NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Oconee Nuclear Station, Unit 1	0 5 0 0 0 2 6 9	1 OF 0 3

TITLE (4)

ESFAS HPI System Actuation Setpoint Adjustment

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 8	8 5	8 5	0 0 3	0 0	0 3	2 5	8 5	ONS, Unit 2	0 5 0 0 0 2 7 0
									ONS, Unit 3	0 5 0 0 0 2 8 7

OPERATING MODE (9)		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)	20.405(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)	X OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	Voluntary Report
		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	TELEPHONE NUMBER
	AREA CODE
Richard F. Haynes, Licensing	7 0 4 3 7 3 - 7 1 2 9

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	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 February 22, 1985, it was determined that the Oconee Units' Emergency Safeguard Features Actuation System (ESFAS) setpoint for the initiation of High Pressure Injection (HPI) should be adjusted from 1550 psig to 1600 psig. The change to 1600 psig was based on B&W's reanalysis of small break loss of coolant accident (SBLOCA) transients, which indicated that the Reactor Coolant System (RCS) might not depressurize to the extent previously calculated. The motivation for the revised analysis arises from lessons learned as a result of the accident at Three Mile Island (TMI), and other investigations performed in response to NUREG-0737.

Changes in the setpoint for all the low RCS pressure bistables, at all three Oconee units, were incorporated on February 22, 1985, and all affected documentation was revised accordingly.

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

Description of Occurrence:
The Oconee Nuclear Station (ONS) ESFAS setpoint for HPI initiation on low RCS pressure is intended to ensure that HPI is automatically actuated for the range of possible RCS break sizes. The existing licensing basis SBLOCA analysis estimates the RCS will depressurize to at least 1350 psig. The Technical Specification setpoint of 1500 psig is adequate to ensure HPI actuation for this minimum depressurization, allowing for measurement uncertainty. The setpoint implemented at Oconee has been 1550 psig, which introduced an additional margin for conservatism and instrument drift allowances.

Duke Power was informed in August 1983 of a B&W revised SBLOCA analysis for a lowered loop plant operating at 2772 MWt, indicating that the RCS would depressurize to a minimum of 1465 psig during the early part of the transient. Duke evaluated the uncertainty associated with the ONS pressure transmitters and their related instrumentation, so that the adequacy of the present actuation setpoint (1550 psig) could be determined. These uncertainties, taken together with the higher calculated minimum depressurization value of 1465 psig, indicated that the present 1550 psig setpoint remained adequate to ensure automatic initiation of the HPI system.

Duke Power was informed in September 1984 that a further SBLOCA evaluation had indicated a still higher value of 1480 psig for the calculated minimum depressurization. Duke's previous determination of sensor-instrumentation uncertainty, when applied to the 1480 psig value, again indicated that the 1550 psig setpoint was sufficiently high to ensure HPI actuation.

In early February 1985, however, another evaluation of sensor-instrumentation uncertainty was performed by Duke for RCS pressure measurement. The revised uncertainty estimate was then applied to the B&W calculated minimum depressurization value of 1480 psig; as a result, it was found that an ESFAS setpoint of 1600 psig was required to ensure HPI actuation. Adjustment of the setpoints for all Oconee low RCS pressure bistables was completed on February 22, 1985.

Cause of Occurrence:
The need for adjustment of the ESFAS setpoint for HPI actuation, from 1550 psig to 1600 psig, came about after the second B&W reanalysis in September 1984 yielded a calculated minimum depressurization of 1480 psig. Concurrently, Duke reanalyzed the sensor-instrumentation error. The increased minimum depressurization of 1480 psig along with the larger error band required the upward adjustment of the setpoint.

Analysis of Occurrence:
The previous 1550 psig setpoint was adequate to actuate the High Pressure Injection System based upon the existing licensing basis SBLOCA evaluation and the most conservative existing allowance for measurement uncertainty. In response to preliminary generic evaluations performed using the revised B&W SBLOCA Evaluation Model, and Duke's revised uncertainty estimate, the ESFAS setpoint was raised to 1600 psig in order to ensure HPI actuation for a RCS depressurization to 1480 psig.

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

Although the B&W analysis which provided the 1480 psig value is not yet the licensing basis analysis for Oconee and was performed with generic assumptions which are conservative for Oconee (i.e., 2772 mwt vs. 2568 mwt), it was decided to conservatively base the setpoint upon the revised model and limited analysis to ensure HPI actuation for any RCS break size. Upon approval by the NRC of the new SBLOCA Evaluation Mode, new licensing basis analyses will be undertaken. The adequacy of the interim 1600 psig HPI actuation setpoint will be confirmed at that time.

Thus the revision of the actuation setpoint from 1550 to 1600 psig was an anticipatory measure taken to ensure HPI actuation based upon the most conservative analytical basis available even though the associated model is not yet approved and a plant specific analyses might show that the 1550 psig setpoint remains adequate. Therefore, the health and safety of the public was not endangered by this event.

Corrective Action:
The immediate corrective action was to reset the HPI actuation on low RCS pressure trip setpoint from 1550 psig to 1600 psig. This action was completed by February 22, 1985. No other action is deemed necessary at this time.

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HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

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March 25, 1985

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

Subject: Oconee Nuclear Station, Units 1, 2 and 3
Docket Nos. 50-269, -270, -287
LER 269/85-03

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report 269/85-03 concerning the Engineered Safeguard Features Actuation System Setpoint for the initiation of High Pressure Injection. This report is submitted on a voluntary basis, since no 10 CFR 50.73 requirements are applicable. This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

HB Tucker /BS

Hal B. Tucker

RFH:slb

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator
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