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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION
DOCKET NOS. 50-445 AND 50-446
LICENSE AMENDMENT REQUEST (LAR) 07-004, REVISION TO THE OPERATING LICENSE AND TECHNICAL SPECIFICATION 1.0, "USE AND APPLICATION" AND 3.7.17, "SPENT FUEL ASSEMBLY STORAGE" TO REVISE RATED THERMAL POWER FROM 3458 MWT TO 3612 MWT

REFERENCE:
1. Nuclear Regulatory Commission Review Standard, RS-001, "Review Standard for Extended Power Uprates"
2. TXX-07063, License Amendment Request (LAR) 07-003, transmitting revisions to Technical Specification 3.1, "REACTIVITY CONTROL SYSTEMS," 3.2, "POWER DISTRIBUTION LIMITS," 3.3, "INSTRUMENTATION," and 5.6.5b, "CORE OPERATING LIMITS REPORT (COLR)" dated April 10, 2007 from M. Blevins to the NRC
3. TXX-07108, License Amendment Request (LAR) 07-006, transmitting Units 1 and 2 Cycle Specific Parameters, dated August 16, 2007 from M. Blevins to the NRC
4. TXX-07081, License Amendment Request (LAR) 07-001, transmitting revisions to Technical Requirements Surveillance 13.3.33.2, "FREQUENCY FOR THE TURBINE STOP AND CONTROL VALVES" dated May 22, 2007 from M. Blevins to the NRC

Dear Sir or Madam:

Pursuant to 10CFR50.90, TXU Generation Company LP (Luminant Power) hereby requests an amendment to the Comanche Peak Steam Electric Station, herein referred to as Comanche Peak Nuclear Power Plant (CPNPP), Unit 1 Operating License (NPF-87) and Unit 2 Operating License (NPF-89) by incorporating the attached change into the Comanche Peak Steam Electric Station Units 1 and 2 Technical Specifications. This change request applies to both Units.

The proposed amendment would increase each unit's authorized core power level from 3458 megawatts thermal (MWt) to 3612 MWt, and make changes to Technical Specifications as necessary to support operation at the higher power level. This requested license amendment would authorize CPNPP to operate at 3612 MWt, an approximate 4.5% power uprate, resulting in a cumulative 5.9% (201 MWt) increase above the originally licensed core power level of 3411 MWt and is therefore defined as a Stretch Power Uprate (SPU). The increase in power level is planned to be implemented during the refueling outage in the fall of 2008 for Unit 1 and fall of 2009 for Unit 2.

ADD1
NRR

This application was the topic of a public meeting between the NRC and Luminant Power on May 23, 2007 (Accession # ML071300358).

Luminant Power developed this LAR following the guidelines in Nuclear Regulatory Commission Review Standard, RS-001, "Review Standard for Extended Power Uprates." The LAR expectations of RS-001 extend beyond those historically required for an SPU, but were used to assure completeness of the SPU submittal.

Attachment 1 contains descriptions and technical justifications for the proposed Operating Licenses and Technical Specifications changes. In accordance with 10 CFR 50.91(a)(1), Luminant Power has performed a No Significant Hazards Consideration analysis and concludes that the changes proposed by this license amendment request present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

Attachment 2 provides the marked-up page of the Unit 1 Operating License to reflect the proposed change. Attachment 3 provides the marked-up page of the Unit 2 Operating License to reflect the proposed change. Attachment 4 provides the affected Technical Specification (TS) pages marked-up to reflect the proposed change. Attachment 5 provides retyped Unit 1 Operating License page which incorporates the requested change. Attachment 6 provides retyped Unit 2 Operating License page which incorporates the requested change. Attachment 7 provides the retyped Technical Specification pages which incorporate the requested changes. Attachment 8 provides the Environmental Assessment for the proposed License Amendment Request. Attachment 9 provides the proposed Technical Specification Bases pages marked-up to reflect the changes to the Technical Specifications (for information only). Attachment 10 provides a list of the regulatory commitments included in the submittal.

In preparing this License Amendment Request (LAR), Luminant Power considered requests for additional information (RAI) on recent LARs submitted for operation at increased power levels. Where appropriate, Luminant Power has incorporated the appropriate information into the CPNPP licensing Report provided in Enclosure 1.

Enclosed are:

Enclosure 1	WCAP-16840-P, "Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report" (Proprietary)
Enclosure 2	WCAP-16840-NP, "Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report" (Non-proprietary)
Enclosure 3	WCAP-16827-P, "Comanche Peak Units 1 and 2 Spent Fuel Pool Criticality Safety Analysis" (Proprietary)
Enclosure 4	WCAP-16827-NP, "Comanche Peak Units 1 and 2 Spent Fuel Pool Criticality Safety Analysis" (Non-proprietary)
Enclosure 5	Westinghouse authorization letter CAW-07-2317 with accompanying affidavit, Proprietary Information Notice and Copyright Notice
Enclosure 6	Westinghouse authorization letter CAW-07-2318 with accompanying affidavit, Proprietary Information Notice and Copyright Notice

WCAP-16840-P (Enclosure 1) and WCAP-16827-P (Enclosure 3) contain information proprietary to Westinghouse Electric Company LLC, and are supported by affidavits signed by Westinghouse, the owner of the information. The affidavits set forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in

paragraph (b) (4) of Section 2.390 of the Commissions' regulations. Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of WCAP-16840-P (Enclosure 1) or the supporting Westinghouse affidavit should reference CAW-07-2317 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Correspondence with respect to the copyright or proprietary aspects of WCAP-16827-P (Enclosure 3) or the supporting Westinghouse affidavit should reference CAW-07-2318 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Three additional license amendment requests are required in support of this proposed stretch power uprate. These requests consist of the following changes:

LAR 07-003	Revision to Technical Specification 3.1, "REACTIVITY CONTROL SYSTEMS"; 3.2, "POWER DISTRIBUTION LIMITS"; 3.3, "INSTRUMENTATION"; and 5.6.5b, "CORE OPERATING LIMITS REPORT (COLR)"	Reference 2
LAR 07-006	Units 1 and 2 Cycle Specific Parameters	Reference 3
LAR 07-001	Revision to Technical Requirements Surveillance 13.3.33.2, "FREQUENCY FOR THE TURBINE STOP AND CONTROL VALVES"	Reference 4

The implementation of the SPU is contingent upon approval of these additional license amendments requests.

Luminant Power requests approval of the proposed License Amendment by July 31, 2008, to be implemented within 180 days of the issuance of the license amendment. The requested date was chosen to coincide with the planning and implementation of the necessary plant modifications to support implementation of the 4.5% uprate of CPNPP Units 1 and 2.

In accordance with 10CFR50.91(b), Luminant Power is providing the State of Texas with a copy of this proposed amendment.

This communication contains new commitments which will be completed or incorporated into the CPNPP licensing basis as noted in Attachment 10.

Should you have any questions, please contact Mr. J. D. Seawright at (254) 897-0140.

I state under penalty of perjury that the foregoing is true and correct.

Executed on August 28, 2007.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,
Its General Partner

Mike Blevins

By: Fred W. Madden
Director, Oversight & Regulatory Affairs

Attachments -
1. Description and Assessment
2. Proposed Unit 1 Operating License Changes
3. Proposed Unit 2 Operating License Changes
4. Proposed Technical Specifications Changes
5. Retyped Unit 1 Operating License Changes
6. Retyped Unit 2 Operating License Changes
7. Retyped Technical Specifications Changes
8. Environmental Assessment
9. Technical Specification Bases markup (for information)
10. List of Regulatory Commitments

Enclosures -
1. WCAP-16840-P, "Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report" (Proprietary)
2. WCAP-16840-NP, "Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report" (Non-proprietary)
3. WCAP-16827-P, "Comanche Peak Units 1 and 2 Spent Fuel Pool Criticality Safety Analysis" (Proprietary)
4. WCAP-16827-NP, "Comanche Peak Units 1 and 2 Spent Fuel Pool Criticality Safety Analysis" (Non-proprietary)
5. Westinghouse authorization letter CAW-07-2317 with accompanying affidavit, Proprietary Information Notice and Copyright Notice.
6. Westinghouse authorization letter CAW-07-2318 with accompanying affidavit, Proprietary Information Notice and Copyright Notice.

❖ CD copies of the enclosed reports will contain only one version (Proprietary or Non-proprietary) of the SPU Licensing Report.

c-	B. S. Mallett, Region IV	(letter, attachments , nonproprietary CD, proprietary CD, and affidavits)
	B. K. Singal, NRR	(letter, attachments, one nonproprietary report, two proprietary reports, four nonproprietary CDs, 15 proprietary CDs, and affidavits)
	Resident Inspectors, CPNPP	(letter, attachments, nonproprietary report, proprietary CD, and affidavits)
	Ms. Alice K. Rogers Environmental & Consumer Safety Section Texas Department of State Health Services 1100 West 49th Street Austin, Texas 78756-3189	(letter, attachments , nonproprietary CD, proprietary CD, and affidavits)

ATTACHMENT 1 to TXX-07106

DESCRIPTION AND ASSESSMENT

LICENSEE'S EVALUATION

1.0 DESCRIPTION

2.0 PROPOSED CHANGE

3.0 BACKGROUND

4.0 TECHNICAL ANALYSIS

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

5.2 Applicable Regulatory Requirements/Criteria

6.0 ENVIRONMENTAL CONSIDERATION

7.0 REFERENCES

1.0 DESCRIPTION

By this letter, TXU Generation Company LP (Luminant Power) requests an amendment to the Comanche Peak Steam Electric Station, herein referred to as Comanche Peak Nuclear Power Plant (CPNPP), Unit 1 Operating License (NPF-87) and Unit 2 Operating License (NPF-89) by incorporating the attached change into the Comanche Peak Steam Electric Station Units 1 and 2 Technical Specifications. Proposed change LAR 07-004 is a request to revise Technical Specifications (TS) 1.0, "Use and Applications" and 3.7.17, "Spent Fuel Assembly Storage," for CPNPP Units 1 and 2.

The proposed change will revise the Operating Licenses to permit CPNPP Units 1 and 2 to operate at a maximum steady state reactor core thermal power of 3612 MWt. The requested increase constitutes a Stretch Power Uprate (SPU) and is requested to provide greater unit electrical generating capacity. Luminant Power requests approval of the proposed amendment by July 31, 2008. Once approved, the amendment will be implemented during restart from the refueling outage in the fall of 2008 for Unit 1 and fall of 2009 for Unit 2 and operation at the increased power level will occur in Cycles 14 and 12, respectively. Changes to the Final Safety Analysis Report (FSAR) are anticipated as a result of this License Amendment Request and will be incorporated into the FSAR after implementation.

Luminant Power has also submitted other license amendment requests to the Nuclear Regulatory Commission (NRC), references 7.2, 7.3, and 7.4, which are associated with the SPU and are necessary for its implementation.

2.0 PROPOSED CHANGE

The requested change involves one revision to the Unit 1 Operating License NFP-87, and one revision to the Unit 2 Operating License, NFP-89, two changes to the Technical Specifications and several supporting changes to the Final Safety Analysis Report (FSAR). Changes to the Operating License and the Technical Specifications are described below and evaluated in Section 4.0 of this attachment.

Unit 1 Operating License, NFP-87 and Unit 2 Operating License, NFP-89, change:

License condition 2.C.1. Maximum Power Level

(Unit 1)
It is proposed to change the maximum core power level from "3458 megawatts thermal" to "3458 megawatts thermal through Cycle 13 and 3612 megawatts thermal starting with Cycle 14."

(Unit 2)
It is proposed to change the maximum core power level from "3458 megawatts thermal" to "3458 megawatts thermal through Cycle 11 and 3612 megawatts thermal starting with Cycle 12."

Technical Specification changes:

1.1 Definitions, Rated Thermal Power

Rated thermal power is changed from "3458 MWt" to "3458 MWt through Cycle 13 for Unit 1 and through Cycle 11 for Unit 2. Starting with Cycles 14 and 12 of Units 1 and 2, respectively, RTP shall be 3612 MWt."

3.7.17 Spent Fuel Assembly Storage

Provide revised Figures and revise associated LCO 3.7.17 and SR 3.7.17.1 statements.

Other pages of the Technical Specifications affected by the page insertion for Technical Specification 3.7.17 were repaginated.

In summary, Luminant Power has reviewed the Unit 1 and 2 Operating Licenses and Technical Specifications, and has determined that no revisions to those documents other than those noted above (or in the previously referenced submittals) are required to properly control plant operations and configuration under Stretch Power Uprate (SPU) conditions. Mark-ups of the proposed Operating Licenses and Technical Specification changes are provided in Attachments 2, 3, and 4. Revised (clean) Operating Licenses and Technical Specification pages are provided in Attachments 5, 6, and 7. Attachment 8 contains the environmental assessment supporting the SPU. A copy of the proposed mark-up of the Technical Specification Bases is provided in Attachment 9 and is provided for information only. Attachment 10 provides a list of regulatory commitments contained in this license amendment request.

3.0 BACKGROUND

This requested license amendment would authorize CPNPP to operate at 3612 MWt, an approximate 4.5% power uprate, resulting in a cumulative 5.9% (201 MWt) increase above the originally licensed core power level of 3411 MWt. As discussed in SECY 2001-0124 and Section 1.0 of the Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report, Enclosure 1, this requested license amendment is considered a Stretch Power Uprate (SPU) since the cumulative increase is less than 7 percent.

Luminant Power has evaluated the impact of the 4.5% power uprate for the applicable systems, structures, components, and safety analyses at CPNPP. The results of this evaluation are described in Enclosure 1 of this letter, SPU Licensing Report. The SPU Licensing Report provides the details that support the requested Operating Licenses and Technical Specifications changes, and works in concert with the other attachments to the amendment request to provide a comprehensive evaluation of the effects of the proposed SPU.

Luminant Power plans to implement the CPNPP Units 1 and 2 SPU at the beginning of Cycle 14 and 12, respectively. Completion of plant modifications necessary to implement the SPU is planned to occur prior to the end of the refueling outage in the fall of 2008 for Unit 1 and fall of 2009 for Unit 2. With the approval of this license amendment request, CPNPP Units 1 and 2 will be operated at 3612 MWt starting in Cycle 14 and 12, respectively.

4.0 TECHNICAL ANALYSIS

The Stretch Power Uprate (SPU) Licensing Report is contained in Enclosure 1 of this license amendment request. The SPU Licensing Report summarizes the evaluations performed to assure acceptable unit operation at SPU conditions.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

Luminant Power has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10CFR50.92, "Issuance of amendment," as discussed below:

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

   Response: No

   The impacts of the proposed Stretch Power Uprate (SPU) on plant systems, structures, and components (SSCs) were reviewed with respect to SSC design capability, and it was determined that following completion of plant changes to support the SPU, no system, structure, or component would exceed its design conditions or limits. Evaluations supporting those conclusions were performed consistent with proposed Technical Specification changes. Consequently, equipment reliability and structural integrity will not be adversely affected. Control system studies demonstrated that plant response to operational transients under SPU conditions will not significantly increase reactor trip frequency, so there will be no significant increase in the frequency of SSC challenges caused by reactor trip.

   New systems are not needed to implement the SPU, and new interactions among SSCs are not created. The SPU does not create new failure modes for existing SSCs. Modified components do not introduce new failure modes relative to those of the components in their pre-modified condition. Consequently, new initiators of previously analyzed accidents are not created.

   The fission product barriers - fuel cladding, reactor coolant pressure boundary, and the containment building - remain unchanged. The spectrum of previously analyzed postulated accidents and transients was evaluated, and effects on the fuel, the reactor coolant pressure boundary, and the containment were determined. These analyses were performed consistent with the proposed Technical Specification changes. The results demonstrate that existing reactor coolant pressure boundary and containment limits are met and that effects on the fuel are such that dose consequences meet existing criteria at SPU conditions.

   There is no increase in the probability of an accident concerning the potential insertion of a fuel assembly in an incorrect location in the Spent Fuel Pool Region I / Region II racks as a result of the specified storage patterns. Luminant Power has used administrative controls to move fuel assemblies from location to location since the initial receipt of fuel on site. Fuel assembly placement will

continue to be controlled pursuant to approved fuel handling procedures and in accordance with the Technical Specification for spent fuel rack storage configuration limitations.

Therefore, the proposed change does 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

New systems are not required to implement the SPU, and new interactions among SSCs are not created. The SPU does not create new failure modes for existing SSCs. Modified components do not introduce failures different from those of the components in their pre-modified condition. Consequently, no new or different accident sequences arise from SSC interactions or failures.

Training will be provided to address SPU effects, and the plant's simulator will be updated consistent with SPU conditions. Operating procedure changes are minor and do not result in any significant changes in operating philosophy. For these reasons, the SPU does not introduce human performance issues that could create new accidents or different accident sequences.

The increase in power level does not create new fission product release paths. The fission product barriers (fuel cladding, reactor coolant pressure boundary, and the containment building) remain unchanged.

The potential for criticality in the spent fuel pool is not a new or different type of accident. The potential criticality accidents have been reanalyzed to demonstrate that the pool remains subcritical.

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

Structural evaluations performed at SPU conditions demonstrated that calculated loads on affected SSCs remain within their design for all design basis event categories. American Society of Mechanical Engineers (ASME) Code fatigue limits continue to be met.

Fuel performance evaluations were performed using parameter values appropriate for a reload core operating at SPU conditions. Those evaluations demonstrate that fuel performance acceptance criteria continue to be met.

Loss of Coolant Accident (LOCA) and non-LOCA safety analyses were performed assuming SPU conditions and consistent with the proposed Technical Specification change. Emergency core cooling system performance was shown to meet the criteria of 10CFR50.46. The non-LOCA events identified in the Final Safety Analysis Report (FSAR) Chapter 15 were shown to meet existing acceptance criteria.

The containment building response to mass and energy releases was evaluated assuming SPU conditions. The evaluations showed that temperature and pressure limits were met.

No plant changes associated with the SPU reduce the degree of component or system redundancy. Existing Technical Specification operability and surveillance requirements are not reduced by the proposed changes.

The proposed fuel storage requirements in Technical Specification 3.7.17 will provide adequate margin to assure that the fuel storage array (Region I and Region II) will always remain subcritical by the 5% margin recommended by the Nuclear Regulatory Commission (NRC).

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

Based on the above evaluations, Luminant Power concludes that the proposed amendment(s) present no significant hazards under the standards set forth in 10CFR50.92(c) and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

This power uprate is approximately 4.5% resulting in a cumulative 5.9% (201 MWt) increase above the originally licensed core power level of 3411 MWt and includes only those modifications necessary to implement the uprate. Modifications necessary to support the uprate include changing the high pressure turbine and increased isophase bus duct cooling. Other setpoint changes and modifications will also be made to support the uprate as described in the Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report (Enclosure 1). As discussed in SECY 2001-0124 and described in Section 1.0 of the Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report, this license amendment request (LAR) is considered to be a Stretch Power Uprate (SPU) since the cumulative increase is less than 7 percent.

Luminant Power developed this LAR in accordance with the guidelines in Nuclear Regulatory Commission Review Standard, RS-001, "Review Standard for Extended Power Uprates" (Reference 7.1). The guidance of RS-001 states that SPUs are characterized by power level increases up to 7 percent and do not generally involve major plant modifications. The LAR expectations of RS-001 extend beyond those historically required for an SPU. The guidance of RS-001 supports the characterization of the CPNPP proposed power uprate as a Stretch Power Uprate.

The proposed changes have been evaluated to determine whether applicable regulations and requirements continue to be met.

Luminant Power has determined that the proposed changes do not require any exemptions or relief from regulatory requirements and do not affect conformance with any General Design Criterion (GDC) differently than as currently described in the Final Safety Analysis Report (FSAR).

In conclusion, based on the considerations discussed above, (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.

6.0 ENVIRONMENTAL CONSIDERATION

The environmental considerations evaluation is contained in Attachment 8, "Environmental Assessment". It concludes that Stretch Power Uprate (SPU) will not result in a significant change in non-radiological impacts on land use, water use, waste discharges, terrestrial and aquatic biota, transmission facilities, or social and economic factors, and will have no non-radiological environmental impacts other than those evaluated in the Environmental Assessment. The Environmental Assessment further concludes that the SPU will not introduce any new radiological release pathways, will not result in a significant increase in occupational or public radiation exposures, and will not result in significant additional fuel cycle environmental impacts.

Therefore, the proposed amendment does not involve a significant change in the types or significant increase in the amounts of any effluent that may be released offsite nor does it involve a significant increase in individual or cumulative occupational radiation exposure.

7.0 REFERENCES

7.1 Nuclear Regulatory Commission Review Standard, RS-001, "Review Standard for Extended Power Uprates," dated December 2003

7.2 TXX-07063, License Amendment Request (LAR) 07-003, Revision to Technical Specification 3.1, "REACTIVITY CONTROL SYSTEMS," 3.2, "POWER DISTRIBUTION LIMITS," 3.3, "INSTRUMENTATION," and 5.6.5b, "CORE OPERATING LIMITS REPORT (COLR)" dated April 10, 2007 from M. Blevins to the NRC

7.3 TXX-07108, License Amendment Request (LAR) 07-006 transmitting Units 1 and 2 Cycle Specific Parameters, dated August 16, 2007 from M. Blevins to the NRC

7.4 TXX-07081, License Amendment Request (LAR) 07-001, Revision to Technical Requirements Surveillance 13.3.33.2, "FREQUENCY FOR THE TURBINE STOP AND CONTROL VALVES" dated May 22, 2007 from M. Blevins to the NRC

ATTACHMENT 2 to TXX-07106

PROPOSED UNIT 1 OPERATING LICENSE CHANGES

(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 or 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 *through Cycle 13 and 3612 megawatts thermal starting with Cycle 14* 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. ~~138~~, and the Environmental Protection Plan contained in Appendix B, are incorporated into this license. TXU Generation Company LP shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

ATTACHMENT 3 to TXX-07106

PROPOSED UNIT 2 OPERATING LICENSE CHANGES

(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 or 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 *through Cycle 11 and 3612 megawatts thermal starting with Cycle 12* 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. ~~138~~, 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

ATTACHMENT 4 to TXX-07106

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3.7-47

(continued)

1.1 Definitions (continued)

QUADRANT POWER TILT RATIO (QPTR)	QPTR shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3458 MWt *through Cycle 13 for Unit 1 and through Cycle 11 for Unit 2. Starting with Cycles 14 and 12 of Units 1 and 2, respectively, RTP shall be 3612 MWt.*
REACTOR TRIP SYSTEM (RTS) RESPONSE TIME	The RTS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RTS trip setpoint at the channel sensor until loss of stationary gripper coil voltage. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.
SHUTDOWN MARGIN (SDM)	SDM shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming: a. All rod cluster control assemblies (RCCAs) are fully inserted except for the single RCCA of highest reactivity worth, which is assumed to be fully withdrawn. With any RCCA not capable of being fully inserted, the reactivity worth of the RCCA must be accounted for in the determination of SDM; and b. In MODES 1 and 2, the fuel and moderator temperatures are changed to the hot zero power temperatures.

(continued)

3.7 PLANT SYSTEMS

, and axial blankets

3.7.17 Spent Fuel Assembly Storage

Figure 3.7.17-1 or 3.7.17-2

LCO 3.7.17 The combination of initial enrichment, burnup, and decay time of each spent fuel assembly stored in Region II racks shall be within either (1) the "acceptable" domain of ~~Figure 3.7.17-1~~ in a 4 out of 4 configuration, (2) the "acceptable" domain of ~~Figure 3.7.17-2~~ in a 3 out of 4 configuration, (3) the "acceptable" domain of ~~Figure 3.7.17-3~~ in a 2 out of 4 configuration, or (4) shall be stored in a 1 out of 4 configuration. The acceptable storage configurations are shown in ~~Figure 3.7.17-4.~~ 74 87 74

Figure 3.7.17-3 or 3.7.17-4

Figure 3.7.17-5

Figure 3.7.17-6

APPLICABILITY: Whenever any fuel assembly is stored in Region II racks of the spent fuel storage pool. 87

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of the LCO not met.	A.1 ----------NOTE---------- LCO 3.0.3 is not applicable. ---------- Initiate action to move the noncomplying fuel assembly to an acceptable storage location.	Immediately 74

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY	
SR 3.7.17.1	Verify by administrative means the initial enrichment, burnup and decay time of the fuel assembly is in accordance with either (1) the "acceptable" domain of ~~Figure 3.7.17-1~~ Figure 3.7.17-5 in a 4 out of 4 configuration, (2) the "acceptable" domain of ~~Figure 3.7.17-2~~ Figure 3.7.17-5 in a 3 out of 4 configuration, (3) the "acceptable" domain of ~~Figure 3.7.17-3~~ Figure 3.7.17-5 in a 2 out of 4 configuration, or (4) a 1 out of 4 configuration. The acceptable storage configurations are shown in ~~Figure 3.7.17-4~~ Figure 3.7.17-6.	Prior to storing the fuel assembly in Region II racks	74 87 74

Figure 3.7.17-1 or 3.7.17-2

Figure 3.7.17-3 or 3.7.17-4

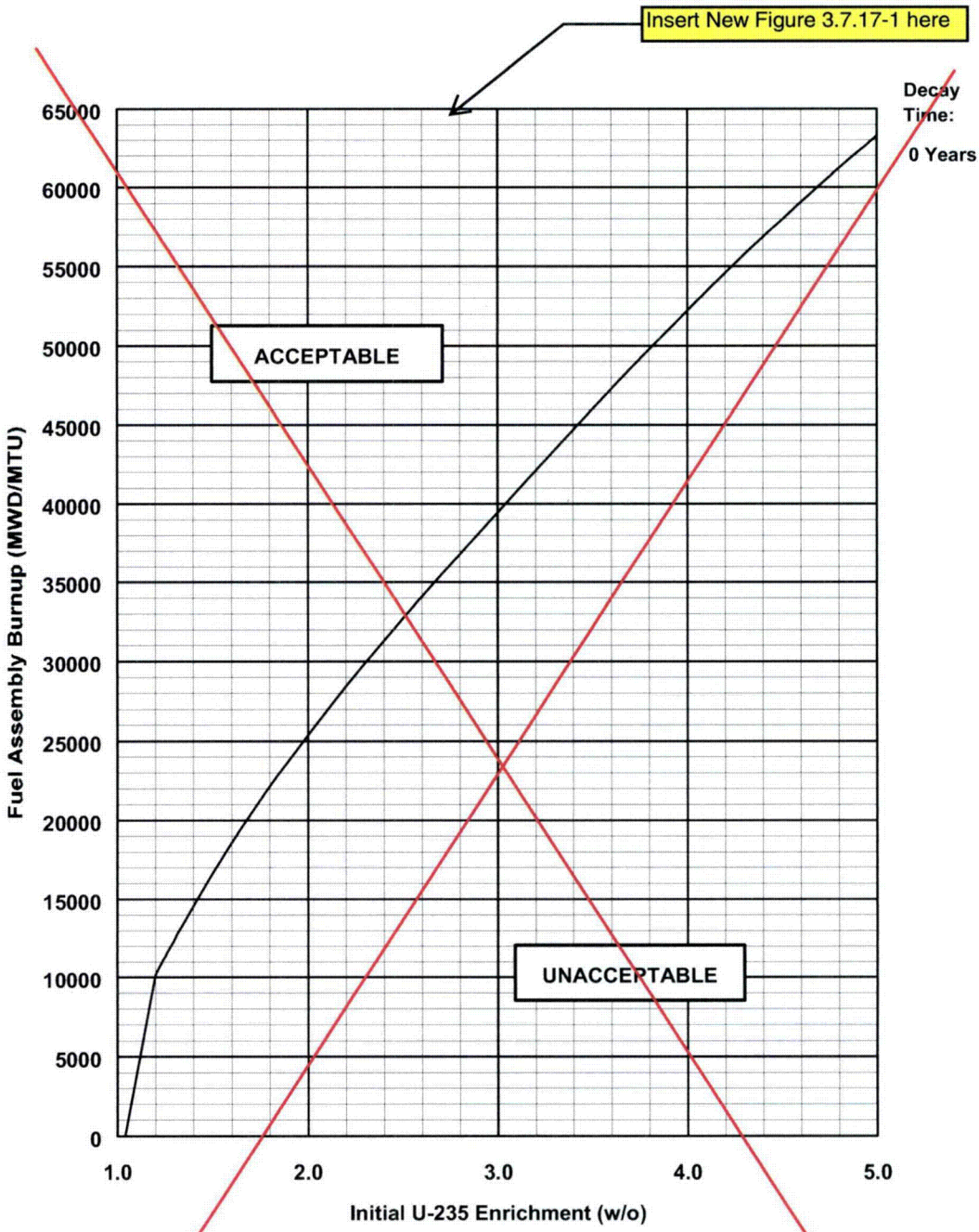


FIGURE 3.7.17-1
Fuel Assembly Burnup vs. U-235 Enrichments vs. Decay Time Limits
For a 4 out of 4 Storage Configuration in Region II Racks

74
87

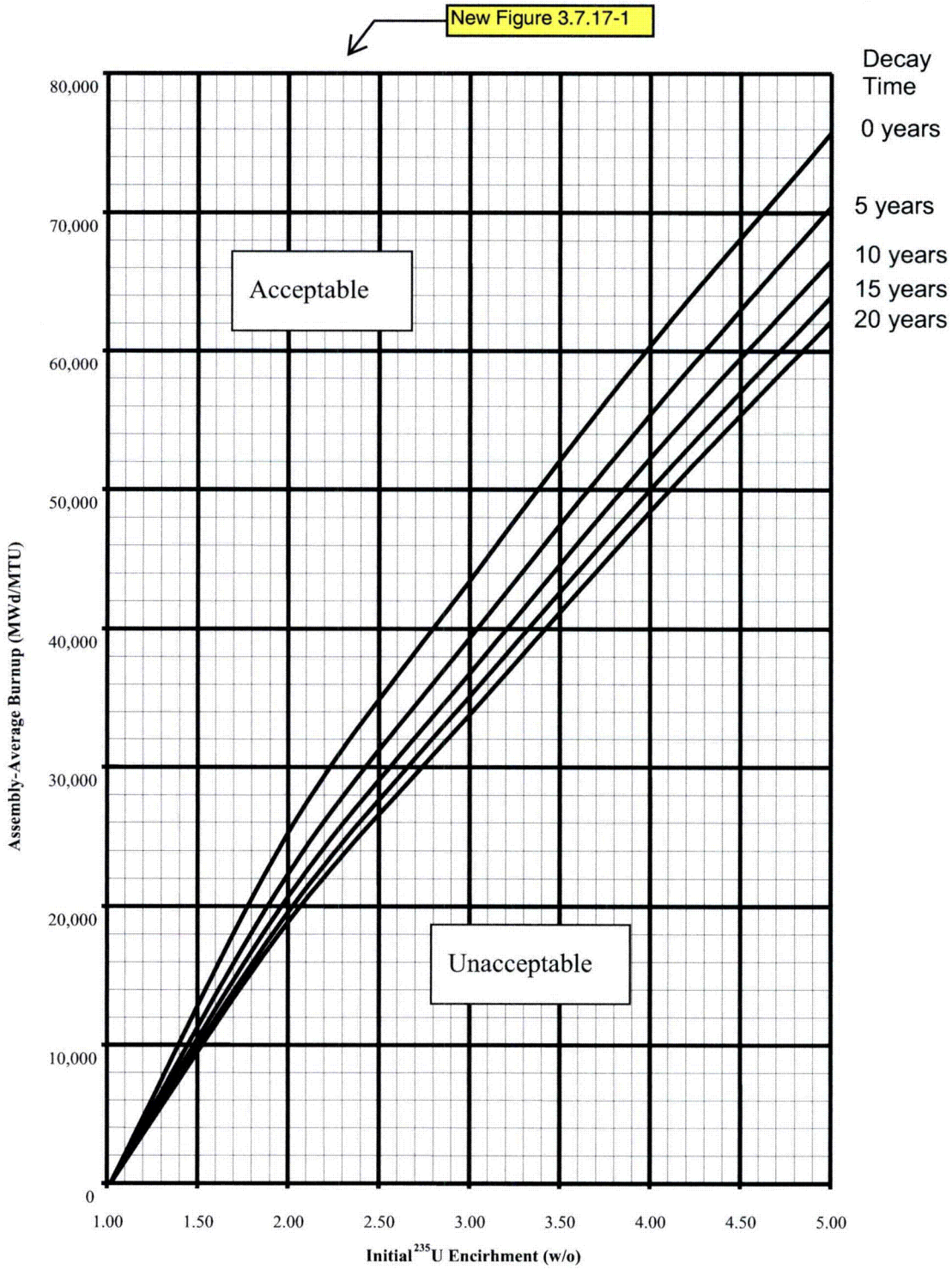


Figure 3.7.17-1
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "4-out-of-4" Storage Configuration

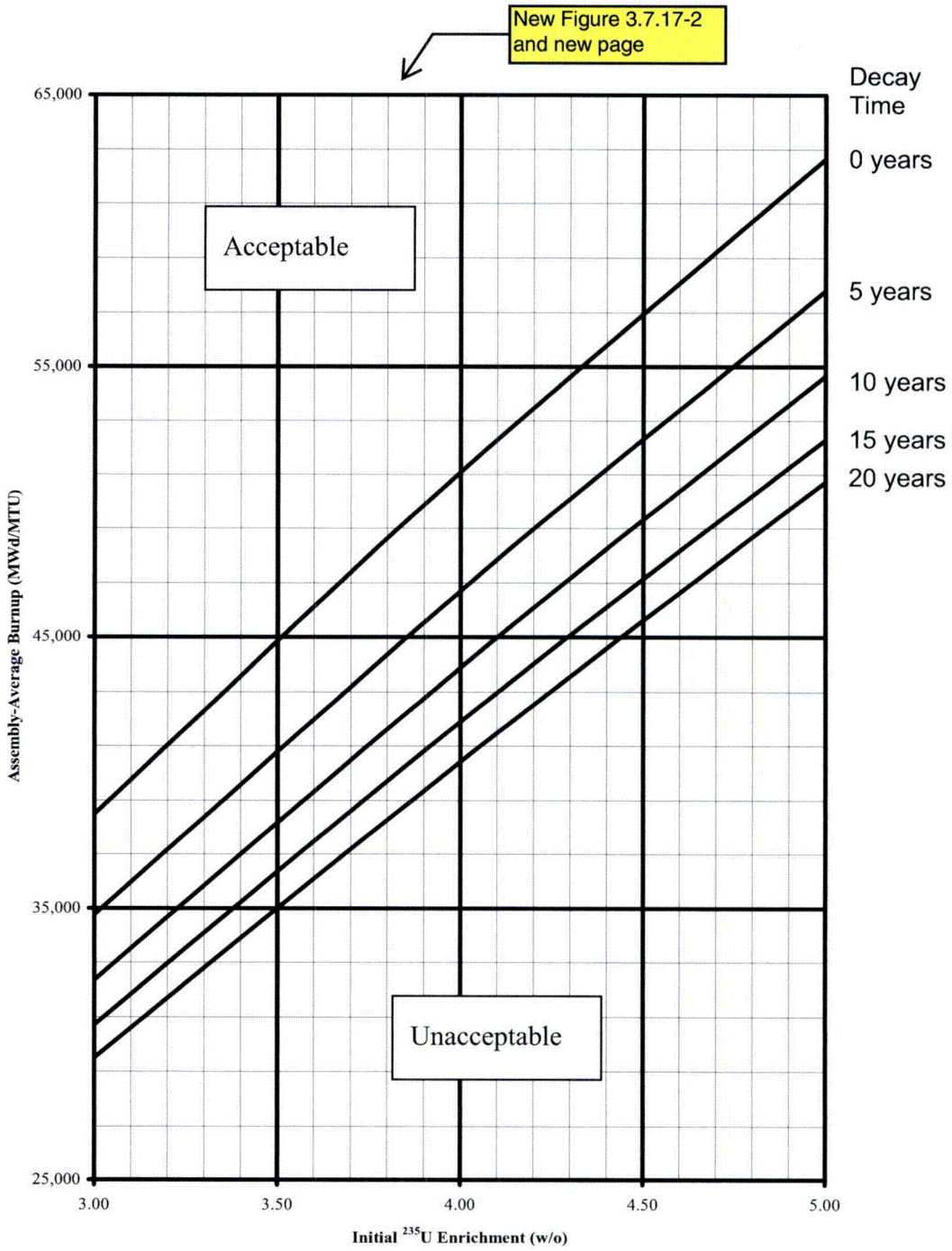
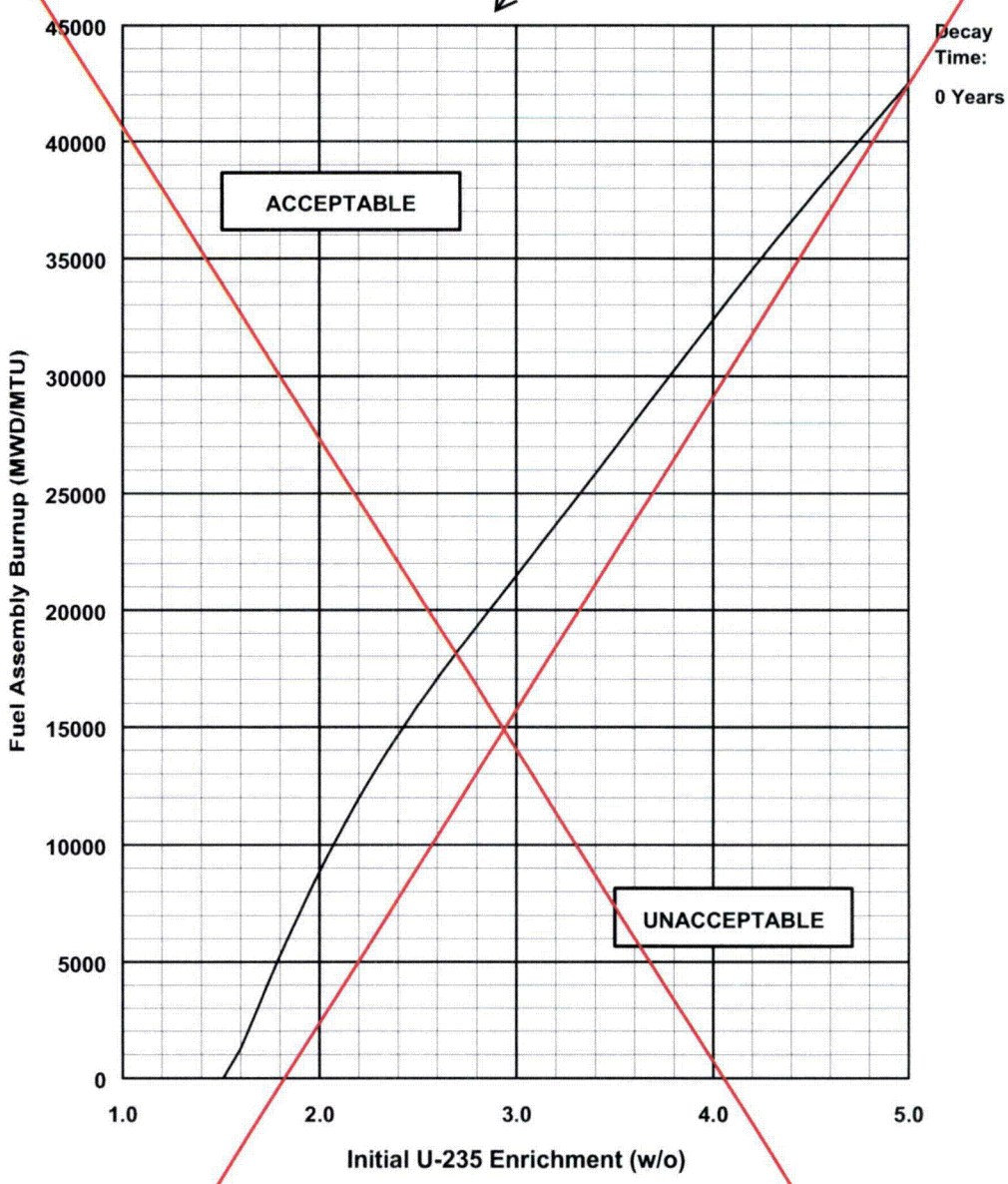


Figure 3.7.17-2
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "4-out-of-4 with Axial Blankets" Storage Configuration

Insert Figure 3.7.17-3 here



74
87

Figure 3.7.17-2
Minimum Burnup vs. Initial U-235 Enrichment vs. Decay Time
For a 3 out of 4 Storage Configuration in Region II Racks

40

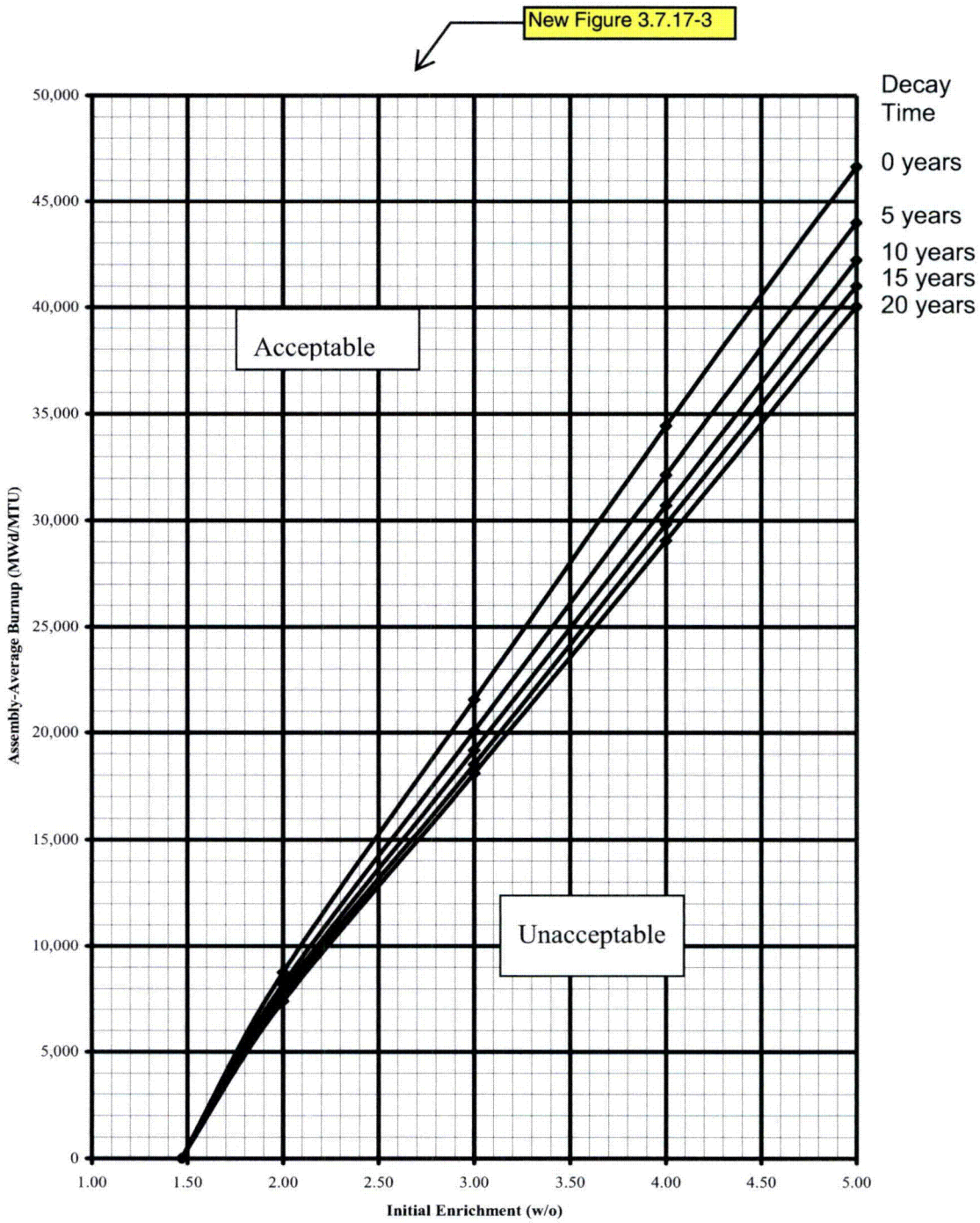


Figure 3.7.17-3
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "3-out-of-4" Storage Configuration

New Figure 3.7.17-4
and new page

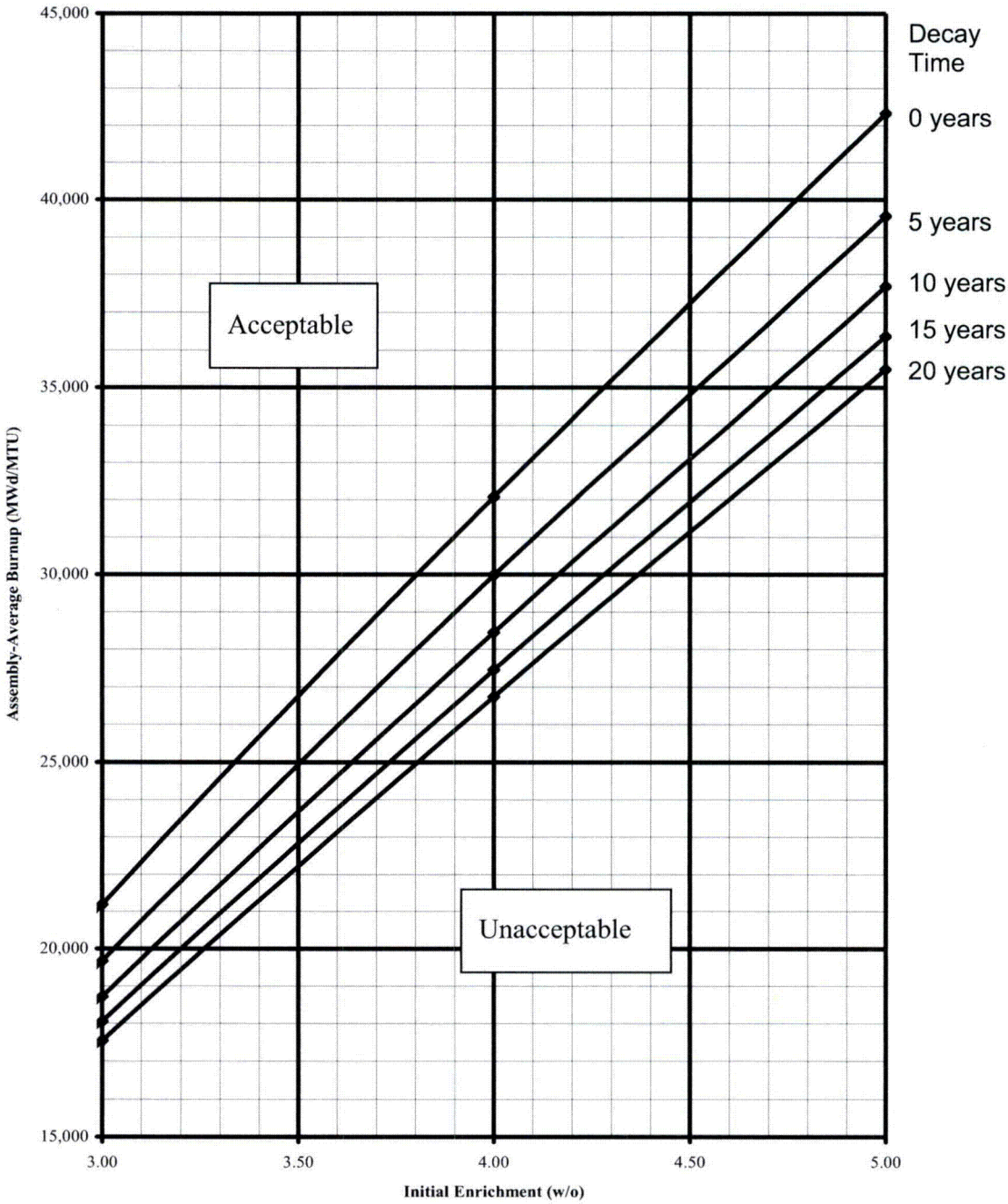


Figure 3.7.17-4
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "3-out-of-4 with Axial Blankets" Storage Configuration

Insert Figure 3.7.17-5 here

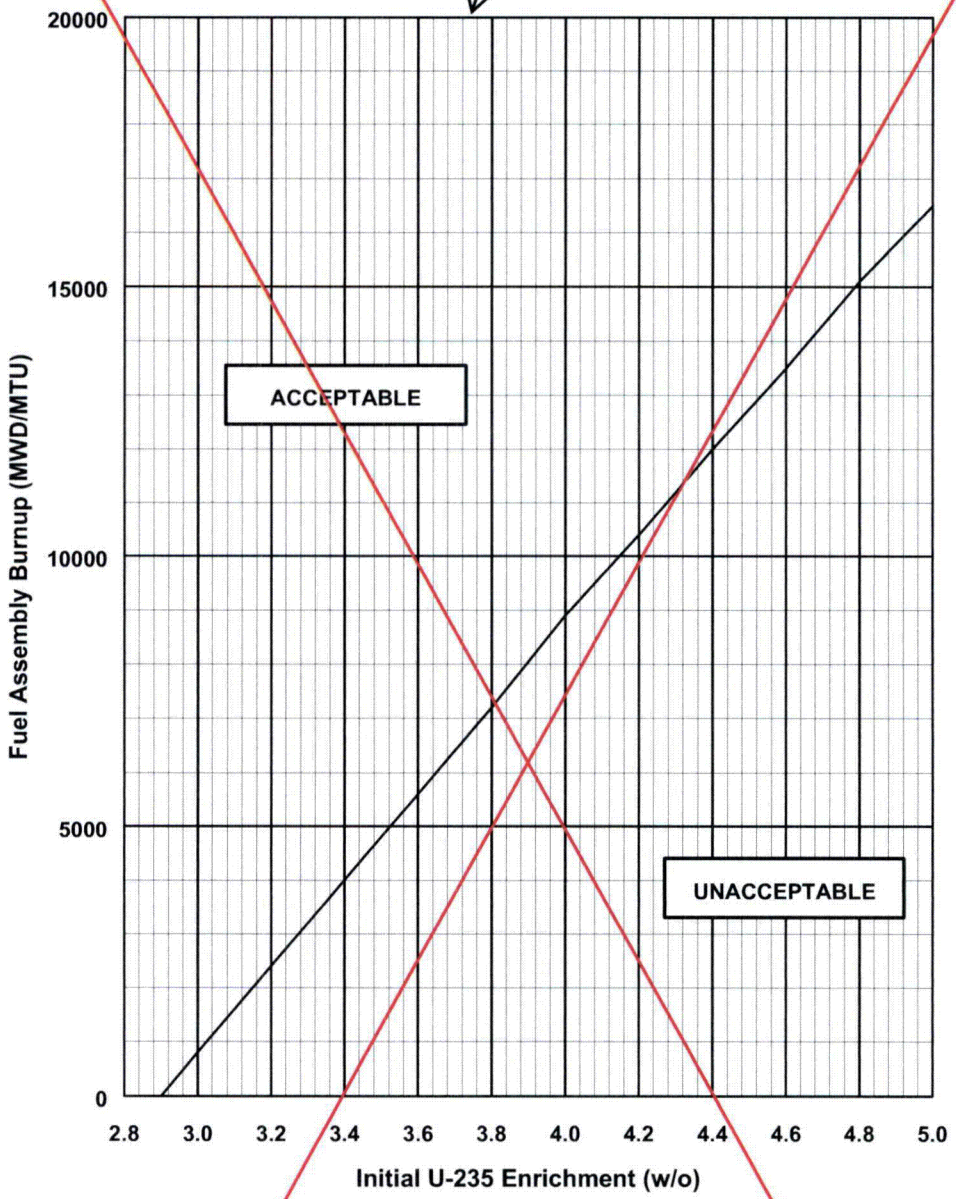


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Figure 3.7.17-3
Minimum Burnup vs. Initial U-235 Enrichment
For a 2 out of 4 Storage Configuration in Region II Racks

42

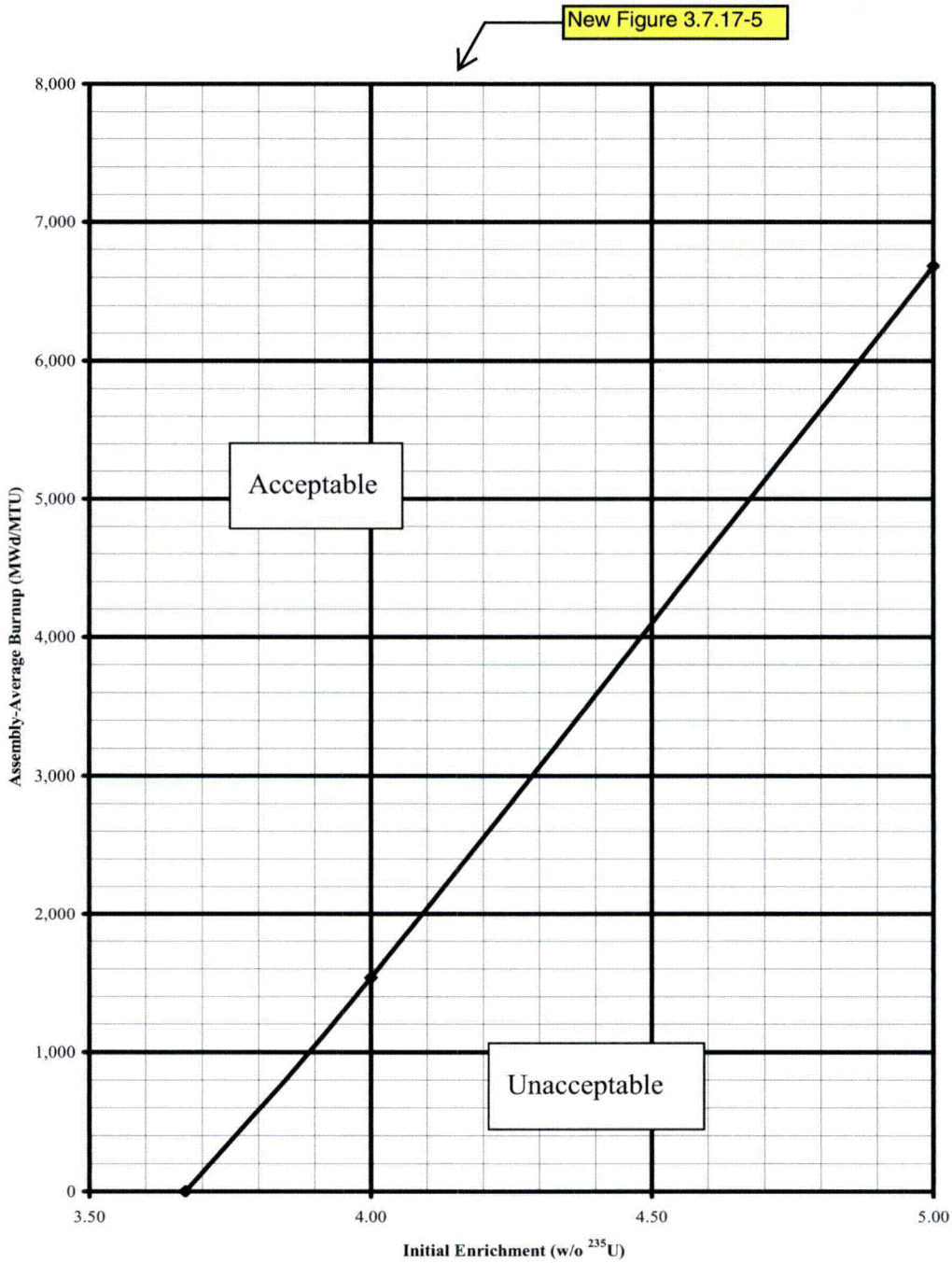

Figure 3.7.17-5
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "2-out-of-4" Storage Configuration

74
87

A	A	A	A	A	A
A	A	A	A	A	A
A	A	A	A	A	A
A	A	A	A	A	A
A	A	A	A	A	A
A	A	A	A	A	A

	B		B		B
B	B	B	B	B	B
	B		B		B
B	B	B	B	B	B
	B		B		B
B	B	B	B	B	B

C		C		C	
	C		C		C
C		C		C	
	C		C		C
C		C		C	
	C		C		C

	D		D		D
	D		D		D
	D		D		D

A Region II (4/4), new or partially spent fuel assemblies in the "acceptable" domain of Figure ~~3.7.17-1~~. 3.7.17-1 or 3.7.17-2.

B Region II (3/4), new or partially spent fuel assemblies in the "acceptable" domain of Figure ~~3.7.17-2~~. 3.7.17-3 or 3.7.17-4.

C Region II (2/4), new or partially spent fuel assemblies in the "acceptable" domain of Figure ~~3.7.17-3~~. 3.7.17-5.

D Region II (1/4), new or partially spent fuel assemblies which are stored in an expanded checkerboard (1 out of 4).

☐ - empty

Figure 3.7.17-1 or 3.7.17-2

Figure 3.7.17-3 or 3.7.17-4

Note: All possible 2 by 2 matrices containing Region II rack cells shall comply with at least one of the following: (1) within the "acceptable" domain of ~~Figure 3.7.17-1~~ in a 4 out of 4 configuration, (2) within the "acceptable" domain of ~~Figure 3.7.17-2~~ in a 3 out of 4 configuration, (3) within the "acceptable" domain of ~~Figure 3.7.17-3~~ in a 2 out of 4 configuration, or (4) a 1 out of 4 configuration.

Figure 3.7.17-5

Figures 3.7.17-1b and 3.7.17-2b are only applicable when all assemblies in the 2 by 2 matrix are axiallyblanketed fuel assemblies. Axiallyblanketed fuel assemblies must have axial blankets with nominal enrichments less than or equal to 2.6 w/o 235U, and lengths greater than or equal to 6.0 inches.

Region I and Region II interface restrictions: The Region II 1 out of 4 configuration shall be oriented such that the single fuel assembly resides in the internal row with the empty cells facing Region I. There are no interface restrictions between the Region II (2/4, 3/4, 4/4) and Region I configurations.

Figure 3.7.17-6

~~Figure 3.7.17-4~~

Storage Configurations (4/4, 3/4, 2/4, 1/4) in Region II Racks

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3.7 PLANT SYSTEMS

3.7.18 Secondary Specific Activity

LCO 3.7.18 The specific activity of the secondary coolant shall be ≤ 0.10 μCi/gm DOSE EQUIVALENT I-131

APPLICABILITY: MODES 1, 2, 3, and 4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Specific activity not within limit.	A.1 Be in MODE 3. AND A.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.18.1 Verify the specific activity of the secondary coolant is ≤ 0.10 μCi/gm DOSE EQUIVALENT I-131.	31 days

3.7 PLANT SYSTEMS

3.7.19 Safety Chilled Water

LCO 3.7.19 Two safety chilled water trains shall be OPERABLE

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One safety chilled water train inoperable.	A.1	Restore safety chilled water train to OPERABLE status.	72 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1	Be in MODE 3.	6 hours
	AND		
	B.2	Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.19.1	----------NOTE---------- Isolation of safety chilled water flow to individual components does not render the safety chilled water system inoperable. ---------- Verify each safety chilled water manual, power operated, and automatic valve servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.19.2	Verify each safety chilled water pump and chiller starts on an actual or simulated actuation signal.	18 months

3.7 PLANT SYSTEMS

3.7.20 UPS HVAC System

LCO 3.7.20 Two UPS HVAC System Trains shall be OPERABLE

APPLICABILITY: MODES 1, 2, 3, and 4

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One UPS HVAC System train inoperable.	A.1	Verify the affected UPS & Distribution Room is supported by an OPERABLE UPS A/C Train.	Immediately
	AND		
	A.2	Restore the inoperable UPS HVAC train to OPERABLE status.	30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. Two UPS HVAC System trains inoperable. OR Required Action A.1 and associated Completion Time not met.	B.1	Verify air circulation is maintained by at least one UPS A/C Train.	Immediately
	AND		
	B.2	Verify the air temperature in the affected UPS & Distribution Room(s) does not exceed the maximum temperature limit for the room(s).	12 hours AND Once per 12 hours thereafter
	AND		
	B.3	Restore UPS HVAC System train to OPERABLE status.	72 hours
C. Required Action B.1 and associated Completion Time not met.	C.1	Restore the required support.	1 hour
D. Required Action and associated Completion Time of Required Action A.2, B.2, B.3 or C.1 not met.	D.1	Be in MODE 3.	6 hours
	AND		
	D.2	Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.20.1	Verify each required UPS & Distribution Room Fan Coil Unit operates ≥ 1 continuous hour.	31 days
SR 3.7.20.2	Verify each required UPS A/C train operates for ≥ 1 continuous hour.	31 days
SR 3.7.20.3	Verify each required UPS A/C train actuates on an actual or simulated actuation signal.	18 months

ATTACHMENT 5 to TXX-07106

RETYPED UNIT 1 OPERATING LICENSE CHANGES

Page 3

(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 or 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 through Cycle 13 and 3612 megawatts thermal starting with Cycle 14 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. , and the Environmental Protection Plan contained in Appendix B, are incorporated into this license. TXU Generation Company LP shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

ATTACHMENT 6 to TXX-07106

RETYPED UNIT 2 OPERATING LICENSE CHANGES

Page 3

(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 or 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 through Cycle 11 and 3612 megawatts thermal starting with Cycle 12 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. , 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

ATTACHMENT 7 to TXX-07106

RETYPED TECHNICAL SPECIFICATION CHANGES

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(continued)

1.1 Definitions (continued)

QUADRANT POWER TILT RATIO (QPTR)	QPTR shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3458 MWt through Cycle 13 for Unit 1 and through Cycle 11 for Unit 2. Starting with Cycles 14 and 12 of Units 1 and 2, respectively, RTP shall be 3612 MWt.
REACTOR TRIP SYSTEM (RTS) RESPONSE TIME	The RTS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RTS trip setpoint at the channel sensor until loss of stationary gripper coil voltage. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.
SHUTDOWN MARGIN (SDM)	SDM shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming: a. All rod cluster control assemblies (RCCAs) are fully inserted except for the single RCCA of highest reactivity worth, which is assumed to be fully withdrawn. With any RCCA not capable of being fully inserted, the reactivity worth of the RCCA must be accounted for in the determination of SDM; and b. In MODES 1 and 2, the fuel and moderator temperatures are changed to the hot zero power temperatures.

(continued)

3.7 PLANT SYSTEMS

3.7.17 Spent Fuel Assembly Storage

LCO 3.7.17

The combination of initial enrichment, burnup, decay time, and axial blankets of each spent fuel assembly stored in Region II racks shall be within either (1) the "acceptable" domain of Figure 3.7.17-1 or 3.7.17-2 in a 4 out of 4 configuration, (2) the "acceptable" domain of Figure 3.7.17-3 or 3.7.17-4 in a 3 out of 4 configuration, (3) the "acceptable" domain of Figure 3.7.17-5 in a 2 out of 4 configuration, or (4) shall be stored in a 1 out of 4 configuration. The acceptable storage configurations are shown in Figure 3.7.17-6.

APPLICABILITY:

Whenever any fuel assembly is stored in Region II racks of the spent fuel storage pool.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Requirements of the LCO not met.	A.1	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- Initiate action to move the noncomplying fuel assembly to an acceptable storage location.	 Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.17.1	Verify by administrative means the initial enrichment, burnup and decay time of the fuel assembly is in accordance with either (1) the "acceptable" domain of Figure 3.7.17-1 or 3.7.17-2 in a 4 out of 4 configuration, (2) the "acceptable" domain of Figure 3.7.17-3 or 3.7.17-4 in a 3 out of 4 configuration, (3) the "acceptable" domain of Figure 3.7.17-5 in a 2 out of 4 configuration, or (4) a 1 out of 4 configuration. The acceptable storage configurations are shown in Figure 3.7.17-6.	Prior to storing the fuel assembly in Region II racks

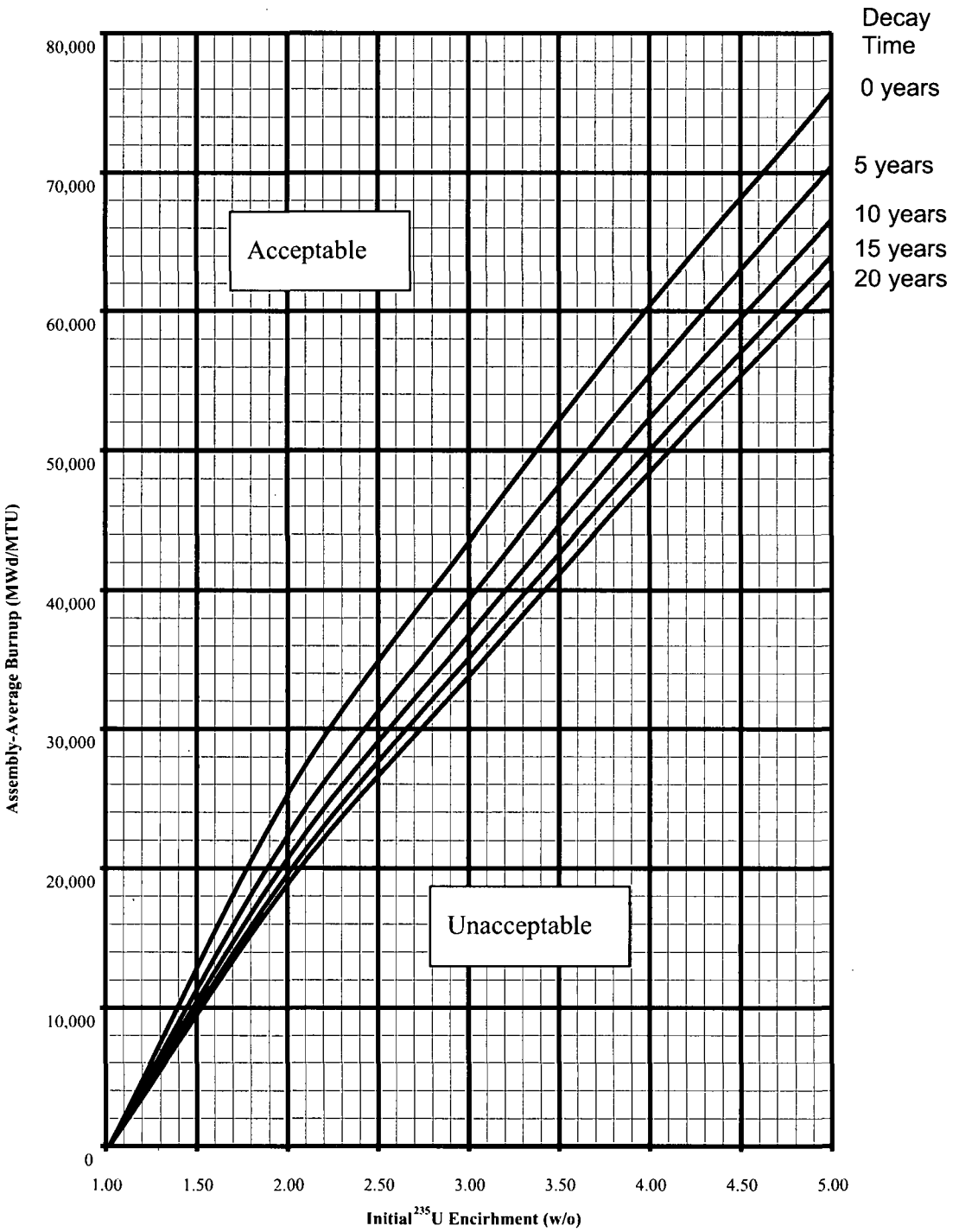

Figure 3.7.17-1
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "4-out-of-4" Storage Configuration

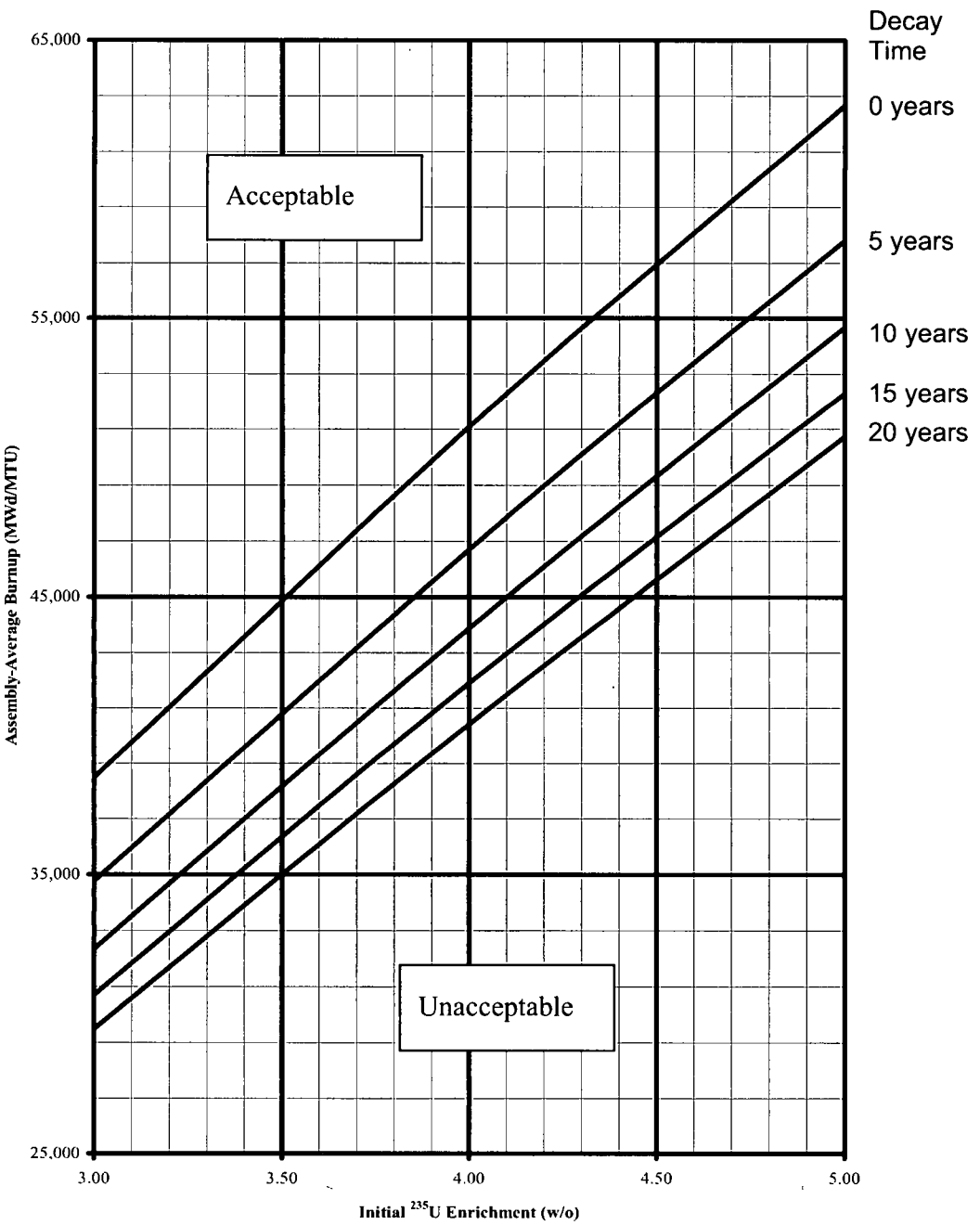

Figure 3.7.17-2
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "4-out-of-4 with Axial Blankets" Storage Configuration

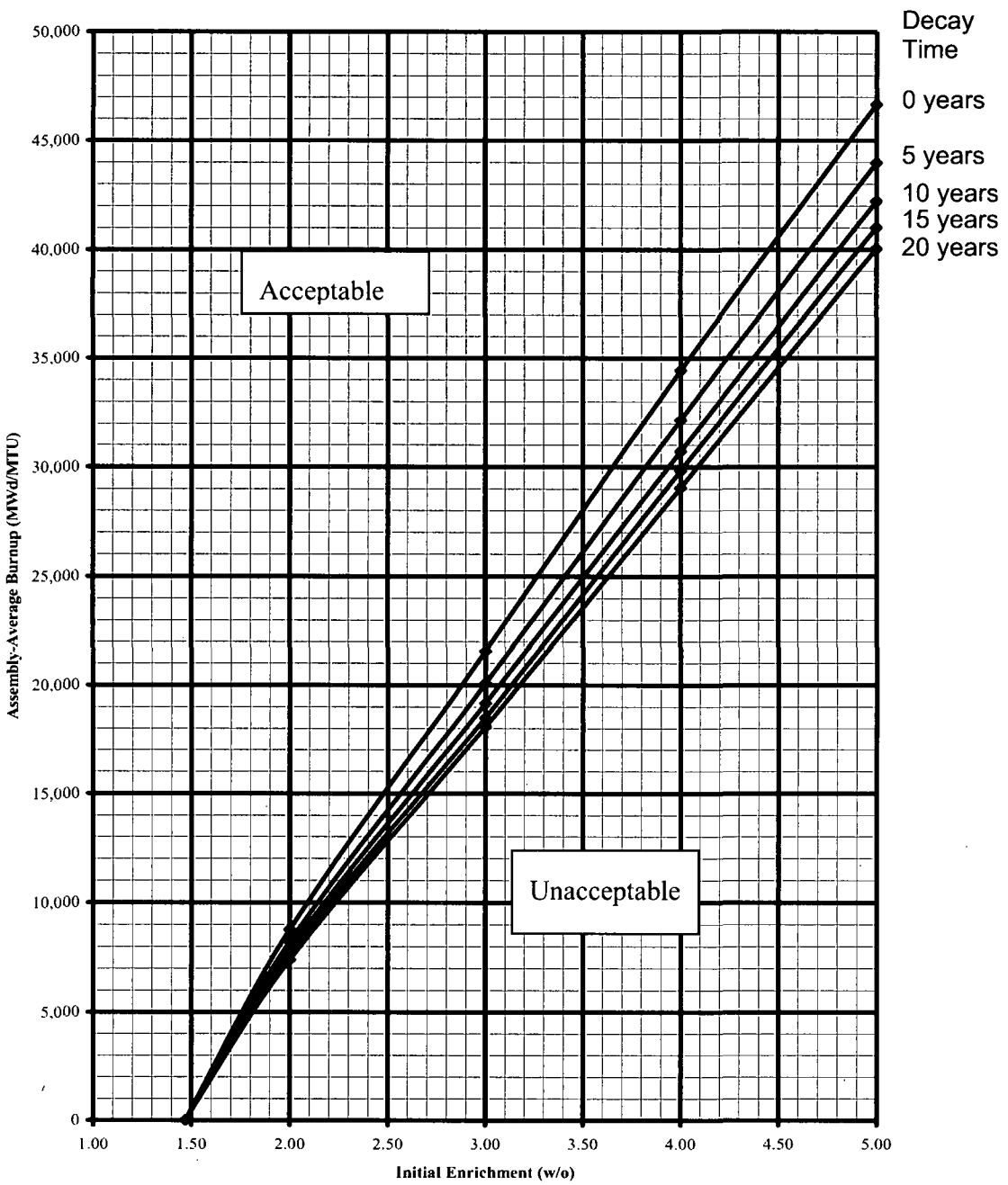

Figure 3.7.17-3
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "3-out-of-4" Storage Configuration

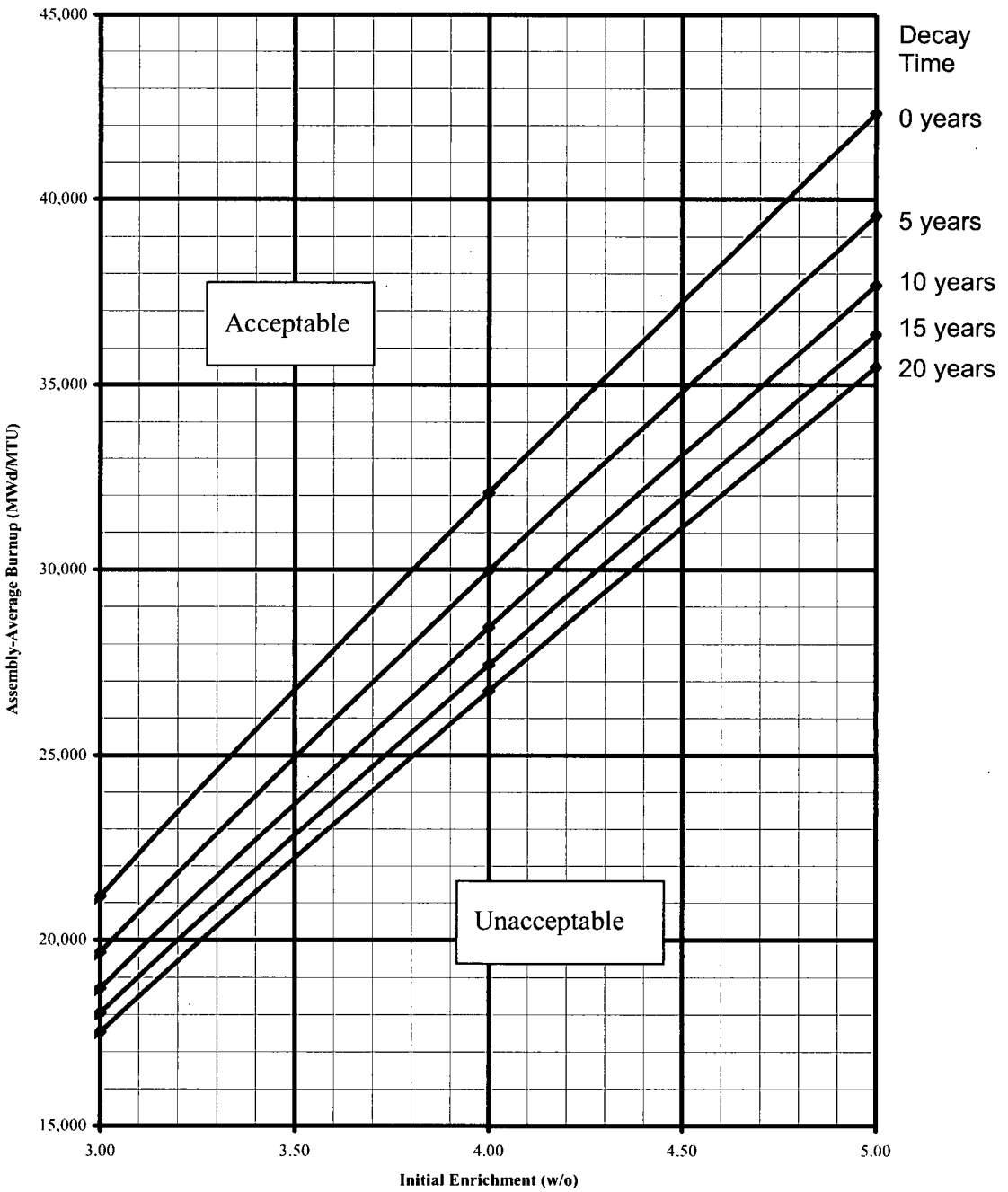

Figure 3.7.17-4
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "3-out-of-4 with Axial Blankets" Storage Configuration

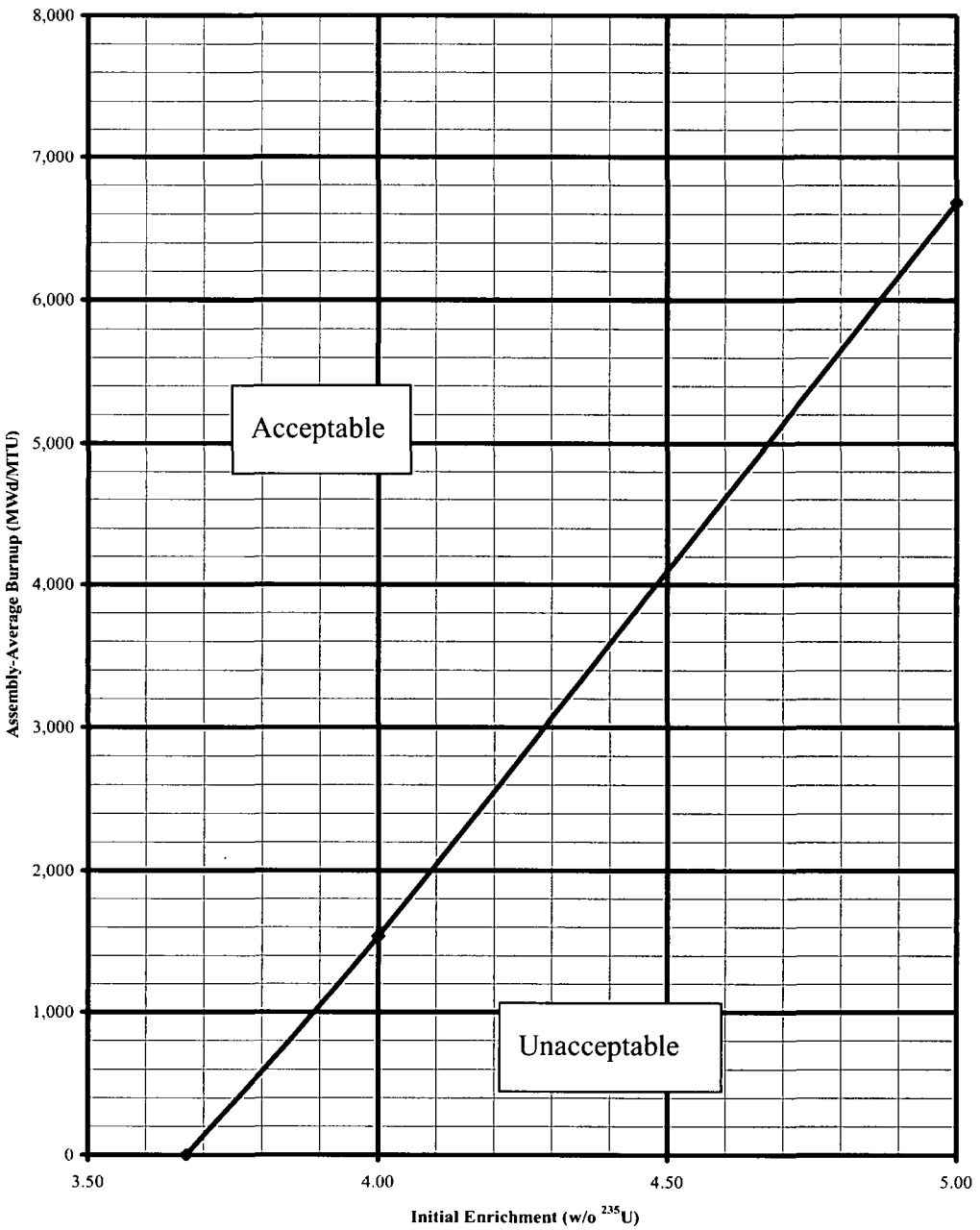

Figure 3.7.17-5
Minimum Required Fuel Assembly Burnup versus Initial ^{235}U Enrichment for the "2-out-of-4" Storage Configuration

A	A	A	A	A	A
A	A	A	A	A	A
A	A	A	A	A	A
A	A	A	A	A	A
A	A	A	A	A	A
A	A	A	A	A	A

	B		B		B
B	B	B	B	B	B
	B		B		B
B	B	B	B	B	B
	B		B		B
B	B	B	B	B	B

C		C		C	
	C		C		C
C		C		C	
	C		C		C
C		C		C	
	C		C		C

	D		D		D
	D		D		D
	D		D		D

A Region II (4/4), new or partially spent fuel assemblies in the "acceptable" domain of Figure 3.7.17-1 or 3.7.17-2.

B Region II (3/4), new or partially spent fuel assemblies in the "acceptable" domain of Figure 3.7.17-3 or 3.7.17-4.

C Region II (2/4), new or partially spent fuel assemblies in the "acceptable" domain of Figure 3.7.17-5.

D Region II (1/4), new or partially spent fuel assemblies which are stored in an expanded checkerboard (1 out of 4).

☐ - empty

Note: All possible 2 by 2 matrices containing Region II rack cells shall comply with at least one of the following: (1) within the "acceptable" domain of Figure 3.7.17-1 or 3.7.17-2 in a 4 out of 4 configuration, (2) within the "acceptable" domain of Figure 3.7.17-3 or 3.7.17-4 in a 3 out of 4 configuration, (3) within the "acceptable" domain of Figure 3.7.17-5 in a 2 out of 4 configuration, or (4) a 1 out of 4 configuration.

Region I and Region II interface restrictions: The Region II 1 out of 4 configuration shall be oriented such that the single fuel assembly resides in the internal row with the empty cells facing Region I. There are no interface restrictions between the Region II (2/4, 3/4, 4/4) and Region I configurations.

Figures 3.7.17-2 and 3.7.17-4 are only applicable when all assemblies in the 2 by 2 matrix are axially-blanketed fuel assemblies. Axially-blanketed fuel assemblies must have axial blankets with nominal enrichments less than or equal to 2.6 w/o ^{235}U, and lengths greater than or equal to 6.0 inches.

Figure 3.7.17-6
Storage Configurations (4/4, 3/4, 2/4, 1/4) in Region II Racks

3.7 PLANT SYSTEMS

3.7.18 Secondary Specific Activity

LCO 3.7.18 The specific activity of the secondary coolant shall be ≤ 0.10 μCi/gm DOSE EQUIVALENT I-131

APPLICABILITY: MODES 1, 2, 3, and 4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Specific activity not within limit.	A.1 Be in MODE 3. AND A.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.18.1	Verify the specific activity of the secondary coolant is ≤ 0.10 μCi/gm DOSE EQUIVALENT I-131.	31 days

3.7 PLANT SYSTEMS

3.7.19 Safety Chilled Water

LCO 3.7.19 Two safety chilled water trains shall be OPERABLE

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One safety chilled water train inoperable.	A.1	Restore safety chilled water train to OPERABLE status.	72 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1	Be in MODE 3.	6 hours
	AND		
	B.2	Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.19.1	----------NOTE---------- Isolation of safety chilled water flow to individual components does not render the safety chilled water system inoperable. ---------- Verify each safety chilled water manual, power operated, and automatic valve servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.19.2	Verify each safety chilled water pump and chiller starts on an actual or simulated actuation signal.	18 months

3.7 PLANT SYSTEMS

3.7.20 UPS HVAC System

LCO 3.7.20 Two UPS HVAC System Trains shall be OPERABLE

APPLICABILITY: MODES 1, 2, 3, and 4

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One UPS HVAC System train inoperable.	A.1	Verify the affected UPS & Distribution Room is supported by an OPERABLE UPS A/C Train.	Immediately
	AND		
	A.2	Restore the inoperable UPS HVAC train to OPERABLE status.	30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. Two UPS HVAC System trains inoperable. OR Required Action A.1 and associated Completion Time not met.	B.1	Verify air circulation is maintained by at least one UPS A/C Train.	Immediately
	AND		
	B.2	Verify the air temperature in the affected UPS & Distribution Room(s) does not exceed the maximum temperature limit for the room(s).	12 hours AND Once per 12 hours thereafter
	AND		
	B.3	Restore UPS HVAC System train to OPERABLE status.	72 hours
C. Required Action B.1 and associated Completion Time not met.	C.1	Restore the required support.	1 hour
D. Required Action and associated Completion Time of Required Action A.2, B.2, B.3 or C.1 not met.	D.1	Be in MODE 3.	6 hours
	AND		
	D.2	Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.20.1	Verify each required UPS & Distribution Room Fan Coil Unit operates ≥ 1 continuous hour.	31 days
SR 3.7.20.2	Verify each required UPS A/C train operates for ≥ 1 continuous hour.	31 days
SR 3.7.20.3	Verify each required UPS A/C train actuates on an actual or simulated actuation signal.	18 months

ATTACHMENT 8 to TXX-07106

ENVIRONMENTAL ASSESSMENT

COMANCHE PEAK NUCLEAR POWER PLANT
ENVIRONMENTAL EVALUATION REPORT FOR THE STRETCH POWER UPRATE

1.0 INTRODUCTION

This Environmental Evaluation Report is provided pursuant to the Comanche Peak Steam Electric Station, herein referred to as Comanche Peak Nuclear Power Plant (CPNPP), Environmental Protection Plan (Non-radiological)[1]. As required by this plan, specifically Section 3.1, Plant Design and Operation, "The licensee may make changes in station design or operation or perform tests or experiments affecting the environment provided such activities do not involve an unreviewed environmental question." In addition, this section also specifies "A proposed change, test, or experiment shall be deemed to involve an unreviewed environmental question if it concerns: (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement-Operating License (FES-OL), in environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or power level [in accordance with 10 CFR Part 51.5(b)(2)]; or (3) a matter, not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact." This evaluation report provides the information necessary to determine the environmental impact of the proposed Stretch Power Uprate (SPU) Project for a core power level of 3,612 megawatts thermal (MWt), an increase of 4.5% from the current core power of 3,458 MWt.

The environmental impacts associated with the operation of CPNPP Units 1 & 2 were initially assessed by the Nuclear Regulatory Commission (NRC) and documented in the station's FES-OL[2]. The FES-OL was issued in 1981 and provided a conclusion "that the station will most likely operate with acceptable environmental impact. The staff finds that the primary benefits of minimizing system production costs and increasing baseload generating capacity by 2,300 megawatts electric (MWe) greatly outweigh the environmental, social, and economic costs." Based on sixteen (16) and thirteen (13) years of operation for Units 1 & 2, respectively, the CPNPP environmental monitoring program has confirmed this conclusion. In addition, CPNPP has not only achieved excellence in environmental regulatory compliance, the facility has been recognized by the United States Environmental Protection Agency (USEPA) and the Texas Commission on Environmental Quality (TCEQ) for going beyond regulatory compliance and was certified as a National Environmental Leader in 2005.

The FES-OL is considered a historical licensing document that will not be revised. However, the bases for the conclusion in the FES-OL are maintained through adhering to the operating license "Environmental Protection Plan" and the station's Texas Commission on Environmental Quality (TCEQ) Texas Pollutant Discharge Elimination System (TPDES) permit[3]. It should be noted that the EPA has delegated authority to the TCEQ for issuing wastewater permits and CPNPP is not required to maintain a separate National Pollutant Discharge Elimination System (NPDES) permit. Other effective permits, approvals, plans and

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[1] Appendix B to Facility Operation License Nos. 87 & 89, Comanche Peak Steam Electric Station Units 1 & 2 Docket Nos. 50-445 and 50-446 Environmental Protection Plan

[2] Final Environmental Statement Relating to the Operation of Comanche Peak Steam Electric Station, Units 1 & 2 Docket Nos. 50-445 and 50-446 September 1981

[3] Texas Commission on Environmental Quality, TPDES Permit No. 01854, Issued April 06, 2004, Expires March 1, 2008

registrations are maintained by CPNPP, as required by applicable environmental regulations. However, the primary documents relative to the SPU project are the "Environmental Protection Plan" and the TPDES.

This evaluation demonstrates that the proposed SPU for CPNPP Units 1 & 2 to 3,628 MWt nuclear steam supply system (NSSS) power will not result in a significant environmental impact beyond that considered in the FES-OL. Furthermore, the environmental impacts relating to the proposed SPU for CPNPP Units 1 & 2 will not create an unreviewed environmental question or create regulatory compliance issues relative to the station's TPDES permit. Luminant Power will maintain compliance with the station's TPDES effluent limits, even during severe environmental conditions.

2.0 GENERAL SYSTEM DESCRIPTION

Squaw Creek Reservoir (SCR) provides once-through cooling water for two Pressurized Water Reactor electrical generating units. Unit 1 has been in operation since 1990 (initial criticality April 3, 1990) and Unit 2 since 1993 (initial criticality March 24, 1993). Each unit is currently capable of generating approximately 1,200 megawatts (MW) of electricity from a reactor thermal output of approximately 3,458 MW with a waste heat load of approximately 2,260 MW.

Cooling water enters the CPNPP from the western edge of the SCR about halfway up the SCR, and picks up waste heat from the condensers and is returned to the SCR at its southwestern end. Based on a bathymetric survey by the Texas Water Development Board[4], the SCR has a surface area of 3,297 acres at a water surface elevation of 775 ft. The reservoir's volume is 151,418 acre-feet and its mean depth is 46 ft. Final Safety Analysis Report (FSAR) Table 2.4-17 indicates slightly lower values for the area and volume (3,272 acres and 150,953 acre-feet, respectively).

3.0 STRETCH POWER UPRATE PROJECT DESCRIPTION

3.1 Proposed Action

CPNPP is located near the town of Glen Rose, Texas about 90 miles southwest of Dallas. CPNPP is located on Squaw Creek Reservoir near the Brazos River.

The site is approximately 8,000 acres including the developed portion of the site, which is approximately 3,663 acres in size. In addition to the two CPNPP reactors the site includes the Squaw Creek Reservoir and dam. Other features of the site include a large undeveloped area, and an area previously opened to the public for use. This recreational area had been open to the public for fishing and other recreational uses prior to September 2001. Shortly after the 9/11 incident, due to security reasons, this facility was closed to general public access. Even though this area is no longer available for public use, Luminant Power continues its stewardship of these lands.

The proposed action is to increase the licensed core thermal power level of each unit from 3,458 MWt to 3,612 MWt, which represents an increase of approximately 4.5%. This change in core thermal power level would require the NRC to amend the facility's operating license. The operational goal of the proposed SPU is a corresponding increase of station electrical output from approximately 2,400 MWe to

[4] Volumetric Survey of Squaw Creek Reservoir, Prepared by The Texas Water Development Board, October 15, 1997.

approximately 2,490 MWe. Refer to Section 1.0 of Enclosure 1 of this License Amendment Request for a detailed list of the proposed modifications associated with this SPU.

The proposed plant changes all occur within the existing buildings at the station. Although the evaluation of equipment upgrades to accommodate the SPU included the systems on the site, the SPU will not require any additional equipment to be added that will be visible from outside the existing power station.

Luminant Power intends to implement the SPU during the scheduled fall 2008 refueling outage period for Unit 1 and in fall 2009 during the scheduled refueling outage period for Unit 2. Luminant Power expects to complete the 4.5% uprate during those two refueling outage periods. On restart of each unit after this scheduled outage and power ascension and testing, each of the CPNPP units is expected to begin operating at the SPU core power level of 3,612 MWt.

3.2 Need for Power

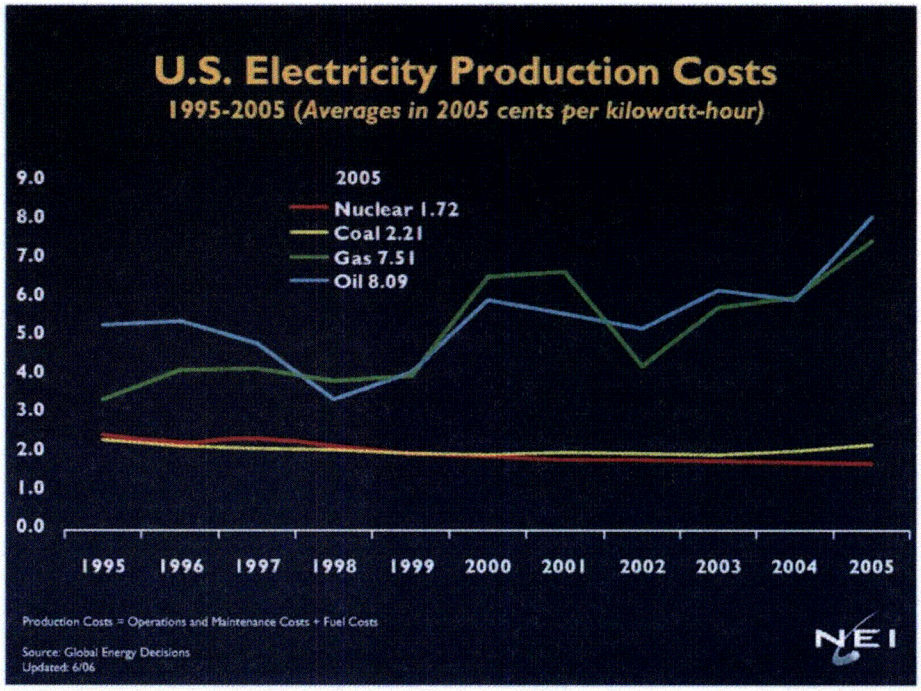
The proposed action is intended to provide an additional supply of electric generation in the State of Texas without the need to site and construct new facilities that will impose new sources of air, water and wastewater discharges to the environment. The SPU will supply approximately 90 MWe of additional electric capacity in a region of the Electric Reliability Council of Texas (ERCOT) system where peak loads in recent years have challenged available generation capacity.

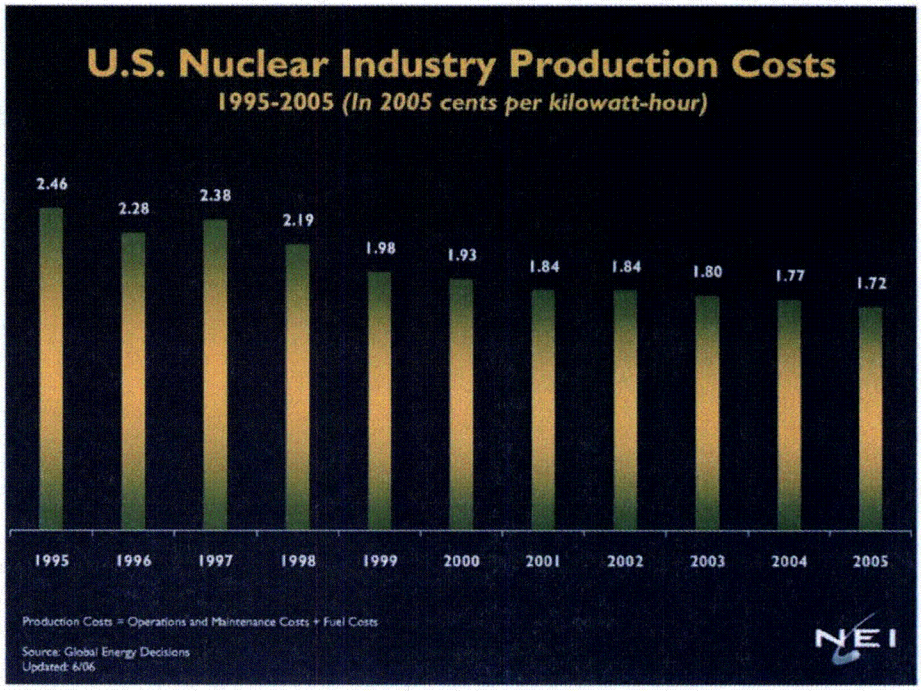
The capital cost for adding this new generating capacity associated with the CPNPP SPU is comparable to the capital expenditure to install new dual fuel (natural gas and diesel) combustion turbines on this site. However, new gas/diesel combustion turbines would have much higher air emissions and operational costs associated with the relatively high and variable costs for fuel than that of the existing CPNPP facility.

3.3 Cost - Benefit Analysis

The greatest benefit resulting from the proposed CPNPP SPU is the additional supply of approximately 90 megawatts of reliable electrical power that will be generated with minimal impact to the environment for use by residential and commercial customers. That benefit will accrue not only to Luminant Power for the sale of that new source of electric power to the ERCOT system, but also to the local electric consumers who could expect that this new baseload generation source would competitively displace higher cost cycling and peaking electric generation sources. Nuclear operational costs are among the lowest of all possible power sources and the capital costs of the proposed SPU are also extremely competitive with other fossil fueled generation alternatives.

A national comparison of electric generation alternatives updated through June of 2006, indicates that nuclear power generation production costs are lower than that of coal-fired power, oil-fired power, and natural gas-fired power production. Power production costs represent a combination of fuel, operations, and maintenance costs. The figures below, from the Nuclear Energy Institute (NEI), show that the production cost of existing nuclear generating facilities are considerably less than oil or natural gas fired steam electric generation sources and even less than that of coal. The second NEI figure shows that the production cost of nuclear generation continues to decrease in recent years. (Reference 6.1).


U.S. Electricity Production Costs
1995-2005 (Averages in 2005 cents per kilowatt-hour)
2005
Nuclear 1.72
Coal 2.21
Gas 7.51
Oil 8.09
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
Production Costs = Operations and Maintenance Costs + Fuel Costs
Source: Global Energy Decisions
Updated: 6/06
NEI


U.S. Nuclear Industry Production Costs
1995-2005 (In 2005 cents per kilowatt-hour)
2.46
2.28
2.38
2.19
1.98
1.93
1.84
1.84
1.80
1.77
1.72
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
Production Costs = Operations and Maintenance Costs + Fuel Costs
Source: Global Energy Decisions
Updated: 6/06
NEI

These comparative production costs are also reflected in the ERCOT regulated wholesale electricity market. This is the market into which Luminant Power sells the power produced from CPNPP. ERCOT currently manages the wholesale electricity market with two processes including a real-time balancing market, based on a five zone transmission model, and with a day-ahead ancillary services market. This current system balances the transmission constraints and provides generation revenue based on the zone into which the generation is distributed. This system will be modified in 2009 when ERCOT Independent System Operator (ISO) implements a day ahead energy market with nodal pricing which may include pricing not just in the day ahead market but also in a real-time market. Both of these systems provide competitive pricing among ERCOT electric generators.

In these competitive electricity markets, the base load nuclear facilities, like South Texas and CPNPP generally seek prices low enough to ensure that their facility will operate at full load through the entire 24 hour day-ahead bid period. Because nuclear-fueled generating facilities seek to operate at their highest efficiency points on a continuous basis, it is not practical to moderate steam generation on an hourly basis to follow the daily electric load. What this competitive market does is to encourage base load generation plants, such as CPNPP, to price the product low enough to ensure continuous operation of their power plant while the other cycling and peaking generating units in Texas compete to establish the higher zonal, (or in the future) the nodal, price for the day.

A quantitative evaluation of environmental costs of alternatives is not necessary to recognize that significant new environmental impacts would be avoided by implementing an SPU at CPNPP compared with other new power development options to deliver additional capacity. Unlike fossil fuel plants, an SPU would not result in a significant source of nitrogen oxides, sulfur dioxide, particulates (PM10 and PM2.5), carbon dioxide, or other regulated atmospheric pollutants as a part of normal operations. Routine operation of CPNPP at SPU conditions would not contribute to greenhouse gases or acid rain and would likely displace operation of other higher cost fossil fueled generation in the ERCOT region. As a point of capital cost comparison of the proposed SPU, consider that PNM Resources recently acquired the 305 MWe Twin Oaks coal fired plant located in Bremond Texas, approximately 150 miles south of Dallas, for $480 million (Reference 6.3). The Twin Oaks plant will produce approximately three times as much electric power as the proposed SPU at CPNPP, but the capital cost of acquisition of the Twin Oaks plant is approximately 5 to 6 times the total permitting, engineering and implementation cost of the proposed SPU at CPNPP. The capital cost of a 90 MWe stand alone natural gas fired combustion turbine would be more comparable to the proposed SPU than that of the more costly Twin Oaks coal plant. So from a capital cost perspective, the SPU is a very competitive addition to the regions energy supply.

The radiological effects of the uranium fuel cycle are described in 10 CFR 51.51 and 51.52 and are classified as small. The tables in 10 CFR 51.52 bound the uranium fuel cycle associated with the CPNPP SPU. The proposed action would produce additional spent nuclear fuel, which would be accommodated by CPNPP's existing spent fuel storage strategy.

Based upon these considerations, it is reasonable to conclude the proposed CPNPP SPU would provide a cost-effective utilization of an existing asset, with minimal environmental impact, making it the preferred means of securing additional generating capacity to support the growing electric load in Texas.

4.0 ENVIRONMENTAL EFFECTS EVALUATION

4.1 Terrestrial and Land Use Effects

The proposed SPU project will not require any physical modifications or changes in the maintenance and operation of the existing transmission lines and associated facilities. Also, no new roads, parking lots, equipment lay down areas, or buildings will be required to support the project. Therefore, the proposed project will not require disturbance of any previously undisturbed vegetated areas that could cause an impact to sensitive terrestrial wildlife habitat, nor impacts on historic and archaeological resources. Consequently, there are no unreviewed environmental questions and the FES-OL remains bounded relative to terrestrial and land use aspects at CPNPP.

4.2 Water Use Effects

Since issuance of the FES-OL, 10,000 acre-feet per year[5] of additional water has been reassigned to CPNPP that was previously allocated to Luminant Power. Currently, Luminant Power has a total water allocation for the CPNPP site of 48,300 acre-feet annually. Environmental Resources Management (ERM) conducted a thermal study[6] and predicted the 4.5% power uprate would only increase lake evaporation by approximately six (6) acre-feet per year. Consequently, the minor amount of additional heat load to the Squaw Creek Reservoir (SCR) and resultant increase in evaporation rate represents a very small fraction of the excess available make-up water from Lake Granbury to the SCR and will not impact the overall water budget for CPNPP.

The FES-OL imposed restrictions on the use of groundwater to minimize the impact to groundwater sources in the vicinity of CPNPP. The proposed SPU will not require use of groundwater. Therefore, the FES-OL remains bounded relative to groundwater use and there are no unreviewed environmental questions pertaining to groundwater.

4.3 Chemical Release Effects

Since the circulating water flow will not increase as a result of the SPU, there should be no need to increase chemical addition to the circulating water system for condenser tube fouling control. The minor increase (six acre-feet per year) in the SCR evaporation rate will cause an insignificant increase in SCR total dissolved solids (TDS). Furthermore, contributions to the reservoir TDS are primarily driven by the quality of the make-up water supply from Lake Granbury. The TDS in Lake Granbury varies considerably and is the predominate factor relative to the circulating water chemical addition program. In any case, the station's TPDES Permit grants authorization to discharge liquid effluents from the CPNPP facility to the receiving waters of the SCR in accordance with effluent limitations, monitoring requirements, and other specific conditions. The proposed SPU will not affect the ability for CPNPP to continue compliance with these permit requirements.

The SPU will not significantly increase the generation of hazardous waste. Typical components of hazardous waste streams are solvents used for facility maintenance (paints are universal waste in Texas).

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[5] Correspondence TXX-99252, Dated October 15, 1999 to the Brazos River Authority.

[6] Temperature and Evaporation Impacts on Squaw Creek Reservoir (SCR) due to a Thermal Uprate to 3,650 MWt. 13 August 2007.

Since the predominant solvents used at CPNPP are non-hazardous, the SPU should have minimal effect on station hazardous waste generation quantities and should not affect the facility's ability to remain designated as a Small Quantity Generator.

4.4 Socio-Economic Effects

CPNPP currently employs a permanent workforce of approximately 800 employees, excluding fixed priced contracts, contractor scope work and outage personnel. No additional permanent employees are expected as a result of the SPU project. Therefore, no significant socio-economic effects are anticipated.

4.5 Thermal Effects

At SPU conditions, the heat rejected to the condenser increases, resulting in an increase in the circulating water outlet temperature. In the ERM study[6], the expected maximum temperature rise at the discharge during SPU conditions was found to be 1.5°F. The expected increase, however, will be within the limits specified in the facility's TPDES wastewater discharge permit under normal conditions. For that reason, no modification to the TPDES permit limits is required or anticipated. Luminant Power will comply with the station's TPDES permit limitations if the circulating water outlet discharge temperature encroaches on the permitted limits, even during atypical severe environmental conditions.

4.6 Threatened or Endangered Species (Aquatic)

The United States Fish and Wildlife Service's "Threatened and Endangered Species List System" (TESS) contains no fish or aquatic invertebrate, aquatic reptile, aquatic flora, or amphibian species for Somervell or Hood counties. In addition, there are no designated critical habitats for aquatic or aquatic dependent species in the CPNPP area.

The Brazos water snake (Nerodia harteri harteri) is listed by Texas Parks and Wildlife as a State endangered species. This snake is endemic to Texas and both Somervell and Hood counties are listed within its known range. Their preferred habitats, shallow riffles, are not present within Squaw Creek Reservoir and there are no known sightings on the CPNPP controlled area.

There are no threatened or endangered bird species resident within CPNPP controlled area. Both Somervell and Hood counties are, however, within the migration route of several species which might utilize SCR. On occasion, there have been sightings of bald eagles (Haliaeetus leucocephalus) wintering (i.e., November - February) in the area of CPNPP and SCR, presumably to capture and feed on fish from the reservoir. The SPU conditions would not be expected to have any adverse impact on this behavior or the hunting success rate of other piscesivore bird species.

4.7 Impingement and Entrainment

At SPU conditions, there will be no increase in the circulating water intake velocity or discharge flow. As a result, no modification to the existing TPDES permit limits is required or anticipated to operate under SPU conditions. Prevailing entrainment of fish into the cooling system will be unchanged by the proposed SPU. Without an increase in flow or intake velocity, there is no expectation of an increase in impingement or entrainment above those documented in the CPNPP Units 1 and 2, 316(b) Demonstration

study[7] submitted to the USEPA as a requirement of the site's NPDES permit. The study found that "Given the low number of game fish impinged on an annual basis, and the abundance and high reproductive capacity of threadfin shad, the total impingement numbers are not considered significant nor to be creating an unacceptable impact on the game fish community of SCR." USEPA Region VI reviewed the study and found the results were acceptable and declared that the site's 316(b) requirements were complete.

In 2004 the USEPA published a final rule in the Federal Register (69 FR 41575) addressing cooling water intake structures at existing power plants with flows above 50 million gallons per day (gpd). Under these regulations, commonly referred to as Phase II, CPNPP is currently engaged in a number of activities related to evaluation of impingement (please note that under the Phase II rules, reservoirs are not required to evaluate entrainment) and its impacts on SCR. In January 25, 2007, the Second Circuit Court remanded many parts of this rule and there is uncertainty in how this rule will be implemented. However, CPNPP expects to maintain operation of the cooling system in compliance with Federal law and under Texas delegated authority for NPDES permits and does not expect the CPNPP Phase II compliance will be influenced by SPU operating conditions.

Based on no increase in intake velocity or discharge flow from the SPU operating conditions, no increase in impingement (or entrainment) is anticipated at SPU conditions.

4.8 Radiological Effects

Liquid Radwaste

The SPU will slightly increase the equilibrium activity level of radioactive isotopes in the reactor coolant system. Due to leakage and planned drainage, small volumes of this radioactive liquid are transferred to the liquid radioactive waste system. These wastes are processed and either reused or discharged to Squaw Creek Reservoir (SCR) by permit.

The Liquid Waste Processing system is a modular system designed to be flexible and to allow for increases and decreases in system flows. Table 4.8-1 presents liquid releases from CPNPP for a recent five-year period (2001 - 2005). The proposed SPU implementation would not increase the inventory of liquid normally processed by the liquid waste processing system. This conclusion is based on the fact that neither system functions nor volume inputs are impacted by the SPU.

As discussed in Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report Section 2.10.1, the proposed SPU will result in a small increase (approximately 6.5% for long lived activity) in the equilibrium radioactivity in the reactor coolant, which in turn will result in a maximum increase of 6.5% in the radioactivity content of the liquid releases since input activities are based on long-term reactor coolant activity.

Tritium levels are also expected to increase by 6.5% in the discharged liquid due to the SPU resulting from the proportionately more tritium being produced. The Annual Radiological Environmental Operating Reports for 2005 and 2006 indicated that the highest aqueous tritium concentrations due to CPNPP operation are located at the Squaw Creek Reservoir (SCR). Increasing the average tritium

[7] Comanche Peak Steam Electric Station, Units 1 and 2 316(b) Demonstration, Prepared by Foster Wheeler Environmental Corporation, September 1995.

concentration in releases by approximately 6.5% would leave the resulting long-term average tritium concentration at the SCR well below the reportable limit identified in Table 3.12-2 of the CPNPP's Offsite Dose Calculation Manual (ODCM).

Table 4.8-1
Liquid Radwaste Effluents

Year	2001	2002	2003	2004	2005
Tritium (Ci)	931.0	1390	1430	1080	1540
All Others (Ci)	0.38	0.40	0.12	0.02	0.02
Volume Discharged (gallons)	549,200	744,871	454,884	381,400	484,930

Note:
All values are for the site
Ci = curies

Table 4.8-3 shows that based on operating history, the maximum estimated dose due to liquid radwaste effluents following SPU, although increased, remains significantly below the 10 CFR 50, Appendix I limits.

Gaseous Radwaste

Gaseous radioactive wastes are principally activation gases and fission product radioactive noble gases resulting from radioactive system leakage, process operations including volume control tank (VCT) venting, gases used for tank cover gas, and gases generated in the radiochemistry laboratory.

Table 4.8-2 presents gaseous releases from CPNPP for a recent five-year period (2001 - 2005). Implementation of the proposed SPU does not significantly increase the inventory of carrier gases normally processed in the gaseous waste management system since plant system functions are not changing and the volume inputs remain the same.

Table 4.8-2
Gaseous Radwaste Effluents

Year	2001	2002	2003	2004	2005
Noble Gas (Ci)	1.32	228*	1.5	5.62	845*
Particulate (Ci)	0	1.14 E-5	0	0	1.20 E-6
Iodines (Ci)	0	1.59E-4	0	0	1.82E-4
Tritium (Ci)	38	57	49	40.5	38.3

Note:
* Fuel Failures
Ci = curies

Due to the SPU, the activity of radioactive gaseous nuclides present in the waste gas system will increase. This is due to the increased levels of gases in the reactor coolant system and the stripping actions performed in the VCT. The operation of the waste gas system will remain unchanged and will continue to allow for decay of the short lived nuclides. Tritium will remain the largest contributor to the gaseous effluents, the largest contributor being from evaporation from the Spent Fuel Pools.

As discussed in Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report Section 2.10.1, the proposed SPU will result in a small increase (approximately 9.5% for noble gases, 6.6 % for I-131, and 6.5% for long lived activity) in the equilibrium radioactivity in the reactor coolant, which in turn increases the activity in the gaseous waste disposal systems and the activity released from the Station (estimated for the SPU to increase by 9.5% for noble gases, 6.5% for particulates including Tritium, and 12.6% for iodines).

Table 4.8-3 shows that based on operating history, the maximum estimated dose due to gaseous radwaste effluents following SPU, although increased, remains significantly below the 10 CFR 50, Appendix I limits.

Table 4.8-3
Estimated Annual SPU Doses to the Public due to Normal Operation Gaseous and Liquid Radwaste Effluents

Type of Dose	Appendix I Design Objectives per unit	Base Case 100% Capacity Pre-SPU Case	Scaled Doses SPU Case	Percentage of Appendix I Design Objectives for Uprate Case
Liquid Effluents				
Dose to total body from all pathways	3 mrem/yr	1.12E-01 mrem/yr	1.20E-01 mrem/yr	1.99%
Dose to any organ from all pathways	10 mrem/yr	1.29E-01 mrem/yr	1.37E-01 mrem/yr	0.69%
Gaseous Effluents				
Gamma Dose in Air	10 mrad/yr	1.36E-02 mrad/yr	1.49E-02 mrad/yr	7.47E-02%
Beta Dose in Air	20 mrad/yr	3.25E-02 mrad/yr	3.56E-02 mrad/yr	8.91E-02%
Dose to total body of an individual	5 mrem/yr	6.57E-02 mrem/yr	7.00E-02 mrem/yr	0.700%
Dose to skin of an individual	15 mrem/yr	8.58E-02 mrem/yr	9.13E-02 mrem/yr	0.304%
Radioiodines and Particulates Released to the Atmosphere				
Dose to any organ from all pathways	15 mrem/yr	1.64E-01 mrem/yr	1.84E-01 mrem/yr	0.614%

Solid Radwaste

The SPU is not expected to significantly increase the generation of solid radwaste. The slight increase in activity level of radioactive isotopes in the reactor coolant system and the small volumes of this radioactive liquid generated from leakage and planned drainage will have minimal effect on the generation of radioactively contaminated sludge and resin solids. Consequently, the currently installed radwaste system and its total volume capacity for handling solid radwaste will be unaffected.

In the long term, the direct shine dose due to radwaste stored on site could be conservatively estimated to increase by approximately 7.2% as a.) current waste decays and its contribution decreases, b.) the radwaste is routinely moved offsite for disposal, c.) waste generated post-uprate enters into storage and d.) plant capacity factor approaches the target of 1.0.

The impact on direct shine doses is cumulative from wastes generated from all units onsite over the plants' lifetime and stored onsite. The ODCM and Radiological Environmental Monitoring Program (REMP) establish limits and controls which are implemented by procedures to ensure compliance with 40 CFR 190.

4.9 Effects of Decommissioning

Environmental impacts from the activities associated with the decommissioning of any nuclear power reactor before or at the end of an initial or renewed license period are evaluated in the Generic Environmental Impact Statement for Decommissioning of Nuclear Facilities, NUREG-0586, Original and Supplement 1 (References 6.4 and 6.5). The conclusions of this report are that environmental impacts of decommissioning are generally small and that only two environmental issues would require site-specific evaluation: threatened and endangered species and environmental justice. In addition, the costs of decommissioning of CPNPP are captured in the FES (Reference 6.6). The NRC procedures for all phases of decommissioning are described in NRC regulations (Title 10 of the Code of Federal Regulations, part 20 subpart E, and parts 50.75, 50.82, 51.53, and 51.95).

Prior to any decommissioning activity at CPNPP, Luminant Power would submit a post shutdown decommissioning activities report to describe planned decommissioning activities, any environmental impacts of those activities, a schedule, and estimated costs. Implementation of an SPU does not affect Luminant Power's ability to maintain financial reserves for decommissioning nor does the SPU alter the decommissioning process.

The potential environmental impacts on decommissioning associated with the proposed SPU would be due to the increased neutron fluence. As a result, the amount of activated corrosion products could increase, and consequently, the post-shutdown radiation levels could increase. CPNPP expects the increases in radiation levels as a result of operations under the proposed SPU conditions to be insignificant, and would be addressed in the post-shutdown decommissioning activities report.

4.10 Transmission Facility Impacts

The CPNPP SPU has no impact on the CPNPP switchyard or electric transmission grid configuration and no new transmission lines are necessary. The increase in electrical power is very small compared to the capacity of the grid. ERCOT, the Electric Reliability Council of Texas, and Oncor, our local transmission service provider, have confirmed that no additional stability analysis and load flow studies (bus voltage)

are required for this small change in power output. A short circuit study was performed by Oncor for the equipment in the CPNPP switchyard and the results confirmed that no equipment changes are required.

4.11 Atmospheric Effects

As a nuclear facility, CPNPP produces very little greenhouse gases or noxious odors as part of the electricity generation. The operation and maintenance activities required after the SPU will be essentially unchanged from existing conditions. The SPU will not increase the need for additional auxiliary steam and will not cause an increase in routine testing of the auxiliary boiler. Also, the rated horsepower of other diesel fired emission sources and operating surveillance tests of these sources will be unaffected by the SPU. Therefore, no increases in emissions or noxious odors are anticipated. CPNPP is in compliance with existing Air Permit C-19225 and TCEQ Permits by Rule. The SPU will not affect CPNPP's current exemption from Title V permitting requirements.

5.0 SUMMARY

Based on the above environmental evaluation, the proposed SPU project for CPNPP Units 1 and 2 will not create a significant impact to the environment, either different or in a greater magnitude, than considered in the station's FES-OL, hence it will not affect the conclusion of the FES-OL. Furthermore, federal and state regulations applicable to CPNPP are designed to protect the environment, and CPNPP will continue to comply with these regulations. No other federal or state regulations or permits are applicable to the project.

6.0 REFERENCES

6.1. http://www.nei.org/documents/U.S._Electricity_Production_Costs.pdf. As provided on March 12, 2007.

6.2. United States of America, Electric Energy Market Competition Task Force and the Federal Energy Regulatory Commission. Electric Energy Market Competition. FERC Docket No. AD05-17-000. Task Force Comments of the ISO/RTO Council on Draft Competition Task Force Report. June 26, 2006 Comments on the Draft Report to Congress on Competition in the Wholesale and Retail Markets for Electric Energy Issued on June 5, 2006

6.3. http://www.pnmresources.com/press/2006/0118_to.htm. PNM Resources web site accessed on May 11, 2007.

6.4. NRC NUREG-0586, "Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities," dated August 1988

6.5. NRC NUREG-0586, Supplement 1, "Generic Environmental Impact on Decommissioning of Nuclear Reactors," dated November 2002

6.6. NRC "Final Environmental Statement related to the Operation of Comanche Peak Nuclear Power Station," (Docket Nos 50-445 and 50-446), dated September 1981

6.7. NRC NUREG-1437, Volume 1 and 2, Addendum 1 to volume 1, "Generic Environmental Impact Statement for License Renewal of Nuclear Plant: Final Report," dated May 1996 and August 1999

ATTACHMENT 9 to TXX-07106

Technical Specifications Bases Markup

Page	B 3.7-72
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B 3.7 PLANT SYSTEMS

B 3.7.16 Fuel Storage Pool Boron Concentration

BASES

BACKGROUND

A common Fuel Building houses facilities for storage and transfer of new and spent fuel. Two pools are provided for CPSES spent fuel storage. Each pool may be used to store fuel from either or both of t

Figure 3.7.17-1 (or 3.7.17-2 if all assemblies have axial blankets)

3.7.17-6

Figure 3.7.17-3 (or 3.7.17-4 if all assemblies have axial blankets)

In the Region II rack (References 1 and 2) design, the spent fuel storage pool numbers 1 and 2 (SFP1 and SFP2) permit four (as shown in Figure ~~3.7.17-4~~) which, for the purpose of criticality considerations, are considered as separate pools. Region II racks, with 1462 and 1470 storage positions in SFP1 and SFP2 respectively (2932 total), are designed to accommodate fuel of various initial enrichments which have accumulated minimum burnups and decay times within either (1) the "acceptable" domain of ~~Figure 3.7.17-1~~ in a 4 out of 4 configuration, (2) the "acceptable" domain of ~~Figure 3.7.17-2~~ in a 3 out of 4 configuration, (3) the "acceptable" domain of Figure ~~3.7.17-3~~ in a 2 out of 4 configuration, or (4) a 1 out of 4 configuration as shown in Figure ~~3.7.17-4~~.

3.7.17-5 3.7.17-6

Region I racks (References 1 and 2) with 222 and 219 storage positions located in SFP1 and SFP2 respectively (441 total), constitute a fifth configuration within the pools. These Region I racks are designed to accommodate new fuel with a maximum enrichment of 5.0 w/t % U-235 or spent fuel regardless of the discharge fuel burnup or decay time. Soluble boron is not credited for the storage of spent fuel assemblies within the Region I racks, and there are no storage pattern restrictions associated with the Region I racks. The neutron absorber material Boral is credited for the storage of spent fuel assemblies within the Region I racks to maintain k_{eff} less than or equal to 0.95.

7

Soluble boron is not credited for the storage of fuel assemblies within the Region II racks in the 1 out of 4 and 2 out of 4 configurations. Criticality analyses have been performed (Reference ~~2~~) which demonstrate that the multiplication factor, k_{eff}, of the fuel and spent fuel storage racks is less than or equal to 0.95.

4, and 7.

In order to maintain k_{eff} less than or equal to 0.95, the presence of fuel pool soluble boron is credited for the storage of fuel assemblies within the Region II racks in the 3 out of 4 and 4 out of 4 configurations. A description of how credit for fuel storage pool soluble boron is used under normal storage configuration conditions is found in References 2, 3, ~~and 4.~~ The storage configuration is defined using calculations to ensure that k_{eff} will be less than 1.0 with no soluble boron under normal storage conditions including

(continued)

BASES

BACKGROUND (continued)

(Reference 7)

tolerances and uncertainties. Soluble boron credit is then used to maintain k_{eff} less than or equal to 0.95. Criticality analyses have been performed ~~(Reference 3)~~ which demonstrate that the pools require 800 ppm of soluble boron to maintain k_{eff} less than or equal to 0.95 for all allowed combinations of storage configurations, enrichments, burnups, and decay time limits. The effect of B-10 depletion on the boron concentration for maintaining k_{eff} less than or equal to 0.95 is negligible.

(Reference 7)

Criticality analyses considering accident conditions have also been performed ~~(References 2 and 3)~~. These analyses establish the amount of soluble boron necessary to ensure that k_{eff} will be maintained less than or equal to 0.95 should pool temperatures fall outside the assumed range or a fuel assembly misload occur. The total amount of soluble boron required to mitigate these events is 1900 ppm.

less than

For an occurrence of the above postulated accident condition, the double contingency principle of ANSI/ANS 8.1-1983 (Reference 6) can be applied. This states that one is not required to assume two unlikely, independent, concurrent events to ensure protection against a criticality accident. Thus, for these postulated accident conditions, the presence of additional soluble boron in the storage pool water (above the concentration required for normal conditions and reactivity equivalencing) can be assumed as a realistic initial condition since not assuming its presence would be a second unlikely event.

A boron concentration equal to or greater than 2000 ppm assures that a dilution event which will result in a k_{eff} greater than 0.95 is not credible. This is demonstrated by a boron dilution analysis performed for the CPSES Spent Fuel pools. This conclusion is based on the following: (1) a substantial amount of water is needed in order to dilute the SFP to the design k_{eff} of 0.95, (2) since such a large water volume turnover is required, a SFP dilution event would be readily detected by plant personnel via alarms, flooding in the fuel and auxiliary buildings or by normal operator rounds through the SFP area, and (3) evaluations indicate that, based on the flow rates of non-borated water normally available to the SFP, taken in conjunction with significant operator errors, and equipment failures, sufficient time is available to detect and respond to a dilution event. In addition, there is significant conservatism built into this evaluation; for example, the cooling of the spent fuel pools can be performed by one train supplying common water to both pools. This cooling configuration would allow credit of the volume of both pools and substantially increase the dilution time estimates presented. However, because the flexibility exists for the cooling system to be totally dedicated to one pool, only one pool volume is considered in this evaluation.

(continued)

BASES

BACKGROUND (continued)

It should be noted that this boron dilution evaluation considered the boron dilution volumes required to dilute the SFP from 1900 ppm to 800 ppm. The 800 ppm end point was utilized to ensure that k_{eff} for the spent fuel racks would remain less than or equal to 0.95. However, as discussed above, calculations for Region II 3 out of 4 and 4 out of 4 configurations have been performed on a 95/95 basis to show that the spent fuel rack k_{eff} remains less than 1.0 with non-borated water in the pool. Thus, even if the SFP were diluted to concentrations approaching zero ppm, the fuel in the Region II racks would remain subcritical and the health and safety of the public would be protected.

The storage of fuel with initial enrichments up to and including 5.0 weight percent U-235 in the Comanche Peak fuel storage pools has been evaluated. For the Region II storage racks, the resulting enrichment, burnup, and decay time limits for the pool are shown in Figures 3.7.17-1 through ~~3.7.17-4~~. 3.7.17-6

APPLICABLE SAFETY ANALYSES

Most fuel storage pool accident conditions will not result in a significant increase in k_{eff}. Examples of such accidents are the drop of a fuel assembly on top of a rack, and the drop of a fuel assembly outside but adjacent to the rack modules.

A dropped assembly accident occurs when a fuel assembly is dropped onto the storage racks. The rack structure is not excessively deformed. An assembly, in its most reactive condition, is considered in the criticality evaluation. Accident analyses have been performed which demonstrate that the dropped assembly which comes to rest horizontally on top of the rack has sufficient water separating it from the active fuel height of stored assemblies to preclude neutronic interaction. This is true even with unborated water. For the borated water condition, the potential for interaction is even less since the water contains boron which is an additional thermal neutron absorber.

However, three accidents can be postulated for each storage configuration that could increase reactivity beyond the analyzed condition. The first postulated accident would be a change in pool temperature to outside the range of normal operating temperatures assumed in the criticality analyses (50°F to 150°F). The second accident would be dropping a fuel assembly into an already loaded cell. The third would be the misloading of a fuel assembly within the racks into a cell for which the restrictions on location, enrichment, burnup, or decay time are not satisfied or adjacent to but outside the racks.

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

Variations in the temperature of the water passing through the stored fuel assemblies outside the normal operating range were considered in the criticality analysis. The reactivity effects ~~of a temperature range from 32°F to 212°F~~ due to temperatures outside of the range from 50 °F to 150 °F were evaluated. The increase in reactivity due to the change in temperature is bounded by the misloading accident.

For the accident of dropping a fuel assembly into an already loaded cell, the upward axial leakage of that cell will be reduced; however, the overall effect on the rack reactivity will be insignificant. This is because minimizing the upward-only leakage of just a single cell will not cause any significant increase in reactivity. Furthermore, the neutronic coupling between the dropped assembly and the already loaded assembly will be low due to several inches of assembly nozzle structure which would separate the active fuel regions. Therefore, this accident would clearly be bounded by the misloading accident.

The fuel assembly misloading accident involves placement of a fuel assembly in a location for which it does not meet the requirements for enrichment, burnup, or decay time including the placement of an assembly in a location that is required to be left empty. The result of the misloading is to add positive reactivity, increasing k_{eff} toward 0.95. The maximum required boron to compensate for this event is less than 1900 ppm, which is below the LCO limit of 2000 ppm.

The concentration of dissolved boron in the fuel storage pool satisfies Criterion 2 of the 10CFR50.36(c)(2)(ii).

LCO

The fuel storage pool boron concentration is required to be ≥ 2000 ppm. The specified concentration of dissolved boron in the fuel storage pool preserves the assumptions used in the analyses of the potential criticality accident scenarios as described in Reference 5. The amount of soluble boron required to offset each of the above postulated accidents was evaluated for all of the proposed storage configurations. The specified minimum boron concentration of 2000 ppm assures that the concentration will remain above these values.

APPLICABILITY

This LCO applies whenever fuel assemblies are stored in the spent fuel storage pool.

(continued)

BASES (continued)

ACTIONS

A.1 and A.2

When the concentration of boron in the fuel storage pool is less than required, immediate action must be taken to preclude the occurrence of an accident or to mitigate the consequences of an accident in progress. This action is most efficiently achieved by immediately suspending the movement of fuel assemblies. The concentration of boron is restored simultaneously with suspending movement of fuel assemblies. Prior to resuming movement of fuel assemblies, the concentration of boron must be restored. This requirement does not preclude movement of a fuel assembly to a safe position.

The Required Actions are modified by a Note indicating that LCO 3.0.3 does not apply. If the LCO is not met while moving irradiated fuel assemblies in MODE 5 or 6, LCO 3.0.3 would not be applicable. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operation. Therefore, inability to suspend movement of fuel assemblies is not sufficient reason to require a reactor shutdown.

SURVEILLANCE REQUIREMENTS

SR 3.7.16.1

This SR verifies that the concentration of boron in the fuel storage pool is within the required limit. As long as this SR is met, the analyzed accidents are fully addressed. The 7 day Frequency is appropriate because no major replenishment of pool water is expected to take place over such a short period of time.

REFERENCES

1. FSAR, Section 9.1.

2. License Amendment Requests 94-22, 98-08, and 00-05, Spent Fuel Storage Capacity Increase, Docket NOS 50-445 and 50-446, CPSES.

3. Comanche Peak High Density Spent Fuel Rack Criticality Analysis using Soluble Boron Credit and No Outer Wrapper Plate, dated July, 2001 (Enclosure 2 to TXX-01118).

4. WCAP-14416 NP-A, Rev. 1, "Westinghouse Spent Fuel Rack Criticality Analysis Methodology," November 1996.

5. FSAR, Section 15.7.4.

6. American Nuclear Society, "American National Standard for Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors," ANSI/ANS-8.1-1983, October 7, 1983.

7. Comanche Peak Units 1 and 2 Spent Fuel Criticality Safety Analysis, dated July 2007 (Westinghouse WCAP-16827)

B 3.7 PLANT SYSTEMS

B 3.7.17 Spent Fuel Assembly Storage

BASES

BACKGROUND

A common Fuel Building houses facilities for storage and transfer of new and spent fuel. Two pools are provided for CPSES spent fuel storage. Each pool may be used to store fuel from either or both of the CPSES units.

3.7.17-6

Figure 3.7.17-1 (or 3.7.17-2 if all assemblies have axial blankets)

Figure 3.7.17-3 (or 3.7.17-4 if all assemblies have axial blankets)

In the Region II rack (References 1 and 2) desig[illegible] pool numbers 1 and 2 (SFP1 and SFP2) permit four different configurations (as shown in Figure ~~3.7.17-4~~) which, for the purpose of criticality considerations, are considered as separate pools. Region II racks, with 1462 and 1470 storage positions in SFP1 and SFP2 respectively (2932 total), are designed to accommodate fuel of various initial enrichments which have accumulated minimum burnups and decay times within either (1) the "acceptable" domain of ~~Figure 3.7.17-1~~ in a 4 out of 4 configuration, (2) the "acceptable" domain of ~~Figure 3.7.17-2~~ in a 3 out of 4 configuration, (3) the "acceptable" domain of Figure ~~3.7.17-3~~ in a 2 out of 4 configuration, or (4) a 1 out of 4 configuration as shown in Figure ~~3.7.17-4~~.

3.7.17-6

3.7.17-5

Region I racks (References 1 and 2) with 222 and 219 storage positions located in SFP1 and SFP2 respectively (441 total) constitute a fifth configuration within the pools. These Region I racks are designed to accommodate new fuel with a maximum enrichment of 5.0 w/t % U-235 or spent fuel regardless of the discharge fuel burnup. Soluble boron is not credited for the storage of spent fuel assemblies within the Region I racks, and there are no storage pattern restrictions associated with the Region I racks. The neutron absorber material Boral is credited for the storage of spent fuel assemblies within the Region I racks to maintain k_{eff} less than or equal to 0.95.

A discussion of how soluble boron is credited for the storage of spent fuel assemblies is contained in the BACKGROUND for B 3.7.16.

(Reference 4)

Within the SFP1 Region II racks, there exist two oversized (2x2) cells. Within the SFP2 Region I racks, there exists one oversized (2x2) cell. These oversized cells are not approved for storage of either fresh or spent fuel. However, they can be used as a place in the pool for an assembly to be lowered and raised while being inspected. Prior to use of the inspection cells certain prerequisites must be met. Criticality analyses ~~(Reference 3)~~ have been performed which demonstrate that there is no increase in reactivity relative to the approved Region II storage configurations (the current licensing basis requirements for the spent fuel pool are still met) provided that administrative prerequisites are maintained for the oversized cells in

(continued)

BASES

BACKGROUND (continued)

SFP1 Region II racks. The prerequisite for the use of the oversized cells in Region II racks is that all the Region II cells in the first row surrounding the oversized cell remain empty. This results in a total of 8 empty Region II cells adjacent to the oversized cell in the SFP I Region II rack adjacent to the Region I rack and a total of 5 empty Region II cells adjacent to the oversized cell in the SFP1 Region II racks adjacent to the spent fuel pool walls. There are no prerequisites for the use of the oversized cell in SFP2 Region I racks since the criticality analyses (Reference 3) demonstrate there is no increase in reactivity relative to the approved Region I storage configuration.

APPLICABLE SAFETY ANALYSES

A discussion of the criticality analysis for the storage of spent fuel assemblies is contained in the APPLICABLE SAFETY ANALYSES for

Credit is taken in the criticality analysis for the reactivity affects of plutonium decay and axial blankets (Reference 4). Fuel assemblies with axial blankets contain layers of lower enrichment fuel at the top and bottom of the fuel assembly which improve neutron economy in the reactor core. As described in Figure 3.7.17-6, the blankets must be at most 2.6% enriched and at least 6 inches long (each top and bottom blanket), and all assemblies in any 2 by 2 matrix must contain blankets in order to utilize Figure 3.7.17-2 or Figure 3.7.17-4.

l storage pool accident conditions will not result in a significant in k_{eff}. Examples of such accidents are the drop of a fuel assembly a rack, and the drop of a fuel assembly outside but adjacent to the dules. However, accidents can be postulated for each rack storage ation which could increase reactivity beyond the analyzed condition. sion of these accidents is contained in B 3.7.16.

ly controlling the movement of each assembly and by checking the of each assembly after movement, the time period for potential s may be limited to a small fraction of the total operating time.

iguration of fuel assemblies in the fuel storage pool satisfies 2 of 10CFR50.36(c)(2)(ii).

LCO

The restrictions on the placement of fuel assemblies within the spent fuel pool, in accordance with Figures 3.7.17-1 through ~~3.7.17-4~~ 3.7.17-6, in the accompanying LCO, ensures the k_{eff} of the spent fuel storage pool will always remain ≤ 0.95, assuming the pool to be flooded with borated water.

NOTE: The oversized inspection cells within the racks are not approved storage locations and are not covered by the LCO. Administrative controls which govern the use of the inspections cells are described in the BACKGROUND.

(continued)

BASES (continued)

APPLICABILITY

This LCO applies whenever any fuel assembly is stored in Region II racks of the fuel storage pool.

ACTIONS

A.1

When the configuration of fuel assemblies stored in Region II racks of the spent fuel storage pool is not in accordance with Figures 3.7.17-1 through ~~3.7.17-4~~, the immediate action is to initiate action to make the necessary fuel assembly movement(s) to bring the configuration into compliance with Figures 3.7.17-1 through ~~12 3.7.17-4~~.

3.7.17-6

3.7.17-6

Required Action A.1 is modified by a Note indicating that LCO 3.0.3 does not apply. If unable to move irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not be applicable. If unable to move irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the action is independent of reactor operation. Therefore, inability to move fuel assemblies is not sufficient reason to require a reactor shutdown.

SURVEILLANCE REQUIREMENTS

SR 3.7.17.1

, decay time, and axial blankets

This SR verifies, by administrative means, that the initial enrichment, burnup ~~and decay time~~ of the fuel assembly is in accordance with Figures 3.7.17-1 through ~~3.7.17-4~~ in the accompanying LCO.

3.7.17-6

REFERENCES

1. FSAR Section 9.1.
2. License Amendment Request 94-22, 98-08, and 00-05 Spent Fuel Storage Capacity Increase, Docket Nos. 50-445 and 50-446, CPSES.
3. Criticality Safety Analysis of Holtec Spent Fuel Racks, dated January, 2003 (Holtec Report HI-2002436, Revision 9).
4. Comanche Peak Units 1 and 2 Spent Fuel Pool Criticality Safety Analysis, dated July 2007 (Westinghouse WCAP-16827).

ATTACHMENT 10 to TXX-07106

LISTS OF REGULATORY COMMITMENTS

This communication contains the following new commitments which will be completed or incorporated into the Comanche Peak Nuclear Power Plant (CPNPP) licensing basis as noted:

Number	Commitment
27448	The 4.5% uprate conditions will be considered as part of the restoration of the containment coating qualifications supporting resolution of Generic Safety Issue - 191 Containment sumps.
27467	A small load reduction test of at least 50 MWe will be performed to confirm the expected integrated response of the following automatic control systems at SPU conditions; • Rod Control System • Steam Generator Water Level Control System • Pressurizer Level Control System This load reduction test, along with routine startup and surveillance testing, post modification testing, and power ascension testing and monitoring will provide the bases for confirmation of predicted and extrapolated system dynamic behavior. The results of this testing and monitoring, combined with SPU analyses, will be used to ensure that the plant systems, including the above identified automatic control systems are capable of performing safely and reliably in the uprated condition.

The Commitment number is used by Luminant Power for the internal tracking of CPNPP commitments.

ENCLOSURE 5 to TXX-07106

Westinghouse authorization letter CAW-07-2317 with accompanying affidavit
Proprietary Information Notice and Copyright Notice

Westinghouse

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Our ref: CAW-07-2317

August 22, 2007

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: WCAP-16840-P, "Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report" (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-07-2317 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by TXU Generation Company LP

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-07-2317, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,

J. A. Gresham, Manager
Regulatory Compliance and Plant Licensing

Enclosures

cc: J. Thompson, NRC

bcc: J. A. Gresham (ECE 4-7A) 1L
R. Bastien, 1L (Nivelles, Belgium)
C. Brinkman, 1L (Westinghouse Electric Co., 12300 Twinbrook Parkway, Suite 330, Rockville, MD 20852)
RCPL Administrative Aide (ECE 4-7A) 1L, 1A (letter and affidavit only)
R. Morrison (ECE 4-7A) 1L, 1A

CAW-07-2317

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared J. A. Gresham, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:

J. A. Gresham, Manager
Regulatory Compliance & Plant Licensing

Sworn to and subscribed before me
this 22nd day of August, 2007

Sharon L. Markle
Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Sharon L. Markle, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires Jan. 29, 2011
Member, Pennsylvania Association of Notaries

(1) I am Manager, Regulatory Compliance & Plant Licensing, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse "Application for Withholding" accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.

(iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in WCAP-16840-P, "Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report" (Proprietary), dated August 2007, for Comanche Peak Nuclear Power Plant Units 1 and 2, being transmitted by TXU Generation Company LP letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted for use by Westinghouse for Comanche Peak Nuclear Power Plant Units 1 and 2 is expected to be applicable for other licensee submittals in response to certain NRC requirements for justification of stretch power uprating.

This information is part of that which will enable Westinghouse to:

(a) Provide information in support of plant power uprate licensing submittals.

(b) Provide customer specific calculations.

(c) Provide licensing support for customer submittals.

Further this information has substantial commercial value as follows:

(a) Westinghouse plans to sell the use of similar information to its customers for purposes of meeting NRC requirements for licensing documentation associated with power uprate licensing submittals.

(b) Westinghouse can sell support and defense of the technology to its customer in the licensing process.

(c) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar information and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

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ENCLOSURE 6 to TXX-07106

Westinghouse authorization letter CAW-07-2318 with accompanying affidavit
Proprietary Information Notice and Copyright Notice

Westinghouse

Westinghouse Electric Company
Nuclear Services
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Pittsburgh, Pennsylvania 15230-0355
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Direct tel: (412) 374-4643
Direct fax: (412) 374-4011
e-mail: greshaja@westinghouse.com

Our ref: CAW-07-2318

August 14, 2007

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: WCAP-16827-P, "Comanche Peak Units 1 and 2 Spent Fuel Pool Criticality Safety Analysis" (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-07-2318 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by TXU Generation Company LP.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-07-2318, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,

C. Morgan for

J. A. Gresham, Manager
Regulatory Compliance and Plant Licensing

Enclosures

cc: J. Thompson, NRC

bcc: J. A. Gresham (ECE 4-7A) 1L
R. Bastien, 1L (Nivelles, Belgium)
C. Brinkman, 1L (Westinghouse Electric Co., 12300 Twinbrook Parkway, Suite 330, Rockville, MD 20852)
RCPL Administrative Aide (ECE 4-7A) 1L, 1A (letter and affidavit only)
R. Morrison (ECE 4-7A) 1L, 1A

CAW-07-2318

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared R. B. Sisk, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:

R. B. Sisk, Manager
Fuel Engineering Licensing

Sworn to and subscribed before me
this 14th day of August, 2007

Sharon L. Markle
Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Sharon L. Markle, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires Jan. 29, 2011
Member, Pennsylvania Association of Notaries

(1) I am Manager, Fuel Engineering Licensing, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse "Application for Withholding" accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

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may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

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(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

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(v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in WCAP-16827-P, "Comanche Peak Units 1 and 2 Spent Fuel Pool Criticality Safety Analysis" (Proprietary), dated July 2007, for Comanche Peak Nuclear Power Plant Units 1 and 2, being transmitted by TXU Generation Company LP letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted for use by Westinghouse for Comanche Peak Nuclear Power Plant Units 1 and 2 is expected to be applicable for other licensee submittals in response to certain NRC requirements for justification of spent fuel pool criticality safety analysis.

This information is part of that which will enable Westinghouse to:

(a) Provide information in support of plant power spent fuel pool criticality safety analysis.

(b) Provide customer specific calculations.

(c) Provide licensing support for customer submittals.

Further this information has substantial commercial value as follows:

(a) Westinghouse plans to sell the use of similar information to its customers for purposes of meeting NRC requirements for licensing documentation associated with spent fuel pool criticality safety analysis submittals.

(b) Westinghouse can sell support and defense of the technology to its customer in the licensing process.

(c) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

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