

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) McGuire Nuclear Station - Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 3 6 9 1 OF 0 2										PAGE (3) 1			
TITLE (4) D/G 1B Starts Due to Transmission System Disturbance																							
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	6	0	7	8	5	8	5	0	2	0	0	0	0	7	0	8	8	5	0	5	0	0	0
OPERATING MODE (9) 5				THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)																			
POWER LEVEL (10) 0 0 0		20.402(b)				20.405(c)				<input checked="" type="checkbox"/>		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 365A)							
		20.405(a)(1)(iii)				50.73(a)(2)(ii)						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 Jerry Day - Licensing										TELEPHONE NUMBER 710 431 7131 - 1710 313													
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	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				
YES (If yes, complete EXPECTED SUBMISSION DATE)															NO								

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

Diesel Generator (D/G) 1B experienced two invalid automatic starts on June 7, 1985 at 1644 and again at 1908. In each case, D/G 1B started on a Unit 1 blackout signal generated by a momentary power transmissions system disturbance during a severe storm. (D/G 1A was operable, but did not start because the 4KV essential switchgear, 1ETA, was aligned to the 500 KV switchyard via Unit 2 and did not experience the voltage dip.)

The Unit was in Mode 5 (Cold Shutdown) at the time of this occurrence.

This incident is attributed to an Unusual Service Condition, due to the power distribution system disturbances caused by the severe weather. Contributing is a Design Deficiency because the start circuitry of the D/Gs cause them to start on an instantaneous undervoltage condition.

The D/G started as designed and would have loaded if it was necessary. Plant safety was not affected.

The start system will be modified to prevent D/G starts on spurious voltage drops.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

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

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

A severe electrical storm passed through the Duke Power service area on June 7, 1985. A blackout signal occurred at 1644 when a substation 100 KV breaker failed. Another blackout signal occurred at 1708 when lightning hit another substation within the system. A 100 KV breaker opened to clear the fault and then reclosed.

The momentary decrease in voltage in each case was sufficient for a blackout on the essential busses to be detected by the instantaneous relaying. D/G 1B started when the load sequencer received signals from two out of three 4160 volt instantaneous undervoltage relays.

The load sequencer has an eight second time delay after starting the D/G before beginning a load shed and subsequent reloading of the D/G. The time delay confirms the validity of the blackout signal. The first system disturbance cleared after 23.5 cycles, and the second system disturbance cleared after 10.5 cycles. Bus voltage was restored to normal within the required eight second test period, so D/G 1B did not load.

D/G 1A was not affected by the system disturbances because the bus feeding D/G 1A was aligned to Unit 2.

CORRECTIVE ACTION:

Immediate: Reporting procedure "NRC Immediate Notification Requirement" was implemented after each start of D/G 1B.

Subsequent: D/G 1 B was secured.

Planned: As a result of prior, similar events (as stated in LER 369/85-17), two modifications (one each nuclear unit) are being processed to change to relays which will incorporate a 0.20 second delay to aid in the prevention of spurious D/G starts.

SAFETY ANALYSIS: D/G 1B performed as designed during this incident and would have subsequently loaded had this been a valid blackout. Other plant equipment was not affected by the momentary voltage dip.

The health and safety of the public were not affected by this incident.

DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

July 8, 1985

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

Subject: McGuire Nuclear Station, Unit 1
Docket No. 50-369
LER 369/85-20

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 369/85-20 concerning a diesel generator start on an invalid blackout signal. This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

H.B. Tucker

Hal B. Tucker

JBD/mjf

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, Georgia 30339

M&M Nuclear Consultants
1221 Avenue of the Americas
New York, New York 10020

Mr. W. T. Orders
NRC Resident Inspector
McGuire Nuclear Station

American Nuclear Insurers
c/o Dottie Sherman, ANI Library
The Exchange, Suite 245
270 Farmington Avenue
Farmington, CT 06032

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