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ComEd

March 7, 1997

JSPLTR #97-0050

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

Subject: Dresden Station Units 2 and 3
Confirmatory Action Letter Action Item Update
NRC Docket Nos. 50-237 and 50-249

Reference: (1) NRC Confirmatory Action Letter RIII-96-016, A. Bill Beach to J. S. Perry dated November 21, 1996.

The purpose of this letter is to provide the monthly update of activities identified in reference (1).

The third monthly meeting to provide the status of activities was held at NRC Region III headquarters on February 28, 1997. At this meeting, activity of the Dresden Engineering Assurance Group (DEAG), screening of the twelve system key parameters, Special Site Quality Verification Audits, and Corporate Engineering activity was discussed.

Dresden Engineering Assurance Group (DEAG) Activities

During the month, the group continued assistance with the determination of Key Parameters being reviewed for the twelve risk significant systems.

The group completed its review of 10 CFR 50.59 safety evaluations developed for the partially completed modifications, and continued to review selected modifications planned for completion in the upcoming D3R14 refueling outage. (The sample will include 15 of approximately 50)

The DEAG continues to work with the Engineering Department to resolve the issue of instrument uncertainty raised during the Independent Safety Inspection (ISI).

In addition, DEAG provided input to the Dresden response to the ISI letter, and reviewed inputs to the D3R14 Reload Analysis.

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32 Engineering Department products have been reviewed during February. The most significant issues include:

- System Operability Screenings that resulted from the twelve risk significant systems screenings.
- The torus water level instrument operability screening following identification of a High Energy Line Break (HELB) issue.
- The elevated torus temperature operability

Nine of the products reviewed required re-work for failing to reference inputs, and because of math errors.

The DEAG is pleased to note that intra-discipline communications among the engineering groups are improving.

The area of Safety Evaluations still could be improved as well as attention to detail on most engineering products.

Twelve Risk Significant Systems Key Parameter Screening Status

The screening of key operating parameters on the twelve systems most important from a risk prospective has been completed. The report will be transmitted to the Administrator USNRC Region III shortly.

The NRC was informed when one critical parameter, the low pressure coolant injection system (LPCI) loop select pressure switches were found outside of the normal acceptance range. The pressure switches affected the Loop Select Logic when operating in single loop, a rare occurrence over the plant hisotry.

In accordance with the NRC request at the previous meeting, the Design Engineering Superintendent reviewed the key parameter matrix for the Containment Cooling Service Water (CCSW) system. The system, key components, and operating modes were briefly described. The key parameters and their bases were discussed as well as the five discrepancies found during the CCSW key parameter screening.

The following discrepancies were reviewed in detail:

1. The documents identifying water level in the crib house for the CCSW pumps are not consistent. These documents will be revised to show the water level to be 500 feet as found in calculation DRE96-0214 Rev 1.

2. No formal calculation exists to demonstrate that adequate net positive suction head (NPSH) exits for the CCSW Pumps. However, based on engineering judgement there exists ample NPSH. The Nuclear Tracking System (NTS) will be used to track the corrective action.

3. No calculations exist to show that adequate terminal voltage is available for the CCSW Pump Motor nor that the motor is correctly sized for the CCSW Pump. However, surveillance tests for the system and a review of the electrical schematics did verify that these are not a matter of concern. Corrective action will be tracked under NTS.

4. The basis for the twenty pound differential pressure for the LPCI/CCSW Heat Exchanger to prevent leakage of contaminated fluids is not available. An evaluation has shown this value to be acceptable, and the final corrective actions will be tracked under NTS.

5. The Dresden Dam failure postulates the simultaneous occurrence of an earth quake, a dam failure, a loss of offsite power, (LOOP), and a Loss of Coolant Accident (LOCA). No calculation exits for containment cooling or differential pressure requirements for this case. Section 9.2.5.3.2 of the Updated Final Safety Analysis (UFSAR) describes a coping mechanism for this case. Corrective action will be tracked under NTS.

The findings of the twelve system review are listed below:

1. A total of fifty-six Problem Identification Forms or NTS items were initiated. Only one resulted in a system being declared inoperable, and that has been corrected.

2. Discrepancies found during the screening were similar to those found during the Dresden self assessment and the NRC Independent Safety Inspection (ISI)

3. Corrective actions taken in response to the ISI are acceptable to address the findings.

The following actions will be undertaken to support the use and maintenance of the key parameter matrix:

1. Engineering Support Personnel (ESP) Training on the results of the Twelve Systems Parameter Review will be given in March 1997.

2. A procedure for maintenance of the Key Parameter Matrix will be developed for use by the System and Design Engineers.

3. The results of the key parameter review will be the starting point for the Adequacy and Retrievability of Design Basis Project.

Disposition of Level Three Calculation Discrepancies Found in S&L Audit.

The significance levels of discrepancies are defined below:

Level	Description
0	Editorial
1	No Impact on Design
2	Potential Impact on Design
3	Design Margin Eroded
4	Design Margin Exceeded

Calculation Review Summary

Twenty-four calculations were selected for review. Six of these were known to have errors because they were previously identified by the ISI, Dresden SQV, or S&L. Eighteen additional calculations were selected at random during the ComEd audit. Of the six calculations know to have errors, four level 3 and two level 1 errors were identified. Of the eighteen selected at random, there were two level 2, seven level 1, and one level 0 errors identified. Eight calculations had no errors.

Summary of Level 3 discrepancies:

Calculation ATD-0253 Rev 1 was used to determine the size of the orifice in the CCSW inlets to the Control Room HVAC chiller and to the CCSW room coolers. The calculation used the LPCI pump curve instead of the CCSW pump curves. When the correct pump curves were used, and the calculation revised, the orifice sizes were not affected. The NRC noted this error during the ISI.

Calculation ATD-0216 Rev 0 was used to determine CCSW pipe losses and to support a 1992 license amendment to reduce the required CCSW flow. The calculation again used the LPCI pump curve instead of the CCSW pump curve. S&L informed ComEd and NRC of this error during the ISI, prior to the ComEd audit. The calculation was voided as it was no longer needed when the amendment was abandoned.

Calculation VR-10 Rev. 1 was used to calculate the secondary containment air volume for use in determining the air changes per day which could be achieved by the Standby Gas Treatment System (SBGT). This error was identified by Dresden SQV prior to the ComEd audit. The minimum required charcoal efficiency of the train was increased from 90% to 93% after the calculation was revised and reissued.

Calculation 0591-387-003, Rev 2 (Impell Calculation) was used to determine at what drywell pressure venting should be shifted from the SBGT system to the hardened vent. The calculation erroneously concluded that the SBGT system unit would be overpressurized at containment pressures over 25 psi, when in fact the system can be used to vent the containment up to the 62 psi design pressure. This error was identified by Dresden SQV prior to the ComEd audit. One Dresden Emergency Operating Procedure was affected by this error.

None of the errors had a significant safety impact, however the need for greater care is clearly warranted for future calculations.

Corporate Engineering Activities

S&L Expanded Calculation Review

Following the audit at S&L in January, S&L selected at random fifty calculations of a population of one hundred fifty involving the Emergency Core Cooling Systems, Essential Service Water, and Heating Ventilation, and Air Conditioning at all ComEd stations. Twenty calculations had no errors while twenty had level 1 and ten had level 0 errors. The findings were similar to those noted in the earlier ComEd audit. PIFs were written for all errors discovered. The S&L Engineering Assurance function as well as the ComEd followup audit will confirm the effectiveness of corrective actions.

Common Site Engineering Assurance (EA) Group

The common charter of the EA Groups was described and their common oversight roles were identified.

The goals of the Peer EA Group are as follows:

- Champion Self Assessments
- Establish minimum sampling of oversight activities
- Self assess the EA Groups across the seven locations
- Facilitate common performance standards and metrics
- Support the technical evaluation of supplier audits.

Corporate Quality Verification Activity

The vendor audits focused on the following activities:

- The design control process with emphasis on calculations
- Problem identification and notification
- ComEd - vendor interface

An audit of Siemens was completed in January, and the Bechtel audit was completed in February 1997. The Siemens' audit, which included 23 calculations across all ComEd boiling water reactors, resulted in no calculational quality issues. The Bechtel audit of seventeen Byron/Braidwood Steam Generator replacement project calculations found eight calculations with no errors, six with level 0 discrepancies, and three unresolved items at this time.

The Schedule of Vendor Audits for 1997

Company	Location	Schedule	
Bechtel	Offsite Site(s)	1st Quarter 3rd Quarter	Complete
Duke	Offsite Site(s)	2nd Quarter 3rd Quarter	
GE(NSSS)	Offsite Site(s)	3rd Quarter 4th Quarter	
Siemens	Part 1 Part 2	1st Quarter 3rd Quarter	Complete
Westinghouse (NSSS)	Offsite Site(s)	2nd Quarter 3rd Quarter	
Westinghouse (Fuel)	Part 1 Part 2	2nd Quarter 3rd Quarter	
S&L	Corrective/ Action	2nd Quarter	

Additional items for next meeting:

1. Provide statistics comparing the number of safety evaluations approved by DEAG but rejected by PORC or other review group and the number rejected which were not reviewed by DEAG.

2. Compare the findings for systems reviewed by the Material Condition Improvement Program (MCIP) and the findings of the Twelve System Critical Parameter Review.

3. Provide results of review of additional DBDs for which crib house water level is a critical parameter and compare these to the results of discrepancy #1 discussed during this meeting.

4. Provide our intentions to resolve discrepancy #2 discussed in this meeting. Specifically, ComEd has stated that based on engineering judgement the NPSH for the CCSW Pumps is acceptable in the absence of a formal calculation.

5. Provide an explanation for the number of level 3 calculation discrepancies found by the ISI team compared to those found by subsequent AE audits.

6. Provide the results of the calculation to show that the CCSW Pump Motor will perform satisfactorily under conditions of degraded voltage.

7. Discuss our proposed safety evaluation performance indicator.

8. The current status of CAL commitments found in various letters is provided in the attachment. Commitments in the 50.54(f) letter are included in the listed letters.

If you have any questions concerning this issue please contact Mr Russell Freeman, Dresden Station Site Engineering Manager, at (815) 942-2920, ext. 3700.

Sincerely,

FOR
J. Stephen Perry
Site Vice President
Dresden Station

Attachment

cc: U. S. NRC Document Control Desk
A. Bill Beach, Administrator USNRC Region III
J. F. Stang, Project Manager, NRR
D. Roth Acting Senior Resident Inspector, Dresden Station
Office of Nuclear Facility Safety - IDNS

DRESDEN STATION
CAL COMMITMENT STATUS

JSP LETTER November 8, 1997

	ACTION SPECIFIED	STATUS	DOCUMENT
1.	Establish Engineering Assurance Group	Complete	JSPLTR Dec 6, 1996
2.	Revise Nuclear Engineering Procedures to provide specific direction when a potential design basis discrepancy is identified	Complete	JSPLTR Feb 7, 1997
3.	Revise Nuclear Engineering Procedure to provide clearer guidance for review and update of calculations	Complete	JSPLTR Dec 6, 1996
4.	Screen key parameters of twelve systems most important from a risk perspective	Complete	JSPLTR Feb 28, 1997
5.	Validate/reconstitute design basis/calculations for equipment/systems affected by future modifications.	On-going	
6.	Audit NSSS suppliers and Architect/Engineers	On-going	JSPLTRs Dec 30, 1996 & Feb 7, 1997
7.	Validate/reconstitute design basis and calculations for the 12 systems most important from a risk perspective	long term program	
8.	Review UFSAR against Design Basis Documents (DBD)by December 1997.	long term program	
9.	Revise/update the DBD for the 6 of 12 systems important from a risk perspective by 12/97	long term program has begun	
10.	Revise/update the DBD for the 6 of 12 systems important from a risk perspective by 12/98	long term program	

DRESDEN STATION
CAL COMMITMENT STATUS

T. J. Maiman letter of November 12, 1996

	ACTION SPECIFIED	STATUS	DOCUMENT
1.	Complete UFSAR validation for two systems against operating and surveillance procedures	complete	TJM 11/12/96
2.	Establish engineering oversight teams	complete	TJM 11/12/96
3.	Complete change to action request screening program	complete	TJM 11/12/96
4.	Complete review of tech spec interpretations	complete	TJM 11/12/96
5.	Complete review of safety evaluations for partially completed modifications	complete	TJM 11/12/96
6.	Conduct an Engineering Department safety system functional inspection.	Dresden Complete	JSPLTR Feb 7, 1997
7.	Review the in-service testing (IST) programs for consistency with the Design Basis	One Review completed 1996. Current assessment to finish end D3R14	
8.	Conduct review of the effectiveness of Plant Operations Review Committee.	Review Complete, Report issued	
9.	Provide a plan based on the evaluation of long term actions of JSP letter of November 8, 1996	Complete	TJMLTR Jan 30, 1997

DRESDEN STATION
CAL COMMITMENT STATUS

A. B. Beach Letter of November 21, 1996

	ACTION SPECIFIED	STATUS	DOCUMENT
1.	The first six items in the letter are identical to those found in the JSP ltr of Nov 8, 1996.	See JSP ltr Nov 8, 1996	
2.	Detail the membership & background of EAG members, charter, responsibility, EAG Implementing procedures.	Complete	JSP LTR Dec 6, 1996
3.	Provide results of EAG actions and results to NRC on a monthly basis.	In progress	
4.	Provide results of screening of 12 systems to NRC on a monthly basis.	Complete	JSP LTR Feb. 28, 1997
5.	Inform NRC if any critical parameters are outside of normal acceptance range.	Complete	JSP LTR Feb. 28, 1997
6.	Provide schedule and results of NSSS and AE audits on monthly basis	On going	

DRESDEN STATION
CAL COMMITMENT STATUS

T. J. Maiman letter of January 30, 1997

	ACTION SPECIFIED	STATUS	DOCUMENT
1.	Validate all approved DBD against UFSAR, other design documents, and plant procedures.	Planning/ scheduling phase	
2.	Develop Corporate NEP define and provide guidance where critical calculations are required.	Planning/ scheduling phase	
3.	Develop Corporate NEP to provide corporate guidance regarding configuration management for critical calculations and parameters.	Planning/ scheduling phase	
4.	Verify and validate the design basis information found in the UFSAR at all sites	Planning/ scheduling phase	
5.	Identify parameters in UFSAR which are keys to the design basis. Evaluate supporting documents and upgrade if necessary.	Planning/ scheduling phase	