

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) McGuire Nuclear Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 6 1 9	PAGE (3) 1 OF 0 1 6
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TITLE (4) A Required Surveillance was not Performed on Two Snubbers Because of a Lack of Administrative Controls on Snubber Inspection List

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)
0	9	1	8	8	8	0	1	0	N/A		0 5 0 0 0
0	1	2	8	8	8	0	1	4			0 5 0 0 0

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)						73.71(b)
POWER LEVEL (10) 1 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(e)	<input type="checkbox"/> 50.73(a)(2)(iv)				73.71(e)
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(e)(1)	<input type="checkbox"/> 50.73(a)(2)(v)				OTHER (Specify in Abstract below and in Text, NRC Form 386A)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(e)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)					
<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)					
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)					
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)					

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME Steven E. LeRoy, Licensing		AREA CODE 7 0 4	NUMBER 3 7 3 - 6 2 3 3

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO				

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

On 09/12/88, while developing a snubber data base for an equipment maintenance software package, Mechanical Maintenance (MNT) discovered that a snubber on the Unit 1 Nuclear Sampling system piping had been inadvertently omitted from the snubber visual inspection list. The snubber was omitted when MNT generated the inspection lists used during the 1986 and 1987 Unit 1 Refueling Outages. As a result of this omission, the snubber on the Nuclear Sampling system piping was not inspected as required during the 1987 Unit 1 Refueling Outage. An additional snubber on the Unit 1 Chemical and Volume Control system piping was also not inspected as required during the 1986 Unit 1 Refueling Outage. This event is assigned a cause Management Deficiency because of a lack of administrative controls on the snubber inspection list. The procedure for snubber visual inspections did not include, nor reference, a controlled list of snubbers to be inspected. The inspection list must be manually generated prior to each inspection. The Unit 1 snubber list was corrected. A computerized data base program will be implemented to track all safety related snubber inspection requirements.

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TEXT (If cover sheet is required, use additional NRC Form 365A's) (17)

INTRODUCTION:

On September 12, 1988, while developing a snubber data base for an equipment maintenance software package, Mechanical Maintenance (MNT) personnel discovered that a snubber on the Unit 1 Nuclear Sampling system piping had been inadvertently omitted from the snubber visual inspection list. The snubber was omitted when MNT personnel generated the inspection lists used during the 1986 and 1987 Unit 1 Refueling Outages.

As a result of this omission, the snubber on the Nuclear Sampling system piping was not inspected as required during the 1987 Unit 1 Refueling Outage. An additional snubber on the Unit 1 Chemical and Volume Control system piping was also not inspected as required during the 1986 Unit 1 Refueling Outage.

Unit 1 was in Mode 1, Power Operation, at 100% power when the missed snubber inspections were discovered. However, the unit had operated in all modes since the beginning of this event.

This event has been assigned a cause of Management Deficiency because of a lack of administrative controls on the snubber inspection list. The procedure for snubber visual inspections did not include, nor reference, a controlled list of snubbers to be inspected.

EVALUATION:

Background

Nuclear safety related piping is designed to withstand a seismic event. Many of the pipe supports or hangers [EIIS:H] have snubbers [EIIS:SNB] which act as shock absorbers to control pipe movement under dynamic conditions. Two types of safety related snubbers, hydraulic and mechanical, are used and are manufactured by ITT Grinnell and Pacific Scientific, respectively. Since the support design and analysis assumes the presence of these snubbers, Technical Specification (TS) 3.7.8 requires that all safety related snubbers be operable in all modes above Mode 5 (Cold Shutdown). Also, safety related snubbers are required to be operable in Modes 5 and 6 (Refueling) if the associated system is required to be operable. To demonstrate operability, TS 4.7.8b requires periodic visual inspections of all safety related snubbers.

Snubbers are categorized as either accessible or inaccessible during reactor operation and the two categories are treated independently with regard to inspection interval. The required inspection interval varies inversely with the number of snubbers found inoperable. The two snubbers involved in this incident are categorized as inaccessible because they are located inside the Reactor Building. Inaccessible snubbers have recently required 18 month inspection intervals and this requirement has been met the last several years by performing inspections during each refueling outage.

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TEXT (if more space is required, use additional NRC Form 366A's) (7)

In preparation for each visual inspection, MNT personnel prepare data sheets by grouping the snubbers by common area. (A snubber is indicated on the data sheets as a "hanger" which loosely refers to the snubber/hanger combination.) These data sheets are prepared based on the snubber inspection list used during the previous inspection. These sheets are then used as working copies of Enclosure 13.1 of procedure PT/0/A/4200/06, In-service Visual Inspection of Safety Related Snubbers, which is a sample form with no data entered. Approximately 85 areas are defined for labor efficiency; the two snubbers involved in this event fall into Area 8.

Description of Event

In April 1986, MNT personnel prepared the snubber visual inspection list for the 1986 Unit 1 Refueling Outage and inadvertently omitted hanger LMCR-NM-0679 from the list. On May 21, 1986, MNT personnel inspected the Area 8 hangers, and even though hanger LMCR-NM-0679 was not on the inspection list, it was inspected inadvertently. MNT personnel inspected this hanger thinking they were inspecting hanger LMCR-NV-0679. Several factors contributed to this incorrect identification. To identify hangers, MNT personnel are provided with the hanger number, the snubber size, the snubber location, and the snubber serial number on the inspection list. However, at the time of this incident, hanger numbers were not displayed on the hangers. This left the snubber size, location, and serial number as the only identifying parameters. In this case, the snubbers on hangers LMCR-NM-0679 and LMCR-NV-0679 were the same size and had similar locations. MNT personnel incorrectly selected hanger LMCR-NM-0679 for inspection on the basis of these two parameters, thinking they had selected hanger LMCR-NV-0679. During the inspection, MNT personnel crossed out the serial number applicable to hanger LMCR-NV-0679 and entered the serial number applicable to hanger LMCR-NM-0679 because they thought that the serial number had been entered incorrectly on the inspection list. Another factor contributing to the incorrect identification was the crowded condition of the hangers inside the Reactor Building. Whatever the cause of the incorrect identification, MNT personnel would probably have realized the discrepancy if hanger LMCR-NM-0679 had been on the inspection list.

Because the visual inspection lists were generated primarily from lists used during the previous inspection, MNT personnel again omitted hanger LMCR-NM-0679 while generating the following inspection list in July 1987. This list was used during the 1987 Unit 1 Refueling Outage. All Area 8 hangers, except for hanger LMCR-NM-0679, were inspected on September 10, 1987, and no hangers were incorrectly identified during this inspection. All Area 8 hangers which were inspected, including hanger LMCR-NV-0679, were determined to be operable.

On September 12, 1988, while developing a snubber data base for an equipment maintenance software package, MNT personnel discovered the omission of hanger LMCR-NM-0679 from the 1986 and 1987 inspection lists and initiated a Problem Investigation Report. On September 14, 1988, Compliance personnel notified Operations Control Room personnel of the missed surveillance. As a result, Operations Control Room personnel declared the snubber inoperable.

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TEXT (if more space is required, use additional NRC Form 356A (11/73))

Subsequently, on September 16, 1988, Design Engineering personnel issued an operability evaluation concluding that the Nuclear Sampling system piping and supports were operable without the snubber on hanger 1MCR-NM-0679 or with the snubber inoperable. As a result of this evaluation, Operations Control Room personnel cleared the inoperable snubber from the Unit 1 Technical Specification Action Item Logbook at 1730 on September 16, 1988.

Conclusion

Although the apparent cause of this event was a personnel error by failing to enter hanger 1MCR-NM-0679 on the inspection data sheet, the root cause was the inadequate administrative controls on the snubber inspection list. Although the snubber inspection procedure provides instructions for inspecting the snubbers, it does not contain a list of snubbers which are required to be inspected. The procedure requires a snubber inspection list to be supplied by a MNT supervisor each time the procedure is used. A controlled snubber inspection list should have been maintained because the data is incorporated into a controlled safety related procedure. Because such a list was not maintained, the snubber inspection procedure was deficient in its preparation and issuance. Therefore, this event has been assigned a cause of Management Deficiency.

To incorporate the list of snubbers (about 1600 per unit in 85 areas) in the snubber inspection procedure would make the procedure cumbersome to maintain. MNT personnel are in the process of implementing a computerized data base program to track all safety related snubbers. This data base will provide better control over the data and will help to prevent omission of snubbers which has occurred by manually generating the lists.

The incorrect identification of hanger 1MCR-NM-0679 which occurred during the 1986 inspection would probably have been corrected during the inspection if the snubber list had been complete. However, this mistake reveals difficulties in properly identifying hangers, especially those that are located in very crowded areas such as inside the Reactor Building. To help facilitate the identification of hangers, MNT personnel are currently placing tags on all hangers with safety related snubbers. Appropriate hanger numbers will be displayed on these tags. All Unit 2 hangers with safety related snubbers have recently been tagged, and all Unit 1 hangers with safety related snubbers will also be tagged. The tags will provide additional assurance that all safety related snubbers will be properly identified.

A review of the McGuire Licensee Event Reports (LER) submitted during the past three years did not reveal any incidents involving TS violations that were attributed to a Management Deficiency because of deficient procedure preparation and issuance. However, reportable LER 370/87-08 documented missed surveillances on four Unit 2 snubbers. One of the planned corrective actions resulting from that incident was to review and correct as required the Unit 1 snubber list prior to the 1987 Unit 1 Refueling Outage. MNT personnel stated that this review was completed but that identification of the omission of hanger 1MCR-NM-0679 was missed.

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also planned as a result of that incident was the installation of the snubber data base program. The program was installed; however, it is not yet fully operational because not all data has been entered into the program and also because Design Engineering personnel have been working with the program vendor to modify the software package.

Until the snubber data base is completed, inspection lists will continue to be generated manually. To ensure that all snubbers are inspected, a master snubber list was generated in July 1987 from a complete snubber list maintained by Design Engineering personnel. The master snubber list is now referenced when generating the inspection lists.

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

CORRECTIVE ACTIONS:

- Immediate: The snubber on hanger 1MCR-NV-0679 was inspected during the 1987 Unit 1 Refueling Outage and was determined to be operable.
- Subsequent: The Unit 1 master snubber list maintained by MNT personnel was corrected to include hanger 1MCR-NM-0679.
- Planned:
 - 1) All Unit 1 hangers with safety related snubbers will be tagged and the respective hanger numbers will be clearly identified.
 - 2) Procedure PE/O/A/4200/06, In-service Visual Inspection of Safety Related Snubbers, will be changed to require verification of all identifying parameters on snubber inspection lists including hanger numbers.
 - 3) A computerized data base program will be fully implemented and operational to track all safety related snubber inspection requirements.
 - 4) After the data base program is implemented, MNT personnel will determine a method of adequately controlling the snubber data base.

SAFETY ANALYSIS:

Although an inspection of the snubber on hanger 1MCR-NV-0679 was missed, the snubber was determined to be operable during the following inspection indicating that it should have performed as designed and was operable for the time period in question. The snubber on hanger 1MCR-NM-0679 has not been demonstrated as being operable subsequent to the missed surveillance.

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However, Design Engineering personnel concluded in an operability evaluation that the Nuclear Sampling System piping and supports are operable without the snubber or with the snubber inoperable. Therefore, the Nuclear Sampling system would have performed as designed.

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

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

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DUKE POWER

October 14, 1988

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 369/88-23

Gentlemen:

Pursuant to 10CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report 369/88-23 concerning the missed surveillance of two Unit 1 snubbers. This report is being submitted in accordance with 10CFR 50.73(a) (2) (i) (B). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

A handwritten signature in cursive script that reads "Hal B. Tucker".

Hal B. Tucker

SEL/350/sel/mmf

Attachment

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