50-237
50-249

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

September 17, 1996

MEMORANDUM TO: James M. Taylor
Executive Director for Operations

FROM: Samuel J. Collins, Deputy Regional Administrator
Region IV

SUBJECT: INDEPENDENT SAFETY INSPECTION OF DRESDEN STATION - FINAL INSPECTION PLAN OUTLINE

In accordance with your memorandum to me, dated July 3, 1996, the outline of the Dresden Independent Safety Inspection (ISI) plan was forwarded to you and approved in draft on August 2, 1996. The attached ISI plan outline is provided for your review and approval, and has been revised to reflect: (1) the final schedule of principal activities; (2) the final team composition and organization; (3) the selection of safety systems to be reviewed, which include the 125 VDC electrical distribution system, the high pressure coolant injection system, and the core spray system; (4) adding the evaluation of repeat work in addition to rework in Section 8.2, Maintenance and Testing; (5) adding the evaluation of engineering backlogs in Section 8.3, Engineering, Technical Support, Design and Licensing Basis; (6) clarification of one of the engineering inspection objectives pertaining to codes and standards review; and (7) minor editorial changes which did not affect the scope or the specific objectives of the inspection.

The Functional Area Leaders will draft detailed functional area inspection plans for their assigned functional areas by September 18 for approval by September 25. These detailed functional area inspection plans will be discussed during our next periodic briefing, which is currently scheduled for 11 a.m. on September 27, 1996.

One of the ISI inspection objectives is to evaluate the effectiveness of maintenance performed in the field by conducting sustained observations of selected maintenance activities during all shifts. The accomplishment of this objective is dependent on the complexity of work activities that the licensee plans to accomplish while the team is onsite. Typically, the best opportunity for observing field work of sufficient complexity to obtain the needed insights occurs during outages. The next Dresden refueling outage was originally scheduled to be conducted during the period that the team would be onsite. Subsequently, as a result of a mid-cycle extended shutdown, the licensee postponed the Unit 3 refueling outage (D3R14) until early next year; however, as of this date, the schedule has not been finalized.

It is our intention that once the licensee has finalized the Unit 3 refueling outage scope and schedule, an additional inspection plan outline, including an overall schedule and the identification of team members, will be developed to accomplish this objective. This inspection plan outline will be submitted for

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your review and approval. Implementation of this plan will be coordinated with the scheduled D3R14 outage or considered during any forced Unit 2 and 3 outage of sufficient duration and scope.

Please contact myself or Art Howell (817/276-6526) if you have questions.

Attachment: As Stated

DRESDEN STATION
Independent Safety Inspection (ISI) Plan

1. Facility

Name: Dresden Nuclear Power Station, Units 2 and 3
Docket Nos.: 50-237, 50-249
Location: 6500 North Dresden Road
Morris, IL 60450-9765

2. Licensee

Commonwealth Edison Co.
Executive Towers West III
1400 Opus Place
Downers Grove, IL 60515

3. Principal Activities Schedule

Inspection Tasking Memorandum	July 3, 1996
Inspection Plan Outline	July 12, 1996
Brief EDO	July 16, 1996
Licensee Notification	July 19, 1996
Briefing by RIII	July 22-24, 1996
Briefing by NRR Projects	July 31-August 1, 1996
Team Member Identification	August 2, 1996
Functional Area Leader Meeting	August 13-15, 1996
Pre-Inspection Visit to Dresden	August 20-22, 1996
Team Preparation	September 10-27, 1996
Team Meeting (Headquarters and RIV)	September 10-13, 1996
Detailed Inspection Plan	September 18, 1996
Final Team Meeting	September 25, 1996
Brief EDO	September 27, 1996
First Onsite Period	September 30-October 11, 1996
In-Office Review	October 15-25, 1996
Team Meeting in RIV	October 22-24, 1996
Brief EDO	October 24, 1996
Second Onsite Period	October 28-November 8, 1996
Interim Exit Meeting	November 8, 1996
Brief EDO	November 14, 1996
Develop Inspection Report Draft	November 12-22, 1996
Team Meeting	November 25-27, 1996
Brief EDO and Chairman	December 4-5, 1996
Exit Meeting	December 12, 1996
Issue Inspection Report	December 23, 1996

4. Team Organization and Composition

Team Manager	S. Collins, RIV
Team Leader	A. Howell, RIV
Administrative Assistant	C. Gordon, RIV
Operations and RP Lead	J. Pellet, RIV
Operations Inspector	B. Holbrook, RII
RP Inspector	M. Shannon, RIV
Maintenance/Testing Lead	W. Jones, RIV
Maintenance Rule Inspector	C. Petrone, NRR
Inspector	C. Johnson, RIV
Inspector	T. Foley, NRR
Inspector	J. Isom, NRR
Engineering/Technical Support Lead	H. Wong, RIV
Engineering Programs Inspector	G. Kalman, NRR
Mechanical Design Inspector	M. Shylamberg, Contractor
Electrical Design Inspector	C. Crane, Contractor
Electrical/I&C Design Inspector	O. Mazzoni, Contractor
Management and Organization Lead	J. Linville, RI
Inspector	M. Biamonte, NRR
Inspector	P. Wilson, NRR
Inspector	V. Barnes, Contractor

5. Bases of Concern for the Dresden Nuclear Power Station

Dresden Station was first placed on the NRC Watch List as a Category 2 plant in June 1987. Improved performance resulted in the site being removed from the Watch List in December 1988. Performance subsequently declined and in January 1992, Dresden was again placed on the NRC Watch list. Performance at Dresden for the last 4 years has been cyclic with identified weaknesses in plant material condition, procedure quality and adherence, engineering and licensing support, work performance, communications, execution of management expectations, and supervision and control of work activities.

During the June 1996 NRC Senior Management Meeting, the agency's senior managers concluded that an Independent Safety Inspection should be conducted to further evaluate the performance at Dresden.

6. Overall Goals and Objectives

- Evaluate the effectiveness of the licensee's corrective action programs.
- Provide an independent assessment of conformance to the design and licensing basis.

- Evaluate the conduct and effectiveness of maintenance activities including work processes, post-maintenance testing and implementation of maintenance rule activities.

- Provide an independent assessment of operational safety performance.

7. Assessment Methodology

The ISI will apply the basic methodology of the diagnostic evaluation program to develop an overall assessment of licensee performance across the areas of operations and radiological controls; maintenance and testing; engineering and technical support; and management and organization.

The approach will deviate from this methodology in the following areas:

- The members of the ISI should have no recent regulatory responsibilities for any Commonwealth Edison plant.

- The proposed Senior Management Meeting Evaluation Matrix will be utilized as an assessment aid.

- The ISI will report directly to the Executive Director for Operations.

8. Specific Goals and Objectives of the Independent Safety Inspection

8.1 Operations and Training

Evaluate the effectiveness (strengths, weaknesses) of operations and training through: (1) observation of control room activities during all shifts, (2) observation of auxiliary and equipment operators conducting routine rounds, and (3) observation of training activities in the simulator.

Evaluate the current status and effectiveness of licensee corrective actions for source term and exposure reductions. Evaluate by direct observation radiological control practices in operations and maintenance activities.

Objectives

- Identify communication, coordination or cooperation problems and their causes.

- Identify operations and training management oversight problems and their causes.

- Identify equipment failure burdens on the operations staff and the manner by which licensee management deals with equipment problems identified by the operations staff.

- Evaluate the adequacy of operability determinations.
- Evaluate the effectiveness of actions to reduce plant source term.
- Identify additional specific performance or programmatic problems including adherence to and adequacy of plant operating procedures.
- Assess the potential for sustained and permanent improvement due to any new programs, self-assessment or independent initiatives.
- Determine the probable root causes for identified problems and areas in need of improvement.
- Identify noteworthy licensee strengths in the above areas.

8.2 Maintenance and Testing

Evaluate the conduct and effectiveness (strengths, weaknesses) of maintenance activities, work process, post-maintenance testing and implementation of maintenance rule activities.

Objectives

- Evaluate the effectiveness of maintenance performed in the field by conducting sustained observations of selected maintenance activities during all shifts. This evaluation should include as many aspects of the field work as practicable, including coordination with other departments and post-maintenance testing.
- Evaluate the amount of maintenance rework/repeat work and assess the impact of rework/repeat work relative to: (1) the material condition of the station; and, (2) the availability and reliability of selected structures, systems, and components.
- Determine the status of maintenance training initiatives and evaluate the effectiveness of these training initiatives relative to enhancing the performance of key maintenance craft personnel who perform work on safety-related equipment.
- Evaluate the effectiveness of the post-maintenance testing program, and the adequacy of selected post-maintenance tests.
- Evaluate the effectiveness of the maintenance work process, including planning and scheduling.

- Evaluate whether the licensing/design basis is met/maintained through testing, relative to Final Safety Analysis Report (FSAR) and Safety Evaluation Report commitments.

- Evaluate the material condition of the plant, including trends and patterns in equipment and material problems, and assessment of safety system reliability and availability.

- Identify communication, coordination or cooperation problems and their causes.

- Evaluate the effectiveness of maintenance management oversight, including maintenance contracts. Assess the degree of success that management has had in identifying causes of problems and correcting them.

- Evaluate selected attributes of Maintenance Rule implementation activities.

- Evaluate maintenance department resources, including engineering and technical support of various maintenance programs and processes, and contractor maintenance activities.

- Evaluate the extent to which the maintenance backlog is prioritized, according to risk, or other measures.

- Evaluate the effectiveness of preventive and predictive maintenance programs.

- Evaluate whether Probabilistic Risk Assessment (PRA) is effectively used in the conduct of maintenance performance under Technical Specification Limiting Conditions for Operations.

- Identify additional specific performance or programmatic problems and their causes including adherence to maintenance and test procedures.

- Assess human and organizational performance during the conduct of maintenance and test activities.

- Assess the potential for sustained and permanent improvement due to any new programs or practices in these areas.

- Determine the probable root causes for identified problems and areas in need of improvement.

- Identify noteworthy licensee strengths in the above areas.

8.3 Engineering, Technical Support, Design and Licensing Basis

Evaluate the effectiveness (strengths, weaknesses) of engineering design basis and engineering and technical support functions through: (1) accomplishment of an in-depth engineering review of the 125 VDC electrical distribution system, the high pressure coolant injection system, and the core spray system, including an assessment of the maintenance of design and licensing basis, and ability of these systems, as modified, maintained, tested, and operated by the licensee, to perform their intended safety functions through an in-depth review of the work of the various engineering disciplines; and (2) a review of the technical adequacy, timeliness, or thoroughness associated with responses to emergent work, plant deficiencies, or engineering modifications.

Objectives

- Evaluate the quality of engineering work and analysis supporting the design and licensing basis.
- Evaluate adherence to the FSAR by performing a selected review of FSAR chapters.
- Evaluate the plant design change and modification process, including temporary modifications and the process for safety evaluations in accordance with 10 CFR 50.59.
- Evaluate the availability, accuracy, and utilization of design and licensing information.
- Evaluate the application of codes and standards as they relate to the design and licensing basis.
- Evaluate the effectiveness of engineering management and the degree of success that management has had in identifying problems, documenting problems using the appropriate corrective action process and correcting them, including the degree to which the engineering organization is actively seeking out problems (intrusiveness).
- Evaluate the treatment of licensing commitments.
- Evaluate communication of problems among the various engineering groups and between these groups and other plant staff.
- Evaluate the effectiveness of vertical communications and whether the staff is encouraged to identify problems and develop technically sound solutions.
- Evaluate the extent to which engineering backlogs are prioritized, according to risk, and other measures.

- Evaluate whether PRA is being used appropriately in the determination of the need to evaluate technical issues.

- Evaluate the licensee's self-assessment, corrective action capabilities, and corrective action results as they pertain to engineering.

- Evaluate root cause determinations and corrective actions as performed by the engineering staff.

- Evaluate the role of audit and review groups, such as an off-site safety review committee, in the adherence to the current licensing basis.

- Identify the level of contractor support to the engineering organization.

- Identify additional specific performance or programmatic problems and their causes including adherence to engineering procedures.

- Assess the potential for sustained and permanent improvement due to any new programs, self-assessments or independent initiatives.

- Determine the probable root causes for identified problems and areas in need of improvement.

- Identify noteworthy licensee strengths in the above areas.

8.4 Management and Organizational Effectiveness

Evaluate the effectiveness of site management practices and systems for assuring safe plant operation. Evaluate the effectiveness (strengths, weaknesses) of the licensee's performance in planning and controlling plant activities. Determine the effectiveness of the licensee's identification, assessment and resolution of deficiencies. Changes to the management and organization functional area inspection objectives, including the followup of any observations that are potentially beyond the scope of these objectives, shall be coordinated with and approved by the team manager.

Objectives

- Evaluate site staff performance with respect to their approach to safety, including the priority and relationship between production and safety.

- Evaluate organizational communications and teamwork, including relationships, interfaces, and accountability both within and between Dresden work groups and departments.

- Evaluate the effectiveness of site and corporate self-assessment programs and processes, including oversight committees, relative to the identification and resolution of deficiencies, particularly those deficiencies affecting the design and licensing bases.

- Assess the effectiveness of corrective action programs, improvement programs, and self-assessment or independent initiatives to obtain sustained and permanent improvements.

- Evaluate the role and effectiveness of oversight organizations, including the Quality Assurance Department, Licensing and onsite/offsite review committees in meeting these objectives.

- Evaluate the ability of the site staff to identify and take corrective action for substantive problems, including assessment of the appropriateness of the licensee's threshold for problem identification and the timeliness of corrective actions.

- Review programs and processes for addressing employee concerns.

- Evaluate the effectiveness of programs for tracking and trending plant performance.

- Evaluate the effectiveness of programs for evaluating and implementing industry operating experience.

- Evaluate the short- and long-term planning processes, including the methods of assigning priority and responsibility, allocating resources, providing accountability, and the effects of interactions with external organizations.

- Evaluate the effectiveness of programs for staff development and utilization of experience, as they relate to safety performance.

- Evaluate the safety impact of any cost control efforts, management rotations, and organizational changes.

- Assess the potential for sustained and permanent improvement due to any new programs, self-assessment or independent initiatives.

- Determine the probable root causes for identified problems and areas in need of improvement.
- Identify noteworthy licensee strengths in the above areas.

9. Coordination and Communication with the EDO and NRC Staff

The ISI manager in coordination with the EDO will provide for periodic briefings of the inspection's progress. Currently, the following briefings are planned at key milestones:

Milestone	Brief
Team Composition/Assessment Plan Development	Week of July 15, 1996
Assessment Plan Revisions based on Team Preparation	Week of September 23, 1996
Completion of Initial Onsite Assessment	Week of October 21, 1996
Completion of Second Onsite Assessment	Week of November 11, 1996
Public Exit Meeting and Press Conference	Week of December 2, 1996

Additional briefings will be scheduled as requested, or based on significant emerging issues.

During the course of the inspection, any emerging safety issues requiring prompt action to assure public health and safety will be provided to the licensee and Region III for appropriate action and followup. Additionally, allegations received by ISI members will be processed through the NRC allegation management system, with responsibility for resolutions falling to the appropriate NRC office.

Potential enforcement issues identified will be coordinated with Region III for appropriate followup review.

Coordination will be developed with the Office of Investigations and the Office of the Inspector General to assure they are informed of findings related to their areas of responsibility and to assure any parallel work is fully coordinated.

10. Assessment Preparation

ISI functional area leaders will begin preparations the week of August 12, 1996. ISI members will assemble and begin preparations the week of September 9, 1996. Meetings will be held in Headquarters and the Region IV offices. Detailed presentations will be provided by AEOD.

NRR, RES, and Region III staff relative to the unique aspects of the plant and any significant technical, licensing, or performance issues. Additionally, site specific information (e.g., inspection reports and licensee procedures) will be distributed and discussed to assist the ISI members in the preparation process, which will extend through September 27, 1996. Training in the ISI process, site access training and the expectations of the ISI management will be provided. Draft functional area inspection plans will be discussed during the team meeting, followed by a functional area detailed inspection plan, which will be approved by the team manager.

11. Independent Safety Inspection Documentation

As issues are identified during the evaluation, each ISI member will document the issues, in detail, using the standardized observation forms. Completed observation forms will be given to the Team Leader and revised as new information becomes available. The observation forms will be used to brief licensee management during the onsite inspection, and NRC management at the conclusion of the inspection. The ISI team report will be completed by December 23, 1996, and will be issued following the onsite public meeting with the licensee. Writing styles (including level of detail to be presented) should be consistent with the guidelines established for diagnostic evaluations. Additionally, the team will provide Region III with documentation of areas inspected and time expended relative to Inspection Manual Chapter 2515 to ensure appropriate credits can be taken.

12. Administrative Support

The Dresden ISI will include an Administrative Assistant, to support the administrative needs and activities of the team, who will report to the Team Leader. Travel arrangements, working hours, assignment of rental cars, motel reservations, licensee background material, assembly of documentation of team findings onsite and coordination of the team report preparation, and the conduct of administrative aspects of the Independent Safety Inspection will be discussed at the team preparation meetings. Security clearances and site access training requirements must be current at that time, so that unescorted access processing can be conducted. ISI members will require unescorted access. Any administrative or logistical questions or concerns should be discussed and coordinated with the Administrative Assistant.

bcc w/Attachment:
Distribution:

DCD/Central Files
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JTaylor, EDO, O-17G21
JMilhoan, EDO,O-17G21
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ISI Team Members

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