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Dresden Generating Station  
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10 CFR 50.4



November 24, 1999

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

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

Subject: Refueling Outage 16 (D2R16) Summary

The purpose of this letter is to provide an update of significant activities completed by Commonwealth Edison (ComEd) Company at the Dresden Nuclear Power Station during the fall 1999 Unit 2 refuel outage. This letter is provided for your information and no response is requested.

Dresden Station completed a refuel outage for Unit 2 (D2R16) in October 1999. Major Modifications installed during D2R16 are listed below:

- Core Stability (OPRM) Modification (Phase 1)
- Main Generator Voltage Regulator Modification
- Motor Generator (MG) Set Brush Holder Replacement Modification
- Reactor Water Cleanup (RWCU) High Energy Line Break Isolation Modification
- Moisture Separator Vane Modification
- ½ Condenser Operation Modification
- Reserve Auxiliary Transformer (RAT) 22 CO Protective Relay Upgrade
- Heater Drain Valve Modifications
- Scram Reduction Modifications
  - Electro-Hydraulic Control (EHC) Component Upgrades
  - EHC Turbine Trip Logic Redundancy
  - Stator Water Cooling Logic to 2 out of 2

In addition to the above modifications, the following materiel condition improvements were also accomplished during this outage:

- 2D Drywell Cooler Coils replaced and the 2A Drywell Cooler recovered after repair of the outlet RBCCW valve
- Reactor Building Closed Cooling Water (RBCCW) balanced to coolers and the Drywell insulation repaired
- Accelerated replacement of Low Power Range Monitor (LPRM) Detectors (13)

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- General Electric (GE) Type SBM Switch Replacements (9)
- Circulating Water (CW) System Repairs
  - Cleaned 100% of Condenser Tubes
  - Replace Valves Seats on reversing motor-operated valves (MOV's)
- Condenser Horizontal Bellows Replacement (21)
- Condensate Demineralizers
  - Relined Vessels (A, B, C, D)
- Upgrade of GE Type HEA Lockout Relays
- 4KV Breakers (various) Enhancements
  - Checked Wiring in breakers
  - Replaced Ty-Wraps with permanent U-bolts
- Generator Oil Seals Replacement
- Generator Hydrogen Coolers Replacement
- Noble Metals Application
- Containment Cooling Service Water (CCSW) Heat Exchangers
  - One new partition plate installed
  - Both Heat Exchangers cleaned and partially retubed
- Replaced Reactor Recirculation Pump A Motor

The Attachment to this letter provides a summary of applicable NRC commitments completed during the refuel outage.

Although many improvements were made during this outage, several challenges did occur. Specifically, a loss of water inventory due to a partially open electromatic relief valve and foreign material excursion issue which forced a unit downpower to remove the material. Investigation of both events is on-going and any lessons learned will be incorporated in future outages.

If you have any further questions regarding this matter please contact Mr. Dale Ambler, our Regulatory Assurance Manager, at (815) 942-2920 extension 3800.

Respectfully,

  
J. M. Henley  
Site Vice President  
Dresden Nuclear Power Station

Attachment

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

**ATTACHMENT**  
**SUMMARY OF D2R16 OUTAGE WORK ON REGULATORY RELATED ITEMS**

References	Subject	Discussion
IEB 96-03	Potential Plugging of Emergency Core Cooling System (ECCS) Suction Strainers by Debris in Boiling-Water Reactors	Dresden replaced the NUKON insulation in Unit 2 that is within the Zone of Influence (ZOI) of the Flued Heads (drywell piping penetrations) and which, when combined with other LOCA generated debris, would exceed the allowable head loss limitations across the ECCS suction strainers. Work was performed through DCP 9800355 and WR 980095065-01.
GL 94-02	Long Term Solutions And Upgrade Of Interim Operating Recommendations For Thermal-Hydraulic Instabilities In Boiling Water Reactors	Unit 2 Core Stability Modification was installed under modification M12-2-95-005, DCP 9600209 and WR 970086334. Modification is to be fully implemented after D2R17.
Confirmatory Action Letter RIII-90-001	Unit 3 Reverse Power Protection Scheme	The changes to the reverse power circuitry to prevent failure to actuate at low loads were incorporated into the voltage regulator replacement per modification M12-2-98-001. New voltage regulators have now been installed on Units 2 and 3. The new design incorporates the feature that during a load reject or generator trip condition the new voltage regulator will remove the VAR output from the generator. Removing the VAR output from the generator will enable them reverse power relay's to trip the generator lock out relay (LOR) resulting in the proper trips to isolate the generator from given disturbance or transient. Tripping the generator and associated systems upon a reverse power condition is imperative for turbine protection to minimize a motoring effect. All testing has been successfully completed and the new voltage regulator is now operation authorized.
Letter from J. Hosmer (ComEd) to USNRC, Reactor Water Clean Up (RWCU) System, High Energy Line Break (HELB) Outside the Drywell, dated September 4, 1996	RWCU High Energy Line Break (HELB) Activities	The RWCU HELB modification is installed and Operations Authorized.

**ATTACHMENT  
SUMMARY OF D2R16 OUTAGE WORK ON REGULATORY RELATED ITEMS**

<b>References</b>	<b>Subject</b>	<b>Discussion</b>
Letter from J. M. Heffley (ComEd) to US NRC, "Reactor Pressure Vessel Head Stud Flaw Evaluation Report," dated April 14, 1998	Reactor Head Stud Number 81 Replacement	Reactor Pressure Vessel Head stud bolt #81 was replaced utilizing work request 980059372.
LER 2-98-005, High Pressure Coolant Injection System Inoperable Due to Turbine Stop Valve Trip Failure Caused by Inadequate Preventive Maintenance Resulting in Corrosion on Trip Solenoid Valve Terminal Strip Electrical Leads	Clean corrosion from terminal boxes	Action Tracking Item 6786-03 was initiated to track to completion all leads not yet cleaned by WRs 980043650 and 980041395 in the U2 HPCI main terminal box. These remaining leads were cleaned and inspected under WR 980077407. As a result, all in use terminations in the U2 HPCI main terminal box have been cleaned. AR 980046686.
LER 3-98-006, Unit 3 C Condenser Low Vacuum Scram Switch Potentially Inoperable Due To Excessive Moisture In Sensing Line As A Result Of Improper Line Slope.	Condenser Low Vacuum Sensing Line Slopes	Action Tracking Item 7349-03 tracked the completion of the walkdown of the vacuum sensing lines on Unit 2 that were previously inaccessible. Results of the walkdown were documented with no additional corrective actions required.
IEB 76-01	BWR Isolation Condenser Tube Failure	The Isolation Condenser Tube Bundle integrity test was performed during the Unit 2 Reactor Pressure Vessel hydrostatic test.