

May 15, 2017

U.S. Nuclear Regulatory Commission
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SUBJECT Report for Event Number 52748 "Technical Specification Violation"
License No. R-120
Docket No. 50-297

As required by Technical Specification (TS) 6.7.1, a written report of Event Report Number 52748 regarding a Technical Specification violation that occurred at the North Carolina State University (NCSU) PULSTAR research reactor on May 10, 2017 is attached.

If you have any question regarding this amendment or require additional information, please contact Andrew Cook at (919) 515-4602 or atcook@ncsu.edu.

I declare under penalty of perjury that the forgoing is true and correct. Executed on 15 May 2017.

Sincerely,



Ayman I. Hawari, Ph.D.
Director, Nuclear Reactor Program
North Carolina State University

Enclosures: Written response to Event Report Number 52748

Report of Event Report Number 52748 regarding a Technical Specification violation

Event Description

- On Wednesday May 10, 2017 at approximately 5pm, the Reactor Operator (RO) that was signed in on the reactor console logbook completed a key on checklist in preparation for a routine reactor startup. The RO left the control room and brought the log book to the reactor bridge for the Designated Senior Reactor Operator (DSRO) to sign off for the key on startup. The RO immediately realized his mistake, concerning the procedural requirement for a reactor operator to be present in the control room at all times when the reactor is not secured (procedure OP-103), and returned to the control room.
- The DSRO followed the RO to the control room and observed that the reactor key was in the on position and that the control rods were all fully inserted. The reactor was shut down, but was not secured. The DSRO determined that this constituted a violation of procedure OP-103 and could be a Reportable Event as defined by Technical Specification (TS) 1.2.24 h.
- Based on Technical Specification (TS) 6.6.2, Action to be Taken in the Event of a Reportable Event, the DSRO determined that reactor conditions had been returned to normal by the presence of the licensed operator in the control room. The DSRO then signed the key on checklist authorization for reactor startup and the reactor was started.
- The DSRO spoke with the Manager of Engineering and Operations (MEO) by telephone about this matter at approximately 6:15 pm on May 10, 2017. The MEO agreed that procedure OP-103 was violated and would be reportable to the Nuclear Regulatory Commission (NRC). The DSRO and MEO agreed to discuss this matter with the Director, Nuclear Reactor Program and the Reactor Health Physicist on May 11, 2017. The MEO stated on May 11, 2017 that TS 6.1.3a, the specification implemented by procedure OP-103, was not met. It was agreed that required notifications to NRC would be made by 5 pm on May 11, 2017 as required by TS 6.7.1.

Discussion

As described previously, reactor startup requires a checklist to be completed by a licensed Reactor Operator (RO) and signed off by the Designated Senior Reactor Operator (DSRO). During the performance of the startup checklist the reactor key is placed into the reactor control console located in the control room. TS 6.1.3a and procedure OP-103 require a license reactor operator to be present in the control room with the key in the reactor console

In this event, the RO had finished the checklist and observed the DSRO at the reactor bridge. With the reactor key in the reactor console, the RO left the control room to obtain signature for reactor startup from the DSRO. The RO momentarily forgot that the key was in the reactor console and acknowledges his mistake by leaving the control room.

The DSRO and RO returned to the control room within 40 seconds and were aware of the procedure violation. The DSRO decided the situation was returned to normal once the licensed operator had returned to the control room.

A review of the door access log and facility video recording indicates that during this event:

- the reactor key was left unattended from 17:01:30 to 17:02:10
- no personnel entered the control room
- two reactor operator trainees were present in the control room
- that the reactor console was not approached or altered by any personnel

It is also noted that the control room and reactor bridge are in close proximity and have a line-of-sight.

At approximately 18:15, the Manager of Engineering and Operations (MEO) was informed by the DSRO. The MEO agreed that the event would be reportable and would be discussed with the Director, Nuclear Reactor Program (NRP) the next day.

On May 11, 2017 the event was discussed with the Director, NRP and Reactor Health Physicist. The reportable event was filed with the NRC within the reporting requirement specified in TS 6.7.1 to the NRC Headquarters Operations Officer. The NRC Project Manager for the reactor facility was also informed on May 11, 2017. Event Report 52748 was initiated by the NRC.

Corrective Actions

An event of this type at this facility last occurred on June 25, 1991, approximately 26 years ago. The corrective actions made following the June 25, 1991 event have worked well to prevent recurrence.

Corrective actions identified to prevent recurrence from this event are as follows:

- Training on this event is to be provided by the RO and DSRO involved. All licensed operators are to complete the training prior to resuming their licensed activities.
- Revision of Special Procedure 2.7 "Unplanned Event Notification and Reporting" to ensure prompt notification of the MEO and Director and securing the reactor should an unplanned event occur
- Suspension of the RO and DSRO involved in this event from operating duties for one week
- Supervision of the RO and DSRO involved in this event for the next 20 hours of operation by a SRO
- Exploring an engineered solution to ensure TS 6.1.3a is met by having a licensed operator in the control room when the reactor is not secured. If a reliable engineered solution is found, the engineered solution will be implemented.

The reactor was shut down on May 10, 2017 and will remain shut down until the Director, NRP agrees to restart.