



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20535-0001

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))
- ANO-2 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.

Principal Contributors: William Reckley, NRR/PDIV-1  
Stephen Klementowicz, NRR/PREB

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