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SUBJECT: LER 88-010-00:on 880228,safety-related mechanical snubber not inspected within time range specified by Tech Specs.
W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 9
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:AEOD/Ornstein:lcy. 05000269

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APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Oconee Nuclear Station, Unit 1	0 5 0 0 0 2 6 9	1 OF 0 8

TITLE (4) Missed Snubber Surveillance Results in a Condition Prohibited by Technical Specifications due to a Management Deficiency

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 5 0 0 0
0 2	2 8	8 8	8 8	— 0 1 0	— 0 0	0 8	0 5	8 8		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)				
N		20.402(b)		20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)		50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
1 0 0		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)	XX	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
Philip J. North, Licensing	7 0 4 3 7 3 - 7 4 5 6

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 February 28, 1988, Technical Specification 4.18, "Snubbers", was violated when a safety-related mechanical snubber on the Unit 1 Emergency Feedwater System (EFW) was not inspected within the required time frame. This violation went undetected until June 27, 1988, when it was discovered during a review of the files on this mechanical snubber. Unit 1 was at 100% power when this incident was discovered.

The root cause of this incident was determined to be a management deficiency due to an inadequate program to control the inspection of snubbers. Deficiencies in the program include failure to maintain an accurate list of the actual installed safety related mechanical snubbers, not providing proper human factor controls on component identification tags, allowing craft personnel to N/A Technical Specification required surveillance items without accountable group's approval and review and deficient procedure control. Corrective actions included inspection of the mechanical snubber to verify its operability.

IE22 1/1

☆ U.S.GPO:1984-0-454-481/18759

Background

A mechanical snubber is a mechanical device used to prevent unrestrained pipe motion under dynamic loads as might occur during a seismic event or severe transient. However, a snubber does allow for normal motion during startup and shutdown of the plant. All snubbers are required to be operable to ensure that the structural integrity of the reactor coolant system and other safety related systems are maintained during and following an event initiating dynamic loads.

Technical Specification 4.18 states the visual inspection frequency for snubbers is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspection intervals range from 1 month plus or minus 25% to 18 months plus or minus 25%. Inspections performed before the interval has elapsed may be used as a new reference point to determine the next inspection.

The program that assures control of snubbers in regard to surveillances, removal, installation, and repairs is assigned to the Maintenance Services Section. An accountable engineer or designee is assigned to maintain this program. This program is set up to assure snubber operability and to maintain Technical Specification required inspections.

SEQUENCE OF EVENTS

January 30, 1986	Mechanical snubber 1-03A-1-0-401A-SR50 (SR50) was installed.
April 4	Mechanical snubber SR50 was inspected by Quality Assurance.
February 18, 1987	A standing Work Request was issued to inspect the accessible Unit 1 mechanical snubbers including SR50.
	Construction and Maintenance Department (CMD) Mechanic located hydraulic snubber 1-03A-1-0-401A-SR50.
	CMD Mechanic did not see mechanical snubber SR50 because of pipe obstructions.
	Data Sheet on Mechanical snubber SR50 was N/A'ed in procedure by the CMD Mechanic.
	Review of completed procedure missed inappropriate N/A.

SEQUENCE OF EVENTS (continued)

February 28, 1988	Time frame to complete inspection of SR50 was exceeded.
	Technical Specification 4.18 was violated.
June 23	Design Engineering (DE) memo on hydraulic snubber was sent to the Production Specialist (PS) II.
	The PS II noted statement in DE memo concerning the removal of mechanical snubber SR50.
June 27	The PS II gathered information on hydraulic snubber for DE.
	The PS II gathered information on mechanical snubber SR50 for possible removal.
	The PS II reviewed file on mechanical snubber SR50.
	The PS II found mechanical snubber SR50 N/A'ed during last inspection.
	The PS II checked installation date on mechanical snubber.
June 28	The PS II discussed findings with Supervisor and Compliance Section.
June 29	The PS II performed inspection of mechanical snubber SR50.
	Mechanical snubber SR50 was verified operable.

DESCRIPTION OF INCIDENT

On January 30, 1986, mechanical snubber 1-03A-1-0-401A-SR50 (SR50) was installed on the discharge piping of the Unit 1 Emergency Feedwater (EFW) System [EIIS:BA]. The snubber was installed as part of the response to NRC IE Bulletin 79-14. This bulletin requested licensees to take certain actions to verify that seismic analyses were applicable to as-built plants. Due to the scope of the job, work relating to this bulletin is still continuing . To comply with this bulletin, the decision was made to change out some hydraulic snubbers with mechanical ones. Subsequently, mechanical snubber SR50 was installed as part of the response to this bulletin. Initial inspection of this snubber was performed by Quality Assurance on April 4, 1986. Routine Technical Specification surveillance was then assigned to Maintenance Services.

Since no inoperable snubber had been identified during the previous inspection of accessible Unit 1 snubbers, the schedule allowed by Technical Specification 4.18 to verify snubber operability was 18 months plus or minus 25%. On February 18, 1987, a standing work request (SWR) was issued to inspect the accessible Unit 1 mechanical snubbers. Mechanical snubber SR50's inspection was included with all the other accessible mechanical snubbers. The SWR was routed to the field and inspection of mechanical snubbers was assigned to a Construction and Maintenance Department (CMD) Mechanic. The CMD Mechanic obtained a copy of "Snubbers - Pacific Scientific - Mechanical - Unit 1 Accessible Inspection" maintenance procedure. A prerequisite step requires the station snubber engineer to review the procedure and "N/A" all steps or data sheets that are known to be not applicable. A Production Specialist (PS) II was the station snubber engineer designee responsible for implementation of the snubber program. The prerequisite was completed by the PS II and the CMD Mechanic proceeded to complete the procedure.

When the CMD Mechanic arrived at the location specified for mechanical snubber SR50, he found a hydraulic snubber approximately 25 feet off the floor. To assist in locating and identifying snubbers Maintenance Services had placed Unit specific color-coded plastic "Identification Tags" (ID tags) on the hydraulic and mechanical snubbers. Drawing "Mark" Numbers were engraved on the ID Tags to identify particular snubbers. If a hanger had two or more of the same type of snubber (mechanical or hydraulic), the mark number on the drawings would be the same. The practice was to use the same mark numbers, but an (A), (B), (C) . . . etc. was added to the ID tag number to differentiate it from the others. This practice was not implemented for hangers that had a mechanical and a hydraulic snubber on them. This is why the hydraulic and mechanical snubbers on hanger SR50 had the same ID tag numbers. The ID tag number on the hydraulic snubber was 1-03-1-0-401A-SR50, the same as the one on the snubber data sheet of for the mechanical snubber. The CMD Mechanic then verified the hydraulic snubber configuration against the drawing supplied on the snubber data sheet. The drawing on the mechanical snubber data sheet showed both a hydraulic and a mechanical snubber. The hydraulic snubber is identifiable on the drawing, but the mechanical snubber was not clear and without a parts list description, the mechanical snubber was mistaken for a brace. The CMD Mechanic could not see the mechanical snubber because its view was hidden behind piping and he could not identify it on the drawing. Because the ID tag number on the hydraulic snubber matched the ID tag number on the mechanical snubber data sheet and the drawing appeared to show only a hydraulic snubber, the CMD Mechanic N/A'ed this data sheet. He then signed his and his Supervisor's initials and wrote at the bottom of the data sheet "This snubber is a hydraulic". The CMD Mechanic was substituting for his supervisor who was absent.

After completing the inspection of the mechanical snubbers, the maintenance procedure was returned to the PS II for final review. The error made by the CMD Mechanic when he N/A'ed the data sheet on mechanical snubber SR50 was not noticed by the PS II because of the numerous N/A's on the data sheets. Also during the final review, the PS II was reviewing for snubbers identified as inoperable and not for N/A's added. Subsequently, the inspection of mechanical snubber SR50 was not performed as required. As a result, the Technical Specification time limit to inspect mechanical snubber SR50 was exceeded on February 28, 1988.

On June 23, 1988, the PS II received a memo from Design Engineering requesting his assistance for information on some snubbers. On June 27, 1988, the PS II gathered information on a hydraulic snubber and mechanical snubber SR50. Upon returning to his office, the PS II began to review the file on mechanical snubber SR50. He found that mechanical snubber SR50 had been N/A'ed during the previous snubber inspection. The PS II discussed his findings with his Supervisor and the Compliance Section. It was determined the missed inspection constituted a Technical Specification violation and was reportable per 10CFR50.73(a)(2)(i)(B). Subsequently, on June 29, 1988, the PS II performed an inspection of mechanical snubber SR50 to determine its operability. The mechanical snubber's inspection was acceptable and it was declared operable.

CAUSE OF OCCURRENCE

The root cause of this incident was determined to be a management deficiency due to the implementation of a less than adequate program designed to provide Technical Specification required surveillance for snubbers. This conclusion is supported by the following deficiencies in the program:

1. Failure to maintain an accurate list of the actual installed safety related mechanical snubbers.

   The controlling list for the Unit 1 accessible mechanical snubbers is maintained by Enclosure 13.1 of the Snubbers - Pacific Scientific - Mechanical - Unit 1 Accessible Inspection maintenance procedure. This along with Enclosure 13.2, Snubber Data Sheets, was used by the personnel performing the inspection to direct them to snubbers they were to inspect.

   Due to the massive changeout of snubbers required as a result of NRC IE Bulletin 79-14, the accountable engineer for snubbers maintained a separate list of the snubbers that he updated upon receiving information relating to changeout of the snubbers. A prerequisite step in the maintenance procedure requires a review of the procedure prior to the inspection by accountable engineer to ". . . review this procedure AND approve all steps OR data sheets that are known to be NOT applicable (N/A)". For this incident, prior to the inspection, 30% (20 out of 67)

of the Unit 1 Mechanical Snubber Data Sheets were marked N/A by the snubber engineer. It was not uncommon for the personnel performing the procedure to find the procedure not matching actual plant configuration for snubbers. While performing the procedure, relating to this incident, an additional 12% (8 of 67) of the Data Sheets were N/A'ed. Therefore, this lead to a less than adequate questioning attitude by the technicians and the snubber engineer as to whether the N/A of the Snubber Data Sheet was valid or not. This also caused the procedure to be cluttered and made the review process of the procedure more difficult than it should have been.

2. Not providing proper human factor controls on component identification tags.

   A program was implemented to place ID tags on the snubbers for proper component identification. The program was deficient in using the same number for a hydraulic and mechanical snubber. No two components that need identification tags should have the same identifying numbers, letters, etc. This is especially true for snubbers given the fact that they are not always readily visible. Because of this the CMD Mechanic was mislead to believe that the mechanical snubber in question had been replaced. Therefore, this caused him to take the inappropriate action of aborting the data sheet.

3. Allowing craft personnel to N/A Technical Specification required surveillance items without accountable groups' approval and review.

   Maintenance Services (MS) section has the responsibility of assuring that the snubbers are inspected according to Technical Specifications. They had provided a procedure to the CMD personnel that gave instruction as to what needed to be inspected. CMD craft personnel aborted the inspection of a snubber without the approval of the MS personnel responsible for snubbers. It was MS responsibility to maintain control of the snubber program and they should have known the status of the snubbers better than anyone else. Therefore, the program should have been implemented such that it required their concurrence prior to aborting a surveillance inspection. This could have readily been done given the long time frame provided in Technical Specifications for inspection intervals.

4. Deficient procedure control. The maintenance procedure was deficient in that the drawing provided on the data sheet for the snubber involved with this incident was of very poor quality. The drawing was a part of a Mechanical Snubber Data Sheet, but showed a picture of both a hydraulic snubber and a mechanical snubber. The hydraulic snubber was easy to identify on the drawing, but the drawing of the mechanical snubber was of such poor quality that the CMD Mechanic mistook it as a brace. This deficiency contributed to the CMD Mechanic concluding that the mechanical snubber did not exist, thus leading him to N/A the data sheet.

There was also a deficient procedure review that contributed to the cause of this incident. The PS II is required to review the completed inspection procedure. He stated that his review consisted of reviewing for inoperable snubbers, not reviewing for the adequacy of data sheets that had been N/A'ed. This is an inadequate review of a completed procedure. Had he performed a thorough review, he would have questioned the appropriateness of N/A data sheets and therefore could have taken action to confirm the existence or non-existence of the snubber. By performing this review the inspection of the snubber would have taken place, preventing the violation.

A review of incidents over the past five years identified one incident involving a missed surveillance resulting in a Technical Specification violation due to a root cause of a Management Deficiency (See LER 269/88-01). In reviewing that incident and comparing the causes and corrective actions with this incident, none of the corrective actions from the previous incident are applicable to the current incident. LER 269/88-01 involved the implementation of the Work Request Program as it related to the controlling directives that manage that program. There were no deficiencies in this incident that related to the Work Request Program. This incident is classified as a recurring event.

There were no radioactive material releases, radiation exposures, or personnel injuries as a result of this incident and the health and safety of the public were not affected. This incident did not involve any component failures; therefore, it is not NPRDS reportable.

CORRECTIVE ACTIONS

Subsequent corrective action was:

- For the Maintenance Services Production Specialist II to visually inspect mechanical snubber SR50 and declare it operable;
- To revise Station Directive 2.2.1 "Station Procedures" to make revisions that adequately address the deficiencies of this incident concerning the proper control of procedure steps being declared "Not Applicable";
- To counsel PS II concerning his deficient procedure review and train concerning what constitutes a proper procedure review.

Planned corrective actions are:

- To revise the drawing on Snubber Data Sheet, Enclosure 13.2, page 32, in the maintenance procedure to show only the mechanical snubber SR50 prior to next performance of the procedure;

- To revise mark number on Snubber Data Sheet, Enclosure 13.2, page 32, of the maintenance procedure to show new ID number assigned to mechanical snubber SR50 prior to next performance of the procedure;

- To install tags showing new ID numbers on both the mechanical and hydraulic snubber, noted in this report prior to the next scheduled snubber inspection;

- To add a note to the Snubber Data Sheet, Enclosure 13.2, page 32, of maintenance procedure to inform mechanics that a hydraulic and mechanical snubber are at this location prior to next performance of the procedure;

- For Maintenance Services to review procedures concerning snubbers, using the deficiencies identified by this incident as a guide, to ensure that these deficiencies do not exist in other snubber procedures;

- For Maintenance Services to review the control of the "master" list of all safety related snubbers to assure that this list is current and will make the necessary changes to assure it is maintained current;

- For CMD maintenance personnel to be trained on Station Directive 2.2.1 concerning the guidelines for proper control of procedure steps being declared "Not Applicable".

ANALYSIS OF OCCURRENCE:

The safety concern in this incident was possible damage to the Emergency Feedwater (EFW) System piping during a seismic event due to an inoperable snubber. The EFW system is designed to ensure sufficient feedwater supply to the steam generators in the event of loss of Condensate/Main Feedwater System, to remove energy from the primary system.

The above concern is not warranted in this incident because the snubber was subsequently inspected and determined to be operable. Also, sufficient depth of backup measures is provided within the EFW system to maintain steam generator water inventory. Redundancy is provided with separate, full capacity, motor and turbine driven pump subsystems. Therefore, damage to piping of one part of the system would not reduce the EFW system below minimum required capacity.

There was no release of radioactive material involved with this incident. Based on this analysis, the health and safety of the public were not affected.

DUKE POWER COMPANY
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CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

August 5, 1988

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

Subject: Oconee Nuclear Station
Docket No. 50-269, -270, -287
LER 269/88-10

Gentlemen:

Pursuant to 10CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report (LER) 269/88-10 concerning a missed snubber surveillance. 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,

Hal B. Tucker

Hal B. Tucker

PJN/368/bhp

Attachment

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