August 28, 2008

Vice President, Operations
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S.R. 333
Russellville, AR 72802

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT NO. 2 - ISSUANCE OF AMENDMENT RE: TECHNICAL SPECIFICATION TASK FORCE CHANGE TSTF-359, "INCREASED FLEXIBILITY IN MODE RESTRAINTS" (TAC NO. MD7174)

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 281 to Renewed Facility Operating License No. NPF-6 for Arkansas Nuclear One, Unit No. 2. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated October 22, 2007, as supplemented by letters dated April 22, 2008 and July 8, 2008.

The amendment revises TS Limiting Condition for Operation (LCO) 3.0.4 and Surveillance Requirement (SR) 4.0.4 to adopt the provisions of Industry/TS Task Force (TSTF) change TSTF-359, "Increased Flexibility in Mode Restraints." This operating license improvement was made available by the NRC on April 4, 2003, as part of the consolidated line item improvement process. The proposed TS changes also include an additional application of LCO 3.0.4.c for TS 3.4.3, "Pressurizer Spray Valves."

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

Sincerely,

/RA by Michael T. Markley for/

Alan B. Wang, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-368

Enclosures: 1. Amendment No. 281 to NPF-6
2. Safety Evaluation

cc w/encls: See next page

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NAME	AWang	GLappert	REIliott	RHolmes (NLO)	MMarkely	AWang, MTM for
DATE	5/7/08	5/7/08	6/3/08	6/13/08	8/28/08	8/28/08

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ENTERGY OPERATIONS, INC.

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 281
Renewed License No. NPF-6

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

   A. The application for amendment by Entergy Operations, Inc. (Entergy, the licensee), dated October 22, 2007, as supplemented by letters dated April 22, 2008 and July 8, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

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

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

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

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

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-6 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 281, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Renewed Facility
Operating License No. NPF-6
Technical Specifications

Date of Issuance: August 28, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 281

RENEWED FACILITY OPERATING LICENSE NO. NPF-6

DOCKET NO. 50-368

Replace the following pages of the Renewed Facility Operating License No. NPF-6 and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Operating License

REMOVE	INSERT
-3-	-3-

Technical Specifications

REMOVE	INSERT
3/4 0-1	3/4 0-1
3/4 0-1a	3/4 0-1a
3/4 0-2	3/4 0-2
3/4 3-36	3/4 3-36
3/4 3-39	3/4 3-39
3/4 4-4	3/4 4-4
3/4 4-13	3/4 4-13
3/4 4-18	3/4 4-18
3/4 4-28	3/4 4-28
3/4 5-6	3/4 5-6
3/4 7-5	3/4 7-5
3/4 7-10	3/4 7-10
3/4 7-17	3/4 7-17
3/4 7-17a	3/4 7-17a
3/4 8-1	3/4 8-1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 281 TO

RENEWED FACILITY OPERATING LICENSE NO. NPF-6

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

1.0 INTRODUCTION

By application dated October 22, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML073040195), as supplemented by letter dated April 22, 2008 (ADAMS Accession No. ML081160053) and July 8, 2008 (ADAMS Accession No. ML081900450), Entergy Operations, Inc. (Entergy, the licensee), requested changes to the Technical Specifications (TS) for Arkansas Nuclear One, Unit No. 2 (ANO-2). The supplements dated April 22, and July 8, 2008, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on December 18, 2007 (72 FR 71710).

The requested changes would modify TS requirements for mode change limitations in Limiting Condition for Operation (LCO) 3.0.4 and Surveillance Requirement (SR) 3.0.4 to adopt the provisions of TS Task Force (TSTF) change TSTF-359, "Increased Flexibility in Mode Restraints." The availability of TSTF-359 for adoption by licensees was announced in the *Federal Register* on April 4, 2003 (68 FR 16579).

On July 17, 2002, the Nuclear Energy Institute (NEI) Risk Informed Technical Specifications Task Force (RITSTF) submitted proposed change, TSTF-359, Revision 7, to the standard technical specifications (STS) (NUREGs 1430-1434) on behalf of the industry. TSTF-359, Revision 7, is a proposal to change the STS LCO 3.0.4 and SR 3.0.4 requirements regarding mode change limitations. The proposed change would modify LCO 3.0.4 and SR 3.0.4 by risk informing limitations on entering the mode of applicability of an LCO. The licensee noted that ANO-2 is a custom TS plant and has proposed to maintain its current surveillance numbering notation of SR 4.xxx in lieu of STS surveillance numbering, which is depicted as SR 3.xxx. The first Consolidated Line Item Improvement Process (CLIIP) *Federal Register* notice with respect to this change was published on August 2, 2002 (67 FR 50475), requesting public comments. In response to the public comments, the U.S. Nuclear Regulatory Commission (NRC) staff decided that TSTF-359, Revision 7, be revised. The RITSTF submitted TSTF-359, Revision 9, on April 4, 2003. Three additional changes were deemed necessary. The NRC staff has prepared this revised model safety evaluation incorporating changes resulting from public comments. TSTF-359, Revision 9, as modified, provides the complete approved change.

This proposal is one of the industry's initiatives under the risk-informed TS program. These initiatives are intended to maintain or improve safety while reducing unnecessary burden and to make TS requirements consistent with the Commission's other risk-informed regulatory requirements, in particular, the maintenance rule.

The current TS specify that a nuclear power plant cannot go to higher modes of operation[1] (i.e., move towards power operation) unless all TS systems, normally required for the higher mode, are operable. This limitation is included (with several exceptions for some plants) in LCO 3.0.4 and SR 4.0.4. LCO 3.0.4 and SR 4.0.4 in the STS currently state, in part, that when an LCO or SR is not met, "entry into a MODE or other specified condition in the applicability shall not be made except when the associated actions to be entered permit continued operation in the MODE or other specified condition in the applicability for an unlimited period of time." The industry believes that this requirement is unnecessarily restrictive and can unduly delay plant startup while considerable resources are being used to resolve startup issues that are risk insignificant or low risk. A maintenance activity that takes longer than planned can delay a mode change and adversely impact a utility's orderly plant startup and return to power operation. The objective of the proposed change is to provide additional operational flexibility without compromising plant safety.

The proposed changes to LCO 3.0.4 and SR 4.0.4 would allow, for systems and components, mode changes into a TS condition that has a specific required action and completion time (CT). The licensee noted that ANO-2 has proposed to maintain its current use of Allowable Outage Time (AOT) in lieu of the STS phrase "Completion Time." ANO-2 TSs are modeled on NUREG-0212 STS. The licensee stated that it interprets completion time and allowed outage time to be the same; however, since the use of AOT is what the operators are use to, Entergy has maintained the AOT verbiage in the TSs. The licensee will utilize the LCO 3.0.4 and SR 4.0.4 allowances only when it determines that there is a high likelihood that the LCO will be satisfied within the LCO CT, after the mode change. In addition, the LCO 3.0.4 and SR 4.0.4 allowances can be applied to values and parameters in specifications when explicitly stated in the TS (non-system/component TS such as Reactor Coolant System Specific Activity). These changes are in addition to the current mode change allowance when a required action has an indefinite CT. The LCO 3.0.4 and SR 4.0.4 mode change allowances are not permitted for the systems and components (termed "higher risk") listed in Section 3.1.1, "Identification of Risk-Important TS Systems and Components," for the modes specified. Two examples are: (1) Combustion Engineering (CE) plants cannot transition from Mode 5 to Mode 4 without a High Pressure Safety Injection System train operable; and, (2) CE plants cannot transition up into any mode with an inoperable required emergency diesel generator.

2.0 REGULATORY EVALUATION

In Section 50.36, "Technical specifications," of Title 10 of the *Code of Federal Regulations* (10 CFR), the Commission established its regulatory requirements related to the content of TS. 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) LCOs; (3) SRs; (4) design features; and (5) administrative controls. The rule does not specify the particular requirements to be included in a plant's TS. As stated in

---

[1] Mode numbers decrease in the transition up to a higher mode of operation, power operation is Mode 1.

10 CFR 50.36(d)(2)(i), the "[l]imiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications..." By convention, the LCOs are contained in Sections 3.1 through 3.10 of the TS. TS Section 3.0, on LCO and SR Applicability, provides details or ground rules for complying with the LCOs. LCO 3.0.4 and SR 3.0.4 address requirements for LCO compliance when transitioning between modes of operation.

Technical specifications have taken advantage of risk technology as experience and capability have increased. Since the mid-1980's, the NRC has been reviewing and granting improvements to TS that are based, at least in part, on probabilistic risk assessment (PRA) insights. In its final policy statement on TS improvements of July 22, 1993, the Commission stated that it expects that licensees will utilize any plant-specific PRA or risk survey in preparing their TS-related submittals. In evaluating these submittals, the NRC staff applies the guidance in Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," dated July 1998 and in RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," dated August 1998. The NRC staff has appropriately adapted this guidance to assess the acceptability of upward mode changes with equipment inoperable. This review had the following objectives:

- To ensure that the plant risk does not increase unacceptably during the actual implementation of the proposed change (e.g., when the plant enters a higher mode while an LCO is not met). This risk increase is referred to as "temporary."

- To compare and assess the risk impact of the proposed change to the acceptance guidelines of the Commission's Safety Goal Policy Statement, as documented in RG 1.174. The risk impact, which is measured by the average yearly risk increase associated with the change, aims at minimizing the "cumulative" risk associated with the proposed change so that the plant's average baseline risk is maintained within a minimal range.

- To assess the licensee's ability to identify risk-significant configurations resulting from maintenance or other operational activities and take appropriate compensatory measures to avoid such configurations.

The NRC staff reviewed the reliance on 10 CFR 50.65(a)(4) for the non-higher-risk systems and components, and related guidance to assess and manage the risk of upward mode changes. The Commission has found that compliance with the industry guidance for implementation of 10 CFR 50.65(a)(4), as endorsed by RG 1.182 and mandated by LCO 3.0.4, SR 3.0.4, and SR 3.0.3, satisfies the configuration risk management objectives of RG 1.177 for TS surveillance interval and CT extensions. Reliance on 10 CFR 50.65(a)(4) processes that are consistent with the provisions of the NRC-endorsed industry guidance was also found adequate for managing risk of missed surveillances as described in the *Federal Register* on September 28, 2001 (66 FR 49714).

The NRC staff review also had the objective of ensuring that existing inspection programs have the necessary controls in place to allow NRC staff to oversee the implementation of the proposed change and reliance on 10 CFR 50.65(a)(4) processes or programs. The inspection program also allows the NRC staff to adequately assess the licensee's performance associated with risk assessments. The review encompassed inspection procedures (IPs) (i.e., NRC IP 62709, dated December 28, 2000, "Configuration Risk Assessment and Risk Management Process," and NRC IP 71111.13, dated January 17, 2002, "Maintenance Risk Assessments and Emergent Work Control"), the significance determination process (SDP) (i.e., Inspection Manual Chapter (IMC) 0609, Appendix K, dated May 19, 2005, "Maintenance Risk Assessment and Risk Management Significance Determination Process"), enforcement guidance (i.e., Enforcement Manual, dated September 28, 2006, Section 7.11, "Actions Involving the Maintenance Rule"), and the associated reactor oversight process (ROP).

2.1 Proposed Change to LCO 3.0.4 and SR 4.0.4

Currently, LCO 3.0.4 does not allow entrance into a higher mode (or other specified condition) in the applicability when an LCO is not met, except when the associated actions to be entered permit continued operation in that mode or condition indefinitely or a specific exception is granted. Similarly, when an LCO's surveillances have not been met within their specified frequency, entry into a higher mode (or other specified condition) is not allowed by SR 4.0.4. The current ANO-2 LCO 3.0.4 reads:

> Entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions of the Limiting Condition for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL MODE or other specified condition may be made in accordance with ACTION requirement when conformance to them permits continued operation of the facility for an unlimited period of time. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual specifications.

The revised LCO 3.0.4 will read:

> When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:
>
> (a) When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;
>
> (b) After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications; or
>
> (c) When an allowance is stated in the individual value, parameter, or other Specification.

> This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

The current ANO-2 SR 4.0.4 reads:

> Entry into an OPERATIONAL MODE or other specified applicability condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the stated surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements.

The revised SR 4.0.4 will conform to the changes to LCO 3.0.4 and read:

> Entry into a MODE or other specified condition in the Applicability of an LCO shall only be made when the LCO's Surveillances have been met within their specified frequency, except as provided by SR 4.0.3. When an LCO is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with LCO 3.0.4.
>
> This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

The proposed LCO 3.0.4(a) retains the current allowance for when the required actions allow indefinite operation. The proposed LCO 3.0.4(b) allows entering modes or other specified conditions in the applicability except when higher-risk systems and components (listed in Section 3.1.1 below), for the mode being entered, are inoperable. The decision for entering a higher mode or condition in the applicability of the LCO will be made by plant management after the required risk assessment has been performed and requisite risk management actions established (if appropriate), through the program established to implement 10 CFR 50.65(a)(4). Entry into the modes or other specified conditions in the applicability of the TS shall be for no more than the duration of the applicable required actions CT, or until the LCO is met. Current notes in individual specifications that permitted mode changes are now encompassed by LCO 3.0.4(b) and can be removed. Notes that prohibit mode changes under LCO 3.0.4(b) must be added (i.e., for higher-risk systems and components). The proposed LCO 3.0.4(b) allowance can involve multiple components in a single LCO or in multiple LCOs; however, use of the LCO 3.0.4(b) provisions are always contingent upon completion of a 10 CFR 50.65(a)(4)-based risk assessment.

The notes limiting the applicability to Modes 1, 2, 3, and 4 of the current LCO 3.0.4 and SR 4.0.4 are holdovers from the existing TS. The notes limiting the applicability of LCO 3.0.4 and SR4.0.4 are no longer needed and are removed by TSTF-359, Revision 9. The industry owners groups' analyses would subsequently support adding notes to various TS, as defined by the tables of higher-risk systems, precluding entry into Modes 5 and 6. However, the addition of notes in these cases is made unnecessary by action statements that require immediate CT, which means that entry into the Mode or other specified condition in the Applicability is not allowed and the notes would be superfluous.

LCO 3.0.4 allowances related to values and parameters of TS are not typically addressed by LCO 3.0.4(b) risk assessments and are, therefore, addressed by a new LCO 3.0.4(c). LCO 3.0.4(c) refers to allowances already in the TS and annotated in the individual TS. LCO 3.0.4(c) also allows for entry into the modes or other specified conditions in the applicability of a TS for no more than the duration of the applicable required actions CT or until the LCO is met or the unit is not within the Applicability of the TS.

2.2 Optional Changes and Variations

The licensee stated that for the following TS sections the changes were made in accordance with TSTF-359:

3.3.3.5	(Remote Shutdown Instrumentation)[1]
3.3.3.6	(Post Accident Instrumentation) [1]
3.4.3	(RCS, Safety Valves - Operating)[3]
3.4.6.1	(3/4.4.6 RCS Leakage, Leakage Detection Systems) [1]
3.4.8	(RCS, Specific Activity)[3]
3.4.12	(RCS, Low Temperature Overpressure Protection (LTOP) System) [2]
3.5.3	(ECCS, ECCS Subsystem – T_{avg} <300°F) [2]
3.7.1.2	(Plant Systems, Emergency Feedwater) [2]
3.7.1.5	(Plant Systems, Main Steam Isolation Valves)[4]
3.7.6.1	(3/4.7.6 CREVS) [1]
3.8.1.1	(3/4.8 Electrical Power Systems, 3/4.8.1 A.C. Sources) [1, 2, 4]

Notes
1 - Removed “The provisions of Specification of 3.0.4 are not applicable.”
2 - Added “Specification 3.0.4.b is not applicable……” The July 8, 2008, letter revised TS 3.4.12 to include modes 4, 5, and 6 to the Note.
3 - LCO 3.0.4.c applicability added.
4 - The STS does not contain an exception to LCO 3.0.4 for MSIVs or Startup Transformer #2 and, therefore, this exception is deleted.

TSTF-359 included deletions of the phrase "LCO 3.0.4 is not applicable" from STS 3.3.1 (Reactor Protective System (RPS) Instrumentation - Operating), 3.3.2 (RPS Instrumentation - Shutdown), 3.3.5 (Emergency Safety Features Actuation System Instrumentation), 3.3.7 (Diesel Generator - Loss of Voltage Start), 3.4.11 (Pressurizer Power Operated Relief Valves), 3.6.8 (Hydrogen Recombiners), 3.6.9 (Hydrogen Mixing System), and 3.7.4 (Atmospheric Dump Valves). There are no proposed changes to the ANO-2 TSs related to these specifications either due to the phrase not being present within the respective ANO-2 specification or because ANO-2 does not have an equivalent TS.

TSTF-359, the associated Bases markup, and the model SE briefly discuss application of LCO 3.0.4.c. The Bases states:

> LCO 3.0.4.c allows entry into a MODE or other specified condition in the Applicability with the LCO not met based on a Note in the Specification which states LCO 3.0.4.c is applicable. These specific allowances permit entry into MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered do not provide for continued operation for an unlimited period of time and a risk assessment

has not been performed. This allowance may apply to all the ACTIONS or to a specific Required Action of a Specification. The risk assessments performed to justify the use of LCO 3.0.4.b usually only consider systems and components. For this. reason, LCO 3.0.4.c is typically applied to Specifications which describe values and parameters (e.g., [Containment Air Temperature, Containment Pressure, MCPR, Moderator Temperature Coefficient]), and may be applied to other Specifications based on NRC plant-specific approval.

The only NUREG 1432 STS markup page proposed by the licensee relating to LCO 3.0.4.c is for RCS Specific Activity. However, the licensee notes that one other application of LCO 3.0.4.c is being proposed. The additional application of LCO 3.0.4.c involves an existing allowance in TS 3.4.3, “Pressurizer Safety Valves,” Action 'b.' This specification permits testing of one pressurizer safety valve at a time in Mode 3, delaying entry into Action 'a' for up to 18 hours per valve. Because this allowance was previously approved by the NRC, application of LCO 3.0.4.c is reasonable and no further risk evaluation, other than that required by 10 CFR 50.65 (Maintenance Rule), is necessary. The current portion of Action 'b' being revised for LCO 3.0.4.c application is ambiguous with regard to Action ‘a.’ Therefore, to ensure the action will be applied correctly, additional clarification has been incorporated. The licensee stated that the proposed change is in accordance with the allowance clarified by the Bases above that LCO 3.0.4.c "may be applied to other Specifications based on NRC plant-specific approval," and therefore, this change is a minor variation of the TSTF and acceptable. In addition, the proposed TS is more restrictive than the STS as it allows only 18 hours per valve for a total of 36 hours while the STS would allow a total of 36 hours summed between the two valves.

Some ANO-2 specific terminology is retained because the ANO-2 TS are based on the old STSs of NUREG 0336. In general, the proposed changes contained within this submittal closely mimic the NUREG 1432 STSs and that of TSTF-359. Minor wording differences include 1) the use of Allowable Outage Time (AOT) in lieu of the STS phrase "Completion Time," 2) ANO-2 surveillance numbering of 4.xxx in lieu of STS surveillance numbering, which is depicted as SR 3.xxx, and 3) the elimination of the "PORV" acronym, since ANO-2 does not have "power operated relief valves." The NRC staff agrees that these minor differences in terminology and or formatting between the ANO-2 TSs and the STS are editorial in nature and do not affect the application of TSTF-359 to ANO-2 and therefore, are acceptable. As previously noted the licensee does not differentiate between the use of CT and AOT therefore, with regards to this SE they are equivalent.

3.0 TECHNICAL EVALUATION

During the development of the current STS, improvements were made to LCO 3.0.4, such as clarifying its applicability with respect to plant shutdowns, cold shutdown mode, and refueling mode. In addition, during the STS development, almost all the LCOs with CT greater than or equal to 30 days, and many LCOs with CT greater than or equal to 7 days, were given individual LCO 3.0.4 exceptions. During some conversions to the STS, individual plants provided acceptable justifications for other LCO 3.0.4 exceptions. All of these specific LCO 3.0.4 exceptions allow entry into a mode or other specified condition in the TS applicability while relying on the TS required actions and associated CT. The proposed change under evaluation would provide standardization and consistency to the use and application of LCO 3.0.4, both internal to and between each of the specifications. This proposed change will also ensure consistency through the utilization of appropriate levels of risk assessment of plant configurations for application of LCO 3.0.4. However, nothing in this safety evaluation should be

interpreted as encouraging upward mode transition with inoperable equipment. Good practice should dictate that such transitions should normally be initiated only when all required equipment is operable and that mode transition with inoperable equipment should be the exception rather than the rule.

The current LCO 3.0.4 allowances are retained in the proposal and do not represent a change in risk from the current situation. The LCO 3.0.4(b) allowances apply to systems and components, and require a risk assessment prior to utilization to ensure an acceptable level of safety is maintained. The LCO 3.0.4(c) allowances apply to parameters and values which have been previously approved by the NRC in a plant's specific TS. The licensee will provide in its TS Bases a discussion and list of each NRC-approved, LCO 3.0.4(c)-specific value and parameter allowance. The bases of LCO 3.0.4 will be revised to explain the new allowances and their utilization.

The NRC staff did a qualitative assessment of the risk impact of the proposed change in LCO 3.0.4(b) allowances by evaluating how the licensee's implementation of the proposed risk-informed approach is expected to meet the requirements of the applicable RGs. The NRC staff referred to the guidance provided in RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and in RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications." RG 1.177 provides the NRC staff's recommendations on utilizing risk information to assess the impact of proposed changes to nuclear power plant TS on the risk associated with plant operation. Although RG 1.177 does not specifically address the type of generic change in this proposal, the staff considered the approach documented in RG 1.177 in evaluating the risk information provided in support of the proposed changes in LCO 3.0.4.

The NRC staff's evaluation of how the implementation of the proposed risk-informed approach, used to justify LCO 3.0.4(b) allowances, agrees with the objectives of the guidance outlined in RG 1.177 is discussed in Section 3.1. Oversight of the risk-informed approach associated with the LCO 3.0.4(b) allowances is discussed in Section 3.2.

3.1 Evaluation of Risk Management

Both the temporary and cumulative risk of the proposed change are adequately limited. The temporary risk is limited by the exclusion of higher-risk systems and components, and CT limits contained in TS (Section 3.1.1). The cumulative risk is limited by the temporary risk limitations and by the expected low frequency of the proposed mode changes with inoperable equipment (Section 3.1.2). Adequate NRC oversight of the licensee's ability to use the LCO 3.0.4(b) provisions under appropriate circumstances, i.e., to identify risk-significant configurations when entering a higher mode or condition in the applicability of an LCO (Section 3.1.3) is provided by NRC inspection of the licensee's implementation of 10 CFR 50.65(a)(4) as applied to the proposed change.

3.1.1 Temporary Risk Increases

RG 1.177 proposes the incremental conditional core damage probability (ICCDP) and the incremental conditional large early release probability (ICLERP) as appropriate measures of the increase in probability of core damage and large early release, respectively, during the period of implementation of a proposed TS change. In addition, RG 1.177 stresses the need to preclude potentially high risk configurations introduced by the proposed change. The ICCDP associated

with any specified plant condition, such as the condition introduced by entering a higher mode with plant equipment inoperable, is expressed by the following equation:

$$ICCDP = \Delta R\, d = (R_1 - R_o)\, d \qquad (1)$$

where

ΔR	=	the conditional risk increase, in terms of core damage frequency (CDF), caused by the specified condition
d	=	the duration of the specified plant condition
R_1	=	the plant CDF with the specified condition permanently present
R_o	=	the plant CDF without the specified condition

The same expression can be used for ICLERP by substituting the measure of risk, i.e., large early release frequency (LERF) for CDF. The magnitude of the ICCDP and ICLERP values associated with plant conditions applicable to LCO 3.0.4(b) allowances can be managed by controlling the conditional risk increase, ΔR (in terms of both CDF and LERF) and the duration, d, of such conditions. The following sections discuss how the key elements of the proposed risk-informed approach, used to justify LCO 3.0.4(b) allowances, are expected to limit ΔR and d and, thus, prevent any significant temporary risk increases.

Identification of Risk-Important TS Systems and Components

A major element that limits the risk of the proposed mode change flexibility is the exclusion of certain systems and associated LCOs for the mode change allowance. Technical specifications allow operation in Mode 1 (power operation) with specified levels of inoperability for specified times. This provides a benchmark of currently acceptable risk against which to measure any incremental risk inherent in the proposed LCO 3.0.4(b). If a system inoperability accrues risk at a higher rate in one or more of the transition modes than it would in Mode 1, then an upward transition into that mode should not be allowed without demonstration of a high degree of experience and sophistication in risk management. However, the risk management process evaluated in Section 3.1.3 is adequate if higher-risk systems/components are excluded from the scope of LCO 3.0.4(b).

The importance of most TS systems in mitigating accidents increases as power increases. However, some TS systems are relatively more important during lower power and shutdown operations, because:

- certain events are peculiar to modes of plant operation other than power operation,
- certain events are more probable at modes of plant operation other than power operation, and
- some modes of plant operation have less mitigation system capability than power operation.

The risk information submitted in support of the proposed changes to LCO 3.0.4 and SR 3.0.4 includes qualitative risk assessments performed by each owners group to identify higher risk systems and components at the various modes of operation, including transitions between

modes, as the plant moves upward from the refueling mode of operation toward power operation. The owners groups' generic qualitative risk assessments are included as attachments to TSTF-359, Revision 9. Each of the owners groups' generic qualitative risk assessments discuss the technical approach used and the systems/components subsequently determined to be of higher risk significance; the systems/components not to be granted the LCO 3.0.4 allowances for the various modes are listed. The Combustion Engineering owners group's (CEOG) generic qualitative risk assessments is:

> CEOG, "Qualitative Risk Assessment for Increased Flexibility in MODE Restraints," CEOG NPSD-1207, Rev. 0.

Following interactions with the NRC staff, all owners groups used the same systematic approach in their qualitative risk assessments to identify the higher-risk systems in the STS, consisting of the following steps:

- identification of plant conditions (i.e., plant parameters and availability of key mitigation systems) associated with changes in plant operating modes while returning to power,
- identification of key activities that have the potential to impact risk and which are in progress during transitions between modes while the plant is returning to power,
- identification of applicable accident initiating events for each mode or other specified condition in the applicability, and
- identification of the higher-risk systems and components by combining the information in the first three steps (qualitative risk assessment).

The risk assessments properly used the results and insights from previous deterministic and probabilistic studies to systematically search for plant conditions in which certain key plant components are more important in mitigating accidents than during operation at power (Mode 1). This search was systematic, taking the following factors into account for the various stages of returning the plant to power:

- the status of accident mitigation and normally operating systems,
- the status of key plant parameters such as reactor coolant system pressure,
- the key activities that are in progress during transitions between modes which have the potential to impact risk (e.g., the transfer from auxiliary to main feedwater at some PWR plants when Mode 1 is entered),
- the applicable accident initiating events for each mode of plant operation, and
- design and operational differences among plants or groups of plants.

The following systems and components were identified by the CEOG as higher-risk systems and components for CE plants, when the plant is entering a new mode:

Combustion Engineering Plants

System	Entering Mode
Emergency Diesel Generators (EDGs)	5, 4, 3, 2, 1
Auxiliary Feedwater/Emergency Feedwater (AFW/EFW) System	4, 3, 2, 1
High Pressure Safety Injection (HPSI) System	4, 3 (below 1700 pounds per square inch absolute)
LTOP (Low Temperature Overpressure Protection)/PORVs (when used for LTOP)	5, 4 (below set temperature)
Shutdown Cooling System (Low Pressure Safety Injection (LPSI) pumps)	5

If a licensee identifies a higher-risk system for only some of the modes of applicability, the TS for that system would be modified by a note that reads, for example, LCO 3.0.4(b) is not applicable when entering "MODE 1 from MODE 2." Systems identified as higher risk for Modes 5 and 6 for PWRs, are also excluded from transitioning up to the mode of higher risk, and as previously discussed, notes for those transitions are superflous. In addition, mode transitions for Modes 5 and 6 have been addressed by administrative controls.

In summary, the NRC staff's review of the licensee's submittal on the owners groups qualitative risk assessments finds that they apply to the licensee, and that they are of adequate quality to support the application (i.e., they identify the higher-risk systems and components) associated with entering higher modes of plant operation with equipment inoperable while returning to power.

Limited Time in TS Required Actions

Any temporary risk increase will be limited by, among other factors, duration constraints imposed by the TS CT of the inoperable systems. For the systems and components which are not higher risk, any temporary risk increase associated with the proposed allowance will be smaller than what is considered acceptable when the same systems and components are inoperable at power. This is due to the fact that CT associated with the majority of TS systems and components were developed for power operation and pose a smaller plant risk for action statement entries initiated or occurring at lower modes of operation as compared to power operation.

The LCO 3.0.4(b) allowance will be used only when the licensee determines that there is a high likelihood that the LCO will be satisfied following the mode change. This will minimize the likelihood of additional temporary risk increases associated with the need to exit a mode due to failure to restore the unavailable equipment within the CT. In most cases, licensees will enter into a higher mode with the intent to move up to Mode 1. As discussed in Section 3.2, the NRC's revised reactor oversight process (ROP) monitors unplanned power changes as a performance indicator. The ROP thus discourages licensees from entering a mode or other

specified condition in the applicability of an LCO, and moving up in power, when there is a likelihood that the mode would have to be subsequently exited due to failure to restore the unavailable equipment within the CT. Another disincentive for licensees to enter a higher mode when an LCO is not met is related to reporting requirements. Sections 50.72 and 50.73 of 10 CFR 73 Part 50 make it clear that a report is required when a nuclear plant shutdown or mode change is required by TS. The NRC's ROP will provide the framework for inspectors and other staff to follow the history at a specific plant of entering higher modes while an LCO is not met, and use such information in assessing the licensee's actions and performance.

3.1.2 Cumulative Risk Increases

The cumulative risk impact of the change to allow the plant to enter a higher mode of operation with one or more safety-related components unavailable (as proposed here), is measured by the average yearly risk increase associated with the change. In general, this cumulative risk increase is assessed in terms of both CDF and LERF (i.e., ΔCDF and ΔLERF, respectively). The increase in CDF due to the proposed change is expressed by the following equation, which integrates the risk impact from all expected specified conditions (i.e., all expected plant conditions caused by mode changes with various TS systems and components unavailable).

$$\Delta CDF = \Sigma(\Delta CDF_i) = \Sigma\, ICCDP_i\, f_i \qquad (2)$$

where

ΔCDF_i = the CDF increase due to specified condition i
$ICCDP_i$ = the ICCDP associated with specified condition i
f_i = the average yearly frequency of occurrence of specified condition i

A similar expression can be used for ΔLERF by substituting the measure of risk, i.e., LERF for CDF. The magnitude of the ΔCDF and ΔLERF values associated with plant conditions applicable to LCO 3.0.4(b) allowances can be managed by controlling the temporary risk increases, in terms of both CDF and LERF (i.e., ICCDP and ICLERP), and the frequency (f), of each of such conditions. In addition to the points made in the previous section regarding temporary risk increases, the following points put into perspective how the key elements of the proposed risk-informed approach, used to justify an LCO 3.0.4(b) allowance, are expected to prevent significant cumulative risk increases by limiting the frequency of its use:

- The frequency of risk significant conditions will be limited by not providing the LCO 3.0.4(b) allowances to the higher risk systems and components.

- The frequency of risk significant conditions will be limited by the requirement to assess the likelihood that the LCO will be satisfied following the mode change.

- The frequency of risk significant conditions is limited by the fact that such conditions can occur only when the plant is returning to power following shutdown, i.e., during a small fraction of time per year (data over the past five years indicate that the plants are averaging 2.1 startups per year).

The addition of the proposed LCO 3.0.4(b) allowances to the plant maintenance activities is not expected to change the plant's average (cumulative) risk significantly.

3.1.3 Risk Assessment and Risk Management of Mode Changes

With all safety systems and components operable, a plant can transition up in mode to power operation. With one or more system(s) or component(s) inoperable, this change permits a plant to transition up in mode to power operation if the inoperable system(s) or component(s) are not in the pre-analyzed higher risk category, a 10 CFR 50.65(a)(4)-based risk assessment is performed prior to the mode transition, and the requisite risk management actions are taken. The proposed TS Bases state that when an LCO is not met, LCO 3.0.4 also allows entering MODES or other specified conditions in the Applicability following assessment of the risk impact and determination that the impact can be managed. The risk assessment may use quantitative, qualitative, or blended approaches, and the risk assessment will be conducted using the plant program, procedures, and criteria in place to implement 10 CFR 50.65(a)(4), which requires that risk impacts of maintenance activities to be assessed and managed.

It should be noted that the risk assessment, for the purposes of LCO 3.0.4(b), must take into account all inoperable TS equipment regardless whether the equipment is included in the licensee's normal 10 CFR 50.65(a)(4) risk assessment scope. The risk assessments will be conducted using the procedures and guidance endorsed by RG 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." The results of the risk assessment shall be considered in determining the acceptability of entering the MODE or other specified condition in the Applicability, and any corresponding risk-management actions. A risk assessment and establishment of risk-management actions, as appropriate, are required for determination of acceptable risk for entering MODES or other specified conditions in the Applicability when an LCO is not met. Elements of acceptable risk assessment and risk management actions are included in Section 11 of NUMARC 93-01, "Assessment of Risk Resulting from Performance of Maintenance Activities," as endorsed by RG 1.182, which addresses general guidance for conduct of the risk assessment, gives quantitative and qualitative guidelines for establishing risk management actions, and provides example risk-management actions. These risk-management actions include actions to plan and conduct other activities in a manner that controls overall risk, actions to increase risk awareness by shift and management personnel, actions to reduce the duration of the conditions, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is acceptable.

The guidance references state that a licensee's risk assessment process should be sufficiently robust and comprehensive to assess risk associated with maintenance activities during power operation, low power and shutdown conditions (all modes of operation), including changes in plant conditions. NUMARC 93-01 states that the risk assessment should include consideration of: the degree of redundancy available for performance of the safety function(s) served by the out-of-service equipment; the duration of the out-of-service condition; component and system dependencies that are affected; the risk impact of performing the maintenance during shutdown versus at power; and, the impact of mode transition risk. For power operation, key plant safety functions are those that ensure the integrity of the reactor coolant pressure boundary, ensure the capability to shut down and maintain the reactor in safe shutdown condition, and ensure the capability to prevent or mitigate the consequences of accidents that could result in potentially significant offsite exposures.

While the inoperabilities permitted by the CT of TS required actions take into consideration the safety significance and redundancy of the system or components within the scope of an LCO,

the CT generally do not address or consider concurrent system or component inoperabilities in multiple LCOs. Therefore, the performance of the 10 CFR 50.65(a)(4) risk assessment which looks at the entire plant configuration is essential (and required) prior to changing operational mode. The 10 CFR 50.65(a)(4)-based risk assessment will be used to confirm (or reject) the appropriateness of transitioning up in mode given the actual status of plant safety equipment.

The risk impact on the plant condition of invoking an LCO 3.0.4(b) allowance will be assessed and managed through the program established to implement 10 CFR 50.65(a)(4). This program is consistent with RG 1.177 and RG 1.174 in its approach. The implementation guidance for paragraph (a)(4) of the Maintenance Rule addresses controlling temporary risk increases resulting from maintenance activities. This guidance, consistent with guidance in RG 1.177, establishes action thresholds based on qualitative and quantitative considerations and risk management actions. Significant temporary risk increases following an LCO 3.0.4(b) allowance are unlikely to occur unless:

- high-risk configurations are allowed (e.g., certain combinations of multiple component outages), or

- risk management of plant operation activities is inadequate.

The requirements associated with the proposed change are established to ensure that such conditions will not occur.

The thresholds of the cumulative (aggregate) risk impacts, assessed pursuant to 10 CFR 50.65(a)(4) and the associated implementation guidance, are based on the permanent change guidelines in NRC RG 1.174. Therefore, licensees will manage the risk exercising LCO 3.0.4 in conjunction with the risk from other concurrent plant activities to ensure that any increase, in terms of CDF and LERF, will be small and consistent with the Commission's Safety Goal Policy Statement.

3.2 Oversight

The ROP provides a means for assessing the licensee's performance in the application of the proposed mode change flexibility. The adequacy of the licensee's assessment and management of maintenance-related risk is addressed by existing inspection programs and guidance for 50.65(a)(4). Although the current versions of that guidance do not specifically address application of the licensee's (a)(4) program to support risk-informed TS , it is expected that in most cases, risk assessment and management associated with risk-informed TS would be required by (a)(4) anyway because maintenance activities will be involved.

Adoption of the proposed change will make failure to assess and manage the risk of an upward mode change with inoperable equipment covered by TS, prior to commencing such a mode change, a violation of TS. Further, as explained above in general, under most foreseeable circumstances, such a change in configuration would also require a risk assessment under 10 CFR 50.65(a)(4). Inoperable systems or components will necessitate maintenance to restore them to operability; therefore, a 10 CFR 50.65(a)(4) risk assessment would be performed prior to the performance of those maintenance actions (except for immediate plant stabilization and restoration actions if necessary). Further, before altering the plant's configuration, including plant configuration changes associated with mode changes, the licensee must update the existing (a)(4) risk assessment to reflect those changes.

The *Federal Register* notice issuing a revision to the maintenance rule, 10 CFR 50.65 (*Federal Register*, Volume 64, No. 137, Monday, July 19, 1999, page 38553), along with NRC Inspection Procedure 71111.13, and Section 11, dated February 22, 2000, "Assessment of Risk Resulting from Performance of Maintenance Activities," of NUMARC 93-01, all indicate that to determine the safety impact of a change in plant conditions during maintenance, a risk assessment must be performed before changing plant conditions. The bases for the proposed TS change mandate that the risk assessment and management of upward mode changes will be conducted under the licensee's program and process for meeting 10 CFR 50.65(a)(4). Oversight of licensee performance in assessing and managing the risk of plant maintenance activities is conducted principally by inspection in accordance with Reactor Oversight Program Baseline Inspection Procedure (IP) 71111.13, "Maintenance Risk Assessment and Emergent Work Control." Supplemental IP 62709, 'Configuration Risk Assessment and Risk Management Process," is utilized to evaluate the licensee's process, when necessary.

The ROP is described in overview in NUREG-1649, Rev 3, "Reactor Oversight Process," and in detail in the NRC Inspection Manual. Inspection Procedure 71111.13 requires verification of performance of risk assessments when they are required by 10 CFR 50.65(a)(4) and in accordance with licensee procedures. The procedure also requires verification of the adequacy of those risk assessments and verification of effective implementation of licensee-prescribed risk management actions. The rule itself requires such assessment and management of risk prior to maintenance activities, including preventive maintenance, surveillance and testing (and promptly for emergent work), during all modes of plant operation. The guidance documents for both industry implementation of (a)(4) and NRC oversight of that implementation indicate that changes in plant configuration (which would include mode changes) in support of maintenance activities must be taken into account in the risk assessment and management process. Revisions to NRC inspection guidance and licensee implementation procedures will be needed to address oversight of risk assessment and management required by TS in support of mode changes that are not already required under the circumstances by (a)(4). This consideration provides performance-based regulatory oversight of the use of the proposed flexibility, and a disincentive to use the flexibility without the requisite care in planning.

The ROP considers inspection findings and performance indicators in evaluating the licensee's ability to operate safely. The SDP is used to determine the significance of inspection findings related to licensee assessment and management of the risk associated with performing maintenance activities under all plant operating or shutdown conditions. Unplanned reactor scrams and unplanned power changes are two of the Reactor Safety Performance Indicators that the ROP utilizes to assess licensee performance and inform the public. The ROP provides a disincentive to entering into power operation (Mode 1), when there is a significant likelihood that the mode would have to be subsequently exited due to failure to restore the unavailable equipment within the CT.

3.3 Summary

The industry, through the NEI RITSTF, has submitted a proposed TS change to allow entry into a higher mode of operation, or other specified condition in the TS applicability, while relying on the TS conditions, and associated required actions and CT, provided a risk assessment is performed to confirm the acceptability of that action. The proposal revises ANO-1's TS LCO 3.0.4 and SR 4.0.4, and their application to the TS. New paragraphs (a), (b), and (c) are proposed for LCO 3.0.4.

The proposed LCO 3.0.4(a) retains the current allowance, permitting the mode change when the TS required actions allow indefinite operation.

Proposed LCO 3.0.4(b) is the change to allow entry into a higher mode of operation, or other specified condition in the TS applicability, while relying on the TS conditions and associated required actions and CT, provided a risk assessment is performed to confirm the acceptability of that action for the existing plant configuration. The NRC staff review finds that the process proposed by industry for assessing and managing risk during the implementation of the proposed LCO 3.0.4(b) allowances, meets Commission guidance for TS changes. Key elements of this process are listed below.

- A risk assessment shall be performed before any LCO 3.0.4(b) allowance is invoked.

- The risk impact on the plant condition of invoking an LCO 3.0.4(b) allowance will be assessed and managed through the program established to implement 10 CFR 50.65(a)(4) and the associated guidance in RG 1.182. Allowing entry into a higher mode or condition in the applicability of an LCO after an 10 CFR 50.65(a)(4)-based risk assessment and appropriate risk management actions are taken for the existing plant configuration will ensure that plant safety is maintained.

- The LCO 3.0.4(b) allowance will be used only when the licensee determines that there is a high likelihood that the LCO will be satisfied within the required actions CT.

- TS systems and components, which may be of higher risk during mode changes, have been identified generically by each owners group for each plant operational mode or condition. Licensees will identify such plant-specific systems and components in the individual plant TS. The proposed LCO 3.0.4(b) allowance does not apply to these systems and components for the mode or condition in the applicability of an LCO at which they are of higher risk.

- Plants adopting LCO 3.0.4(b) will ensure that plant procedures in place to implement 10 CFR 50.65(a)(4) address the situation where entering a mode or other specified condition in the applicability is contemplated with plant equipment inoperable. Such plant procedures typically follow the guidance in NUMARC 93-01, Section 11, as revised in February 2000 and endorsed by NRC RG 1.182.

The NRC's ROP provides the framework for inspectors and other NRC staff to oversee the implementation of 10 CFR 50.65(a)(4) requirements at a specific plant and assess the licensee's actions and performance.

The LCO 3.0.4(b) allowance does not apply to values and parameters of the TS that have their own respective LCOs (e.g., Reactor Coolant System Specific Activity), but instead those values and parameters are addressed by LCO 3.0.4(c). The TS values and parameters for which mode transition allowances apply, will have a note that states LCO 3.0.4(c) is applicable.

The proposed change will provide additional operational flexibility without compromising plant safety.

4.0 REGULATORY COMMITMENTS

The licensee made the following list of regulatory commitments with respect to its licensing amendment request. These commitments were identified in Attachment 4 to its application.

1. In the Entergy letter dated October 22, 2007, Entergy stated it will establish the Technical Specification Bases for LCO 3.0.4 and SR 4.0.4 as adopted with the applicable license amendment.

2. In the Entergy letter dated April 22, 2008, Entergy stated it will revise Technical Specification Bases for LCO 3.4.3, "Pressurizer Safety Valves," to ensure that the individual time for one valve being inoperable in Mode 3 does not exceed 18 hours and that the summed time of both valves being inoperable in Mode 3 does not exceed 36 hours.

5.0 STATE CONSULTATION

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

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the "restricted area" as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on December 18, 2007 (72 CF 71709). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: A. Wang

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