

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Catawba Nuclear Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 1 1 3	PAGE (3) 1 OF 0 4
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TITLE (4)
Diesel Inoperable Due To Incorrect Specification On Support/Restraint Sketch

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	3	1	2	8	6	8	6	6	N/A			0 5 0 0 0		
0	3	1	2	8	6	8	6	6				0 5 0 0 0		

OPERATING MODE (9) 2	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																				
	POWER LEVEL (10) 0 1 0 1 0	20.402(b)	20.406(a)(1)(i)	20.406(a)(1)(ii)	20.406(a)(1)(iii)	20.406(b)(1)(iv)	20.406(a)(1)(v)	20.406(c)	50.36(c)(1)	50.36(c)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(x)	73.71(b)	73.71(c)

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME Roger W. Ouellette, Associate Engineer - Licensing	AREA CODE 71014	31	71014

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

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

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

On March 12, 1986, at 2345 hours, Diesel Generator (D/G) 1A was declared inoperable due to its inability to meet the requirements of the Diesel Generator 1A Operability Test. Upon investigation, it was discovered that a support/restraint (S/R) bolt was interfering with the fuel throttle rod of the D/G. The S/R bolt was removed and the D/G was able to meet the requirements of the operability test. D/G 1A was declared operable on March 13, 1986, at 1552 hours. The unit was in Mode 2, Startup, at the time of this incident.

This event is assigned Cause Category B, Design, Manufacturing, Construction/-Installation. Design personnel did not specify, in the modification package, the maximum bolt length in order to prevent interference of the bolt with the operating equipment. In addition, Construction and Maintenance craftspersons performing the modification realized, when they inserted the bolt and it would not achieve full engagement, that its condition was unacceptable and that their Tech Support personnel would have to be contacted. The decision was made by the craftspersons to allow this problem to exist overnight and to contact the Tech Support personnel the next working day.

This incident is reportable pursuant to 10CFR 50.73, Section (a)(2)(i)(b).

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

BACKGROUND

Technical Specification (Tech Spec) 3.8.1.1 specifies that two physically independent circuits between the off-site transmission network and the on-site Essential Auxiliary Power System (EIAS:EB) shall be operable, and two separate and independent Diesel Generators (D/G) (EIAS:EK) shall be operable. In the event one of these four independent sources becomes inoperable, the action statement requires a demonstration of the operability of the remaining A.C. sources within 1 hour. All sources must be returned to an operable status within 72 hours or the unit must be entered into Hot Standby within the next 6 hours and into Cold Shutdown within the following 30 hours. Verification of the alternative power source is done per procedure PT/1/A/4350/02C, Available Power Source Operability Test.

DESCRIPTION OF EVENT

A Nuclear Station Modification (NSM) was issued by Design personnel. Within this package were Support/Restraint (S/R) sketches that were required to remove existing S/R's and erect S/R's per the new design sketches. Upon receipt of this NSM, several station groups reviewed the package in order to generate guidelines for S/R installation. These guidelines were then turned over to the Construction and Maintenance (CMD) craftspersons for the hardware installation.

Upon receipt of the NSM package in the field on March 12, 1986, the CMD craftspersons removed three existing S/R's from three separate Diesel Generator (D/G) 1A support systems. One of these S/R's, 1-E-VG-1006, included 8 typical S/R's which were all removed. An actual total of 10 S/R's were taken down. The craftspersons then began to erect S/R 1-E-VG-1006. An attempt was made to salvage the original bolts from the S/R, but upon their installation, it was found that full thread engagement could not be obtained with these bolts. The craftspersons then tried to obtain a longer SA325 bolt. The shortest length in stock that would meet the material and size requirements was 1 3/4". The craftspersons took this bolt and installed it into the tapped bolt hole of the S/R. When this was done the bolt would not go in all the way and would not turn by hand. At approximately 1600 hours, the craftspersons, knowing a problem existed with the bolt installation, decided since it was close to quitting time that they would contact Tech support the next morning.

On March 12, 1986, at 2323 hours, personnel were performing procedure PT/1/A/-4350/02A, Diesel Generator 1A Operability Test. The D/G would not start on two occasions as outlined by the periodic test (PT) (these were Invalid Tests). At 2345 hours, D/G 1A was declared inoperable. On March 13, 1986, at 0005 hours, PT/1/A/4350/02C, Available Power Source Operability Test, was performed to verify alternate power sources.

A Work Request was issued to investigate and repair the D/G. Upon investigation, it was thought a problem existed in the instrumentation. At 0305 hours, a D/G 1A start was attempted but the attempt failed. This was an Invalid Test. Upon investigation by maintenance personnel, it was found that the fuel throttle assembly was not working properly. The governor was removed from D/G 1A, but

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this did not solve the problem. Maintenance personnel then began to trace the fuel throttle rods and found the bolt from S/R 1-E-VG-1006 securely against the fuel throttle rod. The bolt was removed from the S/R and the governor was replaced on the D/G. The fuel throttle system was checked and found to be functional. At approximately 0800 hours, Maintenance personnel contacted Tech Support to advise them of the problem with the S/R and the D/G. Maintenance and Tech Support personnel went to D/G Room 1A and discovered that S/R 1-E-VG-1006 had been re-erected. The bolt was once again removed. At 0805 hours, PT/1/A/4350/02C was performed as required by Tech Specs, to verify alternative power sources. At 1056 hours, D/G 1A was started and ran for 19 minutes. Since this was simply a start of the D/G, it was classified as an Invalid Test. At 1152 hours, a re-test of D/G 1A was started per PT/1/A/4350/02A. At 1208 hours, D/G 1A was started and the requirements for operability were satisfied. At 1152 hours, D/G 1A was declared operable.

Discussions continued between Maintenance and Tech Support regarding maximum bolt lengths and minimum clearances for the S/R. A Variation Notice was written to specify a maximum bolt length.

CONCLUSIONS

This incident is assigned Cause Code B, Design, Manufacturing, Construction/-Installation. The S/R sketch issued for the NSM by Design personnel failed to stipulate a maximum bolt length or a minimum clearance between the bolt and the throttle rod. In addition, CMD craftspersons installed a bolt which was too long for the S/R assembly and encountered problems with the S/R erection. Instead of advising Tech Support immediately or removing the bolt, CMD craftspersons elected to leave the bolt in place and advise Tech Support the next morning.

Procedure CNS-1206.00-04-003, Procedure Requirements for Fabrication and Erection of Hangers, Supports, and Seismic Control is being revised. This revision will include a change that will advise site personnel of the need to prevent S/R interference with operating equipment.

CORRECTIVE ACTION

- 1) A Work Request was written to investigate and repair the D/G. The bolt interfering with the throttle rod was removed.
- 2) The CMD craftspersons who were working on the S/R were counseled by Tech Support on the importance of identifying problems as soon as possible, the altering of designs around operating equipment, and the need to remove NSM S/R's one S/R at a time.
- 3) PT/1/A/4350/02A, Diesel Generator 1A Operability Test, was performed, and D/G 1A was declared operable.
- 4) A Variation Notice was written in order to specify a maximum bolt length on the S/R sketch.

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- 5) An internal memorandum has been written to remind the appropriate persons of the need to include knowledgeable Station personnel in reviewing NSM packages for implementation.
- 6) A revision was made to the appropriate hanger specification for bolting applications. This change specifies that bolting must not interfere with the movement of support components, piping, equipment, valves or any other item that requires clearance.

SAFETY ANALYSIS

With D/G 1A inoperable, the operability of the other A.C. sources was confirmed per requirements of Tech spec 4.8.1.1.1a and 4.8.1.1.2a.4. This assured A.C. power sources in the event of an emergency condition. D/G 1A was declared inoperable on March 12, 1986, at 2345 hours and declared operable on March 13, 1986, at 1552 hours. Therefore, no mode changes were required as per Tech Spec 3.8.1.1 action statement.

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

DUKE POWER COMPANY

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HAL B. TUCKER
VICE PRESIDENT
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September 23, 1986

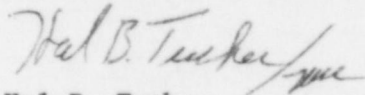
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Washington, D. C. 20555

Subject: Catawba Nuclear Station, Unit 1
Docket No. 50-413

Gentlemen:

Pursuant to 10 CFR 50.73 Section (a) (1) and (d), attached is Revision 1 to Licensee Event Report 413/86-15 concerning a diesel generator being inoperable due to an incorrect specification on a design support/restraint sketch and also an installation error. 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

RWO/43/slb

Attachment

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NRC Resident Inspector
Catawba Nuclear Station

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