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July 17, 1989

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

Subject: McGuire Nuclear Station, Unit 1
Docket No. 50-369
Licensee Event Report 369/88-040-01

Gentlemen:

Pursuant to 10CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 369/88-040-01 concerning a breach of Containment Integrity when 3 temporary penetrations were found leaking. This report is being revised and submitted in accordance with 10 CFR 50.73(a)(2)(i). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

Tony L. McConnell

T.L. McConnell

ROS/U1LER/

Attachment

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MC-815-04
(20)

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
McGuire Nuclear Station, Unit 1	0 5 0 0 0 3 6 9	1 OF 1 0

TITLE (4) Containment Integrity Breached and Fuel Movement Suspended When 3 Temporary Penetrations Were Found Leaking

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
									N/A	0 5 0 0 0
1 0	2 5	8 8	8 8	0 4 0	0 1	0 7	1 4	8 9		0 5 0 0 0

OPERATING MODE (9): 0

POWER LEVEL (10): 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	X 50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (AREA CODE)
Alan Sipe, Chairman, McGuire Safety Review Group	7 0 4 8 7 5 - 4 1 8 3

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On October 25, 1988 at approximately 1100, Construction and Maintenance Department (CMD) personnel, while working on equipment located inside Unit 1 Containment and near temporary refueling penetration E461, noticed that air was leaking through the penetration into the Containment Building. At approximately 1315, after finishing work and exiting Containment, CMD personnel notified Mechanical Maintenance (MNT) Tech Support personnel of the leaking penetration. Unit 1 fuel unloading operations were immediately suspended. At about 1330, MNT contacted CMD to reseal penetration E461. At 1528 MNT reported penetration E461 was no longer leaking and fuel unloading was resumed. About 30 minutes later, CMD reported penetrations M260, E429, and E461 had failed the leak test, and again fuel movement was suspended. At 1723, MNT reported to Operations (OPS) that the 3 penetrations were resealed and leak tested satisfactorily. Fuel unloading was then resumed. On 11/13/88 at about 1336, CMD performed a leak test of the penetrations and no leakage was noted. At about 1530, the Station Health Physicist noticed air leakage in through a 4" pipe sleeve in penetration M260. At 1543, fuel movement was suspended. At 1820, the Shift Engineer was notified that penetration E429 was leaking. At 1850, the OPS Shift Supervisor requested that all 3 penetrations be leak tested to re-verify containment integrity. At 2100, the Shift Engineer was notified that leak testing had revealed a leak in penetration E461. At 2155, the Shift Engineer was notified that the 3 penetrations had all passed the leak test. Refueling operations were resumed. This event is assigned a cause of Defective Procedure, a cause of Management/Quality Assurance Deficiency, and a cause of Inappropriate Action. A contributory cause of Inappropirate Action is also assigned.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
McGuire Nuclear Station, Unit 1	0 5 0 0 0 3 6 9	8 8	— 0 4 0	— 0 1	0 2 OF 1 0

TEXT (If more space is required, use additional NRC Form 366A's) (17)

INTRODUCTION:

On October 25, 1988 at approximately 1100, Construction and Maintenance Department (CMD) personnel, while working on equipment located inside Unit 1 Containment and near temporary refueling penetration E461, noticed that air was leaking through the penetration into the Containment Building. At approximately 1315, after finishing work and exiting Containment, CMD personnel notified Mechanical Maintenance (MNT) Tech Support personnel of the leaking penetration. Unit 1 fuel unloading operations were immediately suspended.

At approximately 1330, MNT Specialist A contacted CMD personnel with instructions to reseal penetration E461. At 1525, CMD personnel notified MNT Specialist A that penetration E461 was "ready". At 1528, assuming that this meant that all three penetrations had passed the leak test, MNT Specialist A reported to Operations Control Room personnel that penetration E461 was no longer leaking and fuel unloading operations were resumed. Approximately 30 minutes later, CMD personnel reported to MNT Specialist A that penetrations M260, E429, and E461 had failed the leak test. At 1555, Operations Control Room personnel were notified of the leaking penetrations and again fuel movement was suspended.

At 1600, MNT Specialist A contacted CMD personnel with instructions to repair the leaking penetrations and perform a leak test on all three penetrations. At 1723, MNT Specialist A reported to Operations Control Room personnel the three penetrations were resealed and leak tested satisfactorily. Unit 1 fuel unloading operations were then resumed.

On October 26, 1988 at 2220, Unit 1 fuel unloading activities were completed and Unit 1 entered No Mode, no fuel in the Reactor Vessel.

On November 12, 1988 at 2155, Unit 1 fuel reloading activities resumed and Unit 1 entered Mode 6, Refueling.

On November 13, 1988 at approximately 1336, CMD personnel performed a leak test of penetrations M260, E429, and E461 and no leakage was noted. At approximately 1530, the Station Health Physicist noticed air leakage in through a 4" pipe sleeve in penetration M260. At 1543, the Shift Engineer was notified of the leaking penetration. Unit 1 fuel movement was suspended.

At 1820, the Shift Engineer was notified that penetration E429 was leaking. At 1850, the Operations Shift Supervisor requested that all three penetrations (M260, E429, and E461) be leak tested to reverify Containment Integrity. At 2100, the Shift Engineer was notified that leak testing had revealed a leak in penetration E461. At 2155, the Shift Engineer was notified that penetrations M260, E429, and E461 had all passed the leak test. Unit 1 refueling operations were resumed.

Unit 1 was in Mode 6 during the time the penetrations were found leaking and fuel movement was suspended as a result.

This event is assigned a cause of Inappropriate Action, because MNT Engineer A failed to initiate a work request or use an existing work request to cover additional work performed on Safety Related penetrations M260 and E429.

This event is assigned a cause of Defective Procedure because none of the procedures concerning penetrations M260, E429, and E461 specified the maximum length a pipe sleeve should extend beyond the penetration flange or provided instructions to ensure adequate spacing between pipes run through the penetration to allow hookup of hoses with quick disconnects.

The event is also assigned a cause of Management/Quality Assurance deficiency; because MNT Management personnel exercised insufficient supervision of non-Nuclear Production (Vendor) personnel activities.

This event is also assigned a cause of Inappropriate Action because MNT Engineer A did not perform the required action of providing CMD personnel information concerning a cable being pulled through the 4" pipe sleeve in each of two penetrations M260 and E429 so that periodic leak testing of the sleeve could be included with testing of the penetrations. MNT Engineer A also failed to notify CMD personnel with instructions to seal the two 4" pipe sleeves after the additional cables were pulled through penetrations M260 and E429.

This event is assigned a contributory cause of Inappropriate Action because MNT Specialist A failed to correctly interpret information given to him by CMD personnel that penetration E461 was "ready". Fuel unloading operations were resumed but had to be suspended again approximately 30 minutes later when MNT Specialist A was notified by CMD personnel that penetrations M260, E429, and E461 had failed the leak test.

EVALUATION:

Background

The limiting Condition for Operation of Technical Specification 3.9.4 requires that during core alterations or movement of irradiated fuel within the Containment, each penetration [EIIS:PEN] providing direct access from the Containment atmosphere to the outside atmosphere shall be either closed by an isolation valve, blind flange, or manual valve or shall be capable of being closed by an operable automatic Containment Purge and Vent (VP) system isolation valve. With this requirement not satisfied, core alterations or movement of irradiated fuel in the Containment Building must be suspended immediately according to the Action Statement.

There are three Containment penetrations each on Units 1 and 2 that serve as temporary access portals during refueling outages so that service lines from equipment located outside of Containment can be fed into Containment. The penetrations are identified as M260, E429, and E461. Penetration M260 is a 20" mechanical penetration located at the Containment Lower Compartment Ventilation (VL) system B/C Fan Room Penetration. E429 is a 12" electrical penetration located at the VL system A/D Fan Room. Penetration E461 is a 12" electrical penetration located in upper Containment beneath the grating at the equipment hatch. Use of

the three penetrations allows a continuous work routine on certain jobs such as Steam Generator (S/G) [EIIS:SG] Eddy Current Testing, Sludge Lancing, and Shot Peening during times of fuel movement when Containment Integrity is required to be maintained by closing the personnel air lock doors and equipment hatch. At the start of a refueling outage, the blind flanges that are in place during unit operation are removed, and service lines are pulled through the penetrations. Two 1" pipe sleeves are normally installed in penetration E461 and used during S/G Sludge Lancing operations. The penetrations are then sealed shut using Dow Corning SLYGARD 170 Heavy Foam, which is a high density fast cure silicone elastomer hard foam. The sealed penetrations are then leak tested using a smoke stick to ensure no air leakage through the penetrations with the VP system in operation.

Description of Event

On October 25, 1988, at approximately 1100, CMD Ice Condenser personnel, while working on equipment located inside Unit 1 Containment and near temporary refueling penetration E461, noticed that air was leaking through the penetration and into the Containment Building. At approximately 1315, after finishing the work and exiting Containment, CMD Ice Condenser personnel notified MNT Tech Support personnel of the leaking penetration. At 1325, MNT Specialist A, realizing the significance of the situation, reported the leaking penetration E461 to Operations Control Room personnel, who in turn notified fuel handling personnel to suspend fuel movement.

At ~1330, MNT Specialist A contacted CMD Painter personnel with instructions to reseal penetration E461 using procedure MP/0/A/7700/52, Temporary Installation of DC Slygard Heavy Foam. MNT Specialist A then contacted CMD S/G Manway personnel with instructions to perform a leak test of penetration E461 as required by procedure PT/0/B/4700/48, Periodic Testing of Temporary Foamed Penetrations, to verify the repair work and to ensure there was no air leakage through penetrations M260 and E429 by leak testing them also. All of this was performed under Work Request 084566.

At approximately 1525, CMD Painter personnel notified MNT Specialist A that penetration E461 was "ready". At 1528, assuming that this meant penetration E461 was resealed and all three had passed the leak test, MNT Specialist A reported to Operations Control Room personnel that penetration E461 was no longer leaking. When Operations personnel asked MNT Specialist A what paperwork was used to document the operability of penetration E461, the Operations personnel were informed there was no specific work request for this repair work, but that the Periodic Testing of Temporary Foamed Penetrations procedure was being used to verify the penetration was sealed. Fuel unloading operations were then resumed.

Approximately 30 minutes later, CMD S/G Manway personnel reported to MNT Specialist A that penetrations M260, E429, and E461 had failed the leak test. At 1555, MNT Specialist A notified Operations Control Room personnel of the air leakage through all three penetrations. Again, fuel movement was suspended.

At approximately 1600, MNT Specialist A contacted CMD S/G Manway personnel and CMD Painter personnel with instructions to get together, repair the leaking penetrations, and perform a leak test on all three penetrations. At 1723, MNT

*U.S. GPO: 1988-520-549/00071

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
McGuire Nuclear Station, Unit 1	0 5 0 0 0 3 6 9	8 8	— 0 4 0	— 0 1	0 5 OF 1 0

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Specialist A reported to Operations Control Room personnel that all three penetrations were resealed and leak tested satisfactorily. The results of the repair work and leak test were documented by CMD S/G Manway personnel on the procedure and Work Request (WR) 084566. Fuel unloading operations were then resumed.

At 1805, Operations personnel made the required 4 hour NRC notification concerning the loss of Containment Integrity and subsequent suspended core alterations.

On October 26, 1988 at 2220, Unit 1 fuel unloading activities were completed and Unit 1 entered No Mode.

On November 6, 1988 at approximately 1930, Babcock and Wilcox (B&W) personnel met with MNT Engineer A and informed him that two additional cables needed for S/G tube plugging equipment inside Containment had arrived. It was agreed that the cables would be run by B&W personnel the next day using the spare 4" pipe sleeves that B&W personnel had installed at the beginning of the outage in penetrations M260 and E429. Discussions included the fact that CMD Painter personnel would be notified by MNT Engineer A to seal the pipe sleeves according to the Temporary Installation of DC Slygard Heavy Foam procedure after the cable pull through the two penetrations was completed.

On November 7, 1988, at approximately 1040, B&W personnel started running the additional cables, one through each of the two penetrations M260 and E429. Cable pulling activities were completed in the afternoon that same day. At approximately 1335 CMD S/G Manway personnel entered Containment to perform a leak test of penetrations M260, E429, and E461 prior to fuel reloading activities resuming. No leakage was noted and documentation was made on the Periodic testing of Temporary Foamed Penetrations procedure and WR 084566.

On November 9, 1988, at approximately 0818, and again on November 11, 1988, at approximately 1134, CMD S/G Manway personnel performed a leak test of penetrations M260, E429, and E461. No leakage was noted on either day.

On November 12, 1988 at 2040, Operations personnel completed procedure PT/1/A/4200/002, Containment Integrity Verification During Core Alterations, in preparation to resume fuel reloading activities. Leak testing of penetrations M260, E429, and E461 were included in the Operation procedure for Containment Integrity. Since they had been verified last on November 11, 1988, and were required to be checked every 48 hours, the surveillance on the penetrations was current.

On November 12, 1988, at 2155, Unit 1 fuel reloading activities resumed and Unit 1 entered Mode 6.

On November 13, 1988, at ~1336, CMD S/G Manway personnel performed a leak test of penetrations M260, E429, and E461 and again no leakage was noted. At ~1530, the Station Health Physicist, during an inspection tour inside Unit 1 Containment, noticed air leakage in through penetration M260. A closer inspection revealed that no foam sealant had been placed in the 4" pipe sleeve with a cable running through

it. At 1543, the Shift Engineer was notified of the leaking penetration. The Shift Engineer reported the leaking penetration to Operations Control Room personnel. Fuel movement was immediately suspended. The Shift Engineer also contacted the Unit 1 Reactor Building Coordinator with instructions to verify the leakage through penetration M260 and to seal it as necessary. At ~1700, the Reactor Building Coordinator confirmed the report of air leakage through penetration M260 to the Shift Engineer and that he was going to seal it as required by the Temporary Installation of DC Slygard Heavy Foam procedure.

After confirming the report of the leaking 4" pipe sleeve in penetration M260 to Operations Control Room personnel at 1707, the Shift Engineer, at 1715, organized and dispatched Operations and Health Physics personnel to check for other possible leaks into Unit 1 Containment from the Annulus area. At 1800, the Shift Engineer was notified that penetration M260 was sealed. At 1820, the Shift Engineer was notified that penetration E429 had air leakage through the 4" pipe sleeve because it had not been sealed with foam. The Shift Engineer notified Operations Control Room personnel of this report also.

At 1824, Operation personnel made the required notification to the NRC concerning the loss of Unit 1 Containment Integrity from air leakage through penetrations M260 and E429 and that fuel movement had been suspended. The Shift Engineer notified the Operations Duty Engineer and Integrated Scheduling Superintendent of the air leakage through penetrations M260 and E429 and of the suspended refueling operations.

At 1850, the Operations Shift Supervisor requested that all three penetrations (M260, E429, and E461) be leak tested to reverify Containment Integrity. At 1900, Operations personnel were notified that the Annulus inspection was completed and that no other open penetrations were noted. Also at 1900, NRC Resident personnel were notified of the loss of Containment Integrity from penetration leakages and of suspended Unit 1 refueling operations.

At 2015, the Reactor Building Coordinator and CMD Supervisory personnel reported to the Shift Engineer that they were commencing to seal penetration E429 and then were going to leak test penetration E429, M260, and E461. At 2100, the Shift Engineer was notified that leak testing had revealed a leak in penetration E461 and that it would soon be resealed according to the Temporary Installation of DC Slygard Heavy Foam procedure. At 2155, the Reactor Building Coordinator and CMD Supervisory personnel reported to the Shift Engineer that penetrations M260, E429, and E461 had all passed the leak test as required by the Periodic Testing of Temporary Foamed Penetrations procedure. MNT Engineer A signed the Containment Integrity Verification During Core Alterations procedure and Unit 1 refueling operations were resumed.

Conclusion

This event is assigned a Cause Code A, Inappropriate Action, because MNT Engineer A failed to ensure that work performed on penetrations M260 and E429 was covered and documented using the station work request system and procedures. Since penetrations M260 and E429 are Safety Related components, MNT Engineer A should

have initiated a work request or used existing WR 084566 to document the pulling of the additional B&W cables. This would have ensured station personnel involvement in the activity because B&W personnel are not qualified to work alone using station work requests and procedures. Therefore, the proper sealing and testing of the penetrations would have been performed by station personnel who were qualified to perform this work and this event would have been prevented.

This event is also assigned a cause of Management/Quality Assurance Deficiency, because MNT Management personnel exercised insufficient supervision of non-Nuclear Production (Vendor) personnel activities. Prior to November 6, 1988, MNT Engineer A was not aware that B&W personnel arrived at the McGuire site. They brought the necessary equipment and cabling with them except for two cables to be used in S/G tube plugging operations. They also brought two 4" threaded and capped pipes approximately 10 feet in length to place in penetrations M260 and E429 so that the two cables could be easily run into containment later during the outage when the cables had arrived on site without disturbing the integrity of the penetrations. B&W personnel did not know the exact depth of the penetrations but had determined the 10 foot length should be ample to reach from inside Containment to the Annulus area. The excessive length of the pipe probably contributed to the missed surveillance during leak testing of the penetrations since testing was being conducted at the sealing surface. MNT Engineer A is certain he would have required the pipe sleeves to be cut shorter and re-threaded for use had he known they were being installed. B&W personnel were not directly assisted in placing the pipe sleeves or running the cables by station personnel under MNT Engineer A's direction. Even when he learned of the 4" pipe sleeves during the November 6, 1988 meeting with B&W personnel, MNT Engineer A did not know they were excessive in length. MNT personnel will add steps to procedure MP/0/A/7700/52, Temporary Installation of DC SLYGARD Heavy Foam, requiring MNT Tech Support personnel to inspect penetrations M260, E429, and E461 prior to initial foaming of the penetrations and again prior to signing the Containment Integrity Verification During Core Alterations procedure before fuel unloading and reloading operations.

This event is also assigned a cause of Inappropriate Action because MNT Engineer A failed to perform the required action of instructing CMD Painter personnel to install foam sealant in the 4" pipe sleeves after B&W personnel had run the cable through penetrations M260 and E429 on November 7, 1988. MNT Engineer A also failed to notify CMD S/G Manway personnel that the cables were run and they should ensure no leakage through the 4" pipe sleeves during periodic leak checks.

This event is assigned a cause of Defective Procedure because procedure MP/0/A/7700/52, Temporary Installation of DC SLYGARD Heavy Foam, did not specify the maximum length a pipe sleeve should extend beyond the penetration flange. Two 1" pipes through penetration E461 protruded into a high traffic area where they were probably bumped, stepped on, or sat on resulting in a break of the foam seal around the pipes causing leaks into Containment.

MNT personnel have since made changes to the procedure limiting pipe sleeve length beyond the penetration flange. The procedure also did not include instructions to ensure enough space was maintained between the two 1" pipes to allow connection of hoses with quick disconnects. B&W personnel had difficulty making the connections

because the pipes were sealed too close together and had to pry them apart to attach the hoses. CMD Painter personnel were not aware when sealing the penetration that the two pipes should be spaced apart. The procedure gave instructions only to ensure that foam is worked in between cables, pipes or whatever is run through the penetration. MNT personnel will add instructions to ensure adequate spacing between the S/G Sludge Lance pipes.

This event is assigned a contributory cause of Inappropriate Action because MNT Specialist A failed to correctly interpret information given to him by CMD Painter personnel that penetration E461 was sealed. MNT Specialist A had contacted CMD Painter personnel with instructions to reseal penetration E461. He also contacted CMD S/G Manway personnel with instructions to leak test repaired penetration E461 and to also ensure there was no leakage through penetrations E429 and M260. MNT Specialist A assumed that both groups of personnel had either met each other at penetration E461 or had passed each other and communicated that their task had been completed. When CMD Painter personnel reported that penetration E461 was "ready", MNT Specialist A assumed that the leak test had been completed. MNT Specialist A does not remember asking if the leak test had been performed. MNT Specialist A reported to Operations Control Room personnel that the penetration was no longer leaking but approximately 30 minutes later he was notified by CMD S/G Manway personnel that penetrations M260, E429, and E461 had failed the leak test. One mitigating circumstance is that MNT Specialist A stated that he felt the need to act quickly to get the penetrations repaired so that fuel movement could be resumed. Therefore, when he received a verbal report that the penetration was "ready", he perceived that "ready" meant that the penetration was both sealed and leak tested satisfactorily.

Operations personnel have developed Station Directive 3.1.42 for Containment Closure Requirements During Outages. This was a response to NRC Generic Letter 88-17, Loss of Decay Heat Removal, which identified areas of concern in the event of a loss of Decay Heat Removal while the Nuclear Coolant system is drained below a Reduced Inventory Condition. One of the more significant concerns is the lack of a barrier between the Reactor Core and the outside environment during outages except when Containment Integrity is set for core alterations. Analysis has shown that during such an event, harsh conditions can accelerate and radioactivity may be released to the environment if containment is not closed.

Using the guidelines set forth by Station Directive 3.1.42, Operations personnel will maintain an accurate tracking system of all Containment penetrations. In the event a penetration is to be placed in a breached condition, further controls will be implemented as specified by the Station Directive to ensure closure requirements can be met. This should prevent recurrence of any similar events.

A review of McGuire Licensee Event Reports (LER) for the previous 12 months revealed six events involving TS violations because of a Personnel Error from failing to perform a required action but none of those event particulars were similar to this event. Those were LERs 369/87-33, 369/87-34, 369/87-36, 370/88-05, and 369/88-16. The corrective actions were specific to those six events and would not have prevented this event from occurring, therefore, this event is not

recurring. The problem of TS violations because of a Inappropriate Action from failing to perform a required action is recurring.

There were also two events, LERs 369/88-16 and 369/88-17, of TS violations that involved a Defective Procedure. However, these events involved valve assembly and limit switch installation. Therefore, the corrective actions could not have prevented this event from occurring.

There was also one event involving a TS violation because of a Personnel Error from misinterpreting plant data. LER 369/88-37 involved Radwaste personnel making an erroneous decision that a sample from the Waste Gas Shutdown Tank B was not required on a certain date. The corrective actions were specific to that event and would not have prevented this event from occurring. Errors resulting from personnel misinterpreting plant data is considered to be a recurring problem. There have been no incidents for the previous 12 months involving inadequate control of vendor personnel.

There were no personnel injuries, radiation overexposures, or releases of radioactivity as a result of this event.

This event is not Nuclear Plant Reliability Data System (NPRDS) reportable.

CORRECTIVE ACTIONS:

Immediate:

1) When Containment Integrity was found breached on October 25, 1988 and again on November 13, 1988, Operations personnel immediately suspended fuel movement.

2) CMD Painter personnel were dispatched to seal the leaking penetrations on October 25, 1988 and November 13, 1988.

3) CMD S/G Manway personnel satisfactorily leak tested the repairs on October 25, 1988 and November 13, 1988. Fuel movement was resumed.

Subsequent:

1) Procedure MP/0/A/7700/52, Temporary Installation of DC SLYGARD Heavy Foam, has been changed by MNT personnel to specify the maximum length a pipe sleeve shall extend beyond a penetration flange. The procedure also contains steps requiring warning signs to be placed on both sides of the penetrations when the penetrations are initially sealed to make people aware that the penetration foam seals could be damaged. The procedure also contains "Hold" points that require a leak "smoke" test be performed using procedure PT/0/A/4700/48, Periodic Testing of Temporary Foamed Penetrations.

2) Procedure PT/0/A/4700/48 has been changed by MNT personnel to document inspections of the penetrations for leakage every 2 days while the penetrations have temporary foam installed.

3) MNT personnel have added procedure MP/0/A/7700/52 to the Preventive Maintenance work request used to install cables through penetrations M260, E429, and E461 on Unit 1 and Unit 2.

4) Procedure MP/0/A/7700/52 now has instructions added requiring MNT Tech Support personnel to inspect penetrations M260, E429, and E461 prior to initial foaming of the penetrations and again prior to signing the Containment Integrity Verification During Core Alterations procedure before fuel unloading and reloading operations. A penetration inspection inventory sheet will document the inspection.

5) Procedure MP/0/A/7700/52 also has instructions added to ensure adequate spacing between the S/G Sludge Lance pipes in penetration E461 to allow connection of hose quick disconnects.

6) Operations personnel have completed implementation of Station Directive 3.1.42 to control and track containment closure requirements to ensure containment integrity is maintained during outages.

Planned: None

SAFETY ANALYSIS:

During fuel movement inside Containment the integrity of the Containment Building is required to remain intact. If a breach is identified, fuel movement is suspended immediately. The leaks through penetrations M260, E429, and E461 were a breach of Containment Integrity, but during the time the penetrations were leaking the VP system was in operation and the leakage was into Containment only. The VP system was drawing outside air into the building.

The VP system exhaust is monitored and filtered at all times which minimizes the possibility of release of unmonitored air containing radioactivity to the outside environment in case an accident condition caused the Containment atmosphere to become contaminated. If radioactively contaminated Containment air were to leak out through the leaking penetrations, the only path of release would be into the Auxiliary Building. The Auxiliary Building ventilation system exhaust is normally monitored and if radioactivity is detected, the exhaust is directed through a filtering system which would minimize the possibility of a radioactive material release to the outside environment.

There were no accidents during the time the penetrations were leaking that released radioactive material into the Containment atmosphere.

This event is considered to be of no significance with respect to the health and safety of the public.