



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

June 23, 2021

MEMORANDUM TO: Anton Vogel, Director
Division of Reactor Projects

FROM: Neil O'Keefe, Chief
Projects Branch B
Division of Reactor Projects

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT UNIT 2 REACTOR
TRIP ON JUNE 7, 2021 – MANAGEMENT DIRECTIVE 8.3
SCREENING

On June 7, 2021, Comanche Peak Nuclear Power Plant Unit 2 experienced a failure and fire in main transformer 2MT1 which caused the main generator to lock-out relays on phase differential. The generator lockout tripped the main turbine which caused an automatic reactor trip from full power. As expected, the auxiliary feedwater system automatically started. The transformer deluge suppression system automatically actuated, and the fire brigade responded, putting the fire out in approximately 20 minutes. A local fire company arrived on site but was not needed.

Operators stabilized the plant at normal operating temperature and pressure. The resident inspector responded to the site and verified that the trip was uncomplicated, all safety systems responded as required, and that the fire was out. The resident inspector reviewed the station's actions in response to the reactor trip, the cause of the reactor trip and the sequence of events, as well as emergency action level requirements.

Over the subsequent week, the licensee determined that the Phase B main bushing on top of the transformer had experienced a failure which caused the insulator stack to shatter, hurtling shards as far as the circulating water intake structure. Damage was limited to 2MT1 components, and there were no injuries. Thorough testing demonstrated that 2MT1 and the sister transformer 2MT2 were substantially undamaged except for the 2MT1 bushing assemblies, which were replaced.

Consistent with the guidance in Management Directive 8.3, Manual Chapter 0309, "Reactive Inspection Decision Basis for Reactors," and Regional Office Policy Guide 0801, "Documenting Management Directive 8.3 Reactive Team Inspection Decisions," the Branch B staff screened the circumstances of this reactor trip against the deterministic criteria in Manual Chapter 0309, Enclosures 1 and 2, to evaluate whether a full deterministic and/or risk-based Management Directive 8.3 evaluation was warranted (see enclosure to this memo).

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Based on the information known as of the date of this memo, none of the deterministic criteria in either enclosure was answered in the affirmative. Thus, no reactive inspection is recommended. The resident inspectors intend to continue the review of the reactor trip as part of the baseline inspection activities utilizing Inspection Procedure 71153, "Follow-up of Events and Notices of Enforcement Discretion," and other baseline inspection procedures, as appropriate.

Docket No. 05000446

License No. NPF-89

Enclosure:

As stated

COMANCHE PEAK NUCLEAR POWER PLANT UNIT 2 REACTOR TRIP ON JUNE 7, 2021 –
MANAGEMENT DIRECTIVE 8.3 SCREENING – DATED JUNE 23, 2021

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Enclosure: Screening of Management Directive 8.3 Deterministic Criteria for:
Comanche Peak Reactor Trip on June 7, 2021

IMC 0309, Enclosure 1 Deterministic and Risk Criteria:

Yes/No; Remarks

Involved operations that exceeded, or were not included in, the design bases of the facility

No

Involved a major deficiency in design, construction, or operation having potential generic safety implications

No

Led to a significant loss of integrity of the fuel, primary coolant pressure boundary, or primary containment boundary of a nuclear reactor

No

Led to the loss of a safety function or multiple failures in systems used to mitigate an actual event

No

Involved possible adverse generic implications

No

Involved significant unexpected system interactions

No

Involved repetitive failures or events involving safety-related equipment or deficiencies in operations

No

Involved questions or concerns pertaining to licensee operational performance

No

Remarks: None of the deterministic criteria were met for this event. This was an uncomplicated plant trip and all equipment responded as expected. Operator and fire brigade response was appropriate.

IMC 0309, Enclosure 2 Deterministic-only Criteria:

None of the Reactor Safety, Radiation Safety, and Security/Safeguards deterministic criteria questions were answered in the affirmative for this event.