FPL

10 CFR § 50.73
L-2005-126
JUN 2 2005

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Re: Turkey Point Unit 3
Docket No. 50-250
Reportable Event: 2005-003-00
Date of Event: April 28, 2003
Missed As-found Local Leak Rate Test

The attached Licensee Event Report 50-250/2005-003-00 is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(i)(B) to provide notification of the subject event.

If there are any questions, please call Mr. Walter Parker at (305) 246-6632.

Very truly yours,

Terry Jones

Terry O. Jones
Vice President
Turkey Point Nuclear Plant

Attachment

cc: Regional Administrator, USNRC, Region II
Senior Resident Inspector, USNRC, Turkey Point Nuclear Plant

IE22

NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 06/30/2007

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Turkey Point Unit 3	05000250	1 OF 7

4. TITLE

Missed As-found Local Leak Rate Test

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
4	28	2003	2005	- 003 -	00	6	2	2005	FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE

1

10. POWER LEVEL

100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: *(Check all that apply)*

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☒ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
Paul F. Czaya – Licensing Engineer	305-246-7150

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On April 28, 2003, during troubleshooting activities, a gap was found between the valve bonnet and actuator frame on letdown isolation valve CV-3-200B. The cap screws that secure the actuator to the bonnet were tightened, closing up the gap. CV-3-200B is a containment isolation valve and the gap adjustment potentially altered the leak tightness of the containment boundary. An as-found local leak rate test (LLRT) was not performed prior to the actuator to bonnet gap adjustment. This is a missed surveillance test required by Technical Specification 4.6.1.2 that could not be subsequently performed. The apparent cause of the missed as-found LLRT is a failure to adequately communicate the intent of the work instructions among personnel involved in the review of the instructions and performance of the troubleshooting activity. Corrective actions included instructing personnel involved on the value of clear communications with all parties, revising Planners Desktop Instruction DTI-701 to provide guidance for preparing work instructions for visual inspections and resetting the periodic as-found LLRT interval for CV-3-200A, B and C (penetration 14) to at least once per 30 months. Based on the previous as-left LLRT performed during a refueling outage in March 2003 and an analysis of letdown isolation valve performance since the outage, there is reasonable assurance that penetration leakage was within allowable limits prior to the gap adjustment on CV-3-200B. The health and safety of the general public were not impacted by this event.

DESCRIPTION OF THE EVENT

On April 28, 2003, during troubleshooting activities to determine which of the letdown isolation valves [EIIS: CB, ISV] CV-3-200A, B or C was leaking by, a gap was found between the valve bonnet and actuator frame [EIIS: FRM] on CV-3-200B. The cap screws that secure the actuator to the bonnet with a hold down clamp were tightened, closing up the gap. CV-3-200B is a containment [EIIS: NH] isolation valve and is located inside containment. The gap adjustment altered the leak tightness of the containment boundary. An as-found local leak rate test (LLRT) was not performed prior to the actuator to bonnet gap adjustment.

This condition was determined to be reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), as a required as-found LLRT surveillance test was missed and could not be subsequently performed.

Turkey Point Units 3 and 4 were operating in Mode 1 at 100% power at the time of the event.

While the missed LLRT occurred on April 28, 2003, the condition was not discovered to be reportable until April 5, 2005 during the extent of condition review for Licensee Event Report (LER) 50-250/2005-002-00. LER 50-250/2005-002-00 reported a missed as-found LLRT and was submitted to the NRC on April 11, 2005.

BACKGROUND

Isolation provisions limit radioactive effluent releases from the containment building in the event of a reactor [EIIS: AC] accident. Isolation valves either close automatically or remain closed to perform this function. Containment isolation valves and penetrations [EIIS: PEN] are tested to ensure leakage is within allowed limits.

To maintain Reactor Coolant System (RCS) [EIIS: AB] inventory, the Chemical and Volume Control System (CVCS) [EIIS: CB] makes up to (charging) and removes coolant from (letdown) the RCS. To accomplish this function, a continuous charging and letdown balance is maintained between the RCS and the CVCS. Reactor coolant is letdown from a connection on RCS loop B cold leg. The flow is through letdown isolation valve LCV-3-460, through the shell side of a regenerative heat exchanger [EIIS: HX], through one or more of three letdown orifices [EIIS:OR] (two rated at 60 GPM and one at 45 GPM) and through one of more letdown isolation valves CV-3-200A, B and C. During normal operation, any combination of letdown orifices can be used; however, letdown flow is limited to 120 GPM based on the design of system heat exchangers, filters [EIIS: FLT], and demineralizers [EIIS: FDM]. The parallel orifice-restricted flow paths are placed in and removed from service by opening or closing their respective downstream isolation valves.

Letdown isolation valves CV-3-200A, B and C are located inside containment. Downstream of the isolation valves, a common 2-inch letdown line passes through containment penetration 14, and continues through to containment isolation valve CV-3-204 located outside containment in the auxiliary building [EIIS: NF].

CV-3-204, CV-3-200A, B and C close automatically if a Phase A containment isolation signal is received. Phase A containment isolation is initiated by a safety injection signal.

On April 26, 2003 at 1350 hours, while preparing to perform a scheduled 3A charging pump inservice test (IST), a decrease in pressurizer level was observed due to a mismatch of charging and letdown flow. The 3A charging pump was supplying design flow but was unable to maintain pressurizer level. The pressurizer level decrease observed equated to approximately 7 GPM. The IST was terminated when pressurizer level decreased 1% and the CVCS was returned to a normal alignment. Under normal plant conditions, a second charging pump would have been started to maintain pressurizer level.

A troubleshooting plan was developed to determine the cause of the event and identify required corrective actions. Troubleshooting identified excessive leakage through one or more of the closed letdown isolation valves CV-3-200A, B, and C causing the drop in pressurizer level. On April 28, 2003, at 1506 hours, an inspection team entered Unit 3 containment to perform a visual inspection of the letdown isolation valves. The scope of the investigation was to perform a series of visual inspections and stroke measurements to identify which valves were leaking by. The inspection team found a gap between the valve bonnet and actuator frame on CV-3-200B due to loose actuator to bonnet locking lug cap screws. The loose cap screws were tightened. As a result of this inspection, the condition of letdown valve CV-3-200B was deemed indeterminate and on April 28, 2003, at 1600 hours, CV-3-200B was declared inoperable. A decision was made to shutdown Unit 3 in order to effect repairs. CV-3-200B was repaired and declared operable on April 30, 2003, at 1925 hours. CV-3-200A and CV-3-200C were also inspected and overhauled to ensure the leak tightness of penetration 14. An as-left LLRT was successfully performed on penetration 14 subsequent to the repairs.

CAUSE OF THE EVENT

The apparent cause of the missed as-found LLRT is a failure to adequately communicate the intent of the work instructions among personnel involved in the review of the instructions and performance of the troubleshooting activity. The work instructions specified a visual inspection of the letdown isolation valves with a requirement to "verify bonnet to yoke joint bolting is tight." Cognizant personnel reviewing the work instruction to determine the need for an as-found LLRT believed that no physical work would be performed and, therefore, no LLRT was required. Personnel performing the inspection believed they had complied with the work instructions by using an allen wrench to verify the bonnet to actuator bolting was tight.

ANALYSIS OF THE EVENT

The instructions for investigating potential leaking letdown isolation valves called for visual inspection of letdown isolation valves CV-3-200A, B and C. When the bonnet to actuator joint bolting was found loose on CV-3-200B, the cap screws were tightened, since the work instructions also contained the requirement to verify the tightness of the joint bolting. Verify is defined, in part, in the plant procedure writers guide as "To observe an expected condition or perform actions necessary to achieve the expected condition." By this

definition, personnel performing the troubleshooting followed instructions in accordance with plant procedures.

The adjustment of the bonnet to actuator cap screws had the potential to affect the leak tightness of CV-3-200B. Therefore, a subsequent as-found LLRT on penetration 14 could not be performed. The gap between the actuator frame and bonnet was small, approximately 1/32 inch, so the potential loss in pre-load was not significant considering the spring rate is approximately 4700 lb./in. The looseness of the bonnet to actuator connection has a potential for allowing misalignment between the valve plug and cage. Closing up the gap might have restored the alignment and affected the valve's leak tightness.

The Containment Leakage Rate Testing Program requires an as-found LLRT to be performed prior to any maintenance, repair, modification, or adjustment activity if the activity could affect the penetration's leak tightness. The failure to perform the as-found LLRT is a missed surveillance test.

Reportability

A review of the reporting requirements of 10 CFR 50.72 and 10 CFR 50.73 and NRC guidance provided in "Event Reporting Guidelines," 10 CFR 50.72 and 10 CFR 50.73 (NUREG-1022, Rev. 2) was performed for the subject condition. As a result of this review, the condition is reportable as described below.

Part 50.73(a)(2)(i)(B) of Title 10 CFR states that the licensee shall report "Any operation or condition which was prohibited by the plant's Technical Specifications except when:

(1) The Technical Specification is administrative in nature;
(2) The event consisted solely of a case of a late surveillance test where the oversight was corrected, the test was performed, and the equipment was found to be capable of performing its specified safety functions; or
(3) The Technical Specification was revised prior to discovery of the event such that the operation or condition was no longer prohibited at the time of discovery of the event."

Technical Specification (TS) Surveillance Requirement (SR) 4.6.1.2 requires that "...containment leakage rates shall be demonstrated at the required test schedule and shall be determined in conformance with the criteria specified in the Containment Leakage Rate Testing Program."

TS 6.8.4.h requires the establishment of the Containment Leakage Rate Testing Program "as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, and as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163...as modified by certain deviations or exemptions." None of the deviations or exemptions contained in TS 6.8.4.h provide relief from performing as-found LLRTs.

The Containment Leakage Rate Testing Program implements SR 4.6.1.2 and TS 6.8.4.h. It requires an as-found Type C test to be "...performed prior to any maintenance, repair, modifications, or adjustment activity

if the activity could affect the penetration's leak tightness." An as-left Type C test is also required "...following the maintenance, repair, modification or adjustment activity."

The failure to perform an as-found LLRT is not in conformance with the Containment Leakage Rate Testing Program, which implements SR 4.6.1.2 and TS 6.8.4.h. The as-found LLRT SR was missed and could not be subsequently performed once the bonnet to actuator gap adjustment was made. As a result, the exception of 10 CFR 50.73(a)(2)(i)(B)(2) could not be met. The missed as-found LLRT is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) as a "...condition which was prohibited by the plant's Technical Specifications...."

Failure to Submit Licensee Event Report at Time of Occurrence

The missed LLRT was identified at the time of occurrence on April 28, 2003. A condition report was generated and the evaluation incorrectly concluded that the missed surveillance was not reportable. Since the requirement to perform the test is contained in the Containment Leakage Rate Testing Program prescribed by TS 6.8.4.h in the Administrative Controls section of the TSs; it was considered administrative in nature. As allowed by 10 CFR 50.73(a)(2)(i)(B)(1), a condition prohibited by the TSs is not reportable if the TS is administrative in nature. Although the Containment Leakage Rate Testing Program is prescribed in TS 6.8.4.h, SR 4.6.1.2 requires containment leakage rate testing and the performance of a leak rate test is not administrative in nature. Upon discovery of the failure to submit a Licensee Event Report, a condition report was generated to address the misconception regarding reportability.

LER 50-250/2003-006-00 was submitted, however, on June 26, 2003 to report the TS-required shutdown caused by declaring CV-3-200B inoperable as a result of the troubleshooting activities.

ANALYSIS OF SAFETY SIGNIFICANCE

Based on the analysis described below, it is concluded that the health and safety of the public were not affected by this event.

Letdown isolation valves CV-3-200A, B and C are containment isolation valves located inside containment, which automatically close on a containment isolation signal to mitigate the consequences of accidents that could result in potential offsite exposure comparable to 10 CFR Part 100 guidelines. These valves are relied upon to mitigate accidents or transients and are used in plant emergency operating procedures. The valves are verified closed on loss of all AC power, and are cycled in response to a reactor trip and steam generator [EIIS: SB, SG] tube rupture. These valves are also used during natural circulation cooldown to maintain the desired letdown flow rate.

TS 3.6.1.2, Containment Leakage, requires that the containment leakage rates be limited in accordance with the Containment Leakage Rate Testing Program as described in TS 6.8.4.h. The combined leakage rate (as-left and as-found) for all penetrations subject to Type B and C tests is required to be less than $0.6L_a$.

In accordance with TS 4.6.1.2 and the Containment Leakage Rate Testing Program, a required periodic LLRT under containment pressure conditions was successfully performed on letdown isolation valves CV-3-200A, B and C during the Unit 3 March 2003 Cycle 20 refueling outage. It should be noted that no work was done on these valves during the outage.

Analysis of plant trends (e.g. letdown/charging flow rates) at normal RCS operating temperature and pressure conditions, showed no change in performance of the letdown isolation valves since startup from the refueling outage. There was no evidence of any mechanism that could have caused further valve degradation since the refueling outage LLRT was performed. The plant remained in compliance with TS 3.6.1.2.

The cause of the pressurizer level drop was excessive leakage of letdown isolation valves CV-3-200A, B and C when subjected to normal RCS temperature and pressure. The letdown isolation valves automatically close on a containment isolation signal to mitigate the consequences of accidents that could result in potential offsite exposure comparable to 10 CFR Part 100 guidelines. The conditions under which the letdown containment isolation valves must automatically close are those under adverse containment pressure conditions, not normal RCS pressure conditions. Based on the above, it was determined that leakage experienced by the isolation valves affected normal plant operations but did not exceed TS containment leakage criteria; therefore, the consequences of accidents that could result in potential offsite exposure would not be affected. In addition, isolation of the letdown system is also accomplished by closure of CV-3-204, located outside containment. CV-3-204 will automatically close on receipt of a Phase A containment isolation signal, which is initiated by a safety injection signal. Therefore, there was no increase in risk to members of the general public in the event of an accident, since radiological consequences would have remained within the values assumed in the safety analysis.

CORRECTIVE ACTIONS

1. The personnel involved with the work activity and review of the work instructions for IST purposes were instructed on the value of clear communications with all parties and the consequences of incomplete or unclear communications.

2. In order to help avoid misleading or conflicting steps, the Planners Desktop Instruction DTI-701 was revised to provide guidance for preparing work instructions for visual inspections.

3. The periodic as-found LLRT interval for CV-3-200A, B and C (penetration 14) was reset to at least once per 30 months until the performance history provides a basis to extend the interval in accordance with the Containment Leakage Rate Testing Program.

4. Appropriate personnel performing reportability assessments were provided the condition report evaluation of the failure to report the missed LLRT that occurred on 4/28/03. The evaluation documents the requirements for the performance of LLRTs and discusses the intent of TSs that are administrative in nature.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Turkey Point Unit 3	05000250	2005	- 003	- 00	Page 7 of 7

TEXT *(If more space is required, use additional copies of NRC Form 366A)* (17)

ADDITIONAL INFORMATION

EIIS Codes are shown in the format [EIIS SYSTEM: IEEE system identifier, component function identifier, second component function identifier (if appropriate)].

FAILED COMPONENTS IDENTIFIED: NONE

SIMILAR EVENTS: Licensee Event Report 50-250/2005-002-00 dated April 11, 2005