



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 24, 2015

Mr. Rafael Flores
Senior Vice President and
Chief Nuclear Officer
Attention: Regulatory Affairs
Luminant Generation Company LLC
P.O. Box 1002
Glen Rose, TX 76043

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: REVISION TO TECHNICAL SPECIFICATION 3.8.1, "AC SOURCES – OPERATING," FOR A 14-DAY COMPLETION TIME FOR OFFSITE CIRCUITS (TAC NOS. MF4342 AND MF4343)

Dear Mr. Flores:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 164 to Facility Operating License No. NPF-87 and Amendment No. 164 to Facility Operating License No. NPF-89 for Comanche Peak Nuclear Power Plant, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated July 1, 2014.

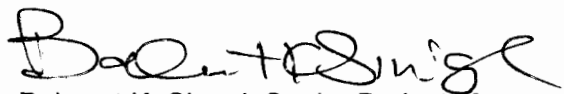
The amendments revise TS 3.8.1, "AC [Alternating Current] Sources – Operating," to extend the Completion Time (CT) for Required Action A.3, "Restore required offsite circuit to OPERABLE status," on a one-time basis from 72 hours to 14 days. The CT extension from 72 hours to 14 days will be used while completing the plant modification to install alternate startup transformer XST1A and will expire on March 31, 2017.

R. Flores

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

Sincerely,

A handwritten signature in black ink, appearing to read "Balwant K. Singal". The signature is fluid and cursive, with the first name "Balwant" being the most prominent.

Balwant K. Singal, Senior Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-445 and 50-446

Enclosures:

1. Amendment No. 164 to NPF-87
2. Amendment No. 164 to NPF-89
3. Safety Evaluation

cc w/encls: Distribution via Listserv



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

LUMINANT GENERATION COMPANY LLC

COMANCHE PEAK NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-445

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 164
License No. NPF-87

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Luminant Generation Company LLC dated July 1, 2014, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

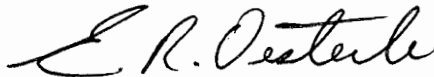
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-87 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A as revised through Amendment No. 164 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. Luminant Generation Company LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan as indicated in the attachment to this license amendment.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Eric R. Oesterle, Acting Chief
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility Operating
License No. NPF-87 and
Technical Specifications

Date of Issuance: February 24, 2015



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

LUMINANT GENERATION COMPANY LLC

COMANCHE PEAK NUCLEAR POWER PLANT, UNIT NO. 2

DOCKET NO. 50-446

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 164
License No. NPF-89

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Luminant Generation Company LLC dated July 1, 2014, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-89 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A as revised through Amendment No. 164 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. Luminant Generation Company LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Eric R. Oesterle, Acting Chief
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility Operating
License No. NPF-89 and
Technical Specifications

Date of Issuance: February 24, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 164

TO FACILITY OPERATING LICENSE NO. NPF-87

AND AMENDMENT NO. 164

TO FACILITY OPERATING LICENSE NO. NPF-89

DOCKET NOS. 50-445 AND 50-446

Replace the following pages of the Facility Operating License Nos. NPF-87 and NPF-89, and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Facility Operating License No. NPF-87

REMOVE

INSERT

3

3

Facility Operating License No. NPF-89

REMOVE

INSERT

3

3

Technical Specifications

REMOVE

INSERT

3.8-2

3.8-2

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

Luminant Generation Company LLC 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. 164 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. Luminant Generation Company LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

Luminant Generation Company LLC 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. 164 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. Luminant Generation Company LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

DELETED

ACTIONS

-----NOTE-----
LCO 3.0.4.b is not applicable to DGs.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One required offsite circuit inoperable.</p>	<p>A.1 Perform SR 3.8.1.1 for required OPERABLE offsite circuit.</p> <p><u>AND</u></p> <p>A.2 -----NOTE----- In MODES 1, 2 and 3, the TDAFW pump is considered a required redundant feature.</p> <p>Declare required feature(s) with no offsite power available inoperable when its redundant required feature(s) is inoperable.</p> <p><u>AND</u></p> <p>A.3 Restore required offsite circuit to OPERABLE status.</p>	<p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p>24 hours from discovery of no offsite power to one train concurrent with inoperability of redundant required feature(s)</p> <p>72 hours</p> <p><u>OR</u></p> <p>14 days for a one-time outage on XST1 to complete a plant modification to be completed by March 31, 2017.</p>



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 164 TO

FACILITY OPERATING LICENSE NO. NPF-87

AND AMENDMENT NO. 164 TO

FACILITY OPERATING LICENSE NO. NPF-89

LUMINANT GENERATION COMPANY LLC

COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-445 AND 50-446

1.0 INTRODUCTION

By letter dated July 1, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14192A338), Luminant Generation Company LLC (the licensee) requested changes to Technical Specifications (TSs) for Comanche Peak Nuclear Power Plant (CPNPP), Units 1 and 2. The amendments modify TS 3.8.1, "AC [Alternating Current] Sources – Operating," to extend the Completion Time (CT) for Required Action A.3, "Restore required offsite circuit to OPERABLE status," on a one-time basis from 72 hours to 14 days. The CT extension from 72 hours to 14 days will be used while completing the plant modification to install alternate startup transformer (ST) XST1A and will expire on March 31, 2017. After completion of this modification, if ST XST1 should require maintenance or if failure occurs, the alternate ST XST1A can be aligned to the Class 1E buses well within the current CT of 72 hours.

The request for extension of the allowable CT for the inoperable offsite circuit associated with ST XST1 is based on the following three elements: 1) a traditional (deterministic, defense-in-depth) engineering analysis, 2) avoidance of risk-significant plant configurations using mitigation measures, and 3) implementation of a Configuration Risk Management Program (CRMP) during the one-time, 14-day extended CT.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," Criterion 17 (General Design Criteria (GDC 17)), "Electric power systems," requires, in part, that

An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety....

The onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure.

Electric power from the transmission network to the onsite electric distribution system shall be supplied by two physically independent circuits (not necessarily on separate rights of way) designed and located so as to minimize to the extent practical the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. A switchyard common to both circuits is acceptable. Each of these circuits shall be designed to be available in sufficient time following a loss of all onsite alternating current power supplies and the other offsite electric power circuit, to assure that specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded. One of these circuits shall be designed to be available within a few seconds following a loss-of-coolant accident to assure that core cooling, containment integrity, and other vital safety functions are maintained.

Provisions shall be included to minimize the probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss of power generated by the nuclear power unit, the loss of power from the transmission network, or the loss of power from the onsite electric power supplies.

GDC 18, "Inspection and testing of electric power systems," requires, in part, that

Electric power systems important to safety shall be designed to permit appropriate periodic inspection and testing of important areas and features, such as wiring, insulation, connections, and switchboards, to assess the continuity of the systems and the condition of their components.

GDC 5, "Sharing of structures, systems, and components," requires that

Structures, systems, and components important to safety shall not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cooldown of the remaining units.

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the license. The regulatory requirements related to the content of the TSs are contained 10 CFR 50.36, "Technical specifications." The regulation in 10 CFR 50.36 requires applicants for nuclear power plant operating licenses to include TSs as part of the license. The regulation requires, in part, that the TSs include items in the following categories: (1) safety limits, limiting safety systems settings and control settings, (2) limiting conditions for operation (LCO), (3) surveillance requirements, (4) design features, and (5) administrative controls. The proposed change to the CPNPP, Units 1 and 2, relates to the LCO category.

The regulations in 10 CFR 50.63, "Loss of all alternating current power," paragraph (a), requires, in part, requires that each light-water cooled nuclear power plant licensed to operate "must be able to withstand for a specified duration and recover from a station blackout."

The regulations in 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," paragraph (a)(4), requires, in part, that before performing preventative maintenance activities, "the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities."

Regulatory Guide (RG) 1.93, "Availability of Electric Power Sources," December 1974 (ADAMS Accession No. ML003740292)¹, provides guidance with respect to operating restrictions or CT if the number of available AC sources is less than that required by the TS LCO. In particular, this guide recommends a maximum CT of 72 hours for an inoperable onsite or offsite AC source.

RG 1.155, "Station Blackout," August 1988 (ADAMS Accession No. ML003740034), provides guidance for complying with the 10 CFR 50.63 that requires nuclear power plants to be capable of coping with a station blackout (SBO) event for a specified duration.

RG 1.177, Revision 1, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," May 2011 (ADAMS Accession No. ML100910008), describes an acceptable risk-informed approach for assessing proposed changes to TS Allowed Outage Time, or termed as CT.

NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Branch Technical Position (BTP) 8-8, "Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions," February 2012 (ADAMS Accession No. ML113640138), provides guidance to the NRC staff in reviewing license amendment requests (LARs) for licensees proposing a one-time or permanent TS change to extend an emergency diesel generator (EDG) allowed outage time (AOT) beyond 72 hours.

¹ RG 1.93, Revision 1, was issued in March 2012. However, CPNPP, Units 1 and 2, are committed to the RG issued in December 1974.

3.0 TECHNICAL EVALUATION

3.1 Description of CPNPP, Units 1 and 2, Offsite and Onsite AC Power System

The CPNPP, Units 1 and 2, offsite power system is comprised of 138 kiloVolt (kV) and 345 kV systems. The 138 kV switchyard is physically and electrically independent of the 345 kV switchyard. The offsite power is the preferred source of power to the Class 1E buses.

Two physically independent and redundant sources of offsite power circuits are available on an immediate basis for the safe shutdown of either unit. The normal offsite source for 6.9 kV Class 1E buses of Unit 1 is the 345 kV offsite supply from the 345 kV switchyard via ST XST2 (or spare XST2A if XST2 is unavailable). The normal offsite source for 6.9 kV Class 1E buses of Unit 2 is the 138 kV offsite supply from the 138 kV switchyard via ST XST1. The alternate offsite source to 6.9 kV Class 1E buses of Unit 1 is from ST XST1, and to 6.9 kV Class 1E buses of Unit 2 is from ST XST2 (or XST2A if XST2 is unavailable).

The offsite power sources supply power to the Class 1E buses during plant startup, normal operation, emergency shutdown, and upon a unit trip, thus eliminating the need for automatic transfer of safety-related loads in the event of a unit trip.

Each ST has the capacity to supply the required Class 1E loads of both units during all modes of plant operation. In the event that a normal ST (e.g., XST1) becomes unavailable to the Class 1E buses, the power is immediately available from the alternate transformer (e.g., XST2) by an automatic transfer scheme. Each transformer is capable of supplying the required safe shutdown loads of both units.

Two independent and redundant 6.9 kV Class 1E buses are provided for each unit, each capable of supplying the required safety-related loads to safely shut down the unit following a design-basis accident. Loss of both offsite power sources to any 6.9 kV Class 1E bus results in the diesel generator providing power to the associated Class 1E bus. The redundant safety-related loads are divided between two trains of Class 1E buses so that loss of either train does not impact the minimum required safe shutdown equipment. Physical separation and electrical isolation are maintained between the two trains of Class 1E buses.

3.2 Proposed Plant Modifications and TS Changes

If one required offsite circuit is inoperable, current TS 3.8.1 Required Action A.3 CT requires that the required offsite circuit be restored to operable status within:

72 hours

OR

14 days for two one-time outages on XST1 to complete a plant modification to be completed by March 31, 2014.

Revised TS 3.8.1 Required Action A.3 CT would state that the required offsite circuit be restored to operable status within:

72 hours

OR

14 days for a one-time outage on XST1 to complete a plant modification to be completed by March 31, 2017.

A prior amendment approved by the staff by letter dated September 18, 2013 (ADAMS Accession No. ML13232A143), extended, on a one-time basis, the CT associated with restoration of an inoperable offsite power circuit from 72 hours to 14 days. The extension from 72 hours to 14 days was to be used twice while completing the plant modification to install alternate ST XST1A. This allowed the installation/connection of new spare/alternate ST XST1A, and completion of related modifications. The modification work was planned to be performed in three stages as follows:

1. One 14-day CT (first requested CT) to complete the 138 kV modification work;
2. Perform the preparation, installation, and testing of the new spare/alternate ST XST1A (existing 72-hour allowed CT may be used for this work), and,
3. Another 14-day CT (second requested CT) to complete the 6.9 kV modification work.

The first 14-day CT for XST1 was completed on October 22, 2013. Early, during the second 14-day CT, a 6.9 kV cable was incorrectly cut resulting in the termination of the second 14-day CT and of the associated planned modifications.

In the LAR, the licensee stated that currently, if ST XST1 requires maintenance that would exceed 72 hours, or if XST1 fails, it would take about 14 days to complete the 6.9 kV modification to connect XST1A to the 1E buses via the transfer panels. The timing is dependent on the extent of transformer damage and the availability of needed equipment and personnel to perform the work. Each ST provides one of the two required offsite AC sources for each CPNPP unit. According to current TS, an outage of XST1 (one required offsite circuit inoperable) for greater than the current CT of 72 hours requires that both units be shut down to Mode 5.

The proposed change would revise the TS 3.8.1 CT of Required Action A.3 to allow on a one-time basis, one 14-day outage to complete a plant modification on ST XST1 to be accomplished by March 31, 2017. The requested 14-day CT will be used to install and terminate the 6.9 kV cables associated with XST1 and XST1A through transfer panels. After this work is done, XST1 will be restored and the offsite circuit will be operable. In the LAR, the licensee provided an additional detailed list of work associated with the above modification work, thus justifying the need for the 14-day CT. Also the licensee stated that after the completion of this modification, if

XST1 should require maintenance or repair or if failure occurs, then the alternate ST XST1A can be aligned to the Class 1E buses well within the current CT of 72 hours.

3.3 Cut Cable Event

In the LAR, the licensee stated that before beginning the second 14-day CT, an electrician incorrectly identified and cut a wire in the ground protection circuit for XST1. This event did not result in any protective relaying circuit actuations. The second 14-day CT for XST1 modification began with XST2 powering the Class 1E 6.9kV buses of both units. Early into the 14-day CT, an XST2 6.9kV cable was cut in error and CPNPP experienced a loss of power to both Class 1E 6.9 kV buses when 345 kV ST XST2 was de-energized. The Class 1E buses were re-energized from both units' EDG. CPNPP was granted a Notice of Enforcement Discretion in order to remain in Mode 1 for an additional 14 hours and XST1 and XST2 were restored to operable conditions.

As stated in the LAR dated July 1, 2014:

The Root Cause Analysis team determined that during the initial conceptual design, the wrong cable tray was identified for the XST1 secondary (6.9kV) circuits and subsequent detailed design and installation documents incorrectly reflected modifications to XST2 cable trays and cable instead of XST1 cable trays and cable.

The licensee's immediate corrective actions were to discontinue any field cable cut and termination activities, repair the cut cable, restore offsite power, and terminate the second 14-day CT.

The licensee stated in the LAR as a Regulatory Commitment that it will complete all corrective actions that were identified in Licensee Event Report 445/13-003-00 (ADAMS Accession No. ML14043A089) prior to entry into the 14-day CT:

As a part of the CPNPP Corrective Action Program, procedures will be created and/or revised to improve the modification oversight process, modification planning process, design change development and review process, component verification process, and station senior management awareness of modification team performance to station standards. Management observations will also be performed to ensure supervision is reinforcing station standards for design change and field implementation activities. A Modification Oversight Composite Index will be created to reflect the current Modification Team performance against station standards.

The NRC staff concludes that the above regulatory commitment provides reasonable assurance that the licensee will perform the 14-day CT without another cut cable event and that it meets the intent of BTP 8-8 to provide defense-in-depth measures during the 14-day CT.

3.4 Supplemental Power Source

In the LAR, the licensee proposed a supplemental power source and various other compensatory measures, as defense-in-depth measures to meet the intent of BTP 8-8, to provide additional/maintain the safety margin against any extended loss-of-offsite power (LOOP) event coincident with unavailability of both EDGs in a single unit.

The supplemental power source will consist of three Alternate Power Diesel Generators (APDGs) per unit. The three APDGs, each rated at 1140 kiloWatt (kW), will operate in parallel as a set, providing a combined output of approximately 3420 kW (4275 kiloVolt Ampere (kVA)). For each unit, the APDGs rated 480 V will provide power through a 480 V/6900 V transformer which may be loaded to 3450 kVA. The transformer can be connected to either of the 6.9 kV Class 1E bus through a manual transfer switch in each unit.

The licensee stated in the LAR that during the proposed extended CTs, the APDGs would be available to provide an additional measure of defense-in-depth beyond that required by the plant design and 10 CFR 50.63 in the unlikely event of a LOOP with concurrent unavailability of both EDGs on either unit. The APDGs would provide the ability to achieve and maintain cold shutdown for an extended LOOP event coincident with the unavailability of both EDGs in a single unit.

The APDGs are currently located in the station yard and are designed to be manually connected/provide feed to a 6.9 kV bus, if required within approximately 1 hour. The APDGs will be manually connected to a 6.9 kV Class 1E bus when that unit has no other source of power. The required loads on the APDGs can be connected manually.

According to the LAR, Plant Procedure SOP-614A/B, "Alternative Power Generator Operations," directs the Operator to monitor the APDG set parameters (e.g., lube oil, engine coolant, fuel levels, transformer temperature and liquid levels, etc.) on a per shift basis to ensure the APDGs are ready to start. Once per month, the APDG sets are started and synchronized together in an unloaded condition to verify there are no problems with the diesels. The APDGs have the capability to supply the necessary safety equipment in addition to being able to start the largest load. Within 2 weeks before entering the 14-day CT, the APDGs (one set per unit) will be tested to ensure the reliability of the APDGs. Furthermore, in the LAR the licensee provided the following additional information regarding APDGs:

- A layout and the electrical connection details showing the connection of the APDGs to the plant 6.9 kV safety switchgear.
- APDG fuel will be replenished every 2 hours, per plant procedure SOP-614A/B, "Alternate Power Generator Operation." If power remains available in the fuel island, the electric transfer pump can fill the 2000-gallon refueling truck from the fuel island storage tank which is normally filled with 5,000 to 8,000 gallons. If power is not available in the fuel island, a gasoline powered pump can pump approximately 200 gallons per minute to fill the four EDG fuel oil storage tanks to 86,000 gallons each. This will administratively be done by the Control Room.

- A Nuclear Equipment Operator will be assigned to ensure proper operation of the APDGs, during the proposed 14-day CT.
- The maximum loading to each APDG set will be 3416 kVA, which will remain within the connected transformer rating of 3450 kVA. The common loads will be fed by the operable EDG and the APDG set will not be required to power the common loads.
- Each APDG generator set contains a multifunction protection and control device with the capability to equally share real kW and reactive kVA load with other generators.
- The APDG sets are designed with built-in leak detection and spill containment. The APDG fuel tank fill point is external, which prevents diesel fuel from refueling activities potentially coming in contact with a running diesel generator and hot diesel generator components.

In the LAR, the licensee provided a regulatory commitment to perform a thermographic survey to verify no abnormalities exist in two fixed sources in the safeguards switchgear room. Also, the licensee stated that the two fixed sources are the motor control center (1EB1-1) and a 6.9 kV to 480 V transformer (T1EB3). As only XST2 would be in-service during the extended CT, a fire in either of these two sources could result in loss of power to the in-service ST XST2, warranting additional preventative measures. Therefore, the licensee committed to perform thermo-graphic surveys on these devices 2 weeks prior to start of the CT. The NRC staff finds the above regulatory commitment provides reasonable assurance that the licensee will perform the 14-day CT without the occurrence of a fire in either of the two sources, and that it meets the intent of BTP 8-8 to provide defense-in-depth measures during the 14-day CT.

The NRC staff reviewed the LAR and concludes that the design of the APDGs meets the intent of BTP 8-8 for supplemental power source.

3.5 Compensatory and Mitigation Measures

By letter dated July 1, 2014, the licensee provided several regulatory commitments described in Section 4.0, "Regulatory Commitments," to meet the guidance provided in BTP 8-8 to assure safe shutdown during inoperability of one offsite circuit associated with modifications related to XST1 and XST1A. The commitments are outlined in the Attachment to this safety evaluation.

The NRC staff has reviewed the commitments made by the licensee and concludes that the commitments meet the intent of BTP 8-8 to provide defense-in-depth measures during the 14-day CT.

In letter dated July 1, 2014, the licensee also stated that CPNPP has a CRMP, which has the characteristics of the Model Configuration Risk Management Program described in RG 1.177. To avoid or reduce the potential for risk-significant configurations from either emergent or planned work, CPNPP has put in place a set of administrative guidelines that go beyond the limitations set forth in the plant TSS. These guidelines control configuration risk by assessing

the risk impact of equipment out-of-service during all modes of operation to assure that the plant is always being operated within the acceptable risk guidelines. The NRC staff determined that there is compliance with the requirements specified in 10 CFR 50.65.

3.6 Summary

The licensee evaluated the cut cable event and performed a Root Cause Analysis of the event. From the Root Cause Analysis, the licensee identified and completed immediate corrective actions and submitted a regulatory commitment to complete further corrective actions prior to entry into the 14-day CT. The licensee is providing a supplemental power source (APDGs), as a defense-in-depth measure, during the 14-day CT due to the modification work associated with transformer XST1 and installation of a spare transformer XT1A in accordance with the BTP 8-8 guidance. The NRC staff reviewed the proposed APDGs information with respect to size, installation, auxiliaries, and connection to the existing electrical system. The APDGs have the capacity and capability to provide power for one train of shutdown equipment needed for safe shutdown and long-term core cooling to respond to extended LOOP if loss of XST2 occurs and both EDGs of a unit fail to start and load as designed. The licensee also provided various regulatory commitments as a measure of defense-in-depth concept of BTP 8-8. The licensee has a CRMP which follows the key components of CRMP described in the RG 1.177. The staff concludes that the proposed LAR meets the intent of the BTP 8-8, and the traditional engineering guidance provided in RG 1.177.

The NRC staff also reviewed whether the proposed TS changes will have any impact on the licensee's compliance with GDCs 5, 17, and 18; 10 CFR 50.36; 10 CFR 50.65; and 10 CFR 50.63. The staff concludes that there is no impact on continued compliance with these regulatory requirements. The request is also consistent with the guidance provided by RGs 1.93 and 1.155.

Based on the above, the NRC staff concludes that the proposed change to TS 3.8.1 Required Action A.3 CT to allow a one-time, 14-day CT to complete a plant modification on ST XST1, to be completed by March 31, 2017, is acceptable. The staff also concludes that the proposed change will not impact the licensee's compliance with the 10 CFR 50.36; 10 CFR 50.63; 10 CFR 50.65; and GDCs 5, 17, and 18. Installation of the alternate ST will result in improved plant design and improve the long-term reliability of the 138 kV offsite circuit ST.

4.0 REGULATORY COMMITMENTS

The licensee made several regulatory commitments described in the Attachment to this safety evaluation to comply with the guidance provided in BTP 8-8 to assure safe shutdown during inoperability of one offsite circuit associated with modifications related to XST1 and XST1A. The NRC staff concluded that the regulatory commitments meet the intent of BTP 8-8 to provide defense-in-depth during the two 14-day CTs.

5.0 STATE CONSULTATION

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

6.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on October 28, 2014 (79 FR 64226). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

7.0 CONCLUSION

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

Principal Contributor: Sergiu S. Basturescu, NRR/DE/EEEB

Date: February 24, 2015.

Attachment:
Regulatory Commitments

REGULATORY COMMITMENTS

Commitment Number	Commitment Description	Due Date/Event
4856645	During a 14-day CT, the APDG [set] provided for each Unit will be verified available to provide power to equipment for long term cooling once per shift.	During the 14-day CT
4856652	During the 14-day CT, if an APDG [set] becomes unavailable, the affected Unit shall enter Condition C of TS 3.8.1 and comply with the Required Actions. If the CT for the Condition C Required Actions is not met, then Condition G of TS 3.8.1 shall be entered. This allowance will only be exercised during the 14-day CT for a given Unit. For any second, or subsequent, unavailability of an APDG [set] for a given Unit, the affected Unit shall immediately enter TS 3.0.3. In all cases, the normal rules governing application of TSS in section 1.0 of the CPNPP TSS shall apply.	During the 14-day CT
4856680	Prior to initiation of the 14-day CT, [Preventive Maintenance (PM)] task for breakers IEA1-1, 1EA2-1, 2EA1-2 and 2EA2-2 will be verified as current.	Prior to the start of the 14-day CT
4856681	Testing of EDGs, APDGs, and TDAFWPs [turbine driven auxiliary feedwater pumps] will occur within the two (2) weeks prior to the start of the 14-day CT.	Within two weeks prior to the start of the 14-day CT
4856682	The EDGs, APDGs, TDAFWPs, XST2, CCWPs [component cooling water pumps], and SSWPs [station service water pumps] will have ALL testing and maintenance activities suspended for the duration of the 14-day CT for XST1. Additionally, signs will be placed on the doorways to the equipment, or in the case of XST2 around the equipment, noting the restriction of testing and maintenance during this XST1 CT.	During the 14-day CT
4856683	A roving hourly fire watch will be in effect during the 14-day XST1 CT along the path of the XST2 power and control cabling. This is an additional measure to monitor the area for fires that could damage and disable the XST2 transformer cabling.	During the 14-day CT
4856684	Local weather conditions and forecasts will be monitored by Operations twice per shift to assess potential impacts on plant conditions.	During the 14-day CT
4856688	A time in which severe weather is not expected will be selected for implementation of the XST1 CT. Based on historical information; this time frame is September 1 through March 31. This planned timing will reduce high [wind/tornadoes] and weather challenges to the plant during the XST1 CT.	During the 14-day CT

Commitment Number	Commitment Description	Due Date/Event
4856689	The seismic walkdown will be completed prior to the XST1 CT to identify any issues that could impact the EDGs and TDAFWPs during a seismic event. These impacts include mounting or interactions issues including loose parts and missing hardware. This walkdown is for assurance that these components will meet their seismic design criteria in the event of a seismic incident.	Within two weeks prior to the start of the 14-day CT
4856690	Access to the 345kV switchyard and relay houses will be controlled and posted, and all maintenance will be suspended for the duration of the CT on XST1. Due to XST1 being deenergized the 138kV switchyard is not impacted.	Prior to the start of the 14- day CT
4856691	CPNPP's Operations Department will contact the Transmission Operator (Transmission Grid Controller) once per day during the 14-day Completion Time to ensure no problems exist in the transmission lines feeding CPNPP or their associated switchyards that would cause [post-trip] switchyard voltages to exceed the voltage required by STA-629.	During the 14-day CT
4856692	Just-in-time training for affected work groups will be completed prior to the start of a XST1 outage.	Prior to the start of the 14-day CT
4856693	All hot work activities along the routing associated with power and control cabling for XST2, the in-service ST, will be suspended during the 14-day CT. This is to reduce the likelihood of fires that could damage and thus disable the XST2 transformer cabling.	During a 14-day CT
4856694	In the two weeks prior to the start of the CT, a thermographic survey will be conducted on the two fixed sources in the safeguards switchgear room to verify no abnormalities exist. This is to reduce the likelihood of a fire ignition.	Within two weeks prior to the start of the 14-day CT
4856720	Both Unit 1 and 2 Transient Combustible zones that are associated with the cable routing for the XST2 transformer will have additional restrictions relating to combustible storage during the extended CT durations. Implementing this mitigation measure will reduce the likelihood of fires related to the XST2 transformer.	During the 14-day CT
4856724	A Nuclear Equipment Operator will be assigned to ensure proper operation of the APDGs, during the 14-day CT.	During a 14-day CT
4859995	Luminant [Generation Company LLC] will ensure all applicable corrective actions from the "cut cable" event root cause are complete and in place per [Licensee] Event Report 445/13-003-00 [(ADAMS Accession No. ML14043A089)].	Prior to the start of the 14-day CT

R. Flores

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

Sincerely,

/RA/

Balwant K. Singal, Senior Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-445 and 50-446

Enclosures:

1. Amendment No. 164 to NPF-87
2. Amendment No. 164 to NPF-89
3. Safety Evaluation

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ADAMS Accession No. ML15008A133

***Memo dated 12/18/14**

OFFICE	NRR/DORL/LPL4-1/PM	NRR/DORL/LPL4-1/LA	NRR/DSS/STSB/BC	NRR/DE/EEEE/BC
NAME	BSingal	JBurkhardt	RElliott	JZimmerman
DATE	1/20/15	1/15/15	2/2/15	1/29/15
OFFICE	OGC - NLO	NRR/DORL/LPL4-1/BC(A)	NRR/DORL/LPL4-1/PM	
NAME	SUttal	EOesterle w/ comments	BSingal	
DATE	2/23/15	2/24/15	2/24/15	

OFFICIAL AGENCY RECORD