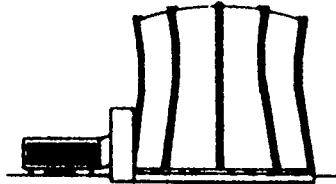


TEXAS ENGINEERING EXPERIMENT STATION

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2013-0015

May 24, 2013

Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Docket # 05-128 License R-83
Texas A&M Engineering Experiment Station Nuclear Science Center (NSC)

SUBJECT: Special Report following the May 14, 2013 deviation from NSC Technical Specification 6.1.3 Staffing Requirements reported on May 15, 2013 to the NRC Operations Center (Event #49033)

Please find attached the special written report, as required by NSC Technical Specification 6.6.2(a)(3), for NRC Event #49033 that occurred on May 14, 2013. The immediate response to the aforementioned event was a deviation from NSC Technical Specification 6.1.3 Staffing Requirements. The event was reported to the NRC Operations Center on May 15, 2013 and followed up with a Preliminary Report via e-mail to the NRC Operations Center the same day.



Jerry Newhouse
Reactor Supervisor
Nuclear Science Center
Texas A&M Engineering Experiment Station

xc: 2.11/central file

Duane Hardesty, NRC

Dr. Dan Reece, Director NSC

Dr. Emile Schweikert, Reactor Safety Board Chairman

Attachments:

NSC Special Report Ref: NRC Event Notification 49033

NRC Event Notification 49033

Event Description

On May 14, 2013 at 20:09, Shim Safety Control Rod #1 (SS #1) jammed at 30% withdrawn (70% inserted) during reactor shutdown. The reactor operator continued lowering the remainder of the control rods without issue until they were fully inserted. Following insertion of the remainder of the control rods, the senior reactor operator and reactor operator determined the shutdown margin of the reactor with SS #1 jammed at 30% withdrawn was \$2.91. At 20:50 they began investigating the cause of the jam, but were unable to determine the cause. Closer inspection of the control rod would require removal of the SS #1 assembly. The ultimate component of the SS #1 assembly is a fueled follower; therefore removal of the SS #1 assembly requires a fuel handling team. Per NSC SOP II-I-3.a, this fuel handling team consists of four personnel: an SRO, an RO, a Health Physicist, and a Fuel Handler. Without appropriate personnel to form a fuel handling team, and the reactor itself in a shutdown condition with a shutdown margin of \$2.91, the senior reactor operator left a detailed turnover report, secured the facility, and left the control room unstaffed until the following morning.

Reportability Analysis

NSC Technical Specification 6.1.3(a) states, "The minimum staffing when the reactor is not secured shall be as follows: At least two individuals will be present at the facility complex and will consist of a licensed senior reactor operator and either a licensed reactor operator or operator trainee...A licensed reactor operator or senior reactor operator will be in the control room."

NSC Technical Specification 1.26 states, "A reactor is secured when: ...The reactor console is secured..."

NSC Technical Specification 1.23 states, "The reactor console is secured whenever all scrammable rods have been fully inserted and verified down and the console key has been removed from the console."

As SS #1 was neither fully inserted nor able to be verified down, the reactor console was not secured, therefore the reactor was not secured, and therefore 6.1.3(a) was deviated from by the operating team leaving the control room and facility.

This deviation from 6.1.3(a) is a Reportable Occurrence by definition 1.28(f), "An observed inadequacy in the implementation of administrative or procedural controls such that the inadequacy causes or could have caused the existence or development of an unsafe condition with regard to reactor operations."

Safety Analysis

During this event there was no elevated risk to the public or NSC personnel from the reactor. The reactor was shutdown and cold. NSC Technical Specification 3.1.3 Shutdown Margin specifies a required \$0.25 shutdown margin. The operating team left the reactor in a state with a shutdown margin of \$2.91 and explicit turnover instructions to not operate the reactor until further investigation and correction was complete. However, the immediate response to the event, i.e. securing the facility and leaving, indicates some operating staff were insufficiently familiar with Tech Spec requirements. While it appears likely this was an isolated oversight, corrective action is being taken.

Corrective Action

A comprehensive retraining, in addition to normal requalification requirements, on Tech Spec requirements is in progress for all control room staff. This retraining consists of a lecture portion that discusses each Tech Spec in detail and a series of worksheets that present staff with hypothetical situations they must respond to in an approved way. This training is being conducted during pre-existing weekly shutdown/training shifts. Due to some staff being on vacation and part-time student employees' schedules this retraining is not entirely complete, but will be by May 31, 2013. A score of 100% is considered "passing," and those who score lower than 100% will not operate the reactor until their training is complete.

Submitted by:



Jerry Newhouse
Reactor Supervisor
Nuclear Science Center
Texas A&M Engineering Experiment Station

Research Reactor	Event Number: 49033
Facility: TEXAS A&M UNIVERSITY RX Type: 1000 KW TRIGA (CONVERSION) Comments: Region: 4 City: COLLEGE STATION State: TX County: BRAZOS License #: R-83 Agreement: Y Docket: 05000128 NRC Notified By: ESTEBAN BOTELLO HQ OPS Officer: HOWIE CROUCH	Notification Date: 05/15/2013 Notification Time: 11:03 [ET] Event Date: 05/14/2013 Event Time: 22:09 [CDT] Last Update Date: 05/15/2013
Emergency Class: NON EMERGENCY 10 CFR Section: NON-POWER REACTOR EVENT	Person (Organization): MICHAEL HAY-email (R4DO) DUANE HARDESTY (NRR) JESSE QUICHOCHO (NRR)

Event Text

RESEARCH REACTOR REPORTABLE EVENT - CONTROL ROD DRIVE MECHANISM JAM

"This preliminary event report is in compliance with Technical Specification 6.6.2 Special Reports confirming in writing the initial report made by telephone to the USNRC Operations Center.

"During reactor shutdown after normal steady state operation on May 14, 2013 at 2209 CDT, shim safety 1 jammed at 30% withdrawn (70% inserted). Operators lowered the remaining rods with no other issues and after determining the reactor was shut down at 2250 CDT, operators began investigating the cause of the jam. The shutdown margin in this configuration was determined to be \$2.91 [negative reactivity] with shim safety 1 jammed at 30%. The Technical Specification requirement for shutdown margin is \$0.25 [negative reactivity] which meant the reactor was well within acceptable limits for shutdown.

"The reactor was determined to be in a safe shutdown state. During inspection a rope that was attached to an experiment was found to be caught inside the Control Rod Drive Mechanism (CRDM) for shim safety 1 about 10 feet from the surface of the pool. This caused a jam in the drive mechanism not allowing the rod to go below 29% and above 32%.

"A fuel handling team was assembled at 0945 CDT on 5/15/13 in order to remove the control rod assembly for shim safety 1. The rope connecting the experiment to the CRDM was cut in order to allow proper removal of the CRDM. The CRDM was successfully removed and the piece of rope caught inside the drive was removed. After further inspection of the CRDM no other issues were found and it was reinstalled into its normal position.

"Operability and scram time tests were performed and completed satisfactory at 1130 CDT. The fuel handling team was disbanded at 1137 CDT and the reactor was determined to be operational. At no point during this event was there any danger to the general public or Nuclear Science Center personnel."