



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

January 28, 2016

LICENSEE: STP Nuclear Operating Company

FACILITY: South Texas Project, Unit 1

SUBJECT: SUMMARY OF DECEMBER 1, 2015, PUBLIC MEETING WITH STP NUCLEAR OPERATING COMPANY TO DISCUSS A PROPOSED EMERGENCY LICENSE AMENDMENT TO OPERATE FOR THE NEXT OPERATING CYCLE AFTER REMOVAL OF ONE UNRELIABLE CONTROL ROD IN SOUTH TEXAS PROJECT, UNIT 1 (CAC NO. MF7116)

On December 1, 2015, a pre-application public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of STP Nuclear Operating Company (STPNOC, the licensee), at NRC Headquarters, Rockville, Maryland. The meeting notice and agenda, dated November 24, 2015, are located in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML15329A086. The licensee's handouts from the meeting are available in ADAMS at Accession No. ML15334A397. A list of meeting attendees is provided in the Enclosure to this meeting summary.

The purpose of the meeting was for STPNOC staff to provide information on a proposed emergency license amendment request to modify technical specifications (TS) to address an unreliable control rod in South Texas Project (STP), Unit 1. The licensee proposed to operate for one operating cycle following the removal of the inoperable control rod while STPNOC decides how to repair or replace the control rod drive mechanism (CRDM).

In its presentation, STPNOC staff provided information on the control rod configuration and the background of the issue. STP, Unit 1, has been in a refueling outage since October 2015 and was conducting control rod testing when Shutdown Bank Control Rod D6 was determined to be unreliable for operation. All other control rods in Unit 1 were inspected and tested, operating as expected. STPNOC stated that the condition was limited to control rod D6, and was due to the deformation of a rod holdout ring, which occurred during a ratcheted rod drop in 2012 (the rod unlatched unexpectedly, began to fall, and then re-latched while it was falling into the core). STPNOC staff stated that the holdout ring is a component that is only used during rapid refueling operations.¹ Since the rod could not be mechanically latched, normal refueling operations were conducted. The licensee stated that it expected the CRDM to continue to perform its intended function during plant operation.

STPNOC provided an overview of the license amendment request and TS change, stating that there were no methodology changes required and that the normal pressure boundary would not

¹ STP, Units 1 and 2, are the only units in the fleet that have the capability to conduct rapid refueling operations where the control rods are withdrawn from the core, mechanically latched in place, and the reactor vessel head, head internals, and control rods are lifted and moved to the head staging area in one movement.

be penetrated to remove the control rod (i.e., no cuts are necessary; the control rod and drive shaft would be removed while the reactor head is removed). To repair the CRDM and restore the rod to operation, STPNOC needs to repair or replace the CRDM in situ since STP CRDMs are welded to the head. This is an extremely complex operation since tooling needs to be fabricated, as well as testing and mock-ups; and replacement in situ has never been done in the United States.

STPNOC discussed additional changes to the plant to support the removal of the control rod such as removing fuses to prevent cycling the CRDM and indicating lights, and installing a flow restrictor to maintain the existing thermal-hydraulic characteristics in the reactor core.

The NRC staff asked about the installation of the flow restrictor, its structural qualifications, and if other plants have used them. The licensee stated it would provide information on these questions in the submittal. A thimble plug will also be installed in the fuel assembly; this is a component recognized and analyzed in the updated final safety analysis report.

STPNOC stated that it would also provide in the submittal, a table with assumptions and critical parameters with and without the D6 control rod. The NRC staff questioned the licensee about the impacts to the worst-case design-basis accident (post-scrum steam line break at the end of life). In this case, the analysis would have to account for one rod removed – the D6 control rod – and one additional rod stuck out of the core, and show adequate shutdown margin, not just for core, but also for any local in-core effects. The NRC staff also questioned the validity of using the Reload Safety Analysis Checklist as the basis for this amendment since it does not account for local in-core power effects. STPNOC stated it would address these questions in the submittal.

The licensee discussed its proposed schedule, stating it planned to submit the amendment request on December 4, 2015, as an emergency amendment, with approval requested by December 11, 2015. The licensee stated that it will not resume start-up activities until or unless the amendment is received.

The NRC staff stated that the schedule is extremely challenging and that an audit could improve efficiency. The STPNOC staff stated that they would make Westinghouse (STP contractor) and STP staff available for an audit as needed.

One member of the media (Platts) attended the meeting, but did not provide comments. No Public Meeting Feedback Forms were received.

- 3 -

Please direct any inquiries to me at 301-415-1906, or lisa.regner@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lisa M. Regner', with a long horizontal flourish extending to the right.

Lisa M. Regner, Senior Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-498

Enclosure:
List of Attendees

cc w/encl: Distribution via Listserv

LIST OF ATTENDEES

DECEMBER 1, 2015, MEETING WITH STP NUCLEAR OPERATING COMPANY

REGARDING PROPOSED EMERGENCY AMENDMENT

SOUTH TEXAS PROJECT, UNIT 1

DOCKET NO. 50-498

NAME	ORGANIZATION
Lisa Regner	U.S. Nuclear Regulatory Commission (NRC)
Tim McGinty	NRC
Will MacFee	NRC
George Thomas	NRC
Ian Tseng	NRC
Matt Hamm	NRC
Jim Hickey	NRC
Mike Murray	STP Nuclear Operating Company (STPNOC)
Wendy Brost	STPNOC
Roland Dunn	STPNOC
Michael Berg	STPNOC
Elaine Hiruo	Platts, media
James von Suskil	NRG South Texas

Enclosure

Please direct any inquiries to me at 301-415-1906, or lisa.regner@nrc.gov.

Sincerely,

/RA/

Lisa M. Regner, Senior Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-498

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NAME	LRegner	JBurkhardt	TLupold	EOesterle
DATE	1/11/16	1/11/16	1/12/16	1/12/16
OFFICE	NRR/DSS/SNPB/BC*	NRR/DSS/STSB/BC*	NRR/DORL/LPL4-1/BC	NRR/DORL/LPL4-1/PM
NAME	JDean	RElliott	RPascarelli	LRegner
DATE	1/12/16	1/15/16	1/25/16	1/28/16

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