Mr. C. Randy Hutchinson
Vice President, Operation...NO
Entergy Operations, Inc.
1448 S. R. 333
Russellville, AR 72801

September 23, 1900

SUBJECT: ISSUANCE OF AMENDMENT NOS. 193 AND 193 TO FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6 - ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 (TAC NOS. M96891 AND M96892)

Dear Mr. Hutchinson:

The Commission has issued the enclosed Amendment Nos. 193 and 193 to Facility Operating License Nos. DPR-51 and NPF-6 for the Arkansas Nuclear One, Units 1 and 2 (ANO-1&2). These amendments consist of changes to the Technical Specifications (TSs) in response to your applications dated October 2, 1996, as supplemented by the letter dated June 18, 1997.

The amendments relocate the Radiological Effluents Technical Specifications (RETS) to the Offsite Dose Calculation Manual and the Process Control Program. The NRC provided guidance to all power reactors licensees and applicants on the proposed TS changes in Generic Letter 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications in the Administrative Controls Section of the Technical Specifications and the Relocation of Procedural Details of RETS to the Offsite Dose Calculation Manual or to the Process Control Program," dated January 31, 1989.

A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:
William Reckley, Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-313 and 50-368

Enclosures:
1. Amendment No. 193 to DPR-51
2. Amendment No. 193 to NPF-6
3. Safety Evaluation

cc w/encls: See next page

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Document Name: ARM96891.AMD *SE provided 8/19/97

OFC	PM/PD4-1	LA/PD4-1	PERB*	OGC	PD/PDIV-1	OGC
NAME	WReckley	CHawes	CMiller		JHannon	SUTRO
DATE	9/15/98	8/27/98	9/15/98	9/17/98	9/23/98	9/17/98
COPY	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	Yes

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 23, 1998

Mr. C. Randy Hutchinson
Vice President, Operations ANO
Entergy Operations, Inc.
1448 S. R. 333
Russellville, AR 72801

SUBJECT: ISSUANCE OF AMENDMENT NOS. 193 AND 193 TO FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6 - ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 (TAC NOS. M96891 AND M96892)

Dear Mr. Hutchinson:

The Commission has issued the enclosed Amendment Nos. 193 and 193 to Facility Operating License Nos. DPR-51 and NPF-6 for the Arkansas Nuclear One, Units 1 and 2 (ANO-1&2). These amendments consist of changes to the Technical Specifications (TSs) in response to your applications dated October 2, 1996, as supplemented by the letter dated June 18, 1997.

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Sincerely,

William Reckley

William Reckley, Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-313 and 50-368

Enclosures: 1. Amendment No.193 to DPR-51
2. Amendment No.193 to NPF-6
3. Safety Evaluation

cc w/encls: See next page

cc:

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& Chief Operating Officer
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 193
License No. DPR-51

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

   A. The application for amendment by Entergy Operations, Inc. (the licensee) dated October 2, 1996, as supplemented by letter dated June 18, 1997, 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 license 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 2.C.(2) of Facility Operating License No. DPR-51 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 193, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days of the date of issuance. The implementation shall include the relocation of the appropriate provisions to the Offsite Dose Calculation Manual and Process Control Program as described in the licensee's application dated October 2, 1996, as supplemented by letter dated June 18, 1997, and the staff's safety evaluation dated September 23, 1998.

FOR THE NUCLEAR REGULATORY COMMISSION

William Reckley, Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: September 23, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 193

FACILITY OPERATING LICENSE NO. DPR-51

DOCKET NO. 50-313

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

REMOVE PAGES	INSERT PAGES
i, ii, iia, iv	i, ii, iia, iv
5a	-
6	6
53d through 53l	-
66v through 66z	66v, 66w
66aa through 66ff	-
110cc through 110 zz	110cc, 110dd
110aaa, 110bbb	-
111a	-
126	126
127, 127a	127, 127a
129	129
141	141
141a, 141b	-
146a, 146b	146a
148	148

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1.10 Dose Equivalent I-131

The Dose Equivalent I-131 shall be the concentration of I-131 (microcurie/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134 and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

1.11 Liquid Radwaste Treatment System

A Liquid Radwaste Treatment System is a system designed and used for holdup, filtration, and/or demineralization of radioactive liquid effluents prior to their release to the evironment.

1.12 Purge - Purging

Purge or Purging is the controlled process of discharging air or gas from a confinement to reduce the airborne radioactivity concentration in such a manner that replacement air or gas is required to purify the confinement.

1.13 Member(s) of the Public

Member(s) of the Public shall include all persons who are not occupationally associated with the plant. This category does not include employees of the utility, its contractors or vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational or other purposes not associated with the plant.

1.14 Exclusion Area

The exclusion area is that area surrounding ANO within a minimum radius of .65 miles of the reactor buildings and controlled to the extent necessary by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials.

1.15 Unrestricted Area

An unrestricted area shall be any area beyond the exclusion area boundary.

1.16 Core Operating Limits Report

The CORE OPERATING LIMITS REPORT is the ANO-1 specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Technical Specification 6.12.3. Plant operation within these operating limits is addressed in individual specifications.

3.25 RADIOACTIVE EFFLUENTS

3.25.1 Radioactive Liquid Holdup Tanks

Applicability: At all times.

Objective: To ensure that the limits of 10 CFR 20 are not exceeded.

Specifications:

3.25.1 A. The quantity of radioactive material contained in each unprotected* outside temporary radioactive liquid storage tank shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

B. With the quantity of radioactive material exceeding the above limit, immediately suspend all additions of radioactive material to the affected tank and within 48 hours reduce the tank contents to within the limit and describe the events leading to the condition in the next Radioactive Effluent Release Report pursuant to Specification 6.12.2.6.

C. The provisions of Specification 3.0.3 are not applicable.

Bases:

This specification is provided to ensure that in the event of an uncontrolled release of the contents of the tank* the resulting concentrations would be less than the limits of 10 CFR 20, Appendix B, Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in the unrestricted area.

*Tanks included in this specification are those outdoor temporary tanks that 1) are not surrounded by liners, dikes, or walls capable of holding the tank contents, and 2) do not have overflows and surrounding area drains connected to the liquid radwaste treatment system.

3.25.2 Radioactive Gas Storage Tanks

Applicability: At all times

Objective: To restrict the amount of activity in a radioactive gas holdup tank.

Specifications:

3.25.2 A. The quantity of radioactivity contained in each gas storage tank shall be limited to 300,000 curies noble gases (Xe-133 equivalent).

B. With the quantity of radioactive material in any gas storage tank exceeding the above limit, immediately suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit and describe the events leading to the condition in the next Radioactive Effluent Release Report pursuant to Specification 6.12.2.6.

C. The provisions of Specification 3.0.3 are not applicable.

Bases:

The value of 300,000 curies is a suitable fraction of the quantity of radioactive material which if released over a 2-hour period, would result in a total body exposure to a member of the public at the exclusion area boundary of 500 mrem. This is consistent with Branch Technical Position ETSB 11-5 in NUREG-0800, July 1981.

4.29 RADIOACTIVE EFFLUENTS

4.29.1 Radioactive Liquid Holdup Tanks

Applicability: At all times

Objective: To ensure that the limits of 10 CFR 20 are not exceeded.

Specification:

4.29.1 The quantity of radioactive material contained in an outside temporary radioactive liquid storage tank shall be determined to be within the limit of Specification 3.25.1 by analyzing a representative sample of the contents of the tank at least once per 7 days when radioactive materials are being added to the tank.

Bases:

This specification is provided to ensure that in the event of an uncontrolled release of the contents of the tank the resulting concentrations would be less than the limits of 10 CFR 20, Appendix B, Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in the unrestricted area.

4.29.2 Radioactive Gas Storage Tanks

Applicability: At all times

Objective: To ensure meeting the requirements of Specification 3.25.2.

Specification:

4.29.2 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the limits of Specification 3.25.2 at least once per 24 hours when radioactive materials are being added to the tank and the reactor coolant activity exceeds the limits of Specification 3.1.4.1.b.

Bases:

This specification is provided so that the requirements of Specification 3.25.2 are met.

6.6 REPORTABLE EVENT ACTION

6.6.1 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

6.6.2 The following actions shall be taken for REPORTABLE EVENTS:

a. A report shall be submitted to the Commission pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and

b. Each REPORTABLE EVENT shall be reviewed by the PSC, and the results of this review shall be submitted to the SRC and the Vice President, Operations ANO.

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

a. The facility shall be placed in at least hot shutdown within one hour.

b. The Nuclear Regulatory Commission shall be notified pursuant to 10 CFR 50.72 and a report submitted pursuant to the requirements of 10 CFR 50.36 and Specification 6.6.

6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, November, 1972.

b. Refueling operations.

c. Surveillance and test activities of safety related equipment.

d. (Deleted)

e. (Deleted)

f. Fire Protection Program Implementation.

g. New and spent fuel storage.

h. Offsite Dose Calculation Manual and Process Control Program implementation at the site.

i. Post accident sampling (includes sampling of reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and the containment atmosphere).

6.8.2 Each procedure of 6.8.1 above, and changes in intent thereto, shall be reviewed and approved as required by the QAMO prior to implementation and reviewed periodically as set forth in administrative procedures.

6.8.3 Changes to procedures of 6.8.1 above may be made and implemented prior to obtaining the review and approval required in 6.8.2 above provided:

a. The intent of the original procedure is not altered.

b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's license on Unit 1.

c. The change is documented, reviewed and approved as required by the QAMO, within 14 days of implementation.

6.8.4 The Reactor Building Leakage Rate Testing Program shall be established, implemented, and maintained:

A program shall be established to implement the leakage rate testing of the reactor building as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995.

The peak calculated reactor building internal pressure for the design basis loss of coolant accident, P_a, is 54 psig.

The maximum allowable reactor building leakage rate, L_a, shall be 0.20% of containment air weight per day at P_a.

Reactor building leakage rate acceptance criteria is $\leq 1.0\ L_a$. During the first unit startup following each test performed in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the Type B and Type C tests and $\leq 0.75\ L_a$ for Type A tests.

The provisions of Specification 4.0.2 do not apply to the test frequencies specified in the Reactor Building Leakage Rate Testing Program.

The provisions of Specification 4.0.3 are applicable to the Reactor Building Leakage Rate Testing Program.

6.8.5 The Radioactive Effluent Controls Program shall be established, implemented, and maintained:

a. This program conforms with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

1) Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR Part 20, Appendix B, Table 2, Column 2;

3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

4) Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS, conforming to 10 CFR 50, Appendix I;

5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;

6) Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the site boundary conforming to the dose associated with 10 CFR 20, Appendix B, Table 2, Column 1;

8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and

10) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

h. Records of in-service inspections performed pursuant to these Technical Specifications.

i. Records of Quality Assurance activities required by Section 17 of the Quality Assurance Manual for Operations.

j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10CFR50.59.

k. Records of meetings of the PSC and the SRC.

l. Records of reviews performed for changes made to the Offsite Dose Calculation Manual and Process Control Program.

m. Records of the service lives of the seals of all hydraulic snubbers applicable to Specification 3.16 including the date at which the service life commences and associated installation and maintenance records.

n. Records of analyses required by the Radiological Environmental Monitoring Program.

6.10 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

6.11 HIGH RADIATION AREA

6.11.1 In lieu of the "control device or alarm signal" required by paragraph 20.203(c)(2) of 10CFR20, each high radiation area (as defined in 20.202(b)(3) of 10CFR20) in which the intensity of radiation is 1000 mrem/hr or less shall be barricaded and conspicuously posted as a high radiation area and shall be controlled by requiring the issuance of a radiation work permit. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a pre-set integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified in the radiation work permit.

The dose assignments to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.

6.12.2.3 Monthly Operating Report

Routine reports of operating statistics which include:

(1) Average Daily Unit Power Level
(2) Operating Data Report
(3) Unit Shutdowns and Power Reductions
(4) Narrative Summary of Operating Experience

shall be submitted on a monthly basis to the Director, Office of Management and Program Analysis, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the appropriate Regional Office by the fifteenth of each month following the calendar month covered by the report.

6.12.2.4 Annual Report

All challenges to the pressurizer electromatic relief valve (ERV) and pressurizer safety valves shall be reported annually.

6.12.2.5 Annual Radiological Environmental Operating Report *

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the radiological environmental monitoring program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

6.12.2.6 Radioactive Effluent Release Report **

The Radioactive Effluent Release Report covering the operation of the unit shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

* A single submittal may be made for ANO. The submittal should combine those sections that are common to both units.

** A single submittal may be made for ANO. The submittal should combine those sections that are common to both units. The submittal shall specify the releases of radioactive material from each unit.

6.12.5 Special Reports

Special reports shall be submitted to the Administrator of the appropriate Regional Office within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification.

a. Tendon Surveillance, Specification 4.4.2.2

b. Inoperable Containment Radiation Monitors, Specification 3.5.1, Table 3.5.1-1.

c. Deleted

d. Steam Generator Tubing Surveillance - Category C-3 Results, Specification 4.18.

e. Miscellaneous Radioactive Materials Source Leakage Tests, Specification 3.12.2.

f. Deleted

g. Deleted

h. Inoperable Fire Detection Instrumentation

i. Inoperable Fire Suppression Systems

j. Degraded Auxiliary Electrical Systems, Specification 3.7.2.H.

k. Inoperable Reactor Vessel Level Monitoring Systems, Table 3.5.1-1

l. Inoperable Hot Leg Level Measurement Systems, Table 3.5.1-1

m. Inoperable Main Steam Line Radiation Monitors, Specification 3.5.1, Table 3.5.1-1.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

The ODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program.

The ODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating and Radioactive Effluent Release Reports required by Specifications 6.12.2.5 and 6.12.2.6.

Licensee initiated changes to the ODCM:

a. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:

   1. Sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and

   2. A determination that the change(s) maintain the levels of radioactive effluent control required by 10 CFR 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;

b. Shall become effective after approval of the General Manager, Plant Operations; and

c. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed and shall also indicate the date (i.e., month and year) the change was implemented.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 193
License No. NPF-6

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

   A. The application for amendment by Entergy Operations, Inc. (the licensee) dated October 2, 1996, as supplemented by letter dated June 18, 1997, 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 license 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 2.C.(2) of Facility Operating License No. NPF-6 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 193, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days of the date of issuance. The implementation shall include the relocation of the appropriate provisions to the Offsite Dose Calculation Manual and Process Control Program as described in the licensee's application dated October 2, 1996, as supplemented by letter dated June 18, 1997, and the staff's safety evaluation dated September 23, 1998.

FOR THE NUCLEAR REGULATORY COMMISSION

William Reckley, Project Manger
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: September 23, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 193

FACILITY OPERATING LICENSE NO. NPF-6

DOCKET NO. 50-368

Revise the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE PAGES	INSERT PAGES
II, V, VI, X, XIV, XVII	II, V, VI, X, XIV, XVII
1-5 through 1-7	1-5 through 1-7
3-42 through 3-3-57	-
11-1 through 11-16	11-1 through 11-5
12-1 through 12-9	-
B 3-3a through B 3-5	-
B 11-1 through B 11-5	B 11-1
B 12-1	-
5-3A	-
6-13, 6-14	6-13, 6-14
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DEFINITIONS

APR 1 : 1994

DEFINITIONS

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

INDEX

BASES

AXIAL SHAPE INDEX

1.22 The AXIAL SHAPE INDEX shall be the power generated in the lower half of the core less the power generated in the upper half of the core divided by the sum of these powers.

REACTOR TRIP SYSTEM RESPONSE TIME

1.23 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until electrical power is interrupted to the CEA drive mechanism.

ENGINEERED SAFETY FEATURE RESPONSE TIME

1.24 The ENGINEERED SAFETY FEATURE RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays where applicable.

PHYSICS TESTS

1.25 PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 14.0 of the FSAR, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

SOFTWARE

1.26 The digital computer SOFTWARE for the reactor protection system shall be the program codes including their associated data, documentation and procedures.

PLANAR RADIAL PEAKING FACTOR F_{xy}

1.27 The PLANAR RADIAL PEAKING FACTOR is the ratio of the peak to plane average power density of the individual fuel rods in a given horizontal plane, excluding the effects of azimuthal tilt.

LIQUID RADWASTE TREATMENT SYSTEM

1.28 A LIQUID RADWASTE TREATMENT SYSTEM is a system designed and installed to reduce radioactive liquid effluents from the unit. This is accomplished by providing for holdup, filtration, and/or demineralization of radioactive liquid effluents prior to their release to the environment.

MEMBER(S) OF THE PUBLIC

1.29 MEMBER(S) OF THE PUBLIC shall include all persons who are not occupationally associated with the plant. This category does not include employees of the utility, its contractors or vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational or other purposes not associated with the plant.

PURGE-PURGING

1.30 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to reduce airborne radioactive concentrations in such a manner that replacement air or gas is required to purify the confinement.

EXCLUSION AREA

1.31 The EXCLUSION AREA is that area surrounding ANO within a minimum radius of .65 miles of the reactor buildings and controlled to the extent necessary by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials.

UNRESTRICTED AREA

1.32 An UNRESTRICTED AREA shall be any area at or beyond the exclusion area boundary.

CORE OPERATING LIMITS REPORT

1.33 The CORE OPERATING LIMITS REPORT is the ANO-2 specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Technical Specification 6.9.5 Plant operation within these operating limits is addressed in individual specifications.

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TABLE 1.1

OPERATIONAL MODES

MODE	REACTIVITY CONDITION, K_{eff}	%RATED THERMAL POWER*	AVERAGE COOLANT TEMPERATURE
1. POWER OPERATION	$\geq$ 0.99	> 5%	$\geq$ 300°F
2. STARTUP	$\geq$ 0.99	$\leq$ 5%	$\geq$ 300°F
3. HOT STANDBY	< 0.99	0	$\geq$ 300°F
4. HOT SHUTDOWN	< 0.99	0	300°F > T_{avg} > 200°F
5. COLD SHUTDOWN	< 0.99	0	$\leq$ 200°F
6. REFUELING**	$\leq$ 0.95	0	$\leq$ 140°F

*Excluding decay heat.

**Reactor vessel head unbolted or removed and fuel in the vessel.

3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 LIQUID HOLDUP TANKS*

LIMITING CONDITION FOR OPERATION

3.11.1 The quantity of radioactive material contained in each unprotected outside temporary radioactive liquid storage tank shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

APPLICABILITY: At all times.

ACTION:

a. With the quantity of radioactive material exceeding the above limit, immediately suspend all additions of radioactive material to the affected tank and within 48 hours reduce the tank contents to within the limit and describe the events leading to the condition in the next Radioactive Effluents Release Report pursuant to Specification 6.9.3.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1 The quantity of radioactive material contained in each unprotected outside temporary radioactive liquid storage tank shall be determined to be within the above limit by analyzing a representative sample of the contents of the tank at least once per 7 days when radioactive materials are being added to the tank.

*Tanks included in this specification are those outdoor temporary tanks that 1) are not surrounded by liners, dikes, or walls capable of holding the tank contents, and 2) do not have overflows and surrounding area drains connected to the liquid radwaste treatment system.

RADIOACTIVE EFFLUENTS

3/4.11.2 GAS STORAGE TANKS

LIMITING CONDITION FOR OPERATION

3.11.2 The quantity of radioactivity contained in each gas storage tank shall be limited to less than or equal to 300,000 curies noble gases (considered as Xe-133).

APPLICABILITY: At all times.

ACTION:

a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, immediately suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit and describe the events leading to the condition in the next Radioactive Effluent Release Report pursuant to Specification 6.9.3.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit at least once per 24 hours when radioactive materials are being added to the tank and the reactor coolant activity exceeds the limits of Specification 3.4.8.

3/4.11.3 EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

3.11.3 The concentration of the hydrogen/oxygen shall be limited in the waste gas storage tanks to Region "A" of Figure 3.11-1.

APPLICABILITY: At all times.

ACTION:

a. When the concentration of hydrogen/oxygen in the waste gas storage tanks enters Region "B" of Figure 3.11-1, corrective action shall be taken to return the concentration values to Region "A" within 24 hours.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.3 The concentration of hydrogen/oxygen in the waste gas holdup system shall be determined to be within the above limits, with the waste gas system in operation, by continuously monitoring with the hydrogen/oxygen monitors required OPERABLE by Table 3.11-3.

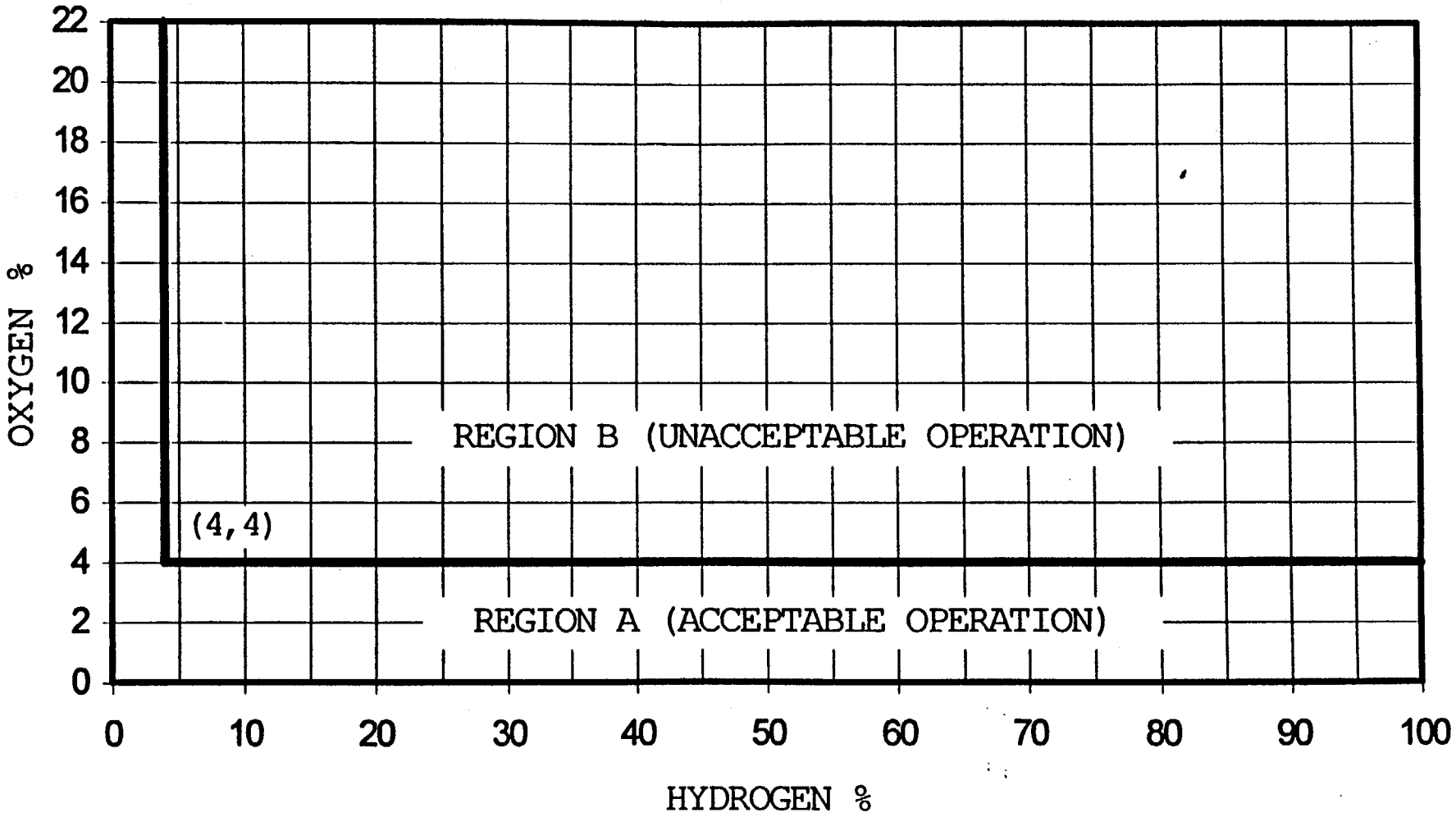
TABLE 3.11-3

EXPLOSIVE GAS MONITORING INSTRUMENTATION

Instrument	Minimum Channels Operable	Applicability	Action
1. Waste Gas Holdup System Explosive Gas Monitoring System			
a. Hydrogen monitor	1	*	1
b. Oxygen monitor	1	*	1

*During waste gas compressing operation (treatment for primary system off gases.)

ACTION 1 - With both channels inoperable, operation may continue provided grab samples are taken 1) every 4 hours during degassing operations, and 2) daily during other operations. The analysis of these samples shall be completed within 8 hours of taking the sample.



HYDROGEN - OXYGEN LIMITS FOR ANO-2 WASTE GAS SYSTEM

Figure 3.11-1

RADIOACTIVE EFFLUENTS

LIQUID HOLDUP TANKS*

LIMITING CONDITION FOR OPERATION

3.11.1.4 The quantity of radioactive material contained in each unprotected outside temporary radioactive liquid storage tank shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

APPLICABILITY: At all times.

ACTION:

a. With the quantity of radioactive material exceeding the above limit, immediately suspend all additions of radioactive material to the affected tank and within 48 hours reduce the tank contents to within the limit.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.4 The quantity of radioactive material contained in each unprotected outside temporary radioactive liquid storage tank shall be determined to be within the above limit by analyzing a representative sample of the contents of the tank at least once per 7 days when radioactive materials are being added to the tank.

*Tanks included in this specification are those outdoor temporary tanks that do not have 1) liners, dikes or walls capable of holding the tank contents, or 2) tank overflows and surrounding area drains connected to the LIQUID RADWASTE TREATMENT SYSTEM.

3/4.11 RADIOACTIVE EFFLUENTS

BASES

3/4.11.1 LIQUID HOLDUP TANKS

Restricting the quantity of radioactive material contained in the specified tanks provides assurance that, in the event of an uncontrolled release of the contents of the tanks, the resulting concentrations would be less than the limits of 10 CFR 20, Appendix B, Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA.

3/4.11.2 GAS STORAGE TANKS

Restricting the quantity of radioactivity contained in each gas storage tank provides assurance that, in the event of an uncontrolled release of the tank's contents, the resulting total body exposure to a MEMBER OF THE PUBLIC at the nearest EXCLUSION AREA boundary will not exceed 0.5 rem. This is consistent with Branch Technical Position ETSB 11-5 in NUREG-0800, July 1981.

3/4.11.3 EXPLOSIVE GAS MIXTURE

It is expected that the hydrogen/oxygen concentration will be kept within the limits and therefore not enter the flammable or detonable region concentrations within the waste gas storage tanks.

These levels provide reasonable assurance that no hydrogen/oxygen explosion could occur to allow rupture of the waste gas storage tanks. The hydrogen and oxygen limits are based on information in NUREG/CR-2726, "Light Water Reactor Hydrogen Manual."

Grab samples are to be taken every 4 hours during degassing operations when both hydrogen/oxygen analyzers are out of service. These samples are to be analyzed within 8 hours to assure that the hydrogen/oxygen concentration is within the limits in Figure 3.11-1. During other Waste Gas Compressor operations, the hydrogen/oxygen concentration is not as subject to change, therefore grab samples are to be taken every 24 hours.

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

a. The unit shall be placed in at least HOT STANDBY within one hour.
b. The Vice President, Operations ANO and the SRC shall be notified within 24 hours.
c. The Nuclear Regulatory Commission shall be notified pursuant to 10CFR50.72 and a report submitted pursuant to the requirements of 10CFR50.36 and Specification 6.6.

6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978.
b. Refueling operations.
c. Surveillance and test activities of safety related equipment.
d. (Deleted)
e. (Deleted)
f. Fire Protection Program implementation.
g. Modification of Core Protection Calculator (CPC) Addressable Constants. These procedures should include provisions to assure that sufficient margin is maintained in CPC Type I addressable constants to avoid excessive operator interaction with the CPCs during reactor operation.

NOTE: Modifications to the CPC software (including changes of algorithms and fuel cycle specific data) shall be performed in accordance with the most recent version of "CPC Protection Algorithm Software Change Procedure," CEN-39(A)-P that has been determined to be applicable to the facility. Additions or deletions to CPC addressable constants or changes to addressable constant software limit values shall not be implemented without prior NRC approval.

h. New and spent fuel storage.
i. ODCM and PCP implementation.
j. Post accident sampling (includes sampling of reactor coolant, radioactive iodines and particulates in plant gaseous effluent, and the containment atmosphere).

6.8.2 Each procedure of 6.8.1 above, and changes in intent thereto, shall be reviewed and approved as required by the QAMO prior to implementation and reviewed periodically as set forth in administrative procedures.

6.8.3 Changes to procedures of 6.8.1 above may be made and implemented prior to obtaining the review and approval required in 6.8.2 above provided:

a. The intent of the original procedure is not altered.

b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's License on Unit 2.

c. The change is documented, reviewed and approved as required by the QAMO, within 14 days of implementation.

6.8.4 The following program shall be established, implemented, and maintained:

a. Radioactive Effluent Controls Program

This program conforms with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

1) Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR Part 20, Appendix B, Table 2, Column 2;

3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

4) Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS, conforming to 10 CFR 50, Appendix I;

5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;

6) Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the site boundary conforming to the dose associated with 10 CFR 20, Appendix B, Table 2, Column 1;

8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and

10) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the Administrator of the Regional Office unless otherwise noted.

STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

h. Deleted

i. Inoperable Containment Radiation Monitors, Specification 3.3.3.1.

j. Steam Generator Tubing Surveillance -- Category C-3 Results, Specification 4.4.5.5.

k. Maintenance of Spent Fuel Pool Structural Integrity, Specification 3.7.12.

l. Deleted

m. Deleted

n. Inoperable Reactor Vessel Level Monitoring System (RVLMS), Specification 3.3.3.6, Table 3.3-10 Item 14.

o. Inoperable Main Steam Line Radiation Monitors, Specification 3.3.3.1, Table 3.3-6.

RADIOACTIVE EFFLUENT RELEASE REPORT *

6.9.3 The Radioactive Effluent Release Report covering the operation of the unit shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

* A single submittal may be made for ANO. The submittal should combine those sections that are common to both units. The submittal shall specify the releases of radioactive material from each unit.

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ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT *

6.9.4 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the radiological environmental monitoring program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

* A single submittal may be made for ANO. The submittal should combine those sections that are common to both units.

f. Records of reactor tests and experiments.

g. Records of training and qualification for current members of the unit staff.

h. Records of in-service inspections performed pursuant to these Technical Specifications.

i. Records of Quality Assurance activities required by the QA Manual.

j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10CFR50.59.

k. Records of meetings of the PSC and the SRC.

l. Records of changes to the Core Protection Calculator System (CPCS) SOFTWARE. Changes to the CPCS SOFTWARE shall be made in accordance with methods approved by the NRC. These records shall include the following:

1. Purpose of change.

2. Detailed description of changes including algorithms, changes to the assembly listings, checksums and disk identification numbers.

3. Summary of validation test results.

m. Records of reviews performed for changes made to the Offsite Dose Calculation Manual and Process Control Program.

n. Records of the service lives of the seals of all hydraulic snubbers required by Specification 3.7.8, including the date at which the service life commences and associated installation and maintenance records.

6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

6.12 (DELETED)

6.12.2 (DELETED)

6.13 HIGH RADIATION AREA

6.13.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20, each high radiation area (as defined in 20.202(b)(3) of 10 CFR 20) in which the intensity of radiation is 1000 mrem/hr or less shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring the issuance of a radiation work permit. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified in the radiation work permit.

6.13.2 The requirements of 6.13.1, above, shall also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/hr. In addition, locked doors shall be provided to prevent unauthorized entry into such areas and access to these areas shall be maintained under the administrative control of the Shift Supervisor on duty and/or the designated radiation protection manager.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

The ODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program.

The ODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Radioactive Effluent Release and Annual Radiological Environmental Operating Reports required by Specifications 6.9.3 and 6.9.4.

Licensee initiated changes to the ODCM:

a. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:

   1. Sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s),

   2. A determination that the change(s) maintain the levels of radioactive effluent control required by 10 CFR 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;

b. Shall become effective after approval of the General Manager, Plant Operations; and

c. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed and shall also indicate the date (i.e., month and year) the change was implemented.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 193 AND 193 TO

FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NOS. 1 AND 2

DOCKET NOS. 50-313 AND 50-368

1.0 INTRODUCTION

By letter dated October 2, 1996, Entergy Operations, Inc. (the licensee) submitted a request for changes to the Arkansas Nuclear One, Units 1 and 2 (ANO-1&2), Technical Specifications (TSs). The requested changes would add programmatic controls for existing Radiological Effluents Technical Specifications (RETS) to Section 6, Administrative Controls, of the TSs while relocating selected details of RETS to the Offsite Dose Calculation Manual (ODCM) and the Process Control Program (PCP).

The letter dated June 18, 1997, provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

Section 182a of the Atomic Energy Act (the "Act") requires applicants for nuclear power plant operating licenses to state TS to be included as part of the license. The Commission's regulatory requirements related to the content of TS are set forth in 10 CFR 50.36. That regulation requires that the TS include items in five specific categories, including:

(1) safety limits, limiting safety system settings and limiting control settings;
(2) limiting conditions for operation;
(3) surveillance requirements;
(4) design features; and
(5) administrative controls.

On July 19, 1995, the Commission published revisions to 10 CFR 50.36 specifying what must be included in limiting conditions for operation in the TS (60 FR 36953). The four criteria added to 10 CFR 50.36 for determining whether a particular matter is required to be included in the TS, are as follows:

(1) Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary;

(2) a process variable, design feature, or operating restriction that is an initial condition of a design-basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;

(3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design-basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; and

(4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

As a result, existing TS limiting conditions for operation which fall within or satisfy any of the criteria in 10 CFR 50.36 must be retained in the TS, while those TS requirements which do not fall within or satisfy these criteria may be relocated to other, licensee-controlled documents.

Prior to the incorporation of the criteria into 10 CFR 50.36, the NRC had issued generic letters which provided guidance for the relocation of certain TS requirements to licensee controlled documents in accordance with the Interim and Final Policy Statements on Technical Specification Improvements (see 58 FR 39132 (July 22, 1993). Guidance pertaining to the relocation of RETS to the Administrative Controls section of TSs and to licensees' ODCMs and PCPs were provided in Generic Letter (GL) 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications in the Administrative Controls Section of the Technical Specifications and the Relocation of Procedural Details of RETS to the Offsite Dose Calculation Manual or to the Process Control Program," dated January 31, 1989.

3.0 EVALUATION

The staff has reviewed the licensee's proposed changes to the TS and finds that the request to relocate the RETS is consistent with the guidance provided in GL 89-01 and the requirements of 10 CFR 50.36. The line-item improvements in GL 89-01 allow (1) the relocation of the existing procedural details of the current RETS to the plant's ODCM or PCP, as appropriate, and (2) the incorporation of programmatic controls for radioactive wastes in the administrative controls section of the TS. The staff considers that any future changes to the relocated RETS will be adequately controlled by administrative controls section of TSs which address changes to the PCP and ODCM. The proposed changes for ANO-1 and ANO-2 are evaluated below:

Definitions

Due to the relocation of some TS requirements from the limiting conditions for operation to the ODCM, the licensee has proposed to relocate the following definitions from the TS to the ODCM:

Source Check from ANO-1 TS 1.10.2 and ANO-2 TS 1.28
Gaseous Radwaste Treatment System from ANO-1 TS 1.10.5 and ANO-2 TS 1.31
Ventilation Exhaust Treatment System from ANO-1 TS 1.10.6 and ANO-2 TS 1.32

Given that the related requirements have been relocated, the staff finds the relocation of the affected definitions to be acceptable.

The licensee has proposed to include the definition for Offsite Dose Calculation Manual (ODCM)in the administrative controls section of the TS and to remove the term from the definitions currently in ANO-1 TS 1.10.3 and ANO-2 TS 1.29. The proposed description of the ODCM contents and function in the administrative controls section is consistent with the recommended definition in GL 89-01. The inclusion of the description of the ODCM in the administrative controls section without a redundant definition included in Section 1 is acceptable to the staff.

Radioactive Liquid Effluent Instrumentation

The licensee has proposed to relocate the procedural details currently in ANO-1 TS 3.5.6 (including Table 3.5.6-1) and related surveillance requirements of TS 4.29.1.3 (including Table 4.29.2) and ANO-2 TS 3/4.3.3.10 (including Tables 3.3-13 and 4.3-13) from the TS to the ODCM. As recommended in GL 89-01, programmatic controls are included in TS 6.8 for both ANO-1 and ANO-2. As stated in the GL, the staff has determined that relocated RETS will be adequately controlled by the administrative controls section of TSs and licensees' administrative controls for the ODCM. The requirements relocated do not meet any of the four criteria in 10 CFR 50.36 and can be removed and relocated to a licensee-controlled document, in this case the ODCM. For these reasons, the proposed changes are acceptable and the staff notes that the changes are generally consistent with the latest versions of the standard TS (NUREG-1430, Revision 1, "Standard Technical Specifications Babcock and Wilcox Plants", April 1995, and NUREG-1432, Revision 1, "Standard Technical Specifications Combustion Engineering Plants," April 1995).

Radioactive Gaseous Effluent Instrumentation

The licensee has proposed to relocate the procedural details currently in ANO-1 TS 3.5.7 (including Table 3.5.7-1) and related surveillance requirement in TS 4.29.2.3 (including Table 4.29-4) and ANO-2 TS 3/4.3.3.9 (including Tables 3.3-12 and 4.3-12) from the TS to the ODCM. As recommended in GL 89-01, programmatic controls are included in TS 6.8 for both ANO-1 and ANO-2. As stated in the GL, the staff has determined that relocated RETS will be adequately controlled by the administrative controls section of TSs and licensees' administrative controls for the ODCM. The requirements relocated do not meet any of the four criteria in 10 CFR 50.36 and can be removed and relocated to a licensee-controlled document, in this case the ODCM. For these reasons, the proposed changes are acceptable and the staff notes that the changes are generally consistent with the latest versions of the standard TS.

Radioactive Liquid Effluents

The licensee has proposed to relocate the procedural details pertaining to radioactive liquid effluents from the TSs for ANO-1 and ANO-2 to the ODCM. The relocated requirements include:

ANO-1 TS 3.25.1.1 and TS 4.29.1.1 (including Table 4.29.1) (Concentration)
ANO-1 TS 3.25.1.2 and TS 4.29.3 (Dose)
ANO-1 TS 3.25.1.3 and TS 4.29.3 (Waste Treatment)
ANO-2 TS 3/4.11.1.1 (including Table 4.11-1) (Concentration)
ANO-2 TS 3/4.11.1.2 (Dose)
ANO-2 TS 3/4 11.1.3 (Liquid Radwaste Treatment)

As recommended in GL 89-01, programmatic controls are included in TS 6.8 for both ANO-1 and ANO-2. As stated in the GL, the staff has determined that relocated RETS will be adequately controlled by the administrative controls section of TSs and licensees' administrative controls for the ODCM. The requirements relocated do not meet any of the four criteria in 10 CFR 50.36 and can be removed and relocated to a licensee-controlled document, in this case the ODCM. For these reasons, the proposed changes are acceptable and the staff notes that the changes are generally consistent with the latest versions of the standard TS.

Radioactive Liquid Holdup Tanks

In accordance with the recommendations in GL 89-01, the licensee has retained the TSs for radioactive liquid holdup tanks. The licensee has proposed editorial changes to move and renumber the affected TS from 3.25.1.4 and 4.29.1.2 to 3.25.1 and 4.29.1 for ANO-1 and from 3/4.11.1.4 to 3/4.11.1 for ANO-2. The proposed editorial changes improve the format and useability of the TS and are acceptable to the staff.

Radioactive Gas Storage Tanks

In accordance with the recommendations in GL 89-01, the licensee has retained the TSs for radioactive gas storage tanks. The licensee has proposed editorial changes to move and renumber the affected TS from 3.25.2.5 and 4.29.2.2 to 3.25.2 and 4.29.2 for ANO-1 and from 3/4.11.2.6 to 3/4.11.2 for ANO-2. The proposed editorial changes improve the format and useability of the TS and are acceptable to the staff.

Radioactive Gaseous Effluents

The licensee has proposed to relocate the procedural details pertaining to radioactive gaseous effluents from the TSs for ANO-1 and ANO-2 to the ODCM. The relocated requirements include:

ANO-1 TS 3.25.2.1 and 4.29.2.1 (including Table 4.29-3) (Dose Rate)
ANO-1 TS 3.25.2.2 and 4.29.3 (Dose Noble Gases)
ANO-1 TS 3.25.2.3 and 4.29.3 (including Table 4.29-4) (Dose - Iodine-131, Tritium, and Radionuclides in Particulate Form)
ANO-1 TS 3.25.2.4 and 4.29.3 (Gaseous Radwaste Treatment)
ANO-2 TS 3/4.11.2.1 (including Table 4.11-2)(Dose Rate)
ANO-2 TS 3/4.11.2.2 (Dose Noble Gases)
ANO-2 TS 3/4.11.2.3 (Dose - Iodine-131, Tritium, and Radionuclides in Particulate Form)
ANO-2 TS 3/4.11.2.4 (Ventilation Exhaust Treatment System)
ANO-2 TS 3/4.11.2.5 (Gaseous Radwaste Treatment System)

As recommended in GL 89-01, programmatic controls are included in TS 6.8 for both ANO-1 and ANO-2. As stated in the GL, the staff has determined that relocated RETS will be adequately controlled by the administrative controls section of TSs and licensees' administrative controls for the ODCM. The requirements relocated do not meet any of the four criteria in 10 CFR 50.36 and can be removed and relocated to a licensee-controlled document, in this case the ODCM. For these reasons, the proposed changes are acceptable and the staff notes that the changes are generally consistent with the latest versions of the standard TS.

Total Dose

The licensee has proposed to relocate the procedural details currently in ANO-1 TS 3.25.3 and ANO-2 TS 3/4.11.3 from the TS to the ODCM. As recommended in GL 89-01, programmatic controls are included in TS 6.8 for both ANO-1 and ANO-2. As stated in the GL, the staff has determined that relocated RETS will be adequately controlled by the administrative controls section of TSs and licensees' administrative controls for the ODCM. The requirements relocated do not meet any of the four criteria in 10 CFR 50.36 and can be removed and relocated to a licensee-controlled document, in this case the ODCM. For these reasons, the proposed changes are acceptable and the staff notes that the changes are generally consistent with the latest versions of the standard TS.

Solid Radioactive Waste

The licensee has proposed to relocate the procedural details currently in ANO-1 TS 3.25.4 and related surveillance requirement in TS 4.29.4 and ANO-2 TS 3/4.11.4 from the TS to the Process Control Program (PCP). As stated in the GL, the staff has determined that relocated RETS will be adequately controlled by the administrative controls section of TSs and licensees' administrative controls for the PCP. The requirements relocated do not meet any of the four criteria in 10 CFR 50.36 and can be removed and relocated to a licensee-controlled document, in this case the PCP. For these reasons, the proposed changes are acceptable and the staff notes that the changes are generally consistent with the latest versions of the standard TS.

Radiological Environmental Monitoring

The licensee has proposed to relocate the procedural details currently in the following TSs to the ODCM:

ANO-1 TS 4.30.1 (including Tables 4.30-1 (sampling), 4.30-2 (lower limits of detection), and 4.30-3 (reporting levels))
ANO-1 TS 4.30.2 (Land Use Census)
ANO-1 TS 4.30.3 (Interlaboratory Comparison Program)
ANO-2 TS 3/4.12.1 (including Tables 3.12-1 (monitoring), Table 3.12-2 (lower limits of detection), and Table 3.12-3 (reporting levels))
ANO2 TS 3/4.12.2 (Land Use Census)
ANO-2 TS 3/4.12.3 (Interlaboratory Comparison Program)

As recommended in GL 89-01, programmatic controls are included in TS 6.8 for both ANO-1 and ANO-2. As stated in the GL, the staff has determined that relocated RETS will be adequately controlled by the administrative controls section of TSs and licensees' administrative controls for the ODCM. The requirements relocated do not meet any of the four criteria in 10 CFR 50.36 and can be removed and relocated to a licensee-controlled document, in this case the ODCM. For these reasons, the proposed changes are acceptable and the staff notes that the changes are generally consistent with the latest versions of the standard TS.

Maximum Area Boundary for Radioactive Release Calculation (Exclusion Areas)

The licensee has proposed to remove Figure 5.1-1 from the ANO-1 TS and Figure 5.1-3 from the ANO-2 TS. These figures show the maximum area boundary for radioactive release calculations (exclusion areas) and are also included in the ODCM. The licensee has proposed to remove the figures from TS because those TS referencing the figures have been relocated to the ODCM. Although GL 89-01 did not address the relocation of these figures, the staff has previously found it acceptable to remove the figures provided other figures or text descriptions provide adequate information pertaining to the site location (see Amendment Nos. 204/182 for Calvert Cliffs 1 and 2, dated March 14, 1995). For ANO-1, the description of the site provided in TS 5.1, "Site," provides the same information as provided in Figure 5.1-1 and is adequate, along with site descriptions in the updated FSAR and other licensing basis documents, to justify the relocation of Figure 5.1-1 to the ODCM. For ANO-2, Figure 5.1-3 provides the same information as other figures in the TS Design Features Section. The remaining TS site information, along with site descriptions in the updated FSAR and other licensing basis documents, are adequate and the staff, therefore, finds that the relocation of Figure 5.1-3 to the ODCM is acceptable.

6.8.4 Radioactive Effluent Controls Program

The proposed sections will establish programmatic limitations on the instantaneous concentrations of radioactive material released in liquid and gaseous effluents from ANO-1 and ANO-2 conforming to the effluent concentration values of Appendix B, Table II, Column 2 to 10 CFR Part 20. The requirements for TS concerning effluents from nuclear power reactors are stated in 10 CFR 50.36a. These requirements indicate that compliance with effluent TS (which have incorporated the design objectives of Appendix I to 10 CFR Part 50) will keep average annual releases of radioactive material in effluents and their resultant doses at small percentages of the dose limits for individual members of the public specified in 10 CFR 20.1301. These 10 CFR 50.36a requirements further indicate that operational flexibility is allowed, compatible with considerations of health and safety, which may temporarily result in releases higher than such small percentages, but still within the dose limits specified in 10 CFR 20.1301.

The use of the concentration values in Appendix B, Table II, Column 2 as TS limits which are applied as "instantaneous concentration values" should not preclude the licensee's ability to operate within the design objectives of Appendix I to 10 CFR Part 50 and the limits of 40 CFR Part 190.

The proposed TS incorporates programmatic controls that satisfy the requirements of 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50. Based on the above, the proposed changes are acceptable.

Record Retention

ANO-1 TS 6.9.2 and ANO-2 TS 6.10.2, "Record Retention" were revised to include new requirements (item (l) for ANO-1 and item (m) for ANO-2) for retention of records for reviews performed for changes made to the ODCM and PCP. This change is in accordance with GL 89-01 and is acceptable.

Annual Radiological Environmental Operating Report

ANO-1 TS 6.12.2.5 and ANO-2 TS 6.9.4 (Annual Radiological Environmental Operating Report) are being revised to relocate some prescriptive details required in the report to the ODCM, and to appropriately reference the ODCM and applicable NRC regulations for descriptions of the information to be reported. The staff finds the proposed changes are consistent with the intent of the GL (rule changes and revisions to standard TS resulted in changes to wording subsequent to issuance of GL) and are acceptable. The staff notes that the changes are generally consistent with the latest versions of the standard TS.

Radioactive Effluent Release Report

ANO-1 TS 6.12.2.6 and ANO-2 TS 6.9.5 (Radioactive Effluent Release Report) are being revised to relocate some prescriptive details required in the report to the ODCM, and to appropriately reference the ODCM, PCP and applicable NRC regulations for descriptions of the information to be reported. The staff finds the proposed changes are consistent with the intent of the GL (rule changes and revisions to standard TS resulted in changes to wording subsequent to issuance of GL) and are acceptable. The staff notes that the changes are generally consistent with the latest versions of the standard TS.

Offsite Dose Calculation Manual (ODCM)

Sections 6.14, "Offsite Dose Calculation Manual," were modified by the addition of a definition of the ODCM, and revised descriptions of the ODCM, and control of licensee-initiated changes to the ODCM. The definition is consistent with the previous definition that has been moved from the Definitions Section of the TS. The other changes are consistent with guidance in GL 89-01 and are acceptable. The staff notes that the changes are generally consistent with the latest versions of the standard TS.

Editorial and Changes Resulting from RETS Relocations

As part of the changes associated with the relocation of RETS to the ODCM and PCP, the licensee has proposed editorial changes to a variety of specifications including deleting references to relocated TS and renumbering TS and TS pages. The staff finds that the editorial changes are necessary to implement the major changes and are acceptable. Likewise, the

changes that the licensee has proposed for various TS bases sections have been found to be acceptable.

The licensee had included a proposal to renumber the ANO-2 TS pages for turbine overspeed protection (TS 3/4.3.4). However, the turbine overspeed TS had been relocated to the updated FSAR as part of Amendment No. 191. The TS changes proposed by the licensee have been revised to reflect the issuance of Amendment No. 191.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arkansas State official was notified of the proposed issuance of the amendment. The State official had no comment.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has 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 the amendments involve no significant hazards consideration and there has been no public comment on such finding (62 FR 2188). Accordingly, the 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 the amendments.

6.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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