CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9807160387 DOC.DATE: 98/07/13 NOTARIZED: NO DOCKET #
FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315
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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 98-033-00:on 980611,H Recombiner wattmeter circuit TS SR was not met.Caused by inadequate TS SR work practices. Lessons Learned document was issued to all maint personnel involved w/writing surveillance procedures.W/980713 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 4
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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CATEGORY 1 DOCUMENT

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American Electric Power
Cook Nuclear Plant
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Bridgman, MI 49106
616 465 5901

AEP
AMERICAN
ELECTRIC
POWER

July 13, 1998

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Operating Licenses DPR-58
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by 10 CFR 50.73 entitled Licensee Event Report System, the following report is being submitted:

98-033-00

Sincerely,

John R. Sampson

J. R. Sampson
Site Vice President

/mbd

Attachment

c: C. J. Paperiello (Acting), Region III
J. R. Sampson
P. A. Barrett
S. J. Brewer
R. Whale
D. Hahn
Records Center, INPO
NRC Resident Inspector

IE22

NRC Form 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98
ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Cook Nuclear Plant Unit 1	50-315	1 of 3

TITLE (4)

Hydrogen Recombiner Wattmeter Circuit Technical Specification Surveillance Requirement Not Met

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 NAME	DOCKET NUMBER
											Cook - Unit 2	50-316
06	11	98	98	--	033	--	00	07	13	98	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
		20.2201 (b)	20.2203(a)(2)(v)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10)	0	20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Mr. John Boesch, Maintenance Superintendent	616 / 465-5901, x2634

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 15 single-spaced typewritten lines) (16)

On April 7, 1998, with Units 1 & 2 in Cold Shutdown, it was determined that the Electric Hydrogen Recombiner (EHR) Technical Specification (T/S) surveillance requirement 4.6.4.2.b.1 was not met. T/S 4.6.4.2.b.1 requires a channel calibration of all recombiner instrumentation and control circuits, however the channel calibration procedure for the EHR wattmeter circuitry directs the technician to calibrate only the control room readout device. Failure to meet T/S surveillance requirements is a condition which requires a 30 day report in accordance with 10 CFR 50.73(a)(2)(i)(B), as any operation or condition prohibited by the plant's T/S's.

The cause of the inadequate T/S surveillance is work practices, which resulted in total reliance on a vendor technical manual to provide the required calibration information. The Hydrogen Recombiners had already been declared inoperable due to earlier events. A Lessons Learned document was issued to all maintenance personnel involved with writing surveillance procedures.

An assessment of the safety significance for this event indicates no impact on the EHRs. The recombiner T/S surveillances have shown no degradation, based on the actual time to reach the T/S required temperature, given an initial power setting on the wattmeter controller. Actual plant data will be obtained to quantify the errors in the wattmeter circuit. A revision to this LER will be submitted if the significance of the event changes based on actual data.

FACILITY NAME (1)	DOCKET NUMBER(2)	LER NUMBER (6)					PAGE (3)
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TEXT *(If more space is required, use additional copies of NRC Form (366A)* **(17)**

CONDITIONS PRIOR TO EVENT
Unit 1 was in Mode 5, Cold Shutdown
Unit 2 was in Mode 5, Cold Shutdown

DESCRIPTION OF EVENT
The Electric Hydrogen Recombiner (EHR) provides the means to prevent unsafe levels of hydrogen concentration from being reached in the Cook Nuclear Plant Containment following a design basis Loss-of-Coolant Accident (LOCA). The EHR uses electric heating elements to elevate the temperature of the containment atmosphere passing through it to a level where hydrogen-oxygen recombination can take place. Electrical power to the heater elements is controlled by a wattmeter controller circuit that uses a control switch located in the main Control Room and a controller to regulate heater power. The controller setting is adjusted in the main Control Room, and power input to the heaters monitored by a wattmeter. Proper operation is confirmed by operating the recombiner during periodic tests and observing EHR temperature indications from thermocouples welded to the EHR heater sheath. Temperature indication is provided on a panel meter located in the main Control Room.

On June 11, 1998, during an Engineering review of the Hydrogen Recombiner circuits following a missed Technical Specification (T/S) surveillance requirement for recombiner temperature indication (see Licensee Event Report (LER) 50-315/98-019), it was determined that Hydrogen Recombiner T/S surveillance requirement 4.6.4.2.b.1, which requires a channel calibration of all recombiner instrumentation and control circuits, was not met for the recombiner wattmeter controller circuitry. The channel calibration procedure for the recombiner wattmeter controller circuitry directs the technician to calibrate only the control room meter movement. To meet the T/S requirement the entire instrument loop should be calibrated, from the electrical breaker, through a Wattmeter Logic Coverter module, a controller, associated wiring, to the control room meter movement.

EHR wattmeter circuitry is used during T/S surveillance testing to set an initial power level for the recombiner and verify that the T/S temperature indications are met in the required time periods. Additionally, the wattmeter circuitry is used in post-accident Emergency Operating Procedures (EOPs) to start and operate the recombiners. Wattmeter indication is adjusted to bring the recombiner to operating temperature, then adjusted as necessary to ensure that the EHR is operating properly to reduce Containment hydrogen concentration. Containment hydrogen concentration changes will identify whether the recombiners are actually operating satisfactorily.

CAUSE OF EVENT
The cause of the incomplete T/S surveillance channel calibration is poor work practices used more than ten years ago to develop the plant surveillance procedures, which resulted in total reliance on a vendor technical manual to provide the required calibration information.

During the review of the recombiner circuitry, it was discovered that there were adjustment screws on the Wattmeter Logic Converter for a "zero" adjust and "calibrate." No mention of the converter was found in the vendor manual sections dealing with setup, calibration, or testing. It could not be determined what effects, if any, would occur as a result of not including the Wattmeter Logic Converter in the calibration procedures.

The EHRs were added to the plant as a post-Three Mile Island design change. The typical practice was to get advance copies of vendor technical manuals and write procedures, well before physical equipment arrived at the site. There was no physical examination of the equipment upon arrival for modules with the potential for calibration. In most cases, a module that was not mentioned in the vendor manual would be a benign aspect of the circuit, provided there were no reasons to suspect instrument drift or abnormalities.

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TEXT *(If more space is required, use additional copies of NRC Form (366A)* **(17)**

ANALYSIS OF EVENT

The condition was determined to not meet the requirements of Technical Specification 4.6.4.2.b.1 because the Electric Hydrogen Recombiner wattmeter controller circuitry did not receive a proper channel calibration. This LER is therefore submitted in accordance with 10CFR50.73(a)(2)(i)(B) for any operation or condition prohibited by the plant's Technical Specifications.

An assessment of the safety significance for this event indicates no impact on the EHRs. The recombiner T/S surveillances have shown no degradation, based on the actual time to reach the T/S required temperature, given an initial power setting on the wattmeter controller. Actual plant data will be obtained to quantify the errors in the wattmeter circuit. A revision to this LER will be submitted if the significance of the event changes based on actual data.

CORRECTIVE ACTIONS

All Hydrogen Recombiners were previously inoperable due to the inadequate temperature measurement circuit surveillance procedure (see LER 50-315/98-019).

A Lessons Learned document was issued to all maintenance personnel involved with writing surveillance procedures to stress that new equipment received on site should be thoroughly scrutinized as part of the procedure development process to identify whether any adjustable controls exist.

PREVENTIVE ACTIONS

No further preventive actions are required. Adequate barriers now exist by means of the technical review process and Safety Evaluation screening of procedure changes to ensure that a similar event will not occur in the future. These barriers were not in place when the event described in this LER occurred.

FAILED COMPONENT IDENTIFICATION

Not Applicable

PREVIOUS SIMILAR EVENTS

50-315/98-019