the Waste Gas Holdup Tanks exceeds 4% by volume, then promptly suspend all additions of waste gases to the tank, and within 24 hours, reduce the concentration of hydrogen to within the limit.

3.10.7 The provisions of Technical Specifications 3.0 do not apply.

Bases

Specification 3.10.1 is provided to assure that the dose rate at anytime at the exclusion area boundary from gaseous effluents from all units on the site will be within the annual dose limits of 10 CFR Part 20 for unrestricted areas. The annual dose limits are the doses associated with the concentrations of 10 CFR Part 20, Appendix B, Table II. These limits provide reasonable assurance that radioactivity material discharged in gaseous effluents will not result in the exposure of an individual in an unrestricted area, either within or outside the exclusion area boundary, to annual average concentrations exceeding the limits specified in Appendix B, Table II of 10 CFR Part 20 (10 CFR Part 20.106(b)). For individuals who may at times be within the exclusion area boundary, the occupancy of the individual will be sufficiently low to compensate for any increase in the atmospheric diffusion factor above that for the exclusion area boundary. The specified release rate limits restrict, at all times, the corresponding gamma and beta dose rates above background to an

individual at or beyond the exclusion area boundary to ≤ 500 mrem/year to the total body or to ≤ 3000 mrem/year to the skin. These release rate limits also restrict, at all times, the corresponding thyroid rate above background to an infant via the milk animal-milk-infant pathway to ≤ 1500 mrem/year for the nearest milk animal to the plant.

Specification 3.10.3 is provided to implement the requirements of Appendix I, 10 CFR Part 50. The specification provides the required operating flexibility and at the same time implements the guides set forth in Appendix I to assure that the releases of radioactive material in gaseous effluents will be kept "as low as is reasonably achievable." Surveillance requirements are implemented to meet the requirements of Appendix I. Calculational procedures based on models and data show that the actual exposure of an individual through the appropriate pathways is unlikely to be substantially underestimated.

The ODCM calculational methods for calculating the doses due to the actual release rates of the subject materials will be consistent with the methodology provided in Regulatory Guide 1.109, "Calculating of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I, "Revision I, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors."

Equations in the ODCM are provided for determining the actual doses based upon the historical average atmospheric conditions. The release rate specifications for radioiodines, radioactive material in particulate form and radionuclides other than noble gases are dependent on the existing radionuclide pathways to man, in the unrestricted area. The pathways which are examined in the development of these calculations are: 1) individual inhalation of airborne radionuclides, 2) deposition of radionuclides onto green leafy vegetation with subsequent consumption by man, 3) deposition onto grassy areas where milk animals and meat producing animals graze with consumption of the milk and meat by man, and 4) deposition on the ground with subsequent exposure of man.

The requirement that the appropriate portions of these systems be used when specified provides reasonable assurance that the release of radioactive materials in gaseous effluents will be kept "as low as is reasonably achievable." This specification implements the requirements of 10 CFR Part 50.36a, General Design Criterion 60 of Appendix A to 10 CFR Part 50, and design objective Section IID of Appendix I to 10 CFR Part 50.

Restricting the quantity of radioactivity contained in each waste gas holdup tank provides assurance that in the event of an uncontrolled release of the tanks contents, the resulting total body exposure to an individual at the nearest exclusion area boundary will not exceed 0.5 rem.

Specification 3.10.6 is provided to ensure that the concentration of potentially explosive gas mixtures contained in the Waste Gas Holdup Tanks is maintained below the flammability limits of hydrogen. (Administrative controls are used to prevent the hydrogen concentrations from reaching the flammability limit.) These controls include sampling each tank 5 times a week while in service, and/or once in 24 hours after isolation of the tank; injection of dilutants to reduce the concentration of hydrogen below its flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10CFR Part 50.

TABLE 4.1-3 Continued

Minimum Sampling Frequency And Analysis Program

Item	Check	Frequency	Lower Limit of Detection[5] of Lab Analysis for Waste
8a. Waste Gas Decay Tank	a. Principal Gamma Emitters[7]	a. Grab Sample prior to release of each batch	a. $<10^{-4}$ μCi/cc (gases) $<10^{-10}$ μCi/cc (particulates and iodines)
	b. Tritium	b. Grab sample prior to release of each batch	b. $<10^{-6}$ μCi/cc
8b. Reactor Building	a. Principal Gamma Emitters[7]	a. Grab Sample each purge	a. $<10^{-4}$ μCi/cc (gases) $<10^{-10}$ μCi/cc (particulates and iodines)
	b. Tritium	b. Grab Sample each purge	b. $<10^{-6}$ μCi/cc
9. Keowee Hydro Dam Dilution Flow	Measure Leakage Flow Rate	Annually	
10. Delete			
11. Backwash Receiving Tanks	Principle Gamma Emitters including dissolved noble gases	Grab Sample prior to release of each batch	
12. #3 Chemical Treatment Pond Effluent	a. Principal Gamma Emitters[6]	a. Monthly from composite sample[10]	a. Ce-144 and Mo-99 $<5x10^{-6}$ μCi/ml Other Gamma Nuclides $<5x10^{-7}$ μCi/ml Dissolved Gases $<10^{-5}$ μCi/ml I-131 $<10^{-6}$ μCi/ml
	b. Radiochemical Analysis Sr-89, Sr-90, Fe-55	b. Quarterly from composite sample[9]	b. $<5x10^{-8}$ μCi/ml for Sr's $<10^{-6}$ μCi/ml for Fe-55
	c. Tritium	c. Monthly from composite sample[10]	c. $<10^{-5}$ μCi/ml
	d. Gross Alpha Activity	d. Monthly from composite sample[10]	d. $<10^{-7}$ μCi/ml
13. Waste Gas Holdup Tank	Hydrogen Concentration	5 times/week on each tank while in service and/or once in 24 hours after isolation of the tank	

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 140 TO FACILITY OPERATING LICENSE NO. DPR-38

AMENDMENT NO. 140 TO FACILITY OPERATING LICENSE NO. DPR-47

AMENDMENT NO. 137 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 April 30, 1984, Duke Power Company (the licensee) proposed changes to the Technical Specifications (TSs) of Facility Operating Licenses Nos. DPR-38, DPR-47, and DPR-55 for the Oconee Nuclear Station, Units Nos. 1, 2, and 3. These amendments would consist of changes to the Station's common TSs. Other changes requested in the April 30, 1984, submittal have been addressed by separate Safety Evaluation and approved by license Amendments Nos. 133, 133 and 130 dated January 9, 1985.

The amendments would authorize proposed changes to the TSs by revising TS 3.10.6 and its associated Bases to incorporate monitoring and control limits of hydrogen concentration in the Waste Gas Holdup Tanks. TS 3.10.6 and Item 13 of Table 4.1-3 (Minimum Sampling Frequency and Analysis Program) are being revised to document existing administrative control limits and sampling frequency for hydrogen concentration in the Waste Gas Holdup Tanks. These proposed changes are being submitted in response to a January 16, 1984 NRC Safety Evaluation which discussed the present Oconee Nuclear Station waste gas system operation and existing program and found it acceptable pending 1) completion of waste gas studies associated with the issue of explosive gas limitations and monitoring system and 2) receipt of proposed TSs addressing this issue.

As discussed in the January 16, 1984 Safety Evaluation, which incorporates the radiological effluent TSs (RETS), the objective of the RETS with regard to explosive gas mixtures is to prevent hydrogen explosions in the waste gas systems. In an August 18-19, 1982 meeting, the licensee's and the NRC's staffs agreed that the issue of explosive gas limitations and monitoring will be deferred and handled as a separate issue following completion of the ongoing Duke and NRC studies of system requirements. Pending completion of these studies, the licensee was required and committed to submit proposed TSs addressing explosive gas limitations and monitoring within 90 days of receipt of the RETS amendment.

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2.0 Evaluation

We have reviewed the TSs on explosive gas limitations and monitoring provided in the April 30, 1984 submittal. We find that these TSs are acceptable on an interim basis pending completion of the Duke Waste Gas Study, and until a final, formal policy on explosive gas monitoring has been established by the NRC. As emphasized in the NRC's January 16, 1984 letter to the licensee, the licensee is encouraged to exert every effort possible to complete the remaining evaluations associated with the Waste Gas Study and to forward the submittal to us at the earliest opportunity, as agreed to in the August 18-19, 1982 meeting.

3.0 Environmental Consideration

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and in a surveillance requirement. We have determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 Conclusion

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) 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.

Dated: June 24, 1985

Principal Contributor: W. Meinke