

LICENSEE EVENT REPORT (LER)

| | | | | | | | | | | | | | | | | | | | | | |
|---|--------|---|----------------|-------------------|-----------------|------------------|-----------------|-----------|----------------|---|--|--|-----|------|--|--|--|--|--|----------------------|--|
| FACILITY NAME (1) Catawba Nuclear Station, Unit 1 | | | | | | | | | | DOCKET NUMBER (2) 0 5 0 0 0 4 1 3 1 OF 0 3 | | | | | | | | | | PAGE (3) 1 OF 0 3 | |
| TITLE (4) Auto-start of the Turbine Driven Auxiliary Feedwater Pump | | | | | | | | | | | | | | | | | | | | | |
| 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) | | | | | | | | | |
| 03 | 06 | 85 | 85 | 017 | 000 | 04 | 05 | 85 | | | | 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) | | | | | | | | | | | | | | | | | | | |
| 1 | | 20.402(b) | | | | 20.406(c) | | | | <input checked="" type="checkbox"/> 50.73(a)(2)(iv) | | 73.71(b) | | | | | | | | | |
| POWER LEVEL (10) | | 20.406(a)(1)(i) | | | | 50.36(c)(1) | | | | 50.73(a)(2)(v) | | 73.71(c) | | | | | | | | | |
| 030 | | 20.406(a)(1)(ii) | | | | 50.36(c)(2) | | | | 50.73(a)(2)(vi) | | <input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A) | | | | | | | | | |
| | | 20.406(a)(1)(iii) | | | | 50.73(a)(2)(i) | | | | 50.73(a)(2)(viii)(A) | | 50.72(b)(2)(ii) | | | | | | | | | |
| | | 20.406(a)(1)(iv) | | | | 50.73(a)(2)(ii) | | | | 50.73(a)(2)(viii)(B) | | | | | | | | | | | |
| | | 20.406(a)(1)(v) | | | | 50.73(a)(2)(iii) | | | | 50.73(a)(2)(x) | | | | | | | | | | | |
| LICENSEE CONTACT FOR THIS LER (12) | | | | | | | | | | | | | | | | | | | | | |
| NAME Roger W. Ouellette, Assistant Engineer - Licensing | | | | | | | | | | TELEPHONE NUMBER 7104 317131-17151310 | | | | | | | | | | | |
| 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 checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) | | | | | | | | | | NO | | 05 | 01 | 85 | | | | | | | |

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

On March 6, 1985, the turbine driven auxiliary feedwater pump (CA pump #1) automatically started. Unit 1 was in Mode 1 at 30% power.

Prior to the pump start personnel were realigning the Condensate System in order to pressurize Condensate Polishing Demineralizer 1B. Suction to the booster pumps was lost causing them to trip. The Steam Generator Level started to decrease but was quickly restored to normal. During this transient CA pump #1 automatically started.

The cause of this incident has not yet been determined. A follow-up report will be submitted on or about May 1, 1985.

This incident is reportable pursuant to 10 CFR 50.73(a)(2)(iv) and 50.72(b)(2)(ii).

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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) | DOCKET NUMBER (2) | LER NUMBER (6) | | | PAGE (3) | | |
|---------------------------------|-------------------|----------------|-------------------|-----------------|----------|----|----|
| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | | |
| | | | | | | | |
| Catawba Nuclear Station, Unit 1 | 05000413 | 85 | 017 | 00 | 02 | OF | 03 |

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

On March 6, 1985, at 1930 hours, the Turbine Driven Auxiliary Feedwater Pump (CA Pump #1) automatically started. Unit 1 was in Mode 1 at 30% power at the time of the incident.

Prior to the pump start, personnel notified the Reactor Operator (RO) that they would be realigning the Condensate (CM) System to pressurize Condensate Polishing Demineralizer 1B. Shortly thereafter, Hotwell Pump (HWP) 1B started automatically on decreasing Condensate Booster Pump (CBP) Suction Pressure. HWP 1A was already in service. The operation of the second HWP did not prove sufficient to prevent CBP Suction pressure from decreasing further, and CBP 1A subsequently tripped. At that time, no CBP's were operating and, per intended design, Main Feedwater (CF) Pump 1B should have tripped. That pump did not trip due to missing interlock wiring which was not specified on design drawings. A CBP was started prior to a CF loss of suction alarm being present for 5 seconds.

Load Rejection Bypass Control Valve, 1CM83, opened and reclosed during the CBP suction pressure transient. That valve should have begun opening before HWP 1B started, but did not do so until after HWP 1B started. Proper operation of this valve should have provided sufficient suction to prevent the CBP's from tripping.

The Polish Demineralizer Bypass Control Valves, 1CM42 and 1CM186, are designed so that, on a specific differential pressure across the Demineralizers, the valves will throttle open to allow condensate to bypass the Demineralizers. It cannot be determined if these valves responded properly at this time, as these valves are not monitored by computers.

CA Pump #1 started due to the opening of valve 1SA-5, Steam Supply #2 to CA Pump #1. Valve 1SA-2, Steam Supply #1 to CA Pump #1, did not open during this incident. There is one situation where 1SA-5 could open without 1SA-2 opening: Steam Generator (S/G) Wide Range Level Transmitters which provide indication to the Standby Shutdown Facility (SSF) will open 1SA-5 on low-low S/G level in two-of-four S/G's. The calculation and settings of these wide range setpoints were checked and found to be correct. The lowest S/G Narrow Range Level decreased to 21.6% during this incident. Therefore, the Motor Driven Auxiliary Feedwater Pumps did not actuate (these pumps actuate at 17% Narrow Range). S/G levels began to re-establish within approximately 4 seconds and had stabilized to their previous levels within approximately 25 seconds. It is apparent that the Wide Range Instrumentation started this pump but the specific cause of the differences of Wide and Narrow Range values has not yet been determined.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

Actions are planned in the following areas to determine the direct cause of this incident:

- 1) A work request has been issued to check the response of the Polish Demineralizer Bypass Valves (1CM42 and 1CM186).
- 2) A work request has been issued to check the response of the Load Rejection Bypass Valve (1CM83).
- 3) A Nuclear Station Modification will add control wiring to trip the CF Pumps on loss of all CBP's.
- 4) S/G Level indications will be trend recorded to determine if wide and narrow ranges are inconsistent.

A follow-up report on this incident will be issued on or about May 1, 1985.

DUKE POWER COMPANY

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

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
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April 5, 1985

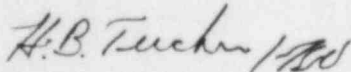
Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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

Gentlemen:

Pursuant to 10 CFR 50.73 Section (a) (1) and (d), attached is Licensee Event Report 413/85-17 concerning auto-start of the turbine driven auxiliary feedwater pump. This event was considered to be of no significance with respect to the health and safety of the public. A follow-up report will be submitted on or about May 1, 1985.

Very truly yours,



Hal B. Tucker

RWO:slb

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator
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Catawba Nuclear Station

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