

October 29, 2001

Mr. Craig G. Anderson
Vice President, Operations ANO
Entergy Operations, Inc.
1448 S. R. 333
Russellville, AR 72801

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE:
THE CONVERSION TO IMPROVED TECHNICAL SPECIFICATIONS
(TAC NO. MA8082)

Dear Mr. Anderson:

The Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 215 to Renewed Facility Operating License No. DPR-51 for Arkansas Nuclear One, Unit No. 1 (ANO-1). The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated January 28, 2000, as supplemented by letters dated August 9 and September 28, 2000, and February 6, March 19, May 1, August 23, September 14, and September 19, 2001.

The amendment converts the current TSs (CTS) for ANO-1, to a set of improved TSs (ITS) based on NUREG-1430, "Standard Technical Specifications, Babcock and Wilcox Plants," and requirements currently in the CTS and NRC regulations, including Section 50.36, "Technical specifications," to Title 10 of the *Code of Federal Regulations* (10 CFR 50.36).

In a letter dated July 17, 2001, the NRC staff solicited your comments on a draft safety evaluation (SE) for this amendment. You provided comments on the draft SE in your supplemental letter dated August 23, 2001. The comments you provided were evaluated and, as appropriate, were considered in the staff's final review in preparing the attached SE. Your supplemental letter dated September 19, 2001, provided a complete set of "clean pages" of the ITS.

Your supplemental letter dated September 14, 2001, provided proposed changes to the Renewed Facility Operating License to reflect the conversion to the ITS. In addition to the relocation of several requirements from the renewed operating license to the TSs, your application proposed additional conditions to address the implementation of the conversion to the ITS, such as the scheduling of surveillance requirements and relocating some requirements in the CTS to licensee-controlled documents and programs. Any changes to the requirements defined by the new license condition, including the allowable implementation period, require prior NRC approval in accordance with 10 CFR 50.90.

This amendment is effective upon issuance and shall be implemented within one year of issuance. If there is a need to revise a TS requirement prior to completing the implementation of the ITS, your application should address the change in terms of both the CTS and ITS. Please inform us by letter when you have completed the implementation of the ITS.

A copy of our related SE is also enclosed. The Notice of Issuance will be forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

William Reckley, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-313

Enclosures: 1. Amendment No. 215 to DPR-51
2. Safety Evaluation

cc w/encls: See next page

A copy of our related SE is also enclosed. The Notice of Issuance will be forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

William Reckley, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
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Docket No. 50-313

Enclosures: 1. Amendment No. 215 to DPR-51
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION: (w/o encls)

PUBLIC (w/encls)

PDIV-1 Reading

RidsNrrDripRtsb (WBeckner)

RidsNrrDlpmPdiv (SRichards)

RidsOgcRp

RidsAcrsAcnwMailCenter

G.Hill(2) (w/encls)

RidsNrrDlpmPdivLpdiv1 (RGramm)

RidsNrrPMWReckley

RidsNrrLADJohnson

C. Harbuck

RidsRgn4MailCenter (KBrockman)

L.Hurley, RIV

D. Bujol, RIV

Accession No.:ML013050554

*see previous concurrence

OFFICE	PDIV-1/PM	PDIV-1/LA	RTSB	OGC nlo w/comments	PDIV-1/SC
NAME	WReckley	DJohnson	WBeckner*	RWeisman	RGramm
DATE	09/20/01	09/21/01	09/20/01	10/24/01	10/26/01

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ENERGY OPERATIONS INC.

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 215
Renewed 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 January 28, 2000, as supplemented by letters dated August 9 and September 28, 2000, and February 6, March 19, May 1, August 23, September 14, and September 19, 2001, 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. A. 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 Renewed 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. 215, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

- B. In addition, Renewed Facility Operating License No. DPR-51 is amended to delete paragraphs 2.c.(6) and 2.c.(7). Upon implementation of this amendment, the requirements in these two paragraphs and in paragraph 2.c.(5) before this amendment will be included in the Administrative Controls section of the Technical Specifications.

Paragraph 2.c.(5) of Renewed Operating License No. DPR-51 is hereby amended to read as follows:

(5) Implementation of the Improved Technical Specifications (ITS)

The licensee is authorized to relocate certain Technical Specification requirements previously included in Appendix A to licensee controlled documents, as described in Table R, Relocated Specifications, and Table LA, Removal of Details, attached to the Safety Evaluation for Amendment No. 215. These requirements shall be relocated to the appropriate documents as part of the implementation of the ITS.

The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 215 shall be as follows:

1. For SRs that are new in this amendment, the first performance shall be due at the end of the first surveillance interval, which begins on the date of implementation of this amendment.
2. For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval shall begin upon completion of the first surveillance performed after implementation of this amendment.
3. For SRs that existed prior to this amendment that contained modified acceptance criteria, the performance shall be due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to this amendment.

4. For SRs that existed prior to this amendment whose interval of performance are being extended, the first extended surveillance interval shall begin upon completion of the last surveillance performed prior to the implementation of this amendment.
3. The license amendment is effective as of its date of issuance and shall be implemented within one year from the date of issuance.

FOR THE NUCLEAR REGULATORY
COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: October 29, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 215
RENEWED FACILITY OPERATING LICENSE NO. DPR-51
DOCKET NO. 50-313

Replace the following pages of Renewed Facility Operating License No. DPR-51 with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

<u>Remove</u>	<u>Insert</u>
4	4
5	5
6	-

Replace the following pages of the Appendix A Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number.

<u>Remove</u>	<u>Insert</u>
Current TSs (in their entirety)	Improved TSs (in their entirety)

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 215 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-51

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 1

DOCKET NO. 50-313

1.0 INTRODUCTION

Arkansas Nuclear One, Unit 1 (ANO-1) has been operating with Technical Specifications (TS) issued with the original operating license on May 21, 1974, as amended. By letter dated January 28, 2000, as supplemented by letters dated August 9 and September 28, 2000, February 6, March 19, May 1, August 23, September 14, and September 19, 2001, Entergy Operations, Inc. (Entergy, the licensee) proposed to convert the Current TS (CTS) to Improved TS (ITS). The conversion is based upon:

- NUREG-1430, "Standard Technical Specifications for Babcock & Wilcox Plants," Revision 1, dated April 1995,
- Generic improvements to NUREG-1430, Revision 1,
- "Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors," (Final Policy Statement), published on July 22, 1993 (58 FR 39132),
- The requirements in the CTS, and
- The Commission's regulations, including 10 CFR 50.36, "Technical specifications," as amended July 19, 1995 (60 FR 36953).

Hereinafter, the proposed or improved TS for ANO-1 are referred to as the ITS, the existing TS are referred to as the CTS, and the improved standard TS, such as in NUREG-1430, are referred to as the STS. The corresponding TS Bases are ITS Bases, CTS Bases, and STS Bases, respectively. For convenience, a list of acronyms used in this safety evaluation (SE) is provided in Attachment 1.

In addition to basing the ITS on the STS, the Final Policy Statement, and the requirements in 10 CFR 50.36, the licensee retained portions of the CTS as a basis for the ITS. Plant-specific issues, including design features, requirements, and operating practices, were discussed with the licensee during a series of telephone conference calls, meetings, and correspondence. These plant-specific changes serve to clarify the ITS with respect to the guidance in the Final Policy Statement and STS. Also, based on these discussions, the licensee proposed matters of a generic nature that were not in the STS. The Nuclear Regulatory Commission (NRC or the Commission) staff requested that the licensee submit such generic issues as proposed changes to STS through the NRC/Nuclear Energy Institute's Technical Specifications Task

Force (TSTF). These generic issues were considered for specific applications in the ANO-1 ITS. Consistent with the Final Policy Statement, the licensee proposed transferring some CTS requirements to licensee-controlled documents (such as the ANO-1 safety analysis report (SAR)) for which changes to the documents by the licensee are controlled by a regulation such as 10 CFR 50.59 and may be changed without prior NRC approval. NRC-controlled documents, such as the TS, may not be changed by the licensee without prior NRC approval. In addition, human factors principles were emphasized to add clarity to the CTS requirements being retained in the ITS, and to define more clearly the appropriate scope of the ITS. Further, significant changes were proposed to the CTS Bases to make the bases for each ITS requirement clearer and easier to understand.

The overall objective of the proposed amendment, consistent with the Final Policy Statement, is to rewrite, reformat, and streamline the TS for ANO-1 to be in accordance with 10 CFR 50.36.

Since the licensee prepared the January 28, 2000, application, a number of licensing actions relating to the ANO-1 operating license were approved. Table 1 describes the actions and the dates of issuance.

TABLE 1

Amend. No. and Date	Description of Change
204 2/18/00	Lowered the Curie limit of CTS 3.25.2 for the radioactive gas storage tanks.
205 3/31/00	Revised CTS 3.3.4(B) for the containment spray additive tank: <ul style="list-style-type: none"> • revised the minimum and the maximum sodium hydroxide tank concentration limits; • deleted the maximum specified tank volume; • expressed the minimum specified tank volume in gallons; and • moved the treatment of tank level instrumentation uncertainties and the correlation of tank level indication to the tank volume limit to the CTS Bases, and to SAR-described procedures.
206 4/28/00	<ul style="list-style-type: none"> • Revised CTS 3.7.2.B to allow taking startup transformer No. 2 out of service for preplanned preventive maintenance during unit operation for 30 days once in any 10-year period. • Revised CTS 3.7.2.C to relax the requirement to demonstrate operability of the redundant emergency diesel generator (EDG) when one EDG is inoperable from immediately and daily thereafter to once within 24 hours unless it is determined that (a) common cause failure does not exist, (b) it is currently in operation, or (c) it has been demonstrated operable within the previous 24 hours.

Amend. No. and Date	Description of Change
207 5/10/00	Revised CTS 3.5.3 to increase the engineered safety features actuation system instrumentation setpoint (equivalent to ITS allowable value) for the low reactor coolant system pressure Functional Unit from ≥ 1526 psig to ≥ 1585 psig. The revised setpoint accounts for additional instrument uncertainties associated with cable insulation resistance effects and allows for the plugging of up to 1200 tubes in each steam generator.
208 8/17/00	Deleted CTS 6.8.1.i, administrative control requirements to establish, implement, and maintain written procedures for post accident sampling.
209 9/25/00	License amendment for SAR change regarding heavy load handling requirements and transportation provisions that would permit the movement of the original and replacement Arkansas Nuclear One, Unit 2 (ANO-2), steam generators (SGs) through the ANO-2 containment construction opening during the SG replacement outage.
210 12/28/00	Revised laboratory testing requirements for activated charcoal filters in CTS 3.13.1.b, for the penetration room ventilation system, and CTS 3.15.1.b, for the fuel handling area ventilation system, to incorporate the use of ASTM D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon."
211 3/12/01	<ul style="list-style-type: none"> • Revised CTS 3.5.1.8.a to: <ul style="list-style-type: none"> • change the 4160V loss-of-voltage relay setting allowable values from > 3115 VAC but < 3177 VAC to ≥ 1600 VAC but ≤ 3000 VAC, and • add an actuation time delay allowable value of ≥ 0.30 but ≤ 0.98 seconds for the 4160V loss-of-voltage relays. • Revised CTS 3.5.1.8.b to change the 480V degraded voltage relay setting allowable values from > 423 VAC but < 431 VAC to ≥ 432.2 VAC but ≤ 436.0 VAC.
212 3/28/01	<ul style="list-style-type: none"> • Revised CTS 4.18.5.a.4 to allow use of the reroll repair process to repair SG tubes with defects in the upper and lower tubesheet areas in accordance with Babcock and Wilcox (BAW)-2303P, Revision 4. Also modified definition of a degraded tube. • Revised CTS 4.18.5.a.7 by deleting the previous allowances for reroll repair. • Revised CTS 4.18.5.a.9 by changing the rerolled region of the tube that will need to be inspected after the reroll repair.

Amend. No. and Date	Description of Change
213 3/28/01	<ul style="list-style-type: none"> • Revised CTS 4.18.3.a.5 and 4.18.3.a.7 to reference ANO Engineering Report No. 00-R-1005-01, Revision 1, "Management Program for Volumetric Outer Diameter Intergranular Attack (ODIGA) in the Tubesheets of Once-Through Steam Generators," as the report to be used to assess SG tubes with indications of ODIGA. • Removed from CTS 4.18.3.a.7 the restriction of using the ODIGA alternate repair criteria (ARC) solely for cycle 16. • Revised CTS 4.18.5.b to delete the second paragraph which allowed tube 110/60 to remain in service (See Amendment 203) during cycle 16, which has been completed.
6/20/01	Issued Renewed Facility Operating License No. DPR-51. Expiration date for Renewed Facility Operating License is May 20, 2034.
214 8/16/01	Revised CTS 3.4.1.3 and associated Bases to include volume requirements for the qualified condensate storage tank (T41B) when it is aligned either to ANO-1 or when it is aligned to both ANO-1 and ANO-2.

The licensee has incorporated these licensing actions, as appropriate, into the ITS.

The NRC staff's evaluation of the application dated January 28, 2000 (ADAMS Accession Number ML003680614), is presented in this SE. The NRC staff issued requests for additional information (RAIs) and the licensee submitted letters to the staff in response, as noted in Table 2. The licensee's letters also forwarded supplements to the application to reflect resolution of staff comments and to make editorial corrections identified by the licensee. Note that the NRC staff requested no additional information regarding proposed ITS 3.0 and 5.0. The licensee, however, did make editorial revisions to Section 5.0 in supplemental letters dated March 19, 2001 (ADAMS Accession Number ML010810366), and August 23, 2001 (ADAMS Accession Number ML012390178). The staff also sent Entergy letters dated April 20, 2000 (ADAMS Accession Number ML003705745), regarding the review schedule, and April 12, 2001 (ADAMS Accession Number ML011020422), regarding a change in the review schedule.

TABLE 2

Date (ADAMS Accession Number)	RAI Document Description	ITS Section	Reply Date (ADAMS Accession Number)
April 24, 2000 (ML003680614)	Letter from NRC to Entergy with RAIs on proposed ITS electrical power system specifications during shutdown conditions.	3.8	August 9, 2000 (ML003741782)

Date (ADAMS Accession Number)	RAI Document Description	ITS Section	Reply Date (ADAMS Accession Number)
May 15, 2000 (ML003715200)	Meeting Notice memorandum for public meeting on proposed ITS containment system specifications; RAIs attached.	3.6	September 28, 2000 (ML003756836)
November 13, 2000 (ML003769245)	Meeting Summary memorandum regarding meeting on August 30 and 31, 2000, on proposed ITS containment system specifications; additional RAIs attached.	3.6	September 28, 2000 (ML003756836)
January 18, 2001 (ML010230352)	Meeting Summary memorandum regarding meeting on December 18 and 19, 2000, on various proposed ITS specifications; RAIs attached.	1.0 2.0 3.1 3.2	February 6, 2001 (ML010450379)
January 18, 2001 (ML010230352)	Meeting Summary memorandum regarding meeting on December 18 and 19, 2000, on various proposed ITS specifications; RAIs attached.	3.4 3.5 3.9	March 19, 2001 (ML010810366)
January 18, 2001 (ML010230352)	Meeting Summary memorandum regarding meeting on December 18 and 19, 2000, on various proposed ITS specifications; RAIs attached.	3.3 3.7 3.8	May 1, 2001 (ML011270183)
February 26, 2001 (ML010600459)	Meeting Summary memorandum regarding meeting on January 23 and 24, 2001, on proposed ITS electrical power system specifications; additional RAIs attached.	3.8	May 1, 2001 (ML011270183)
February 26, 2001 (ML010600459)	Meeting Summary memorandum regarding meeting on January 23 and 24, 2001, on proposed ITS design features specifications; RAIs attached.	4.0	March 19, 2001 (ML010810366)
July 17, 2001 (ML011990324)	Transmittal of draft safety evaluation for the ITS.	all	August 23, 2001 (ML012390178)

The license conditions implementing the conversion will make enforceable the following aspects of the conversion: (1) the relocation of requirements from the CTS, and (2) the implementation schedule for new and revised SRs in the ITS. The licensee provided its proposed wording for the license conditions in its supplemental letter dated September 14, 2001.

The Commission's proposed action on the ANO-1 application for an amendment dated January 28, 2000, as supplemented by letters dated August 9 and September 28, 2000, and February 6, March 19, and May 1, 2001, was published in the *Federal Register* on June 28, 2001 (66 FR 34486). The *Federal Register* notice also addressed beyond scope changes identified in the licensee's submittals. The licensee's supplemental letters dated August 23, September 14, and September 19, 2001, provided clarifying information, minor changes to the TSs, and supporting changes to the Renewed Facility Operating License. The changes resulting from the supplemental letters in August and September did not change the scope of the proposed licensing action from that described in the *Federal Register* notice.

During its review, the NRC staff relied on the Final Policy Statement and the STS as guidance for acceptance of CTS changes. This SE provides a summary basis for the NRC staff's conclusion that the licensee has developed ITS based on STS, as modified by plant-specific changes, and that the use of the ITS is acceptable for continued operation. The SE also explains the NRC staff's conclusion that the ITS, which are based on the STS as modified by plant-specific changes, are consistent with the ANO-1 current licensing basis and the requirements of 10 CFR 50.36.

The NRC staff also acknowledges that, as indicated in the Final Policy Statement, the conversion to STS is a voluntary process. Therefore, it is acceptable that the ITS differ from the STS, to reflect the current licensing basis for ANO-1. As will be set forth in detail below, the NRC staff also approves the licensee's changes to the CTS with modifications documented in the licensee's supplemental submittals.

2.0 BACKGROUND

Section 182a of the Act requires that applicants for nuclear power plant operating licenses will state:

[S]uch technical specifications, including information of the amount, kind, and source of special nuclear material required, the place of the use, the specific characteristics of the facility, and such other information as the Commission may, by rule or regulation, deem necessary in order to enable it to find that the utilization . . . of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public. Such technical specifications shall be a part of any license issued.

In 10 CFR 50.36, the Commission established its regulatory requirements related to the content of TS. In doing so, the Commission placed emphasis on those matters related to the prevention of accidents and the mitigation of accident consequences. As recorded in the Statements of Consideration, "Technical Specifications for Facility Licenses; Safety Analysis Reports," (33 FR 18610, December 17, 1968), the Commission noted that applicants were expected to incorporate into their TS "those items that are directly related to maintaining the integrity of the physical barriers designed to contain radioactivity." Pursuant to 10 CFR 50.36, TS are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design

features; and (5) administrative controls. However, the rule does not specify the particular requirements to be included in a plant's TS.

For several years, NRC and industry representatives have sought to develop guidelines for improving the content and quality of nuclear power plant TS. On February 6, 1987, the Commission issued an interim policy statement on TS improvements, "Interim Policy Statement on Technical Specification Improvements for Nuclear Power Reactors" (52 FR 3788). During the period from 1989 to 1992, the utility owners groups and the NRC staff developed improved STS, such as NUREG-1430, that would establish models embodying the Commission's policy for each primary reactor type. In addition, the NRC staff, licensees, and owners groups developed generic administrative and editorial guidelines in the form of a "Writer's Guide" for preparing TS, which gives greater consideration to human factors principles and was used throughout the development of licensee-specific ITS.

In September 1992, the Commission issued NUREG-1430, Revision 0, which was developed using the guidance and criteria contained in the Commission's Interim Policy Statement. The STS in NUREG-1430 was established as a model for developing the ITS for Babcock and Wilcox plants in general. The STS reflect the results of a detailed review of the application of the interim policy statement criteria to generic system functions, which were published in a "Split Report" issued to the nuclear steam supply system vendor owners groups in May 1988. STS also reflect the results of extensive discussions concerning various drafts of STS, so that the application of the TS criteria and the Writer's Guide would consistently reflect detailed system configurations and operating characteristics for all reactor designs. As such, the generic Bases presented in NUREG-1430 provides an abundance of information regarding the extent to which the STS present requirements that are necessary to protect public health and safety. The STS in NUREG-1430 apply to ANO-1.

On July 22, 1993, the Commission issued its Final Policy Statement, expressing the view that satisfying the guidance in the policy statement also satisfies Section 182a of the Act and 10 CFR 50.36 (58 FR 39132). The Final Policy Statement described the safety benefits of the STS, and encouraged licensees to use the STS as the basis for plant-specific TS amendments, and for complete conversions to ITS based on the STS. Further, the Final Policy Statement gave guidance for evaluating the required scope of the TS and defined the guidance criteria to be used in determining which of the LCOs and associated SRs should remain in the TS. The Commission noted that, in allowing certain items to be relocated to licensee-controlled documents while requiring that other items be retained in the TS, it was adopting the qualitative standard enunciated by the Atomic Safety and Licensing Appeal Board (ALAB) in *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 273 (1979). There, the ALAB observed:

[T]here is neither a statutory nor a regulatory requirement that every operational detail set forth in an applicant's safety analysis report (or equivalent) be subject to a technical specification, to be included in the license as an absolute condition of operation which is legally binding upon the licensee unless and until changed with specific Commission approval. Rather, as best we can discern it, the contemplation of both the Act and the regulations is that technical specifications are to be reserved for those matters as to which the imposition of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the

possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety.

By this approach, existing LCO requirements for items that fall within or satisfy any of the criteria in the Final Policy Statement should be retained in the TS; those LCO requirements established for items that do not fall within or satisfy these criteria may be relocated to licensee-controlled documents. The Commission codified the four criteria in 10 CFR 50.36 (60 FR 36953, July 19, 1995). The four criteria are as follows:

- Criterion 1* Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

- Criterion 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.

- Criterion 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.

- Criterion 4* A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

Part 3.0 of this SE explains the NRC staff's conclusion that the conversion of the ANO-1 CTS to ITS based on STS, as modified by plant-specific changes, is consistent with the ANO-1 current licensing basis and the guidance of the Final Policy Statement and the requirements of 10 CFR 50.36.

3.0 EVALUATION

In its review of the ANO-1 ITS application, the NRC staff evaluated five kinds of changes to the CTS as defined by the licensee. The staff's review also included an evaluation of whether existing regulatory requirements are adequate for controlling future changes to requirements removed from the CTS and placed in licensee-controlled documents. Following are the five kinds of CTS changes:

- A Administrative - changes to the CTS that result in no changes to existing restrictions and flexibility (i.e., nontechnical changes in the presentation of CTS requirements).

- M More Restrictive - changes to the CTS that result in added restrictions or reduced flexibility (i.e., additional TS requirements).

- L Less Restrictive "Specific" - changes to the CTS that result in reduced restrictions or added flexibility (i.e., changes, deletions, and relaxations of CTS requirements).
- LA Less Restrictive "Removed Details" - changes to the CTS that move details out of the CTS and into the CTS Bases, SAR, or other appropriate licensee-controlled document (i.e., design details, system descriptive details, and procedural details).
- R Relocations - relaxations to the CTS in which whole CTS specifications (the LCO, and associated action and SRs) are relocated from the CTS to licensee-controlled documents.

The ITS application included a justification for each proposed change to the CTS in a numbered discussion of change (DOC), using the above letter designations as appropriate. In addition, the ITS application explained each difference between ITS and STS requirements in a numbered discussion of difference (DOD).

In its review, the NRC staff identified the need for clarifications and additions to the January 28, 2000, ITS application in order to establish an appropriate regulatory basis for translation of CTS requirements into ITS. The NRC staff's comments were documented as RAIs provided to the licensee as described in Table 2. The licensee provided responses to the RAIs, also as described in Table 2. The responses clarified the licensee's bases for translating the CTS requirements into ITS. The NRC staff finds that the licensee's submittals, including the responses to the RAIs, provide sufficient detail to allow the staff to reach a conclusion regarding the adequacy of the licensee's proposed changes to the CTS.

The changes to the CTS as presented in the ITS application are listed and described in the following five tables attached to this SE:

- Table A - Administrative (A) Changes to the CTS
- Table M - More Restrictive (M) Changes to the CTS
- Table L - Less Restrictive (L) Changes to the CTS
- Table LA - Removal of Details (LA) from the CTS
- Table R - Relocated Specifications (R) from the CTS

These tables provide a summary description of the proposed changes to the CTS, references to the specific CTS requirements that are being changed, and the specific ITS that incorporate the changes. The tables are only meant to summarize the changes being made to the CTS. The details, as to what the actual changes are and how they are being made to the CTS or ITS, are provided in the licensee's application and supplemental letters.

The NRC staff's evaluation and additional description of the five kinds of changes to the CTS requirements listed in Tables A, M, L, LA, and R, are presented in Sections A through E below, as follows:

- Section A Administrative (A)
- Section B More Restrictive (M)
- Section C Less Restrictive (L)

- Section D Removed Details (LA)
- Section E Relocated Specifications (R)

The control of specifications, requirements and information relocated from the CTS and placed in licensee-controlled documents is described in Section F below, and other TS changes (i.e., beyond scope changes) are described in Section G below.

A. Administrative (A) Changes to the CTS

Administrative (non-technical) changes are intended to incorporate human factors principles into the form and structure of the ITS so that plant operations personnel can use them more easily. These changes are editorial in nature or involve the reorganization or reformatting of CTS requirements without affecting technical content or operational restrictions. Every section of the ITS reflects this type of change. In order to ensure consistency, the NRC staff and the licensee have used the STS as guidance to reformat and make other administrative changes. Among the changes proposed by the licensee and found acceptable by the NRC staff are:

- Identifying plant-specific wording for system names, etc.;
- Splitting up requirements currently grouped under a single CTS specification to more appropriate locations in two or more specifications of ITS;
- Combining related requirements currently presented in separate specifications of the CTS into a single specification of ITS;
- Presentation changes that involve rewording or reformatting for clarity (including moving an existing requirement to another location within the TSs) but which do not involve a change in requirements;
- Wording changes and additions that are consistent with CTS interpretation and practice, and that more clearly or explicitly state existing requirements;
- Deletion of TSs which no longer apply;
- Deletion of details that are strictly informational and have no regulatory basis; and
- Deletion of redundant TS requirements that exist elsewhere in the TS or in regulations.

Table A lists the administrative changes being made in the ANO-1 ITS conversion. Table A is organized in STS order by each A-type DOC to the CTS, and provides a summary description of the administrative change that was made and CTS and ITS references. The NRC staff reviewed all of the administrative and editorial changes proposed by the licensee and finds them acceptable because they are compatible with the Writer's Guide and STS, do not result in any change in operating requirements, and are consistent with the Commission's regulations.

B. More Restrictive (M) Changes to the CTS

The licensee, in electing to implement the specifications of the STS, proposed a number of requirements more restrictive than those in the CTS. The ITS requirements in this category include requirements that are either new, more conservative than corresponding requirements in the CTS, or that have additional restrictions that are not in the CTS but are in the STS. Examples of more restrictive requirements are placing an LCO on plant equipment that is not required by the CTS to be operable, more restrictive requirements to restore inoperable equipment, and more restrictive SRs. Table M lists the more restrictive changes being made in the ANO-1 ITS conversion. Table M is organized in STS order by each M-type DOC to the CTS, and provides a summary description of the more restrictive change that was adopted and

the CTS and ITS references. These changes are additional restrictions on plant operation that enhance safety and, therefore, are acceptable.

C. Less Restrictive (L) Changes to the CTS

Less restrictive requirements include deletions and relaxations to portions of the CTS requirements that are being retained in ITS. When requirements have been shown to give little or no safety benefit, their relaxation or removal from the TS may be appropriate. In most cases, relaxations previously granted to individual plants on a plant-specific basis were the result of: (1) generic NRC actions, (2) new NRC staff positions that have evolved from technological advancements and operating experience, or (3) resolution of the owners groups' comments on the STS. The NRC staff reviewed generic relaxations contained in the STS and found them acceptable because they are consistent with current licensing practices and the Commission's regulations. The ANO-1 design was also reviewed to determine if the specific design basis and licensing basis for ANO-1 are consistent with the technical basis for the model specifications in the STS, and thus provide a basis for the ITS.

All of the less restrictive changes to the CTS have been evaluated and found to involve deletions and relaxations to portions of the CTS requirements that can be grouped in the following six categories:

- Relaxation of LCO Requirement (Category 1)
- Relaxation of Applicability (Category 2)
- Relaxation of Surveillance Requirement (Category 3)
- Relaxation of Required Actions (Category 4)
- Relaxation of CTS Reporting Requirements (Category 5)
- Relaxation of Completion Time (Category 6)

The following discussions address why portions of various specifications within each of these six categories of information or specific requirements are not required to be included in ITS.

1. Relaxation of LCO Requirement (Category 1)

CTS contain some LCOs that are overly restrictive because they specify limits on operational and system parameters and on system operability beyond those necessary to meet safety analysis assumptions. CTS also contain some administrative controls that do not contribute to the safe operation of the plant. The ITS, consistent with the guidance in the STS, omit such operational limits and administrative controls. This category of change includes (1) deletion of equipment or systems addressed by the CTS LCOs which are not required or assumed to function by the applicable safety analyses; (2) addition of explicit exceptions to the CTS LCO requirements (e.g., mode entry restrictions equivalent to those of ITS LCO 3.0.4), consistent with the guidance of the STS and normal plant operations, to provide necessary operational flexibility but without a significant safety impact; and (3) deletion of miscellaneous administrative controls such as reporting requirements, sometimes contained in action requirements, that do not affect safety. Deletion of such administrative controls allows operators to more clearly focus on issues important to safety. The ITS LCOs and administrative controls resulting from these changes will continue to maintain an adequate degree of protection consistent with the safety analysis, while providing an improved focus on

issues important to safety and necessary operational flexibility without adversely affecting the safe operation of the plant. Therefore, these changes, which are consistent with STS and fall within Category 1, are acceptable.

2. Relaxation of Applicability (Category 2)

Reactor operating conditions are used in CTS to define when the LCO features are required to be operable. CTS applicability requirements can be specifically defined in terms of reactor conditions, such as hot shutdown, cold shutdown, reactor critical, or power operating condition. CTS applicability requirements can also be more general. Depending on the circumstances, CTS may require that the LCO be maintained within limits in "all modes" or "any operating mode." Generalized applicability conditions are not contained in STS. Therefore, ITS eliminates CTS requirements such as "all modes" or "any operating mode," replacing them with ITS defined modes or applicable conditions that are consistent with the application of the plant safety analysis assumptions for operability of the required features.

In another application of this category of change, CTS requirements may be eliminated during conditions for which the safety function of the specified safety system is met because the feature is already performing its intended safety function. Deleting applicability requirements that are indeterminate or which are inconsistent with application of accident analyses assumptions is acceptable because, when LCOs cannot be met, the TS are satisfied by exiting the specified LCO's applicability, thus taking the plant out of the conditions that require the safety system to be operable. Therefore, these changes, which are consistent with STS and fall within Category 2, are acceptable

3. Relaxation of Surveillance Requirement (Category 3)

Prior to placing the plant in a specified operational mode or other condition stated in the Applicability of an LCO, and in accordance with the specified SR Frequency thereafter, the CTS require verifying the operability of each LCO-required component by meeting the SRs associated with the LCO. This usually entails performance of testing to demonstrate the operability of the LCO-required components, or the verification that specified parameters are within LCO limits. A successful demonstration of operability requires meeting the specified acceptance criteria as well as any specified conditions for the conduct of the test. As set forth below, some CTS acceptance criteria and specified conditions are not necessary to demonstrate the operability of an LCO-required component. Relaxations of CTS SRs include relaxing both the acceptance criteria and the conditions of performance. These CTS SR relaxations are consistent with STS.

Relaxations of CTS SR acceptance criteria provide operational flexibility, consistent with the guidance of the STS, but do not reduce the level of assurance of operability provided by the successful performance of the surveillance. Such revised acceptance criteria are acceptable because they remain consistent with the application of the plant safety analysis assumptions for operability of the LCO-required features.

Relaxations of CTS SR performance conditions include not requiring testing of deenergized equipment (e.g., instrumentation channel checks) and equipment that is

already performing its intended safety function (e.g., position verification of valves locked in their safety actuation position). These changes are acceptable because the existing surveillances are not necessary to ensure the capability of the affected components to perform their intended functions. Another relaxation of SR performance conditions is the allowance to verify the position of valves in high radiation areas by administrative means. This change is acceptable because licensee controls regarding access to high radiation areas make the likelihood of mis-positioning such valves negligible.

Finally, the ITS permits the use of an actual as well as a simulated actuation signal to satisfy SRs for automatically actuated systems. This is acceptable because TS required features cannot distinguish between an "actual" signal and a "test" signal.

These relaxations of CTS SRs optimize test requirements for the affected safety systems and increase operational flexibility. Therefore, because of the reasons stated, less restrictive changes to CTS SRs falling within Category 3 are acceptable.

4. Relaxation of Required Actions (Category 4)

LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO is not met, CTS specify actions to be taken until the equipment is restored to its required capability or performance level, or remedial measures are established. Compared to CTS required actions, the ITS actions result in extending the time period for taking the plant outside the applicability into shutdown conditions. For example, changes in this category include providing an option to: isolate a system, place equipment in the state assumed by the safety analysis, satisfy alternate criteria, take manual actions in place of automatic actions, "restore to operable status" within a specified time frame, place alternate equipment into service, or use more conservative TS setpoints. The resulting ITS actions continue to provide measures that conservatively compensate for the inoperable equipment. The ITS actions are commensurate with safety importance of the inoperable equipment, plant design, and industry practice, and do not compromise safe operation of the plant. Therefore, these changes, which are consistent with STS and fall within Category 4, are acceptable.

5. Relaxation of CTS Reporting Requirements (Category 5)

CTS include requirements to submit Special Reports when specified limits are not met. Typically, the time period for the report to be issued is within 30 days. However, the STS eliminates the TS administrative control requirements for Special Reports and instead relies on the reporting requirements of 10 CFR 50.73, "Licensee event report system." ITS changes to reporting requirements are acceptable because 10 CFR 50.73 provides adequate reporting requirements, and the special reports do not affect continued plant operation. Therefore, this change has no impact on the safe operation of the plant. Additionally, deletion of TS reporting requirements reduces the administrative burden on the licensee and allows efforts to be concentrated on restoring TS required limits. Therefore, these changes, which are consistent with STS and fall within Category 5, are acceptable.

6. Relaxation of Completion Time (Category 6)

Upon discovery of a failure to meet an LCO, TS specify times for completing Required Actions of the associated TS conditions. Required Actions establish remedial measures that must be taken within specified completion times. These times define limits during which operation in a degraded condition is permitted.

Incorporating completion time extensions is acceptable because completion times take into account the operable status of the redundant systems of TS required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, vendor-developed standard repair times, and the low probability of a design basis accident (DBA) occurring during the repair period. Therefore, these changes, which are consistent with STS and fall within Category 6, are acceptable.

Table L is organized in STS order by each L-type DOC. For each change, the table lists (1) the DOC identifier, (2) a summary description of the change, (3) the reference numbers of the associated ITS requirements, (4) the reference numbers of the associated CTS requirements, and (5) the less restrictive change category.

D. Removed Details (LA) from the CTS

When requirements have been shown to give little or no safety benefit, their removal from the TS may be appropriate. In most cases, relaxations previously granted to individual plants on a plant-specific basis were the result of (1) generic NRC actions, (2) new staff positions that have evolved from technological advancements and operating experience, or (3) resolution of the owners groups' comments on STS. The NRC staff reviewed generic relaxations contained in STS and found them acceptable because they are consistent with current licensing practices and the Commission's regulations. The design was also reviewed to determine if the specific design basis and licensing basis are consistent with the technical basis for the model specifications in STS, and thus provide a basis for ITS. Changes to the CTS that involve the removal of specifications, specific requirements, and detailed information from individual specifications were all evaluated and grouped within the following four types:

- Type 1 Details of System Design and System Description Including Design Limits
- Type 2 Descriptions of System or Plant Operation
- Type 3 Procedural Details for Meeting TS Requirements, Reporting Requirements, and Indication-only Instrumentation Requirements
- Type 4 Relocated Redundant Requirements

The following discussions address why each of the four types of information or specific requirements are not required to be included in ITS.

1. Details of System Design and System Description Including Design Limits (Type 1)

The design of the facility is required to be described in the SAR by 10 CFR 50.34, "Contents of applications; technical information." In addition, the quality assurance (QA) requirements of Appendix B to 10 CFR Part 50 require that plant design be documented in controlled procedures and drawings, and maintained in accordance with an NRC-approved QA Program (ANO Quality Assurance Program Manual). In 10 CFR 50.59, "Changes, tests, and experiments," controls are specified for changing the facility as described in the SAR, which includes the new Technical Requirements Manual (TRM) by reference, and in 10 CFR 50.54(a), "Conditions of licenses," criteria are specified for changing the QA Program. The ITS Bases also contain descriptions of system design. The ANO-1 administrative controls specification, ITS 5.5.14, specifies controls for changing the ITS Bases. Removing details of system design from the CTS is acceptable because this information will be adequately controlled by NRC requirements, the SAR, controlled design documents and drawings, or the TS Bases, as appropriate. Cycle-specific design limits are moved from the CTS to the Core Operating Limits Report (COLR) in accordance with Generic Letter (GL) 88-16, "Removal of Cycle-Specific Parameter Limits From Technical Specifications." ITS Administrative Controls are revised to include the programmatic requirements for controlling the COLR. Therefore, it is acceptable to remove Type 1 details from CTS and place them in licensee-controlled documents.

2. Descriptions of System or Plant Operation (Type 2)

The plans for the normal and emergency operation of the facility are required to be described in the SAR by 10 CFR 50.34. ITS 5.4.1 requires written procedures to be established, implemented, and maintained for plant operating procedures. Controls specified in 10 CFR 50.59 apply to changes in procedures as described in the SAR. The ITS Bases also contain descriptions of system operation. CTS provides lists of acceptable devices that may be used to satisfy LCO requirements. The ITS reflect the STS approach to provide LCO requirements that specify the protective limit that is required to meet safety analysis assumptions for required features. The protective limits replace the lists of specific devices previously found to be acceptable to the NRC staff for meeting the LCO. The ITS changes provide the same degree of protection required by the safety analysis and provide flexibility for meeting limits without adversely affecting operations, since equivalent features are required to be operable. It is acceptable to remove details of system operation from the TS because this type of information will be adequately controlled in the SAR, plant operating procedures, and the TS Bases, as appropriate. Therefore, it is acceptable to remove Type 2 details from CTS and place them in licensee-controlled documents.

3. Procedural Details for Meeting TS Requirements, Reporting Requirements, and Indication-only Instrumentation Requirements (Type 3)

Details for performing Actions and SRs are more appropriately specified in the plant procedures required by ITS 5.4.1, the SAR, and the ITS Bases. For example, control of the plant conditions appropriate to perform a surveillance test is an issue for procedures and scheduling, and has previously been determined to be unnecessary as a TS restriction. As indicated in GL 91-04, "Changes in Technical Specification Surveillance

Intervals to Accommodate a 24-month Fuel Cycle," allowing this procedural control is consistent with the vast majority of other SRs that do not dictate plant conditions for surveillances. Prescriptive procedural information in an action requirement is unlikely to contain all procedural considerations necessary for the plant operators to complete the actions required, and referral to plant procedures is therefore required in any event. Other changes to procedural details include those associated with limits retained in the ITS. For example, the ITS requirement may refer to programmatic requirements such as those for the COLR, included in ITS 5.5, which specifies the scope of the limits contained in the COLR and mandates NRC approval of the analytical methodology. The QA Program is approved by the NRC and changes to the QA Program are controlled by 10 CFR 50.54(a). The Offsite Dose Calculation Manual (ODCM) is required by ITS 5.5.1. The TRM is incorporated by reference into the SAR, and changes to the TRM are controlled by 10 CFR 50.59. The Inservice Test (IST) program is required by ITS 5.5.8 and is controlled by ITS 5.4.1.d. Indication-only instrumentation, test equipment, and alarms used for monitoring system operation and testing are usually not required to be operable to support the operability of a system or component. Thus, the STS generally contain no operability, action, or SRs for indication-only equipment. Control of the availability of such indication instruments, monitoring instruments, and alarms and necessary compensatory activities if they are not available are presently addressed by plant operational procedures and policies.

The removal of these kinds of procedural details from the CTS is acceptable because they will be described or reflected in the SAR, plant procedures, ITS Bases, and COLR, as appropriate, which are adequately controlled by NRC requirements. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. Similarly, removal of reporting requirements from LCOs is appropriate because ITS 5.6, 10 CFR 50.36, and 10 CFR 50.73, adequately cover the necessary reports. Removal of requirements for indication-only instrumentation is acceptable because such instrumentation does not support system operability. Therefore, it is acceptable to remove Type 3 details from CTS and place them in licensee-controlled documents.

4. Relocated Redundant Requirements (Type 4)

Certain CTS administrative requirements are redundant to regulations and are thus relocated to the SAR or other appropriate licensee-controlled documents. The Final Policy Statement allows licensees to relocate to licensee-controlled documents CTS requirements that do not meet any of the criteria for mandatory inclusion in the TS. Changes to the facility or to procedures as described in the SAR are made in accordance with 10 CFR 50.59. Changes made in accordance with the provisions of other licensee-controlled documents are subject to the specific requirements of those documents. For example, 10 CFR 50.54(a) governs changes to the QA plan, and ITS 5.5.14 governs changes to the ITS Bases. Therefore, it is acceptable to remove Type 4 details from CTS and place them in licensee-controlled documents.

CTS requirements that are not required to be in TS and that can be adequately controlled by other regulatory or TS requirements, can be relocated to licensee-controlled documents. Table LA lists the requirements and detailed information in the CTS that are being moved to licensee-controlled documents and not retained in the ITS.

Table LA is organized in STS order by each LA-type DOC. It includes the following: (1) the DOC identifier, (2) a summary description of the removed details and requirements, (3) the CTS reference, (4) the name of the licensee-controlled document to contain the removed details and requirements (new location), (5) a characterization of the type of change, and (6) the regulation (or ITS) for controlling future changes to relocated requirements (change control process).

The above types of detailed information and specific requirements do not need to be included in the ITS to ensure the effectiveness of the ITS to adequately protect the health and safety of the public. Accordingly, these requirements may be moved to one of the following licensee-controlled documents for which changes are adequately governed by a regulatory or TS requirement:

- TS Bases controlled in accordance with ITS 5.5.14, "Technical Specifications (TS) Bases Control Program."
- SAR (which includes the TRM) controlled by 10 CFR 50.59.
- Programmatic documents required by ITS 5.5 and controlled by ITS 5.4.
- Inservice Inspection (ISI) and IST Programs required by ITS 5.5.8 and controlled by 10 CFR 50.55a, "Codes and standards."
- ODCM controlled by ITS 5.5.1.
- COLR controlled by ITS 5.6.5.
- QA Program, as approved by the NRC and referenced in the SAR, controlled by 10 CFR Part 50, Appendix B, and 10 CFR 50.54(a).
- Site Emergency Plan controlled by 10 CFR 50.54(q).

To the extent that information has been moved to licensee-controlled documents, such information is not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to public health and safety. Further, where such information is contained in LCOs and associated requirements in the CTS, the NRC staff has concluded that they do not fall within any of the four criteria contained in 10 CFR 50.36 and discussed in the Final Policy Statement (see Section 2.0 of this SE). Accordingly, existing detailed information, such as generally described above, may be removed from the CTS and not included in the ITS.

E. Relocated Specifications (R) from the CTS

The Final Policy Statement states that LCOs and associated requirements that do not satisfy or fall within any of the four specified criteria presently contained in 10 CFR 50.36, may be relocated from existing TS (an NRC-controlled document) to appropriate licensee-controlled documents. This section discusses the relocation of entire specifications in the CTS to licensee-controlled documents. These specifications include LCOs, Action Statements (i.e., Actions), and associated SRs. The licensee proposes relocating such specifications from the CTS to the SAR, which includes the TRM, as appropriate. Relocation of these requirements to the SAR and TRM is acceptable in that changes to the SAR and TRM will be adequately controlled by 10 CFR 50.59. These provisions will continue to be implemented by appropriate station procedures (i.e., operating procedures, maintenance procedures, surveillance and testing procedures, and work control procedures).

Table R lists all specifications that are being relocated from the CTS to licensee-controlled documents and is organized in order of associated CTS requirement being relocated. It includes the following: (1) the reference numbers of the associated CTS requirements, (2) a summary description of the relocated requirements, and (3) the regulation (or ITS requirement) for controlling future changes to relocated requirements (change control process). The table also references the paragraph numbers of the evaluations below.

The NRC staff's evaluation of each relocated specification listed in Table R is provided below. The evaluation is based on information contained in Appendix A of the licensee's ITS application cover letter dated January 28, 2000, as supplemented by letter dated August 23, 2001.

1. Reactor Internals Vent Valves (CTS 3.1.1.4 and Table 4.1-2, Item 15)

The eight reactor internals vent valves act similarly to check valves, relieving the differential pressure between the top of the core and the coolant inlet annulus that would result from steam generation within the core during a loss of coolant accident (LOCA). Reducing this differential pressure enables a more rapid reflood of the core following a rupture of a cold leg pipe in the reactor coolant system (RCS). The valves are passive devices and are tested each refueling outage. No indication is available to the operator relevant to the position of the valves and no testing of the valves can be performed above Mode 6 (i.e., after the head is placed on the reactor vessel). Because the operation of these valves cannot be directly monitored during plant operation and testing can only be performed in accordance with the licensee's established testing program, which is performed during refueling outages, the staff finds that including an LCO and surveillance requirements in the ITS would be redundant to existing regulatory requirements. Therefore, it is acceptable to relocate these specifications to the TRM.

2. Reactor Coolant System Vents (CTS 3.1.1.7 and Table 4.1-2, Item 16)

The reactor coolant pressure boundary is protected by American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) safety relief valves during normal operation. An electromagnetic relief valve is also available to support this function and to provide low temperature over pressure (LTOP) protection when operating in lower modes. The RCS vents are not designed to support either of these functions, but can be used to aid in the removal of non-condensable gases from high points on the pressurizer, reactor head, and hot leg following a LOCA, or to support establishing a steam bubble in the pressurizer during plant heatup. The RCS vents are used to remove non-condensable gases that might otherwise hinder natural circulation operation of the RCS, but are not relied upon by the ANO-1 safety analysis to ensure the reactor core remains covered with coolant or to ensure radiological releases to the public are maintained within acceptable limits. The vent valves are provided with remote-manual operation, but do not receive an automatic actuation signal. The functioning of the RCS vents is not assumed in the safety analysis, but rather is used to implement non-safety analysis functions. Thus, the RCS vent path operability, action and testing requirements do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate these specifications to the TRM.

3. Steam Generator Pressure and Temperature Limits (CTS 3.1.2.4 and 3.1.2.6)

The limitation of CTS 3.1.2.4 on SG pressure and temperature (P/T) provides protection against nonductile failure of the secondary side (shell) of the SG by limiting SG secondary side pressure to ≤ 200 psig when SG shell temperature is below 100°F. This limit is calculated using the ASME Code for Class A components and is considered to be conservative. CTS 3.1.2.6 requires an engineering evaluation of the continued structural integrity of the SGs if the limit is exceeded. This limit, however, is not an operating restriction that is an initial condition of a DBA or transient. Thus, the SG P/T limits do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate these specifications to the TRM.

4. Pressurizer Heatup and Cooldown Limits (CTS 3.1.2.5 and 3.1.2.6)

CTS 3.1.2.5 contains the pressurizer heatup and cooldown rate limit of ≤ 100 °F/hour and the restriction to not use pressurizer spray if the differential temperature between the spray line fluid and the pressurizer exceeds 430 °F. These restrictions are intended to prevent non-ductile failure of the pressurizer, and assure compatibility of operation with the licensing basis fatigue analysis (described in SAR Section 4.1.2.4) and spray line nozzle stress analysis. These limitations meet the requirements of ASME Section III, Appendix G, are consistent with structural analysis results, and are considered to be conservative. CTS 3.1.2.6 requires an engineering evaluation of the continued structural integrity of the pressurizer if these limits are exceeded. These limits, however, are not an operating restriction that is an initial condition of a DBA or transient. Thus, the limits on pressurizer heatup and cooldown, and spray line operation do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate these specifications to the TRM.

5. Reactor Coolant System Chemistry (CTS 3.1.5 and Table 4.1-3, Item 1.e)

The CTS requirements on RCS chemistry help to ensure the integrity of the RCS by limiting oxygen, chloride, and fluoride concentrations. Long-term elevated concentrations of these elements can lead to a potential stress corrosion attack of RCS components. However, exceeding CTS chemical limits does not result in an immediate threat to the integrity of the RCS, nor are these elements considered initiators of any accident previously analyzed. The limits on RCS oxygen, fluoride, and chloride concentrations are not directly pertinent to the safety analysis, but rather describe preventive limits to aid in ensuring the long-term integrity of the RCS. Thus, the RCS chemistry LCO, action, and SRs do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate these specifications to the TRM

6. Main Steam Line Radiation Monitoring Instrumentation (CTS 3.5.1.14, 3.5.1.1, Table 3.5.1-1 Functional Unit 17 and Note 30, and Table 4.1-1 item 28c)

The main steam line radiation monitors provide a normal operations function of radiological effluent release monitoring and also a post accident monitor (PAM) function. The information provided by these monitors is not directly pertinent to the safety analysis, but rather describe equipment used to implement non-safety analysis functions. Because these functions are not pertinent to the fulfillment of the safety analysis, they

can be moved to a licensee-controlled document without a significant impact on safety. The PAM functions included in the STS are those categorized as Type A or Category 1 in Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants To Assess Plant and Environs Conditions During and Following an Accident." The main steam line radiation monitors are neither Type A nor Category 1 in accordance with Regulatory Guide 1.97. The radiological effluent release monitoring function is relocated to the ODCM (in accordance with GL 89-01, "Implementation of Programmatic and Procedural Controls for Radiological Effluent Technical Specifications," as supplemented), and the PAM function is relocated to the SAR (with the exception of the requirement to submit a Special Report which is omitted as discussed in DOC L14 of ITS submittal Section 3.3D). Thus, the main steam radiation monitoring operational and testing requirements do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate these specifications to the ODCM and SAR as discussed above.

7. Restriction on Use of Shutdown Bypass Key Switch During Power Operation
(CTS 3.5.1.4)

CTS 3.5.1.4 specifies that "the key operated shutdown bypass switch associated with each reactor protection system channel shall not be used during reactor power operation except during channel testing." The shutdown bypass switch enables certain reactor protection system (RPS) trip functions to be bypassed to allow control rod drive tests to be performed after the reactor has been shut down and depressurized below the RCS Low Pressure trip setpoint, which is less than the Allowable Value of ≤ 1720 psig. These RPS trip functions, as listed in ITS Table 3.3.1-1, are:

Function 4, RCS Low Pressure,
Function 5, RCS Variable Low Pressure,
Function 7, Reactor Coolant Pump to Power, and
Function 8, Nuclear Overpower RCS Flow and Measured Axial Power Imbalance.

Any attempt to operate one of these key switches under certain plant conditions, however, will result in a trip of the associated RPS channel. These plant conditions are when (a) RCS pressure is above the trip setpoint of the RCS Low Pressure RPS function, or (b) reactor power is above the trip setpoint of the Nuclear Overpower - Low Setpoint RPS function, which is less than the Allowable Value of $\leq 5\%$ of Rated Thermal Power (RTP) (as specified for Function 1.b in ITS Table 3.3.1-1). Likewise, if two or more switches are operated under the aforementioned plant conditions, a reactor trip will occur, which is the intended safety function of the RPS. Based on this design, the CTS restriction placed on switch operation acts only to prevent an unnecessary reactor trip and will not prevent the plant from entering a safe shutdown condition.

When reactor power is below 5% RTP and RCS pressure is below 1720 psig, trip protection is provided while in shutdown bypass for (a) reactivity accidents at low system temperature and pressure, and (b) unanticipated high pressure conditions. During such events, any safety or regulating rods that are withdrawn will be automatically inserted into the core if the flux level or reactor coolant pressure exceeds the respective bistable setpoint. Thus use of the bypass key switch under these conditions has no effect on the

ability of the RPS to automatically terminate a transient involving an increase in core reactivity or RCS pressure.

The use of the shutdown bypass key switch is under administrative control. The CTS 3.5.1.4 restriction is not (a) used for detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA; (b) used to indicate the status of or monitor a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient; or (c) part of a primary success path in the mitigation of a DBA or transient. Because reactor protection is provided by other means and inadvertent switch operation will result in a fail-safe trip of the associated RPS channel, this restriction does not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate this specification to the TRM.

8. Radiation Monitoring Instrumentation During Fuel Loading and Refueling (CTS 3.8.1 and 3.8.9)

During refueling and fuel handling operations, CTS 3.8.1 requires monitoring radiation levels with specific radiation monitors, or with suitable portable survey instruments. Radiation monitors are permanently installed in areas of personnel activity involving fuel handling and provide an alarm locally and in the control room when triggered. When inoperative, the local radiation coverage and alarm functions are provided by portable survey instrumentation. CTS 3.8.9 requires ceasing movement of fuel into the core and all operations that may increase core reactivity if this monitoring requirement is not satisfied. The monitors are not (a) used for detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA; (b) used to indicate the status of or monitor a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient; or (c) part of a primary success path in the mitigation of a DBA or transient. Thus, these monitoring requirements do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate these specifications to the TRM.

9. Direct Communications During Changes in Core Geometry (CTS 3.8.5 and 3.8.9)

CTS 3.8.5 requires maintaining direct communications between the control room personnel and refueling personnel in the reactor building (RB) when changes in core geometry are taking place during refueling, to ensure that personnel in both locations can be promptly informed of significant changes in the plant status or core reactivity condition. The communications allow for coordination of activities that require interaction between the control room and refueling personnel. CTS 3.8.9 requires ceasing movement of fuel into the core and all operations which may increase core reactivity if this requirement is not satisfied. This communications requirement, however, is not (a) used for detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA; (b) used to indicate the status of or monitor a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient; or (c) part of a primary success path in the mitigation of a DBA or transient. Thus, the required communications do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate these specifications to the TRM.

10. Minimum Separation Between Fuel Handling Bridges (CTS 3.8.8 and 3.8.9)

CTS 3.8.8 requires maintaining a minimum 10-foot separation between fuel assemblies being moved simultaneously by the bridges in the fuel transfer canal. When being moved, irradiated fuel assemblies should not be brought close to each other due to the possibility of a criticality accident or, more likely, cladding damage by contact. CTS 3.8.9 requires ceasing movement of fuel into the core and all operations which may increase core reactivity if this restriction is not satisfied. In normal use, however, fuel assemblies being moved with the fuel transfer canal bridges cannot come to within 10 feet of each other because of the physical constraints of the associated equipment. This 10-foot separation restriction and associated action requirement considers abnormal use of this equipment. This requirement is not an operating restriction that is an initial condition of a DBA or transient. Thus, it does not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate these specifications to the TRM.

11. Fuel Handling Operations Under Tornado Watch (CTS 3.8.12)

During a tornado watch for the vicinity of ANO, CTS 3.8.12 requires ceasing fuel handling operations in the Auxiliary Building and the placing related equipment in a safe configuration. These actions are part of the procedures for responding to high winds, tornados, or thunderstorms, but are not operating restrictions related to the initial conditions of a DBA or transient. Thus, they do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate this specification to the TRM.

12. Not used

Item 12, "Requirements for Movement of Spent Fuel Shipping Casks (CTS 3.8.13)," in the staff's draft SE was reclassified as an L-type change in the licensee's supplemental letter dated September 14, 2001. See Section 3.9 DOC L9.

13. 2,000-Pound Load Limit Over the Spent Fuel Pool (CTS 3.8.14)

CTS 3.8.14 prohibits loads in excess of 2,000 pounds from traveling over fuel assemblies in the spent fuel pool (SFP). This ensures that no loads heavier than the weight of a single spent fuel assembly, plus the tool for moving the assembly, will be carried over fuel stored in the SFP. In the event that the load is dropped, the activity released is limited to that assumed in the fuel handling accident (FHA) analysis. This also prevents any possible distortion of fuel assemblies in the storage racks from resulting in a critical configuration. The specification more accurately refers to the building cranes in the spent fuel area since the fuel bridge is not designed for handling loads other than a single fuel assembly or control rod. Under administrative controls, interlocks are installed that prevent inadvertent crane travel over the SFP. These controls ensure crane testing, safe load paths, and that the load weights are verified prior to defeating the physical interlocks. The load limit, however, is not an operating restriction that is required to satisfy an initial condition of the FHA analysis. The design of the fuel handling equipment, the various loads that can be carried by it, and the aforementioned crane

interlocks ensure that the CTS limit will not be exceeded. Thus, this limit does not meet the criteria of 10 FR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate this specification to the TRM.

14. Shock Suppressors (Snubbers) (CTS 3.16, 4.16, and Table 4.16-1)

Shock suppressors (snubbers) are used on piping systems or equipment to limit displacement from dynamic loads such as earthquake or thermal-hydraulic transient, while allowing displacement from thermal expansion. Snubbers are not active components, but are a type of support like springs, baseplates, or struts with the same potential for impact on operability as any support. The majority of snubbers at ANO-1 are installed on Seismic Class I lines, which include all of the safety systems. Snubber testing is required by 10 CFR 50.55a to be performed in accordance with ASME/American Nuclear Standards Institute (ANSI) OM Part 4, "Examination and Performance Testing of Nuclear Power Plant Dynamic Restraints." Thus, specifying such testing in TS is unnecessary. Snubbers are not a design feature that is an initial condition of a DBA or transient. Thus, CTS requirements for snubbers do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. In addition, snubber degradation does not necessarily render the associated safety system inoperable. Rather, it is appropriate to evaluate issues with a snubber using existing guidance for degraded or nonconforming conditions and corrective action programs. If a problem with one or more snubbers do make a system or component inoperable, the TS for the affected system will define the appropriate remedial actions. Testing will be adequately controlled in accordance with ITS 5.5.8, Inservice Test Program, 10 CFR 50.55a, and 10 CFR 50.59. Based on the above, it is acceptable to relocate the snubber specifications to the TRM.

15. Reactor Building Purge Filtration System (CTS 3.22 and 4.25)

The RB purge filtration system was originally designed to filter the RB atmosphere during normal operations for ease of personnel entry into the RB. However, the purge system isolation valves may not be capable of isolation under accident conditions in Modes 1, 2, 3, and 4. Therefore, they are prohibited from being opened in these modes of operation. CTS requires the system to be operable during fuel handling operations to limit the impact of a release of radioactive material, should a fuel assembly be damaged. The system consists of a supply fan, a filter train, and an exhaust fan in series. The filter train consists of a pre-filter, a high-efficiency particulate air (HEPA) filter and a charcoal adsorber in series. A new analysis of the consequences of a FHA in the RB has concluded that the 10 CFR Part 100 limits are met without the RB purge system operating (Reference SAR Section 14.2.2.3.4). The RB purge filtration system, therefore, is not a design feature that is an initial condition of the FHA analysis. Thus, the RB purge filtration system operational and testing requirements no longer meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate these specifications to the TRM.

16. Refueling System Interlocks (CTS 4.1.b, and Table 4.1-2 Item 5)

CTS Table 4.1-2 specifies a minimum test frequency for various plant equipment. Most of this equipment is also addressed by explicit CTS operability and action requirements. Item 5 of this table, refueling system interlocks, has no explicit CTS requirements other than the minimum frequency specified by this table for verifying the functioning of the interlocks at the start of each refueling shutdown. In its submittal, the licensee stated it considers CTS 4.0.1 and 4.0.3 to specify an implied LCO for this equipment because they require that (a) SRs shall be met during operational modes or other conditions specified for LCOs, and (b) failure to perform an SR within the allowed surveillance interval shall constitute noncompliance with the operability requirements of the associated LCO. Operability of the refueling system interlocks ensures that the equipment used to handle fuel within the reactor pressure vessel functions as designed and that the manipulator crane has sufficient load capacity for handling fuel assemblies and/or control rods. Although the interlocks, designed to provide the above capabilities, can prevent damage to the refueling equipment and fuel assemblies, they are not assumed to function to mitigate the consequences of a design basis FHA. Thus, the CTS requirements for refueling system interlocks do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate the specifications for the refueling system interlocks to the TRM.

17. Spent Fuel Cooling System (CTS 4.1.b, and Table 4.1-2 Item 10)

CTS Table 4.1-2 specifies a minimum test frequency for various plant equipment or systems. Most of this equipment is also addressed by explicit CTS operability and action requirements. Item 10 of this table, spent fuel cooling system, has no explicit CTS requirements other than the minimum frequency specified by this table for verifying the functioning of the spent fuel cooling system every 18 months when irradiated fuel is in the pool. In its submittal, the licensee stated it considers CTS 4.0.1 and 4.0.3 to specify an implied LCO for this system because they require that (a) SRs shall be met during operational modes or other conditions specified for LCOs, and (b) failure to perform an SR within the allowed surveillance interval shall constitute noncompliance with the operability requirements of the associated LCO. The spent fuel cooling system functions to remove decay heat from spent fuel stored in the pool. Without it, the temperature of the water in the pool could rise to the boiling point, resulting in a loss of water inventory over time, requiring operator action to correct. The capability to maintain subcooled conditions in the SFP using the spent fuel cooling system is not, however, a design feature or operating restriction that is an initial condition of the design basis FHA. Neither does the spent fuel cooling system function to mitigate the consequences of the design basis FHA. Thus, the CTS requirements for the spent fuel cooling system do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate the specifications for the spent fuel cooling system to the TRM.

18. Emergency Lighting (CTS 4.6.3)

Testing of the emergency lighting system is scheduled every 18 months, but this frequency is subject to review and modification, based on experience. The 18-month cycle is compatible with the period of simulated loss-of-power tests. Emergency lighting, however, is not (a) used for detecting a degradation of the reactor coolant pressure

boundary prior to a DBA; (b) used to monitor a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient; or (c) part of a primary success path in the mitigation of a DBA or transient. Thus, these requirements do not meet the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the ITS. Therefore, it is acceptable to relocate this specification to the TRM.

The relocated specifications from the CTS discussed above are not required to be in the TS because they do not fall within the criteria for mandatory inclusion in the TS as stated in 10 CFR 50.36(c)(2)(ii). These specifications are not needed to obviate the possibility that an abnormal situation or event will give rise to an immediate threat to the public health and safety. In addition, appropriate controls have been established for all of the current specifications and information that are being moved to the SAR or TRM. Until incorporated in licensee-controlled documents, changes to these specifications and information will be controlled in accordance with the current applicable procedures and regulations that control these documents. Following implementation, the NRC may audit the removed provisions to ensure that an appropriate level of control has been achieved. Therefore, in accordance with the Final Policy Statement, sufficient regulatory controls exist under the regulations, particularly 10 CFR 50.59. Accordingly, the specifications, as described in detail in this SE and the attached Table R, may be relocated from the CTS and placed in the licensee-controlled documents identified in the licensee's application dated January 28, 2000, as supplemented by the licensee's letters listed in Table 2.

F. Control of Specifications, Requirements, and Information Relocated from the CTS

In the ITS conversion, the licensee will be relocating specifications, requirements, and detailed information from the CTS to licensee-controlled documents outside the CTS. This is discussed in Sections 3.0.D and 3.0.E above. The facility and procedures described in the SAR and TRM, which is a part of the SAR, can only be revised in accordance with the provisions of 10 CFR 50.59, which ensures records are maintained, and which establishes appropriate control over requirements removed from the CTS and over future changes to the requirements. Other licensee-controlled documents contain provisions for making changes consistent with applicable regulatory requirements. For example, the Radioactive Effluent Controls Program can be changed in accordance with ITS 5.5.4, and the administrative instructions that implement the QA Program can be changed in accordance with 10 CFR 50.54(a) and 10 CFR Part 50, Appendix B. The documentation of these changes will be maintained by the licensee in accordance with the record retention requirements specified in the licensee's QA Program for ANO-1 and such applicable regulations as 10 CFR 50.59.

The license condition for the relocation of requirements from the CTS, which is discussed in Section 5.0 of this SE, will address the implementation of the ITS conversion, and the schedule for the relocation of the CTS requirements into licensee-controlled documents. The relocations to the SAR, which includes the TRM, shall be included in the next required update of this document in accordance with 10 CFR 50.71(e), "Maintenance of records, making of reports."

G. Evaluation of Other TS Changes (Beyond Scope Changes) Included in the Application for Conversion to ITS

This section addresses the beyond scope changes in which the licensee proposed changes to both the CTS and STS. The following beyond scope changes were addressed in the notice of consideration of amendment published in the *Federal Register* on June 28, 2001 (66 FR 34486).

The changes discussed below are listed in the order of the applicable ITS specification, as appropriate. Also provided are references to the associated DOC to the CTS and DOD from the STS given in the licensee's application.

1. ITS 3.2.3, "Axial Power Imbalance Operating Limits" (3.2: DOC-M8; DOD-07)

The licensee proposes to revise the completion time for Required Action B.1 from the value of 2 hours in STS to 4 hours. Required Action B.1 calls for THERMAL POWER to be reduced to less than or equal to 40 percent if AXIAL POWER IMBALANCE is not restored within the associated completion time of Required Action A.2. Although the CTS established comparable required actions if the AXIAL POWER IMBALANCE exceeded operating limits, the CTS did not establish a completion time for those actions. Therefore, establishment of a required completion time is, in essence, more restrictive than the CTS. In addition, the 2 hour completion time included in STS would require operators to violate the established normal, non-emergency, maneuvering rate of less than or equal to 30 percent per hour, thereby unnecessarily challenging the operator's ability to control the unit. The 4 hour completion time allows a prompt compensatory action while providing a more reasonable time frame for performing the required power reduction to less than or equal to 40 percent of rated thermal power. Therefore, the proposed completion time increase to 4 hours is acceptable.

2. ITS 3.2.4, "Quadrant Power Tilt (QPT)" (3.2: DOC L1, M1 and M6; DOD-07 and 17)

The licensee proposes to add an alternative completion time to Required Action A.1.2.2 [reduce nuclear overpower reactor trip setpoints], and Required Actions A.1.2.3 [reduce rod insertion limits] and A.1.2.4 [reduce operational power imbalance limits] that clarify that the actions associated with reducing power may be completed 10 hours after the last performance of SR 3.2.5.1 (Required Action A.1.1). This change makes the reduction in actual power level (Required Action A.1.2.1) and the corresponding reduction in protection and operating limits consistent, and clarifies that each is required unless the licensee routinely performs the surveillance defined by Action A.1.1. A second completion time for requiring a reduction in nuclear overpower based on RCS flow and AXIAL POWER IMBALANCE is necessary in order to establish a completion time dependent on the performance of the surveillance allowed by Required Action A.1.1, and to be consistent with the allowable reduction in THERMAL POWER based on the SR that is included in Required Action A.1.2.1. Assume, for example, the licensee elected for some period of time to satisfy the Required Action by performing the surveillance referenced in Required Action A.1.1. The alternative completion times of 2 hours and 10 hours after the last performance of the surveillance are now needed in case the licensee elects to stop or is unable to continue the surveillance at the required frequency of once per 2 hours. The change is consistent with the guidance in Section 1.3 of STS on completion times. The clarification of the STS completion time requirements for LCO 3.2.4 is appropriate and acceptable.

The licensee proposes to revise the completion time for Required Actions C.1 and D.1 from the 2 hours value in STS to 4 hours. Required Actions C.1 and D.1 call for THERMAL POWER to be reduced to less than or equal to 20 percent if ACTION B is not completed within the allowed completion time if QPT exceeds the maximum limit defined in the COLR. The CTS did not establish comparable required actions. Therefore,

establishment of the required actions and associated completion times is, in essence, more restrictive than the CTS. In addition, the 2 hour completion time included in STS would require operators to violate the established normal, non-emergency, maneuvering rate of less than or equal to 30 percent per hour, thereby unnecessarily challenging the operator's ability to control the unit. The 4 hour completion time allows a prompt compensatory action while providing a more reasonable time frame for performing the required power reduction to less than or equal to 20 percent of rated thermal power. Therefore, the proposed completion time increase to 4 hours is acceptable.

3. ITS 3.4.8, "Reactor Coolant System (RCS) Loops, MODE 5, Loops Not Filled" (3.4A: DOC M16; DOD-25)

The licensee proposes to add a Required Action to "suspend all operations involving reduction in RCS water volume" if no required decay heat removal (DHR) loop is operable or a required DHR loop is not in operation. The Required Action is consistent with STS LCO Note 1.b which states that all required DHR pumps may be removed from operation for less than or equal to 1 hour provided that "No draining operations to further reduce the RCS water volume are permitted." (Note 1.a precludes adding coolant to the RCS with boron concentration less than that required to meet the shutdown margin of LCO 3.1.1 when the required DHR pumps are temporarily removed from operation.) The change adds a requirement that is included in neither the CTS nor STS. The addition of an immediate action for an unplanned loss of DHR that corresponds to the constraints for a planned loss of the function is more restrictive than either the CTS or STS. The additional action minimizes risks of plant conditions degrading further while plant staff work to restore DHR in accordance with Required Action B.3. Accordingly, the staff finds the proposed change acceptable.

4. ITS 3.4.11, "Low Temperature Overpressure Protection (LTOP) System" (3.4b: DOC M3; DOD-6)

The application identified the proposed ITS 3.4.11, "Low Temperature Overpressure Protection (LTOP) System," as beyond the scope of the conversion to ITS because the proposed ITS added to the requirements currently in the CTS but did not fully adopt the requirements in STS. The staff has reviewed the changes and found that the proposed ITS 3.4.11 is an acceptable combination of carrying forward the current licensing bases, including the CTS, adoption of STS, and variations from STS to address the hybrid nature of the resultant LTOP requirements in the ITS. The licensee has included adequate discussions in the Bases to describe plant-specific practices such as how instrument uncertainties were included or not included in specific values in the ITS. The licensee also used a combination of LCOs and Notes that are different from the STS, but which establish the needed requirements. In view of the above, the staff finds the proposed LCO 3.4.11 acceptable.

5. ITS 3.4.13, "RCS Operational LEAKAGE" (3.4b: DOC L12; DOD-11)

The licensee proposed to adopt SR 3.4.13.1 from STS with modifications to incorporate changes proposed by TSTF-116, Revision 2, and TSTF-061. SR 3.4.13.1 would require that an RCS water inventory balance be performed every 72 hours to measure leakage. The SR includes a Note in the frequency column which states that the SR is only required to be performed during steady state operation. In addition, the SR in Revision 1 of NUREG-1430 includes a Note in the surveillance column which states that the SR is

not required to be performed in Mode 3 or 4 until 12 hours of steady state operation. The TSTFs removed the Note in the frequency column and revised the Note in the surveillance column to read as follows, "Not required to be performed until 12 hours after establishment of steady state operation." In addition, the licensee included a plant specific clarification of the conditions required for the performance on this SR by adding the words "at or near operating pressure" at the end of the Note in the surveillance column. This clarification is needed in order to ensure that the SR is reliable. The staff finds that the incorporation of TSTF-116, Revision 2, and clarification added by the licensee maintains an adequate surveillance of RCS leakage and is acceptable.

6. ITS 3.5.2, "Emergency Core Cooling System (ECCS) - Operating" (3.5: DOC-A11; DOD-6)

Proposed ITS 3.5.2, Action B would require that when there are one or more trains inoperable with less than 100 percent of the ECCS flow equivalent to a single operable ECCS train available, the plant must be placed in Mode 3 within 6 hours and reduce RCS temperature to less than or equal to 350 °F within 12 hours. CTS and LCO 3.5.2 of the STS do not specify the required plant shutdown in Action B of the ITS and instead, the plant is required to enter LCO 3.0.3 under the above stated ECCS degraded conditions. In accordance with LCO 3.0.3, when there are one or more trains inoperable with less than 100 percent of the ECCS flow equivalent to a single ECCS train available, the plant must be placed in Mode 3 within 7 hours and in Mode 4 with RCS temperature less than 350 °F, the condition in which ITS 3.5.2 is not applicable, within 13 hours. Based on the above discussed shutdown requirements, the licensee-proposed ITS will essentially achieve the same purposes as the requirements of LCO 3.0.3, with slightly more conservative completion times. Therefore, the proposed ACTION B of ITS 3.5.2 is acceptable.

7. ITS 3.6.3, "Reactor Building Isolation Valves" (3.6: DOC L24; DOD-7)

The licensee has proposed to not incorporate SR 3.6.3.6, regarding testing of containment purge valves with resilient seals, from STS into the ITS. Although ANO-1 does not utilize resilient seated valves in its RB purge isolation system, CTS Bases 4.26 indicates that the test frequency for the installed valves is based on Generic Issue B-20, "Containment Leakage Due to Seal Deterioration," which addressed the increased potential for leakage from resilient seated valves. Since the CTS Bases conflict with installed equipment and the licensee is correcting the discrepancy during the conversion to the ITS, this proposed change was classified as a beyond scope change. Because the licensee has replaced the purge valves at ANO-1 with valves that do not have resilient seals, the staff finds that the technical concerns of Generic Issue B-20, STS 4.6.3.6, and CTS 4.26.2 no longer apply. Only the testing provisions of Section C.2 of Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," remain for the RB purge valves at ANO-1 and the licensee has adequately addressed this by the requirements included in ITS 5.5.16, "Reactor Building Leakage Rate Testing Program." Accordingly, this change is acceptable.

8. ITS 3.6.4, "Reactor Building Pressure" (3.6: DOC M14)

CTS 3.6.4 provides a lower limit for RB pressure of 5.5 inches mercury (Hg) vacuum. This corresponds to a pressure of approximately -2.7 psig. The licensee has proposed to

incorporate a value of -1.0 psig as the lower RB pressure limit in ITS 3.6.4. STS shows this value as a bracketed value, indicating that the plant specific value should be used and that the associated STS Bases should describe this value as preserving “the initial conditions assumed in the accident analyses for a loss of coolant accident (LOCA) or steam line break.” Although the CTS limit of approximately -2.7 psig provides some margin between operations and the design limit of -3.0 psig, it does not address the initial conditions assumed for the plant’s emergency core cooling evaluation model. As part of the conversion to the ITS, the licensee has proposed to adopt a more restrictive lower limit on pressure in order to be consistent with the STS Bases. The staff finds that the licensee’s proposal for a more restrictive requirement is consistent with the ITS Bases that the licensee has adopted from STS. The proposed requirement is also an improvement over the CTS in terms of ensuring that plant operations are consistent with assumed initial conditions in DBAs. Therefore, the proposed change is acceptable.

9. ITS 3.7.1, “Main Steam Safety Valves (MSSVs)” (3.7: DOC L1; DOD-01)

This beyond scope issue is related to STS 3.7.1, “Main Steam Safety Valves (MSSVs),” in which Figure 3.7.1-1 would be replaced by Table 3.7.1-1, which would provide limitations for operation with 2 or more (of the 8 total MSSVs per SG) inoperable MSSVs per SG. The CTS does not allow operation with more than 2 inoperable MSSVs. The staff has reviewed the proposed ITS Table 3.7.1 and concluded that the limitations presented in the proposed ITS Table 3.7.1 are consistent with that derived from the methodology applied in the STS Figure 3.7.1 and these limitations will assure that there is a sufficient amount of safety valve relief capacities at each allowable power level to protect main steam systems from a potential overpressurization. Also, the tabulation format in the proposed ITS 3.7.1 is consistent with that presented in TS Table 3.7.1 of NUREG-1431 and NUREG-1432, STS for Westinghouse and Combustion Engineering Plants, respectively.

10. ITS 5.5.1, “Offsite Dose Calculation Manual (ODCM)” (5.0: DOC A1; DOD-07)

The licensee proposes to reference the Annual Radiological Environmental Operating Report and the Radioactive Effluent Release Report by name only instead of adopting the STS convention of including report name and associated TS. The proposed change does not change an actual requirement, but simply uses a different editorial convention. Reference to the reports without the cross reference to the related TS is sufficiently clear given the reports are described in TSs 5.6.2 and 5.6.3, as well as in applicable regulations. Accordingly, the staff finds the change acceptable.

11. ITS 5.2.2, “Unit Staff” (5.0: DOC A5; DOD-24)

The licensee proposes to replace reference to specific operator staffing requirements with a reference to the applicable regulation. TSTF-258, Revision 4 was incorporated into Revision 2 of STS and thereby made a similar change to the STS. The staff acknowledged in its changes to STS, Revision 2, that the TS need not reiterate the requirements defined in 10 CFR 50.54(m) and 50.54(k). The licensee's proposal to include a reference to 10 CFR 50.54(m) in TS 5.2.2.b is similar to the addition of a similar reference to TS 5.3.2, "Unit Staff Qualifications," in NUREG-1430, Revision 2. The licensee's proposal, as well as TS 5.3.2 in STS, were added so that a reference to TS in

10 CFR 50.54(k) would remain valid. The licensee's proposal is an acceptable way to maintain the reference.

4.0. COMMITMENTS RELIED UPON

In reviewing the proposed ITS conversion for ANO-1, the staff has relied upon the licensee commitment to relocate certain requirements from the CTS to licensee-controlled documents as described in Table R attached to this SE. This table reflects the relocations described in the licensee's submittals regarding the conversion. The staff requested and the licensee submitted a license condition to make this commitment enforceable (see Section 5.0). Such a commitment from the licensee is important to the ITS conversion because the acceptability of removing certain requirements from the TS is based on those requirements being relocated to licensee-controlled documents where further changes to the requirements will be controlled by regulations or other requirements (e.g., in accordance with 10 CFR 50.59).

5.0 LICENSE CONDITIONS

A license condition to define the schedule to begin performing the new and revised SRs after the implementation of the ITS is to be included in the license amendment issuing the ITS. This schedule is:

- For SRs that are new in this amendment, the first performance shall be due at the end of the first surveillance interval, which begins on the date of implementation of this amendment.
- For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval shall begin upon completion of the first surveillance performed after implementation of this amendment.
- For SRs that existed prior to this amendment that contained modified acceptance criteria, the performance shall be due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment.
- For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval shall begin upon completion of the last surveillance performed prior to the implementation of this amendment.

The staff has reviewed the above schedule for the licensee to begin performing the new and revised SRs, and concludes that it is an acceptable schedule.

Also, a license condition is to be included that will enforce the relocation of requirements from the CTS to licensee-controlled documents. The relocations are described in Table LA and Table R attached to this SE, and in Section 3.0.D, "Removed Details," and Section 3.0.E, "Relocated Specifications," above. The license condition states that the relocations would be completed within 1 year from the date of issuance of this amendment.

As a part of the ITS conversion, the licensee also proposed to move three existing license conditions to equivalent programmatic requirements in ITS 5.5, "Programs and Manuals." The requirements of License Conditions 2.C.(5), "Systems Integrity," 2.C.(6), "Iodine Monitoring," and

2.C.(7), "Secondary Water Chemistry," will be retained in ITS 5.5.2, "Primary Coolant Sources Outside Containment," ITS 5.5.3, "Post Accident Sampling" (not to be confused with post accident sampling requirements removed by Amendment 208), and 5.5.10, "Secondary Water Chemistry," respectively. These ITS programmatic administrative controls specifications are consistent with the STS and current plant practice; they also meet the intent of the existing license conditions. As such, this change in presentation of existing requirements is purely administrative, and is acceptable.

6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arkansas State official was notified of the proposed issuance of the ITS conversion amendment for ANO-1. The State official had no comments.

7.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact was published in the *Federal Register* on August 31, 2001 (66 FR 46038), for the proposed conversion of the CTSs to ITSs for ANO-1. The licensee's supplemental letters dated September 14 and September 19, 2001, provided clarifying information, minor changes to the TSs, and supporting changes to the Renewed Facility Operating License. The changes resulting from the supplemental letters in September 2001 did not change the scope of the proposed licensing action from that described in the *Federal Register* notice or evaluated by the staff in its finding of no significant impact. Accordingly, based upon the environmental assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

8.0 CONCLUSION

The ANO-1 ITS provides clearer, more readily understandable requirements to ensure safe operation of the plant. The NRC staff concludes that the ITS for ANO-1 satisfy the guidance in the Final Policy Statement on TS improvements for nuclear power reactors with regard to the content of TS, and conform to the STS provided in NUREG-1430, Revision 1, with appropriate modifications for plant-specific considerations. For the reasons set forth in this SE, the NRC staff further concludes that the ITS satisfy Section 182a of the Act, 10 CFR 50.36, and other applicable standards. On this basis, the NRC staff concludes that the proposed ITS for ANO-1 are acceptable.

The NRC staff has also reviewed the plant-specific changes to the CTS as described in this SE. On the basis of the evaluations described herein for each of the changes, the NRC staff also concludes that these changes are acceptable.

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 amendment will not be inimical to the common defense and security, or to the health and safety of the public.

- Attachments:
1. List of Acronyms
 2. Table A - Administrative Changes
 3. Table M - More Restrictive Changes
 4. Table L - Less Restrictive Changes
 5. Table LA - Removed Details
 6. Table R - Relocated Specifications

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List of Acronyms

AC	Air Conditioning or Alternating Current
AFD	Axial Flux Difference
AFW	Auxiliary Feedwater System
ALAB	Atomic Safety and Licensing Appeal Board
ANO	Arkansas Nuclear One
ANSI	American Nuclear Standards Institute
APSR	Axial Power Shaping Rod
ARC	Alternate Repair Criteria
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATWS	Anticipated Transient Without Scram
PWR	Pressurized Water Reactor
BWOG	Babcock and Wilcox Owners Group
BWST	Borated Water Storage Tank
CCW	Component Cooling Water
CET	Core Exit Thermocouple
CFR	Code of Federal Regulations
CFT	Channel Functional Test or Core Flood Tank
COLR	Core Operating Limits Report
CRD	Control Rod Drive
CREACS	Control Room Emergency Air Conditioning System
CREFVS	Control Room Emergency Filtration Ventilation System
CRVS	Control Room Ventilation System
CRWA	Control Rod Withdrawal Accident
CST	Condensate Storage Tank
CTS	Current Technical Specification(s)
DBA	Design-Basis Accident
DC	Direct Current
DG	Diesel Generator
DHR	Decay Heat Removal
DNB	Departure from Nucleate Boiling
DOC	Discussion of Change (to the CTS)
DOD	Discussion of Difference (from the STS)
ECCS	Emergency Core Cooling System
ECP	Emergency Cooling Pond
EDG	Emergency Diesel Generator
EFIC	Emergency Feedwater Instrumentation and Controls
EFPD(Y)	Effective Full Power Days (Years)
EFW	Emergency Feedwater
EOI	Entergy Operations, Inc. (Entergy or Entergy South)
ERV	Electromatic Relief Valve
ESAS	Engineered Safeguards Actuation System
ESFAS	Engineered Safety Features Actuation System
ETA	Electronic Trip Assembly
FHA	Fuel Handling Accident
FP	Full Power
FR	Federal Register

F RTP	Fraction of Rated Thermal Power
GDC	General Design Criteria
GL	Generic Letter
HEPA	High Efficiency Particulate Air
Hz	Hertz
IRM	Intermediate Range Monitor
ISI	Inservice Inspection
IST	Inservice Testing
ITS	Improved Technical Specification(s)
kV or KV	Kilovolt
kW or KW	Kilowatt
LCO	Limiting Condition for Operation
LHR	Linear Heat Rate
LLS	Low-Low Set
LOCA	Loss of Coolant Accident
LOOP	Loss of Offsite Power
LOP	Loss of Power
LPI	Low Pressure Injection
LPRM	Local Power Range Monitor
LSFT	Logic System Functional Test
LTOP	Low Temperature Overpressure Protection
MFIV	Main Feedwater Isolation Valve
MG	Motor Generator
MSIV	Main Steam Isolation Valve
MSSV	Main Steam Safety Valve
MTC	Moderator Temperature Coefficient
MWD/T	Megawatt Days/short Ton
NaOH	Sodium Hydroxide
NRC	U.S. Nuclear Regulatory Commission
NUMAC	Nuclear Measurement Analysis and Control
ODCM	Offsite Dose Calculation Manual
ODIGA	Outside Diameter Intergranular Attack
PAM	Post-Accident Monitoring
PIV	Pressure Isolation Valve
P/T	Pressure/Temperature
PORV	Power Operated Relief Valve
PRVS	Penetration Room Ventilation System
QA	Quality Assurance
QPT	Quadrant Power Tilt
RAI	Request for Additional Information
RB	Reactor Building
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RG	Regulatory Guide
RHR	Residual Heat Removal
RPS	Reactor Protection System
RPV	Reactor Pressure Vessel
RSCS	Rod Sequence Control System
RTP	Rated Thermal Power

RWST	Reactor Water Storage Tank
SAR	Safety Analysis Report
SDC	Shutdown Cooling
SDM	Shutdown Margin
SE	Safety Evaluation
SER	Safety Evaluation Report
SFDP	Safety Function Determination Program
SFP	Spent Fuel Pool
SG	Steam Generator
SR	Surveillance Requirement
SRM	Source Range Monitor
SRV	Safety Relief Valve
SSER	Supplemental Safety Evaluation Report
STS	Improved Standard Technical Specifications, NUREG-1430, Rev. 1
SW	Service Water
TRM	Technical Requirements Manual
TS	Technical Specification(s)
TSTF	Technical Specifications Task Force (re: generic changes to the STSs)
UHS	Ultimate Heat Sink
UPS	Uninterruptible Power Supply
SAR	ANO-1 Safety Analysis Report (Final SAR, or FSAR of 10 CFR 50.34(b))
V	Volt
VAC	Volts Alternating Current
VFTP	Ventilation Filter Test Program

Arkansas Nuclear One

cc: **without Technical Specifications**

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**NOTE: To receive a copy of the Technical Specifications,
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