March 29, 2007

Mr. M. R. Blevins
Senior Vice President
& Chief Nuclear Officer
TXU Power
ATTN: Regulatory Affairs
P. O. Box 1002
Glen Rose, TX 76043

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY (TAC NOS. MD0189 AND MD0190)

Dear Mr. Blevins:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 137 to Facility Operating License No. NPF-87 and Amendment No. 137 to Facility Operating License No. NPF-89 for Comanche Peak Steam Electric Station (CPSES), Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated February 21, 2006 (CPSES-2000600390).

The amendments revise TSs 1.1, "Definitions," and 3.4.16, "RCS [Reactor Coolant System] Specific Activity." The Limiting Condition for Operation (LCO) 3.4.16 limit on RCS gross-specific activity is replaced with limits on RCS Dose Equivalent I-131 (DEI) and Dose Equivalent Xe-133 (DEX). The conditions and required actions for LCO 3.4.16 not being met, and surveillance requirements for LCO 3.4.16, are revised. The modes of applicability for LCO 3.4.16 are extended. TS Figure 3.4.16-1 on the limit for DEI with respect to rated thermal power is deleted.

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

Sincerely,

/RA/

Jack Donohew, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-445 and 50-446

Enclosures: 1. Amendment No. 137 to NPF-87
2. Amendment No. 137 to NPF-89
3. Safety Evaluation

cc w/encls: See next page

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cc w/encls: See next page

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TXU GENERATION COMPANY LP

COMANCHE PEAK STEAM ELECTRIC STATION, UNIT NO. 1

DOCKET NO. 50-445

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 137
License No. NPF-87

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

   A. The application for amendment by TXU Generation Company LP dated February 21, 2006, 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, as amended, 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 and paragraph 2.C.(2) of Facility Operating License No. NPF-87 as indicated in the attachment to this license amendment.

3. The license amendment is effective as of its date of issuance and shall be implemented within120 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

David Terao, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility
Operating License and
Technical Specifications

Date of Issuance: March 29, 2007

TXU GENERATION COMPANY LP

COMANCHE PEAK STEAM ELECTRIC STATION, UNIT NO. 2

DOCKET NO. 50-446

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 137
License No. NPF-89

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

   A. The application for amendment by TXU Generation Company LP dated February 21, 2006, 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, as amended, 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 and paragraph 2.C.(2) of Facility Operating License No. NPF-89 as indicated in the attachment to this license amendment.

3. This license amendment is effective as of its date of issuance and shall be implemented within 120 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

David Terao, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility
Operating License and
Technical Specifications

Date of Issuance: March 29, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 137

TO FACILITY OPERATING LICENSE NO. NPF-87

AND AMENDMENT NO. 137

TO FACILITY OPERATING LICENSE NO. NPF-89

DOCKET NOS. 50-445 AND 50-446

Replace the following pages of the Facility Operating Licenses, Nos. NPF-87 and NPF-89, 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.

Facility Operating License No. NPF-87

REMOVE	INSERT
-3-	-3-

Facility Operating License No. NPF-89

REMOVE	INSERT
-3-	-3-

Technical Specifications

REMOVE	INSERT
1.1-3	1.1-3
3.4-44	3.4-44
3.4-45	3.4-45
3.4-46	3.4-46
3.4-47	-------

(3) TXU Generation Company LP, pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time, special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, and described in the Final Safety Analysis Report, as supplemented and amended;

(4) TXU Generation Company LP, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use, at any time, any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(5) TXU Generation Company LP, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required, any byproduct, source, and special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(6) TXU Generation Company LP, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

TXU Generation Company LP is authorized to operate the facility at reactor core power levels not in excess of 3458 megawatts thermal in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A as revised through Amendment No. 137 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. TXU Generation Company LP shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) TXU Generation Company LP, pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time, special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, and described in the Final Safety Analysis Report, as supplemented and amended;

(4) TXU Generation Company LP, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use, at any time, any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(5) TXU Generation Company LP, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required, any byproduct, source, and special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

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TXU Generation Company LP is authorized to operate the facility at reactor core power levels not in excess of 3458 megawatts thermal in accordance with the conditions specified herein.

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The Technical Specifications contained in Appendix A as revised through Amendment No. 137 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. TXU Generation Company LP shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan. |

(3) Antitrust Conditions

DELETED

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 137 TO

FACILITY OPERATING LICENSE NO. NPF-87

AND AMENDMENT NO. 137 TO

FACILITY OPERATING LICENSE NO. NPF-89

TXU GENERATION COMPANY LP

COMANCHE PEAK STEAM ELECTRIC STATION, UNITS 1 AND 2

DOCKET NOS. 50-445 AND 50-446

1.0 INTRODUCTION

By application dated February 21, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML060580225), TXU Generation Company LP (the licensee), requested changes to the Technical Specifications (TSs) for Comanche Peak Steam Electric Station, Units 1 and 2 (CPSES).

The licensee is proposing to revise Technical Specifications (TSs) 1.1, "Definitions," and 3.4.16, "RCS [Reactor Coolant System] Specific Activity." The revisions would replace the current Limiting Condition for Operation (LCO) 3.4.16 limit on RCS gross-specific activity with limits on RCS Dose Equivalent I-131 (DEI) and Dose Equivalent Xe-133 (DEX). The conditions and required actions for LCO 3.4.16 not being met, as well as surveillance requirements (SRs) for LCO 3.4.16, are being revised. The modes of applicability for LCO 3.4.16 would be extended. The current definition of $\bar{E}$ - Average Disintegration Energy in TS 1.1 would be replaced by the definition of DEX; the current definition of DEI in TS 1.1 would be revised to allow alternate, Nuclear Regulatory Commission (NRC)-approved thyroid dose conversion factors; and TS Figure 3.4.16-1 on the limit for DEI with respect to rated thermal power would be deleted from the TSs.

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the license. The TSs ensure the operational capability of structures, systems, and components that are required to protect the health and safety of the public. The NRC's regulatory requirements related to the content of the TSs are contained in Section 50.36 of Title 10 of the *Code of Federal Regulations* (10 CFR 50.36), which requires that the TSs include items in the following categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) LCOs; (3) SRs; (4) design features;

and (5) administrative controls. In accordance with paragraph 50.36(c)(3) of 10 CFR, SRs are "requirements relating to tests, calibration, or inspection to assure that the necessary quality of the systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

As stated in 10 CFR 50.36(c)(2)(i), LCOs "are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a[n] [LCO] of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specification..." The remedial actions in the TSs are specified in terms of LCO conditions, required actions, and completion times (CTs) to complete the required actions. When an LCO is not being met, the CTs specified in the TSs are the time allowed in the TSs for completing the specified required actions. The conditions and required actions specified in the TSs must be acceptable remedial actions for the LCO not being met, and the CTs must be a reasonable time for completing the required actions.

The NRC staff evaluated the impact of the proposed changes as it relates to the radiological consequences of affected design-basis accidents (DBAs) that use the RCS inventory as the source term. The source term assumed in radiological analyses should be based on the activity associated with the projected fuel damage or the maximum TS RCS values, whichever maximizes the radiological consequences. The limits on RCS-specific activity ensure that the offsite doses are appropriately limited for accidents that are based on releases from the RCS with no significant amount of fuel damage.

The steam generator tube rupture (SGTR) accident and the main steamline break (MSLB) accident typically do not result in fuel damage; therefore, the radiological consequence analyses are based on the release of primary coolant activity at maximum TS limits. For accidents that result in fuel damage, the additional dose contribution from the initial activity in the RCS is not normally evaluated and is considered to be insignificant in relation to the dose resulting from the release of fission products from the damaged fuel.

The requirements for acceptable dose consequences for DBAs are listed in 10 CFR Part 100, "Reactor Site Criteria."

For licensees that incorporate the source term as defined in Technical Information Document (TID)-14844, U.S. Atomic Energy Commission (AEC), 1962, "Calculation of Distance Factors for Power and Test Reactors Sites," in their dose consequence analyses, the staff uses the regulatory guidance provided in NUREG-0800, "Standard Review Plan [SRP] for the Review of Safety Analysis Reports for Nuclear Power Plants," Section 15.1.5, "Steam System Piping Failures Inside and Outside of Containment (PWR) [Pressurized-Water Reactor]," Appendix A, "Radiological Consequences of Main Steam Line Failures Outside Containment," Revision 2, for the evaluation of MSLB accident analyses, and NUREG-0800, SRP Section 15.6.3, "Radiological Consequences of Steam Generator Tube Failure (PWR)," Revision 2, for evaluating SGTR accidents analyses. In addition, the staff uses the guidance from Regulatory Guide (RG) 1.195, "Methods and Assumptions for Evaluating Radiological Consequences of Design Basis Accidents at Light-Water Nuclear Power Reactors," May 2003, for those licensees that choose to use the NRC staff's guidance for dose consequence analyses using the TID-14844 source term.

The applicable dose criteria for the evaluation of DBAs depend on the source term incorporated in the dose consequence analyses. For licensees using the TID-14844 source term, the maximum dose criteria to the whole body and the thyroid that an individual at the exclusion area boundary can receive for the first 2 hours following an accident, and at the low-population zone outer boundary for the duration of the radiological release, are specified in 10 CFR 100.11. These criteria are 25 roentgen equivalent man (rem) total whole body dose and 300 rem thyroid dose from iodine exposure. The accident dose criteria in 10 CFR 100.11 are supplemented by accident dose acceptance criteria in SRP 15.1.5, Appendix A; SRP 15.6.3; or Table 4 of RG 1.195.

For control room dose consequence analyses that use the TID-14844 source term, the regulatory requirement on which the NRC staff bases its acceptance is General Design Criterion (GDC) 19 of Appendix A to 10 CFR Part 50, "Control room." GDC 19 requires that adequate radiation protection be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident. NUREG-0800, SRP Section 6.4, "Control Room Habitability System," Revision 2, July 1981, provides guidelines defining the dose equivalency of 5 rem whole body as 30 rem for both the thyroid and skin dose. For licensees adopting the guidance from RG 1.196, "Control Room Habitability at Light-Water Nuclear Power Reactors," May 2003, Section C.4.5 of RG 1.195, May 2003, states that in lieu of the dose equivalency guidelines from Section 6.4 of NUREG-0800, the 10 CFR 20.1201 annual organ dose limit of 50 rem can be used for both the thyroid and skin dose equivalent of 5 rem whole body.

3.0 TECHNICAL EVALUATION

In its application, the licensee proposed the following changes to TSs 1.1 and 3.4.16:

TS 1.1 - Definitions

1. Revise the definition of DEI to allow the determination of DEI to be performed using thyroid dose conversion factors from the following additional references:

    1) ICRP-30 [International Commission on Radiological Protection Publication 30, "Limits for Intakes of Radionuclides by Workers,"], 1979, Supplement to Part 1, pages 192-212, Table entitled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity," or

    2) Table 2.1 of EPA [Environmental Protection Agency] Federal Guidance Report No. 11, [EPA-520/1-88-020,] 1988, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion."

    The new definition for DEI would read as follows:

    > DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries per gram) that alone would produce the same ~~thyroid~~ dose **when inhaled** as the combined activities of iodine isotopes I-131, I-132,

> I-133, I-134, and I-135 actually present. The determination of DOSE EQUIVALENT I-131 shall be performed using thyroid dose conversion factors from Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites," or from Table E-7 of Regulatory Guide 1.109, Revision 1, NRC, 1977, or from ICRP-30, 1979, Supplement to Part 1, page 192-212, Table entitled "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity," or from Table 2.1 of EPA Federal Guidance Report No. 11, 1988, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion."

In addition, the above two words in **bold** were added to, and the word in ~~strikeout~~ was deleted from, the current definition of DEI.

2. Replace the following current definition of $\bar{E}$ - Average Disintegration Energy:

> $\bar{E}$ shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV [million electron volts]) for [radio]isotopes, other than iodines, with half lives > 10 minutes, making up at least 95% of the total noniodine activity in the coolant.

with the following definition for DEX:

> DOSE EQUIVALENT XE-133 shall be that concentration of Xe-133 (microcuries per gram) that alone would produce the same acute dose to the whole body as the combined activities of noble gas nuclides Kr-85m, Kr-87, Kr-88, Xe-133m, Xe-133, Xe-135m, Xe-135, and Xe-138 actually present. If a specific noble gas nuclide is not detected, it should be assumed to be present at the minimum detectable activity. The determination of DOSE EQUIVALENT XE-133 shall be performed using the effective dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, "External Exposure to Radionuclides in Air, Water, and Soil," or using the dose conversion factors from Table B-1 of Regulatory Guide 1.109, Revision 1, NRC, 1977.

<u>TS 3.4.16 - RCS Specific Activity</u>

1. Replace the current LCO 3.4.16, which states "The specific activity of the reactor coolant shall be within limits," with the following statement: "RCS DOSE EQUIVALENT I-131 and DOSE EQUIVALENT XE-133 specific activity shall be within limits."

2. Extend the applicability of LCO 3.4.16 from Mode 3 with RCS average temperature (T_{avg}) $\geq$ 500°F to the entirety of Modes 3 and 4, with the applicability in Modes 1 and 2 remaining unchanged.

3. Replace current Condition A, which states "DOSE EQUIVALENT I-131 > 0.45 µCi/gm," with the following new statement: "DOSE EQUIVALENT I-131 not within limit."

4. Replace current Required Action A.1, which states "Verify DOSE EQUIVALENT I-131 within the acceptable region of Figure 3.4.16-1," with the following statement: "Verify DOSE EQUIVALENT I-131 $\leq$ 60 µCi/gm." TS Figure 3.4.16-1 would be removed from the TSs. The CT of once per 4 hours for this required action is not being changed.

5. Replace current Condition B, which states "Gross specific activity of the reactor coolant $\geq$ 100/$\bar{E}$ µCi/gm," with the following statement: "DOSE EQUIVALENT XE-133 not within limit."

6. Replace current Required Action B.1, which states "Be in Mode 3 with T_{avg} < 500°F," with the following statement: "Restore DOSE EQUIVALENT XE-133 to within limit."

7. Add the note stating "LCO 3.0.4.c is applicable" to the new Required Action B.1.

8. The CT for Required Action B.1 is extended from 6 hours to 48 hours.

9. Revise Condition C (with the changes shown in **bold** being added and in ~~strikeout~~ being deleted) to state the following: "Required Action and associated Completion Time of Condition A **or B** not met OR DOSE EQUIVALENT I-131 ~~in the unacceptable region of Figure 3.4.16-1~~ **> 60 µCi/gm**."

10. Delete the phrase "with T_{avg} < 500°F" in the current Required Action C.1 so that the required action simply states "Be in Mode 3." The CT of 6 hours is not being changed.

11. Add the logical connector "AND" and new Required Action C.2, which states "Be in Mode 5," with a CT of 36 hours.

12. Replace current SR 3.4.16.1, which states "Verify reactor coolant gross specific activity $\leq$ 100/$\bar{E}$ µCi/gm," with the following statement: "Verify reactor coolant DOSE EQUIVALENT XE-133 specific activity $\leq$ 500 µCi/gm."

13. Add the note to SR 3.4.16.1 to state that the surveillance is only required to be performed in Mode 1.

14. Delete SR 3.4.16.3, which states that $\bar{E}$ is determined from a sample in Mode 1 every 184 days.

For TS 3.4.16, the following are not being changed by this proposed amendment to TS 3.4.16:

1. The note for Required Actions A.1 and A.2 stating "LCO 3.0.4.c is applicable," Required Action A.2, and the CTs for Required Actions A.1 and A.2 are not being changed.

2. The CT for Required Action C.1 is not being changed.

3. The frequency for SR 3.4.16.1, SR 3.4.16.2, and the DEI limit of 0.45 µCi/gm in SR 3.4.16.2 are not being changed.

The $\bar{E}$ given above is referred to as E-bar in the NRC staff evaluation of the licensee's application in Section 3.2 of this Safety Evaluation (SE).

3.1 Background

The RCS-specific activity level is used in DBA analyses to determine the radiological consequences of accidents that involve the release of primary coolant activity with no substantial amount of fuel damage. For events that also include significant amounts of fuel damage, the contribution from the initial activity in the primary coolant is considered insignificant and is not normally evaluated.

The maximum allowable RCS-specific activity is governed by TS 3.4.16. Due to the importance of iodine in the dose consequence analyses, a separate limit is specified for the iodine radioisotopes. This limit is specified in units of DEI, which is the normalized quantity of I-131 that would result in the same dose consequence as the combination of the major radioisotopes of iodine present in the primary coolant. The TS for DEI includes both an equilibrium long-term limit as well as a higher maximum allowable short-term limit to account for iodine spiking. Typically, the TSs for pressurized-water reactors (PWRs), such as CPSES, allow for increases in the maximum allowable spiking limit as a linear function of decreasing power level from 80 to 20 percent of rated thermal power (RTP). A typical short-term DEI limit of 60 microcuries per gram (µCi/gm) would be constant from 100 down to 80 percent RTP but allowed to increase to as high as 300 µCi/gm at 20 percent RTP. The dose consequence analyses typically do not consider these allowable increases in DEI values at lower power levels. For CPSES, this is shown in TS Figure 3.4.16-1.

The current standard TS definition of DEI is based on thyroid dose conversion factors (DCFs) and reflects a licensing model in which the radiological consequences of iodine releases for accidents are reported as thyroid and whole body doses. The numerical determination of DEI is dependent on the relative quantities of the radioisotopes of iodine present in the RCS and on the DCFs used in the calculation. The TS definition of DEI typically lists acceptable sources for the thyroid DCFs to be used in the determination of DEI. It is incumbent on the licensee to ensure that the DCFs used in the determination of DEI are consistent with the DCFs used in the dose consequence analyses.

A second limit is used to govern the non-iodine radioisotopes in the RCS. This limit has traditionally been based on an evaluation of the average beta and gamma disintegration energy of the total non-iodine activity in the RCS, which is referred to as E-bar. The standard TSs define E-bar as the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration for radioisotopes, other than iodines, with half-lives greater than 15 minutes (in the case of CPSES it is 10 minutes), making up at least 95 percent of the total non-iodine activity in the coolant. The RCS non-iodine-specific activity limit is then expressed as the quantity 100 divided by E-bar expressed in units of µCi/gm. In DBA dose consequence analyses based on releases from the RCS with no significant fuel damage, the concentration of noble gas activity in the coolant is assumed to be that level associated with 1 percent fuel clad

defects. Operating experience has indicated that, depending on the radioisotopes used to calculate E-bar and the actual degree of fuel clad defects, the routinely calculated value of E-bar may not be an effective indicator of the level of noble gas activity relative to the levels used in the DBA dose consequence analyses on which the limit is based.

3.2 NRC Technical Evaluation of Proposed TS Changes

3.2.1 Revision to Definition of DEI

The licensee is (1) revising the definition of DEI by removing the word "thyroid" in the phrase "would produce the same thyroid dose," (2) adding the words “when inhaled” to the phrase would produce the same ~~thyroid~~ dose **when inhaled** as the combined activities of iodine isotopes,” and (3) expanding the list of acceptable DCFs for use in the determination of DEI to include several additional sources, all of which are approved for use by the NRC. As stated by the licensee in its application, the removal of the word "thyroid" from "thyroid dose" is only an editorial change. This is true for the addition of the words “when inhaled” and neither of these editorial changes affects any requirement in the TSs.

For the NRC staff, the list of acceptable sources for DCFs is as follows:

1. Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites."

2. Table E-7 of RG 1.109, Revision 1, NRC, 1977.

3. ICRP-30, 1979, pages 192-212, Table entitled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity."

4. Table 2.1 of Environmental Protection Agency Federal Guidance Report No. 11, 1988, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion."

The two new sources of DCFs proposed by the licensee to be used in the determination of DEI that are being added to the definition of DEI in this amendment are the third and fourth references listed above.

As previously stated, it is incumbent on the licensee to ensure that the DCFs used in the determination of DEI are consistent with the DCFs used in the applicable DBA dose consequence analyses. This proposed change will allow the licensee to calculate DEI using the same DCFs as are used in the dose consequence analyses. Based on this, the NRC staff concludes that these DCFs, including the new references to ICRP-30 and EPA Report No. 11, are acceptable from a radiological dose perspective and, therefore, that the proposed new definition of DEI is acceptable.

3.2.2 Replace Definition of E-Bar with New Definition for DEX

The licensee has proposed to eliminate the term E-Bar and to govern the non-iodine RCS activity by incorporating a new term referred to as Dose Equivalent Xe-133, or DEX. The

determination of DEX will be performed in a similar manner to that currently used in determining the DEI, except that the calculation of DEX is based on the acute dose to the whole body and considers the noble gases Kr-85m, Kr-87, Kr-88, Xe-133m, Xe-133, Xe-135m, Xe-135, and Xe-138 which are significant in terms of contribution to the whole body dose. The whole body dose is primarily dependent on the noble gas activity, not the non-gaseous activity currently captured in the E-bar definition and limited by the current TS 3.4.16 Condition B. The licensee determined that these radioisotopes account for approximately 98 percent of the whole body dose from noble gases in the accident analyses. If a specified noble gas nuclide is not detected, the new definition states that it should be assumed the nuclide is present at the minimum detectable activity, which will result in a conservative calculation of DEX.

The licensee asserts, and the NRC staff agrees, that when E-bar is determined using a design-basis approach in which it is assumed that 1 percent of the RTP is being generated by fuel rods having cladding defects and it is also assumed that there is no removal of fission gases from the letdown flow, the value of E-bar is dominated by Xe-133. The other nuclides have relatively small contributions. However, during normal plant operation, there are typically only a small number of fuel clad defects and the radioactive nuclide inventory can become dominated by tritium, and corrosion and/or activation products, resulting in the determination of a value of E-bar that is very different than would be calculated using the design-basis approach. Because of this difference, the accident dose analyses become disconnected from plant operation and the LCO becomes essentially meaningless and results in a TS limit that can vary during operation as different values for E-bar are determined.

In its application, the licensee stated, and the NRC staff agrees, that this change will implement an LCO that is consistent with the whole body radiological consequence analyses, which are sensitive to the noble gas activity in the primary coolant but not to other, non-gaseous radioactivity currently captured in the E-bar definition. The current LCO 3.4.16 requires that the RCS-specific activity be within limits, and the current Condition B and SR 3.4.16.1 specify that the limit for RCS gross-specific activity is 100/E-bar µCi/gm.

The current E-bar definition includes radioisotopes that decay by the emission of both gamma and beta radiation. The licensee stated, and the NRC staff agrees, that the current Condition B would rarely, if ever, be entered for exceeding 100/E-bar since the calculated value is very high (i.e., the denominator E-bar is very low) if beta emitters such as tritium (H-3) are included in the determination, as required by the E-bar definition.

The licensee proposes to replace the TS definition for $\bar{E}$ - Average Disintegration Energy, which is E-bar, with a new definition for DEX which states the following: "DOSE EQUIVALENT XE-133 shall be that concentration of Xe-133 (microcuries per gram) that alone would produce the same acute dose to the whole body as the combined activities of noble gas nuclides Kr-85m, Kr-87, Kr-88, Xe-133m, Xe-133, Xe-135m, Xe-135, and Xe-138 actually present. If a specific noble gas nuclide is not detected, it should be assumed to be present at the minimum detectable activity. The determination of DOSE EQUIVALENT XE-133 shall be performed using effective dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, 'External Exposure to Radionuclides in Air, Water, and Soil,' or using the dose conversion factors from Table B-1 of Regulatory Guide 1.109, Revision 1, NRC, 1977."

The DCFs listed in either EPA Federal Guidance Report No. 12, 1993, or Regulatory Guide 1.109, Revision 1, NRC, 1977, are acceptable to determine the DEX to the NRC staff because using either set of DCFs will result in an LCO that more closely relates the non-iodine RCS activity limits to the dose consequence analyses.

Because the proposed change to add the newly-defined quantity DEX will result in an LCO that more closely relates the non-iodine RCS activity limits to the dose consequence analyses which form their bases, the NRC staff concludes that the DEX definition is acceptable from a radiological dose perspective. This TS change ensures that the DCFs used in the determination of DEI and the newly defined DEX are consistent with the DCFs used in the applicable DBA dose consequence analyses.

Based on the above evaluation, the NRC staff concludes that the proposed definition of DEX and the change from the RCS gross-specific activity in terms of E-bar to the activity in terms of DEX is acceptable.

3.2.3 Revision of LCO 3.4.16

The LCO 3.4.16 limits on RCS-specific activity are to ensure that DBA dose consequences will be within acceptable values, and the associated conditions, as proposed Condition B, are to limit the time when the RCS-specific activity is above the limits. The licensee proposes to modify LCO 3.4.16 to state that the iodine-specific activity DEI and the noble gas-specific activity DEX shall be within limits.

The proposed LCO 3.4.16 states "RCS DOSE EQUIVALENT 1-131 and DOSE EQUIVALENT XE-133 specific activity will be within limits."

The change is to replace (1) the DEI with a revised definition and (2) the RCS gross-specific activity in terms of E-bar with the RCS-specific activity in terms of DEX. These changes are addressed above in Sections 3.2.1 and 3.2.2 of this SE, respectively. Currently, the activity limits are not given in the LCO, but are defined as follows: (1) the current Condition A and SR 3.4.16.2 list the iodine-specific activity limit and (2) the current Condition B and SR 3.4.16.1 list the gross non-iodine-specific activity limit. The DEI limit of 0.45 µCi/gm is not being changed in this amendment, but it will only be listed in SR 3.4.16.2. The proposed DEX limit of 500 µCi/gm is new and will only be listed in SR 3.4.16.1.

Based on the acceptance of the revised definition of DEI and the replacement of the definition of E-bar with the new definition for DEX for the RCS gross-specific activity, as discussed above in Sections 3.2.1 and 3.2.2 of this SE, the NRC staff concludes that the proposed revision of LCO 3.4.16 is acceptable.

The licensee stated that the DEI limit of 0.45 µCi/gm is retained because the limit is consistent with the current SGTR and MSLB radiological consequence analyses, and the DEX limit of 500 µCi/gm is more limiting than the value in the current SGTR and MSLB radiological consequences analyses.

The NRC staff performed an independent calculation of DEX based on the isotopic values provided by the licensee as used in the applicable dose consequence analyses. The NRC staff

used information in Table 15.1-4, “Primary and Secondary Side Equilibrium Activities (Accident Analysis),” in the markup of the Final Safety Analysis Report (FSAR) Table 15.1-4 that was submitted in the licensee’s letter dated August 22, 2005 (ADAMS Accession No. ML052380403). The licensee in its August 22, 2005, letter requested amendments that revised sections of the FSAR including Table 15.1-4, and the amendments were issued February 20, 2007 (ADAMS Accession No. ML070310476).

The results of the evaluation confirm the licensee’s assertion that the proposed DEX limit of 500 mCi/gm is bounded by the specific activity values used in the applicable dose consequence analyses.

The licensee is only changing the non-iodine activity limit for the reactor coolant. Because the proposed DEX limit of 500 µCi/gm is more limiting than the value in the current SGTR and MSLB radiological consequences analyses, the NRC staff concludes that this limit is acceptable.

3.2.4 TS 3.4.16 Applicability Revision

The licensee has proposed to extend the applicability of TS 3.4.16 to include all of Mode 3 and Mode 4. The licensee stated, and the NRC staff agrees, that it is necessary for LCO 3.4.16 to apply during Modes 1 through 4 to limit the potential radiological consequences of an SGTR or MSLB that may occur during these reactor operational modes, which are defined in TS Table 1.1-1, "MODES." The licensee stated, and the NRC staff agrees, that in Modes 5 and 6, the steam generators are not used for decay heat removal, the RCS and steam generators are depressurized, and primary-to-secondary leakage is minimal and, therefore, the monitoring of RCS-specific activity during Modes 5 and 6 is not necessary. The licensee concluded that the proposed change to modify the TS 3.4.16 applicability to include all of Mode 3 and to add Mode 4 is necessary to limit the potential radiological consequences of an SGTR or MSLB that may occur during these modes. Based on this, the NRC staff concludes that this proposed change to extend the mode applicability for LCO 3.4.16 is acceptable.

3.2.5 TS 3.4.16 Condition A Revision

The licensee has proposed to revise TS 3.4.16 Condition A by replacing the DEI limit of 0.45 µCi/gm with the words "not within limit." The DEI limit of 0.45 µCi/gm is contained in SR 3.4.16.2, which is not being changed in this amendment. This change in wording in Condition A does not change the DEI limit in TS 3.4.16, or any other requirement in the TSs. Based on this, the NRC staff concludes that the proposed change to Condition A is acceptable.

3.2.6 TS 3.4.16 Required Action A.1 Revision

The licensee has proposed to revise TS 3.4.16 Required Action A.1 to replace the requirement to verify that the DEI is within the acceptable region of TS Figure 3.4.16-1, "Reactor Coolant [DEI] Specific Activity Limit Versus Percent of Rated Thermal Power," with the requirement to verify that the DEI is $\leq$ 60 µCi/gm. The proposed change is to specify the value of the verification limit instead of referencing the acceptable operation region in the TS figure. The figure would be removed from the TSs.

The proposed change keeps the requirement to verify that the DEI is within an acceptable limit. The licensee's radiological consequence analyses for SGTR and MSLB accidents that take into account the pre-accident iodine spike do not consider the elevated RCS iodine-specific activities permitted by current TS Figure 3.4.16-1 for operation at power levels below 80-percent RTP (i.e., DEI of 60 µCi/gm at 80-percent RTP increasing linearly to 300 µCi/gm at 20-percent RTP). Instead, the pre-accident iodine spike analyses assume a DEI concentration 60 times higher than the corresponding long-term equilibrium value, which corresponds to the 60 µCi/gm RCS-specific activity limit associated with 100-percent RTP operation. The licensee stated, and the NRC staff agrees, that TS 3.4.16 Required Action A.1 should be based on a limit of 60 µCi/gm to be consistent with the assumptions contained in the radiological consequence of the associated accident analyses. Also, because the proposed 60 µCi/gm verification limit is the lowest value of the acceptable operation region in TS Figure 3.4.16-1, the proposed value would require the licensee to verify that the DEI is at the lowest value of the figure, or to start shutting down the plant, and, therefore, would be a conservative change to the TSs. The NRC staff concludes that the proposed change is acceptable because the proposed 60 µCi/gm limit is (1) based on maintaining the requirement to verify that the DEI is within an acceptable limit, (2) consistent with the accident analyses, and (3) conservative.

The Required Action A.2 and the CTs for both Required Actions A.1 and A.2 are not being changed by this amendment.

3.2.7 TS 3.4.16 Condition B Revision to Include Required Action for DEX Limit

The licensee has proposed to replace the current TS 3.4.16 Condition B with a new Condition B for the DEX not being within its limit. This change includes changing the Required Action B.1 and its CT. These changes are proposed to be consistent with the change to the LCO 3.4.16 that requires the DEX-specific activity to be within its limit, which is addressed above in Sections 3.2.2 and 3.2.3 of this SE. The DEX limit of 500 µCi/gm is proposed to be listed in the revised SR 3.4.16.1 and the proposed CT will be extended from 6 hours to 48 hours. Also, the licensee has proposed to add a note to the Required Action B.1 that states LCO 3.0.4.c is applicable.

Given that LCO 3.4.16 is stated partly in terms of the requirement that the DEX shall be within its limit, 10 CFR 50.36 requires that there be remedial actions specified for the case when the LCO is not being met. The licensee has proposed a new Condition B, which is applicable when the DEX is not within its limit. The proposed Required Action B.1 would require that the licensee restore the DEX to within its limit within 48 hours.

The proposed Condition B and Required Action B.1 are appropriate remedial actions for the licensee to address the case of the DEX limit in LCO 3.4.16 not being met and, therefore, the NRC staff concludes that this condition and required action is needed to address the case of the DEX limit not being met. Based on this, the NRC staff concludes that the proposed Condition B and Required Action B.1 meet 10 CFR 50.36 and are, therefore, acceptable.

The proposed CT for the new Required Action B.1 will require the restoration of DEX to within its limit in 48 hours, or the licensee has to enter revised Condition C and start shutting down the plant. This proposed CT has the same value as the CT for the current Required Action A.2 to restore the DEI within its limit.

The licensee stated that the whole body dose consequences for the SGTR and MSLB accidents, as documented in the FSAR Tables 15.6-2 and 15.1-3, constitute a smaller percentage of the applicable acceptance criteria (i.e., 10 CFR Part 100) than do the thyroid body doses, but the CT for restoring the noble gas-specific activity to within the DEX limit in the new Required Action B.1 should be at least as great as the CT for restoring the iodine-specific activity to within the DEI limit in Required Action A.2. The required Action A.2 and CT are not being changed in this amendment. Therefore, the NRC staff concludes that the proposed CT of 48 hours for the new Required Action B.1 is acceptable because it provides a reasonable time consistent with the TSs to restore the noble gas-specific activity within the DEX limit.

The licensee has also proposed to add a note to the new Required Action B.1 that states LCO 3.0.4.c is applicable. This note would allow entry into a mode or other specified condition in the LCO mode applicability when an LCO is not being met and is the same note that is currently stated for Required Actions A.1 and A.2. The proposed note would allow entry into the applicable modes when the DEX is not within its limit; in other words, the plant could go up in the modes from Mode 4 to Mode 1 (power operation) while the DEX limit is exceeded and the DEX is being restored to within its limit. The licensee stated that this mode change allowance is acceptable because of the significant conservatism included in the limit, because of the low probability of an event occurring that is limiting because the 10 CFR Part 100 acceptance dose consequences are exceeded during the time the limit is exceeded (i.e., occurring during the proposed CT for new Required Action B.1), and the ability to restore transient-specific activity excursions while the plant remains at, or proceeds to, power operation. The NRC staff agrees with the licensee's justification for the note and, therefore, concludes that the proposed note concerning mode change allowance for the DEX is acceptable.

3.2.8 TS 3.4.16 Condition C and Required Actions Revision

The TS 3.4.16 Condition C has two parts and both parts would be changed in the amendment. The licensee has proposed to revise TS 3.4.16 Condition C to (1) include, in the first part, the new Condition B (for the DEX not within its limit) stating if the "Required Action and associated Completion Time of Condition A **or B** not met," and (2) replace, in the second part, the phrase "in the unacceptable region of Figure 3.4.6-1" with "> 60 µCi/gm" to state "Dose Equivalent I-131 > 60 µCi/gm." The addition of the revised Condition B to the first part of Condition C is shown above in **bold**.

The change to the first part of the current Condition C, incorporating the reference to revised Condition B, would add the requirement on the non-iodine part of the RCS-specific activity that, when not meeting the required actions and associated CT of Condition B, the licensee shall perform the specified required actions for Condition C within the specified CTs. Because this addition is a new requirement and is consistent with what is required when not meeting the required action and associated CT for Condition A, the NRC staff concludes that this is an acceptable remedial action when not meeting the required action and CT for Condition B and, therefore, meets 10 CFR 50.36 and is acceptable.

The change to rewrite the second part of Condition C to state "DEI > 60 µCi/gm" replaces the limit on DEI in the deleted Figure 3.4.16-1 with a value of > 60 µCi/gm, which is addressed in Section 3.2.6 of this SE. Because this change makes Condition C consistent with the changes

made to TS 3.4.16 Required Action A.1, the NRC staff concludes that this change is also acceptable.

The proposed changes to the required actions for Condition C would (1) delete the phrase "with T_{avg} < 500°F" from Required Action C.1 and (2) add a new Required Action C.2 to "Be in Mode 5." The new Required Action C.2 is a new requirement because the licensee has proposed the new Required Action C.2 with the logical connector "And." Therefore, the licensee is proposing that if Condition C is entered, it must perform both Required Actions C.1 and C.2.

The revised required actions will require the licensee to be in Mode 3 within 6 hours and in Mode 5 within 36 hours. The licensee stated that the changes are consistent with the proposed changes to the TS 3.4.16 mode applicability, which are addressed in Section 3.2.4 of this SE. The revised LCO applicability is extended to Modes 1 through 4 to limit the potential radiological consequences of an SGTR or MSLB that may occur during these modes. The licensee stated, and the NRC staff agrees, that in Modes 5 and 6, the steam generators are not used for decay heat removal, the RCS and steam generators are depressurized, and primary-to-secondary leakage is minimal and, therefore, the monitoring of RCS-specific activity during Modes 5 and 6 is not necessary. The requirement to be in Mode 5 will take the plant outside the modes of applicability for TS 3.4.16. Also, the fact that the statements require entry into Mode 3 and then entry into Mode 5, without an intervening statement regarding Mode 4, is consistent with other required actions in the TSs. Based on this, the NRC staff concludes that the proposed Required Action C.2 is an appropriate remedial action for Condition C and, therefore, meets 10 CFR 50.36 and is acceptable.

The licensee has proposed a CT for the new Required Action C.2 CT of 36 hours for the plant to be in Mode 5. The licensee asserts, and the NRC staff agrees, that it is reasonable, based on operating experience, to reach Mode 5 from full-power conditions in an orderly manner and without challenging plant systems. The licensee further states, and the NRC staff agrees, that the value of 36 hours is also consistent with other TSs that have a CT to reach Mode 5. Based on this, the NRC staff concludes that the proposed CT is acceptable.

3.2.9 SR 3.4.16.1 Revision to Include DEX Limit

The proposed change replaces the current RCS gross-specific activity limit of E-bar with the new DEX limit in SR 3.4.16.1. The requirement to verify that the reactor coolant meets the LCO limit for RCS gross-specific activity (i.e., the non-iodine activity) is not being changed. The change is to specify the DEX limit in the SR and to state that the licensee is to verify that the reactor coolant DEX limit of $\leq$ 500 µCi/gm is being met, and the reasonableness of this limit is addressed in Section 3.2.3 of this SE. The surveillance test interval of 7 days for the surveillance is not being changed.

The licensee has also proposed to modify SR 3.4.16.1 by the inclusion of a note that states that the surveillance is only required to be performed in Mode 1. The note is explained in Example 1.4-5 in Section 1.4, "Frequency," of NRC NUREG-1431, "Standard Technical Specifications Westinghouse Plants," Revision 2, dated April 2001. The CPSES TSs are based on the improved standard TSs in NUREG-1431. The note modifies the required performance of the surveillance and, therefore, is considered part of the "specified frequency," which in this

case is 7 days and is not being changed by the amendment. It is stated in NUREG-1431 that should the 7-day interval be exceeded while operation is not in Mode 1, the note will allow entry into Modes 2 through 4 (the proposed modes of applicability for TS 3.4.16) to perform the surveillance; however, the surveillance is required to be performed before entry into Mode 1. The surveillance is also considered to be performed within the specified frequency if it is completed prior to entering Mode 1.

Therefore, the proposed note allows the licensee to enter Modes 2 through 4 without performing the surveillance, but requires the licensee to perform the surveillance prior to entry into Mode 1. This is the same note for the specified frequency of SR 3.4.16.2, which requires the periodic verification that the DEI is within its limit.

Because the surveillance is required to be performed before entry into Mode 1 and high-power operation (i.e., > 5-percent RTP), the NRC staff concludes that the proposed note is acceptable as the specified frequency for SR 3.4.16.1.

3.2.10 SR 3.4.16.3 Deletion

The licensee has proposed to delete SR 3.4.16.3, which required the periodic determination of E-bar for the RCS coolant. This change is consistent with the proposed changes to LCO 3.4.16 and Condition B to replace the limit of the RCS gross-specific coolant activity in terms of E-bar with the limit in terms of DEX. These changes are addressed in Sections 3.2.2, 3.2.3, and 3.2.5 of this SE. The licensee stated that SR 3.4.16.3 is no longer required because E-bar is being eliminated from TS 3.4.16. Because E-bar is being removed from LCO 3.4.16 and Condition A, the NRC staff concludes that SR 3.4.16.3 is no longer necessary to ensure that any limit in an LCO, specifically in this case LCO 3.4.16, is being met, which in accordance with 10 CFR 50.36 is the reason for SRs in the TSs. Based on this, the NRC staff concludes that the elimination of SR 3.4.16.3 meets 10 CFR 50.36 and is, therefore, acceptable.

3.2.11 Sufficiency of SRs 3.4.16.1 and 3.4.16.2

In accordance with 10 CFR 50.36(c)(3), SRs are "requirements relating to tests, calibration, or inspection to assure that the necessary quality of the systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met." In light of the proposed changes to LCO 3.4.16, the NRC staff reviewed SRs 3.4.16.1 and 3.4.16.2 to determine if these SRs were sufficient to assure that LCO 3.4.16 will be met. Since SR 3.4.16.1 ensures that the DEX is within its limit and SR 3.4.16.2 ensures that the DEI is within its limit, and LCO 3.4.16 is that the DEI and DEX are within limits, the NRC staff concludes that these SRs are sufficient to ensure the LCO is being met and no other SR is needed.

3.3 Conclusion

Based on its evaluation of the proposed amendment, as discussed in Sections 3.1 through 3.2 of this SE, the NRC staff concludes that the amendment as proposed in the licensee's application dated February 21, 2006, meets 10 CFR 50.36 and is, therefore, acceptable.

In Attachment 3 to its application, the licensee identified changes to the TS Bases for CPSES. The NRC staff reviewed these identified changes and has no disagreement with the changes. The licensee's changes to the TS Bases are controlled by TS 5.5.14, "Technical Specification (TS) Bases Control Program."

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

In its application, the licensee requested that this amendment be issued coincident with or after the approval of its application dated August 22, 2005, that revised sections of the FSAR including Table 15.1-4 on the RCS and SG equilibrium radionuclide activities. Since that license amendment request was approved on February 20, 2007, as Amendment Nos. 130 for the two units, the NRC staff was working to issue this amendment by February 28, 2007, until it discovered that it had inadvertently not published a Notice of Consideration of Issuance of Amendments to Facility Operating Licenses, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing for the licensee's application dated February 21, 2006, which proposed this amendment. This notice was then published in the *Federal Register* on February 27, 2007 (71 FR 8805). In issuing the amendment after the 30-day public comment period has expired but before the 60-day hearing request period has expired on this notice, the NRC staff provides the final no significant hazards consideration (NSHC) for the amendment.

As required by 10 CFR 50.91(a), the licensee provided its analysis of the issue of NHSC in Attachment 1 of its application. The licensee NHSC analysis is presented below:

1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The proposed changes to add new thyroid dose conversion factor reference[s] to the definition of DOSE EQUIVALENT I-131, eliminate the definition of Ē - AVERAGE DISINTEGRATION ENERGY, add a new definition of DOSE EQUIVALENT XE-133, replace the Technical Specification (TS) 3.4.16 limit on reactor coolant system (RCS) gross specific activity with a limit on noble gas specific activity in the form of a Limiting Condition for Operation (LCO) on DOSE EQUIVALENT XE-133, replace TS Figure 3.4.16-1 with a maximum limit on DOSE EQUIVALENT I-131, extend the Applicability of LCO 3.4.16, and make corresponding changes to TS 3.4.16 to reflect all of the above are not accident initiators and have no impact on the probability of occurrence for any design basis accidents.

   The proposed changes will have no impact on the consequences of a design basis accident because they will limit the RCS noble gas specific activity to be consistent with the values assumed in the radiological consequence analyses. The changes will also limit the potential RCS iodine concentration excursion to the value currently associated with full power operation, which is more restrictive on plant operation than the existing allowable RCS iodine specific activity at lower power levels.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed changes do not alter any physical part of the plant nor do they affect any plant operating parameters besides the allowable specific activity in the RCS. [From No. 1 above, the proposed changes are not accident initiators.] The changes which impact the allowable specific activity in the RCS are consistent with the assumptions assumed in the current radiological consequence analyses.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Do the proposed changes involve a significant reduction in a margin of safety?

   Response: No

   The acceptance criteria related to the proposed changes involve the allowable Control Room and offsite radiological consequences following a design basis accident. The proposed changes will have no impact on the radiological consequences of a design basis accident because they will limit the RCS noble gas specific activity to be consistent with the values assumed in the radiological consequence analyses. The changes will also limit the potential RCS iodine specific activity excursion to the value currently associated with full power operation, which is more restrictive on plant operation than the existing allowable RCS iodine specific activity at lower power levels.

   Therefore the proposed change does not involve a reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis above and, based on this review, it concludes that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff determines that the amendment request involves no significant hazards consideration.

5.0 STATE CONSULTATION

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

6.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to

surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding (72 FR 8805, published February 27, 2007). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

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

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