



Kewaunee Nuclear Power Plant  
N490, State Highway 42  
Kewaunee, WI 54216-9511  
920-388-2560

Operated by  
Nuclear Management Company, LLC



January 18, 2001

10 CFR 50.73

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

Ladies/Gentlemen:

Docket 50-305  
Operating License DPR-43  
Kewaunee Nuclear Plant  
Reportable Occurrence 2000-016-00

Enclosed is Licensee Event Report 2000-016-00 for Kewaunee Nuclear Power Plant. This report is provided in accordance with 10 CFR 50.73(a)(2)(iv) as, "any event or condition that resulted in a manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS)." This report documents the unanticipated consequence of operating a temperature switch in the control circuit for the steam generator blowdown isolation valves.

Corrective actions have been completed and are listed in this report. No new NRC commitments are identified in this report.

Please contact us if you require additional information concerning this event.

Sincerely,

Kyle A. Hoops  
Manager-Kewaunee Plant

FAF/GIH

Attach:

cc - INPO Records Center  
US NRC Senior Resident Inspector  
US NRC, Region III

## LICENSEE EVENT REPORT (LER)

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

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the 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. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1)

Kewaunee Nuclear Power Plant

DOCKET NUMBER (2)

05000305

PAGE (3)

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TITLE (4)

Inadvertent ESF Actuation Caused by Unanticipated Temperature Control Switch Response During Testing

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
12	19	2000	2000	016	00	01	18	2001	N/A	05000
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
N			20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(vii)	
POWER LEVEL (10)			20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)	
96%			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)		X 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

Fritzie A. Flentje, Sr Regulatory Compliance Specialist

TELEPHONE NUMBER (Include Area Code)

920/755-6221

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

## SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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## ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On December 19, 2000, while the plant was operating at 96% power, an inadvertent steam generator blowdown isolation occurred as a result of personnel manually actuating a temperature control circuit that provides a closure signal to steam generator blowdown isolation.

The consequence of this event was that steam generator blowdown actuated as designed. Operating personnel recovered from the event, with blowdown being reestablished approximately 45 minutes subsequent to the event. The motor-operated steam generator blowdown isolation valves were not adversely challenged by the additional operation.

The event was caused by the failure of personnel to recognize the inter-relationship of the temperature control circuit for the steam generator blowdown tank outlet (a non-ESF) system and the closure circuit for the steam generator blowdown isolation valves (an ESF system).

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

**DESCRIPTION OF EVENT**

This report describes an inadvertent actuation of the steam generator [SG] blowdown isolation valves [ISV] that are engineered safety features (ESF)[JE] components. The event occurred on December 19, 2000, at 1344, with the plant at 96% power. The event occurred when Instrument and Control (I&C) technicians manually actuated TS-16218, steam generator blowdown treatment heat exchanger outlet temperature control switch, to functionally test SV-33029, the solenoid valve for valve BT-106, the outlet valve on the steam generator blowdown tank, during maintenance. The solenoid valve directs and vents the air to the BT-106 air actuator CV-31122. TS-16218 forms part of the control circuit for steam generator blowdown isolation. The temperature control circuit causes blowdown to isolate when high temperature conditions are reached.

Blowdown isolation valves BT-2A and BT-3B shut as designed. Both of the valves are designated containment [NH] isolation valves. They also have an ESF function to close on Auxiliary Feedwater (AFW)[BA] pump [P] start signals to ensure adequate AFW flow to the steam generators in the event of a loss of main feedwater [SJ] or safety injection. The containment isolation and AFW signals also close the blowdown system redundant isolation valves BT-3A and BT-2B. The redundant valves are not part of the blowdown temperature protection logic. The AFW system was not in operation at the time nor was the AFW system challenged by the event.

In response to the situation, the operating personnel implemented normal operating procedure N-BT-07, "Steam Generator Blowdown Treatment System." Operating personnel verified that isolation of steam generator blowdown had automatically occurred in accordance with design. Operating personnel reestablished steam generator blowdown at approximately 1436 hours on December 19, 2000.

**CAUSE OF THE EVENT**

This event occurred as a result of personnel error. While personnel performing testing of SV-33029 were aware that operation of temperature switch TS-16218 would close BT-106 and actuate an associated alarm circuit, they failed to recognize the temperature control circuitry was also an input to shut the steam generator blowdown isolation valves. Had personnel reviewed the associated logic diagram in addition to the flow diagram in preparation for the maintenance, the inter-relationship between the temperature switch and the blowdown valves would have been defined. This oversight resulted in pre-job briefing communications between technicians and the control room only addressing that an alarm for TS-16218 would be received; not that the closure circuit would be actuated for the steam generator blowdown isolation valves. Had Operations been aware of this sequence, it is likely that the valves would have been shut in advance of the testing being performed.

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

**ANALYSIS OF THE EVENT**

This report is being submitted in accordance with 10CFR50.73(a)(2)(iv) as an actuation of steam generator blowdown isolation valves which are ESF components. The circuitry that initiates closure of the blowdown isolation valves on a high temperature signal is not an engineered safety feature. Blowdown isolation is considered an ESF function because the isolation valves receive a signal to close when an AFW pump receives a signal to start. The blowdown valves also are containment isolation valves. This event was reported in accordance with 10CFR50.72(b)(2)(ii) on December 19, 2000, at 1605 Central Standard Time (CST).

There were no elevated radiation levels present at the time of the event. Therefore, there were no safety implications associated with this event. R15, the air ejector exhaust monitor, and R-19, the steam generator blowdown sample radiation monitor remained operable and in service during the event.

**CORRECTIVE ACTIONS**

A probable cause determination for event was performed. It was concluded the event occurred as a result of personnel not reviewing the appropriate logic diagram for this circuitry prior to initiating testing. The event was reviewed with I&C group personnel on December 20, 2000, where it was emphasized that logic and/or schematic drawings, as appropriate, need to be reviewed during the course of corrective maintenance and post-maintenance testing reviews prior to initiation of work. The use of drawings will continue to be reinforced during I&C group meetings to reduce the potential for similar events.

**ADDITIONAL INFORMATION**

None

**SIMILAR EVENTS**

None identified.