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Dresden Nuclear Power Station
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10 CFR 50.73

January 7, 2002

PSLTR: #02-0003

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Dresden Nuclear Power Station, Unit 2
Facility Operating License No. DPR-19
NRC Docket No. 50-237

Subject: Licensee Event Report 2001-005-00, "Unit 2 Scram due to Increased First Stage Turbine Pressure"

Enclosed is Licensee Event Report 2001-005-00, "Unit 2 Scram due to Increased First Stage Turbine Pressure," for the Dresden Nuclear Power Station (DNPS). This event is being reported in accordance with 10 CFR 50.73 (a)(2)(iv)(A), which requires the reporting of any event or condition, which resulted in manual or automatic actuation of the Reactor Protection System (RPS).

The following actions were taken:

Training on this event was provided to Operations regarding the effect on Unit 2 with respect to turbine first stage SCRAM setpoint changes due to implementation of Extended Power Uprate and the relationship between shell warming and its impact on RPS logic.

Enforcement of expectations with regard to adherence to established operations standards was performed by the Shift Operations Supervisor (SOS) to all Operations crews.

Panel monitoring expectations were established by the SOS and incorporated into Operations standing orders.

Revised the operations procedure for Main Turbine Startup, to include a requirement to place an operator selected alarm that forces a control room annunciator alarm when 100 psig is exceeded.

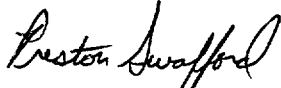
The Unit Supervisor and the Nuclear Shift Operator were removed from duty and worked to develop the modified Operations Start-Up plan based on the event. Both were counseled with respect to this event and returned to duty.

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Any other actions described in the submittal represent intended or planned actions by DNPS. They are described for the NRC's information and are not regulatory commitments.

If you have any questions, please contact Dale Ambler, Regulatory Assurance Manager at (815) 416-2800.

Respectfully,

A handwritten signature in black ink, appearing to read "Preston Swafford". The signature is fluid and cursive, with the first name "Preston" and last name "Swafford" clearly distinguishable.

Preston Swafford
Site Vice President
Dresden Nuclear Power Station

Enclosure

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station

NRC FORM 366 (7-2001)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004 Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose 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.						
LICENSEE EVENT REPORT (LER)										
1. FACILITY NAME Dresden Nuclear Power Station Unit 2				2. DOCKET NUMBER 05000237			3. PAGE 1 OF 3			
4. TITLE Unit 2 Scram due to Increased First Stage Turbine Pressure										
5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
11	07	2001	2001	005	00	01	07	2002	N/A	N/A
9. OPERATING MODE 2			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)							
10. POWER LEVEL 008			20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)	
			20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)	
			20.2203(a)(1)		50.36(c)(1)(i)(A)		X 50.73(a)(2)(iv)(A)		73.71(a)(4)	
			20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)	
			20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER	
			20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)			
			20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		50.73(a)(2)(vii)			
			20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)			
			20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)			
12. LICENSEE CONTACT FOR THIS LER										
NAME Timothy P. Heisterman						TELEPHONE NUMBER (Include Area Code) (815) 416-2815				
13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT										
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	
14. SUPPLEMENTAL REPORT EXPECTED						15. EXPECTED SUBMISSION DATE		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)				X	NO					

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On November 7, 2001, during start-up from D2R17 refueling outage, Dresden Nuclear Power Station Unit 2 automatically scrammed from 8 percent power in Mode 2. Initial investigation revealed that the high-pressure turbine first stage pressure had risen during shell warming activities, which defeated the stop valve closure scram bypass. As shell warming increased, a reactor scram was initiated when this high-pressure was sensed along with the turbine stop valves being closed.

The Root Cause has been determined to be inadequate human performance in that the turbine first stage pressure setpoint was inadequately monitored (as required by procedure) due to it not being considered a critical parameter required for turbine startup. The corrective action to prevent recurrence was to train Operations on this event regarding the effect on Unit 2 with respect to turbine first stage SCRAM setpoint changes due to implementation of Extended Power Uprate and the relationship between shell warming and its impact on RPS logic. Included in the training was the relationship between the pressure versus power.

All automatic protection responses, including reactor trip and its associated actuations were verified to have functioned properly as a result of the reactor trip signal. Based on the above, it is concluded that the event did not adversely impact the health and safety of the public. The safety significance for this event is considered minimal.

NRC FORM 366A U.S. NUCLEAR REGULATORY COMMISSION (7-2001) LICENSEE EVENT REPORT (LER) TEXT CONTINUATION		APPROVED BY OMB NO. 3150-0104 EXPIRES 07/31/2004 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 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. 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)	DOCKET NUMBER (2)	LER NUMBER (6)		PAGE (3)
Dresden Nuclear Power Station Unit 2	05000237	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
		2001	005	00
				2 of 3

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

A. Plant Conditions Prior to Event:

Unit: 02	Event Date: 11-07-2001	Event Time: 2003
Reactor Mode: 2	Mode Name: Startup	Power Level: 8 percent
Reactor Coolant System Pressure: 930 psig		

B. Description of Event:

This event is being reported in accordance with 10 CFR 50.73 (a)(2)(iv)(A), which requires the reporting of any event or condition, which resulted in manual or automatic actuation of the Reactor Protection System (RPS).

On November 07, 2001 at 2003 hours, Dresden Nuclear Power Station (DNPS) Unit 2 automatically scrammed from 8 percent power in Mode 2 following a scheduled refueling outage. Initial investigation revealed that high-pressure turbine first stage pressure which was procedurally required to be maintained between 60 – 100 psig, had risen during shell warming to defeat the stop valve closure SCRAM bypass. A reactor scram was initiated when this high-pressure was sensed along with the turbine stop valves being closed.

During the fall outage for Unit 2 (D2R17) a new high-pressure turbine and cross around relief valves (CAR) were installed. Extensive work on all other turbine valves was also performed. In preparation for Extended Power Uprate (EPU), the reactor SCRAM bypass setpoint was also lowered from 292 psig to 209 psig. This setpoint is derived from the turbine first stage pressure. In addition, the CAR valve minimum setpoints were raised from 261 psig to 297 psig. In previous startups the CAR valves could lift prior to achieving the pressure setpoint when the scram bypass signal would be disabled. Also during previous startups, the turbine would “roll” off of the turning gear when shell pressure exceeded 120 psig and turbine first stage pressure would not exceed 150 psig. With the new high-pressure turbine, the Combined Intercept Valve (CIV) work and installation of the new CAR valves, the system was more pressure tight than previous startups. This allowed turbine first stage pressure to increase to a higher value than previously associated with the startup process.

At the time of the event, shell and chest warming had been in progress. Turbine startup was delayed for 24 hours due to increased sulfates in the reactor water, which prohibited entry into Mode 1. Additionally, several activities were being conducted in the control room, which provided distractions to the startup evolution. Finally, the NSO that began the shell warming activities was sent to Just In Time (JIT) training in preparation for the turbine roll.

Past experience had shown that when the turbine first stage pressure was high, the turbine rolled off of the gear and adjustment would be required to the turbine stop valve to reduce pressure. During this event when the turbine was placed back on gear, the operator had a false sense of security during this evolution that the first stage pressure had been controlled. The Unit Supervisor and Shift Manager were aware of the turbine rolling off of gear. This was identified as a possibility in the turbine startup procedure. When this occurred, the turbine was placed back on gear and turbine preparation continued. When the turbine first stage pressure exceeded 209 psig, the reactor SCRAM bypass was disabled. Due to the turbine stop valves being closed, the Reactor Protection System (RPS) [JC] logic to initiate a full reactor SCRAM was enabled.

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Dresden Nuclear Power Station Unit 2	05000237	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
		2001	005	00
				3 of 3

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

C. Cause of Event:

The root cause of the event was determined to be inadequate human performance in that turbine first stage pressure setpoint was inadequately monitored (as required by procedure) due to it not being considered a critical parameter required for turbine startup. (NRC Cause Code A)

D. Safety Analysis:

All automatic protection responses, including reactor trip and its associated actuations were verified to have functioned properly as a result of the reactor trip signal. Based on the above, it is concluded that the event did not adversely impact the health and safety of the public. The risk for this event is considered minimal and there was no increase in Core Damage Frequency (CDF).

E. Corrective Actions:

Training on this event was provided to Operations regarding the effect on Unit 2 with respect to turbine first stage SCRAM setpoint changes due to implementation of Extended Power Uprate and the relationship between shell warming and its impact on RPS logic.

Enforcement of expectations with regard to adherence to established operations standards was performed by the Shift Operations Supervisor (SOS) to all Operations crews.

Panel monitoring expectations were established by the SOS and incorporated into Operations standing orders.

Revised the operations procedure for Main Turbine Startup, to include a requirement to place an operator selected alarm that forces a control room annunciator alarm when 100 psig for first stage pressure is exceeded.

The Unit Supervisor and the Nuclear Shift Operator were removed from duty and worked to develop the modified Operations Start-Up plan based on the event. Both were counseled with respect to this event and returned to duty.

F. Previous Occurrences:

A review was conducted via a search of previous events of this type. No events of this type were found for DNPS.

G. Component Failure Data:

N/A