

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1) <div style="text-align: center; font-size: 1.2em;">McGuire Nuclear Station - Unit 1</div>															DOCKET NUMBER (2) 0   5   0   0   0					PAGE (3) 1   OF   0   3				
TITLE (4) <div style="text-align: center; font-size: 1.2em;">Electrical Channel Separation Requirements Violated by Temporary Cable Routing</div>																								
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)									
											McGuire Unit 2				0   5   0   0   0   3   7   0									
0   7	0   3	8   5	8   5	0   2	3	0   0		0   8	0   2	8   5														
OPERATING MODE (9) 1				THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)																				
POWER LEVEL (10) 0   5   0				20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)								
				20.405(a)(1)(i)				50.36(c)(1)				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 <div style="text-align: center; font-size: 1.2em;">Jerry B. Day - Licensing</div>												TELEPHONE NUMBER												
												AREA CODE 7   0   4				3   7   3				- 7   0   3   3				
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																								
CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	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 July 3, 1985, it was discovered that a temporary cable was routed with yellow and blue channel cables. This violated McGuire electrical separation requirements as defined in Electrical Installation Specifications and the Final Safety Analysis Report (FSAR). The cable was removed from the blue channel cable tray, restoring channel separation.

Unit 1 was at 50% power and Unit 2 was at 100% power at the time the problem was identified.

This incident is attributed to an administrative/procedural deficiency due to a lack of controls on the use and routing of non-safety related temporary cables.

The affected cable was part of the paging system antenna circuits carrying low signal levels and would have had no significant adverse impact on the class 1E circuits.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

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

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

On July 3, 1985, it was discovered that one of the plant beeper paging system electrical cables violated McGuire electrical separation criteria as defined in Electrical Installation Specifications and FSAR section 8.3.1.7.7.5e.

The plant beeper paging system was installed by the construction department prior to plant startup. The system was intended to be a temporary system for construction personnel use, but has continued to be used by Nuclear Production. The system was never removed and paperwork was not completed to make this system a permanent modification.

Drawings of this system do not exist and temporary modification paperwork was not completed to show the existence of this system. The Station Directive (S.D.) which controls use of temporary modifications does not require the use of temporary modification paperwork for the installation of this system since it is not a safety related or a QA condition system. The S.D. states "This procedure (Control of Temporary Modifications) shall be used for all safety related or QA condition systems and should be used for all other systems".

The holes used to penetrate the NRC required fire penetrations met the acceptance criteria of the Performance Procedure "Fire Barrier Inspection". Separation is allowed between the cable and the foam within the penetration for up to three inches along the cable. Three of the penetrations were marginally acceptable. They were subsequently sealed.

One of the cables was routed adjacent to yellow channel cables in the Unit 1 side of the battery room and then routed inside a blue channel cable tray in the Unit 1 electrical penetration room. This cable apparently fell or was knocked into the blue channel cable tray and was not originally routed in the tray. The cable may have been originally routed outside the tray and was not adequately secured.

CORRECTIVE ACTIONS:

Immediate: An hourly fire watch was established for fire penetration in question.

The cable that violated channel separation requirements was removed from the blue channel cable tray.

Subsequent: The NRC required fire penetrations that the system cables were routed through and determined to be acceptable. Three of the penetration were resealed for added protection.

A note was included in a station internal publication to inform plant personnel of potential problems when routing temporary cables in or on cable trays

A station problem report was written to initiate a design change to make the plant beeper paging system a permanent system.

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Planned: The current installations of temporary cables will be reviewed and inspected.

The procedure for using temporary modifications will include a checklist of items to be reviewed when completing the engineering review. This checklist will include verifying that channel separation requirements will be met.

The use of temporary modification paperwork will be included in training programs for station groups and Station Support Division.

The development of a procedure or program to give guidance on how to install temporary cables and how to control the use on non-safety related temporary cables will be evaluated.

SAFETY ANALYSIS:

The cable crossing channels is not considered to have been a significant safety concern based on the following considerations:

1. Class 1E circuits are installed in interlocked armor cables which are unaffected by a fault in an adjacent cable.
2. The antenna circuits (of the plant beeper paging system) use very low signal levels, minimizing the potential for any adverse effects on class 1E circuits.
3. The paging system antenna is located on the auxiliary building roof between the Units 1 and 2 reactor buildings and is within the cone of lightning protection provided by the reactor building air terminals. Therefore, there is a very low potential for lightning to strike the antenna, causing a surge through the system and arcing across the two channels. Additionally, a lightning arrestor is provided directly on the antenna lead-in cable.

The health and safety of the public were not affected.

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VICE PRESIDENT  
NUCLEAR PRODUCTION

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August 2, 1985

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

Subject: McGuire Nuclear Station, Unit 1  
Docket No. 50-369  
LER 369/85-23

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 369/85-23 concerning electrical channel separation requirements that were violated by temporary cable routing. This event was 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

JBD/hrp

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator  
U.S. Nuclear Regulatory Commission  
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