

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Duane Arnold Energy Center										DOCKET NUMBER (2) 0 5 0 0 0 3 1 3 1 1 OF 0 2										
TITLE (4) HPCI Stop Valve & ADS Timer Failures																				
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	2	2	9	8	4	8	4	0	1	2	0	0	0	3	2	9	8	4	None	0 5 0 0 0 0 0 0 0 0
OPERATING MODE (9) N		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																		
POWER LEVEL (10) 1 0 0		20.402(b)				20.406(a)				50.73(a)(2)(iv)				73.71(b)						
		20.406(a)(1)(i)				50.36(e)(1)				50.73(a)(2)(v)				73.71(c)						
		20.406(a)(1)(ii)				50.36(e)(2)				50.73(a)(2)(vi)				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)										
		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 James C. Smith, Technical Support Engineer										TELEPHONE NUMBER AREA CODE 3 1 9 8 5 1 - 7 3 0 8										
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										
X	B	J S H V	S	0 7 5	Y															
X	S	B H S	G	0 8 2	Y															
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)																				
<p>During normal full power operation while conducting HPCI surveillance testing, the HPCI turbine stop valve failed to open after the auxiliary oil pump was started. In accordance with Technical Specification 3.5.D.2, the plant entered a 7 day LCO and required surveillance testing was performed on ADS, RCIC, LPCI and core spray subsystems. HPCI was returned to pretest configuration and declared inoperable. On the following day while conducting the required daily surveillance testing of the Automatic Depressurization System, the "B" side ADS logic timer failed to start due to a reset switch failing to reset the timer and logic. ADS was declared inoperable which placed the plant in a 24 hour LCO due to HPCI being already inoperable. The plant commenced reducing power. The faulty reset switch was replaced within 5 hours and ADS was tested and declared operable. Six days after the HPCI failure, rebuilding of the turbine stop valve was completed along with other HPCI maintenance; and HPCI was tested and declared operable. RCIC, both LPCI and core spray low pressure cooling systems, one automatic depressurization system logic channel and manual means to initiate depressurization via the ADS valves were operable throughout the period the above equipment was inoperable.</p>																				
8404030112 840329 PDR AD0CK 05000331 S PDR TE22																				

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) Duane Arnold Energy Center	DOCKET NUMBER (2) 0 5 0 0 0 3 3 1 8 4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 4	0 1 2	0 0	0 2	OF	0 2

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

At 1200 hours on February 29, 1984; while the plant was in the run mode at approximately 100% power with no significant plant evolutions in progress, a HPCI surveillance test was being conducted. The HPCI turbine stop valve (BJ-SHV-2201) failed to open when the auxiliary oil pump was started. HPCI was declared inoperable. Oil was observed to be leaking past the seals of the valve actuating cylinder.

At 1740 hours on March 1, 1984; the required daily surveillance test was being conducted on the Automatic Depressurization System when the "B" side ADS logic timer failed to start when intended. It was observed that the reset switch (SB-HS-4462) had failed to reset the timer and logic, cutting off the logic signal to the timer. Although only one of two ADS initiating logic channels was effected, ADS was declared inoperable. Due to the previous loss of HPCI, the plant immediately declared an Unusual Event A-11 and entered a 24 hour LCO as per Technical Specification 3.5.D.3. The plant also initiated power reduction as required.

The faulty reset switch was replaced and the ADS was tested and declared operable at 2225 hours the same day. Later investigation revealed that dirty switch contacts could have caused the failure. The switch has been installed since the beginning of plant operations and has never failed. A search of past plant records showed no other failures of this model switch. No further action regarding this switch is intended unless further problems are experienced.

On March 6, 1984; the rebuilding and cleaning of the HPCI turbine stop valve was completed as well as other HPCI maintenance; and HPCI was tested and declared operable. The hydraulic seals were replaced in the valves and no leakage was detected. The original leather hydraulic seals were replaced in 1980 with seals of a vendor recommended material. A vendor information letter (SIL No. 306) also recommended a changeout schedule of 5 years for the seals based on experience with all of the vendor's turbines. The inservice life specification on this seal will be reviewed and an appropriate changeout schedule will become a part of our preventive maintenance program.

When the failure of HPCI occurred, both ADS and RCIC were tested as operable. Safe operation of the plant was not affected. When ADS "B" train logic was discovered to be inoperable, plant shutdown was begun promptly as per the Technical Specifications. Had an accident occurred which required a high pressure coolant supply, the RCIC and motor driven reactor feed pumps remained available. If depressurization were required, the "A" logic train would have initiated blowdown or manual depressurization could have been accomplished through the ADS valves.

Iowa Electric Light and Power Company
March 29, 1984
DAEC-84-185

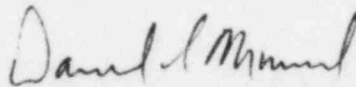
U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Subject: Duane Arnold Energy Center
Docket No. 50-331
Op. License DPR-49
Licensee Event Report No. 84-012

Gentlemen:

In accordance with 10 CFR 50.73 please find attached a copy of the
subject Licensee Event Report.

Very truly yours,



Daniel L. Mineck
Plant Superintendent - Nuclear
Duane Arnold Energy Center

DLM/JCS/pv

attachment

cc: Mr. James G. Keppler
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

NRC Resident Inspector - DAEC

File A-118a

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