

July 21, 2000

Mr. Oliver D. Kingsley  
President, Nuclear Generation Group  
Commonwealth Edison Company  
ATTN: Regulatory Services  
Executive Towers West III  
1400 Opus Place, Suite 500  
Downers Grove, IL 60515

SUBJECT: DRESDEN - NRC INSPECTION REPORT 50-237/2000010(DRS);  
50-249/2000010(DRS)

Dear Mr. Kingsley:

On June 13-14, 2000, the NRC conducted a supplemental inspection at your Dresden Nuclear Station. The results of the inspection were discussed with Mr. M. Pacilio and other members of your staff on June 14, 2000. The enclosed report presents the final results of that inspection.

This supplemental inspection was performed because the Protected Area Security Equipment Performance Indicator in the Physical Protection Cornerstone was reported to be within the Regulatory Response Band (White). The inspection was performed to assure that the root and contributing causes for the security equipment performance issue were understood, to assure the extent of the condition was identified, and to assure corrective actions were sufficient to address root causes and to prevent recurrence.

Based on our inspection results, we concluded that you performed a comprehensive analysis of the performance issues and risk significance associated with the unavailability of protected area security equipment. Your corrective actions implemented in the first quarter 2000 appeared to have addressed the extent of the problem, and have resulted in improved performance of protected area security equipment. Based on those corrective actions remaining effective, your staff expects this indication to turn "Green" by the conclusion of the third quarter (September) 2000.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

***/RA by Steven Reynolds Acting for***

John A. Grobe, Director  
Division of Reactor Safety

Docket Nos. 50-237; 50-249  
License Nos. DPR-19; DPR-25

Enclosure: Inspection Report 50-237/2000010(DRS);  
50-249/2000010(DRS)

cc w/encl: D. Helwig, Senior Vice President, Nuclear Services  
C. Crane, Senior Vice President, Nuclear Operations  
H. Stanley, Vice President, Nuclear Operations  
R. Krich, Vice President, Regulatory Services  
DCD - Licensing  
P. Swafford, Site Vice President  
R. Fisher, Station Manager  
D. Ambler, Regulatory Assurance Manager  
M. Aguilar, Assistant Attorney General  
State Liaison Officer  
Chairman, Illinois Commerce Commission

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos. 50-237; 50-249  
License Nos. DPR-19; DPR-25

Report No: 50-237/2000010(DRS); 50-249/2000010(DRS)

Licensee: Commonwealth Edison Company (ComEd)

Facility: Dresden Nuclear Station, Units 2 and 3

Location: R. R. No.1  
Morris, IL 60450

Dates: June 13–14, 2000

Inspector: T. Madedo, Physical Security Inspector

Approved by: James R. Creed, Safeguards Program Manager  
Division of Reactor Safety

## NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
<ul style="list-style-type: none"><li>● Initiating Events</li><li>● Mitigating Systems</li><li>● Barrier Integrity</li><li>● Emergency Preparedness</li></ul>	<ul style="list-style-type: none"><li>● Occupational</li><li>● Public</li></ul>	<ul style="list-style-type: none"><li>● Physical Protection</li></ul>

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>

## SUMMARY OF FINDINGS

### Dresden Nuclear Power Station, Units 1 & 2 NRC Inspection Report 50-237/2000010(DRS); 50-249/2000010(DRS)

This supplemental inspection was performed because the Protected Area Security Equipment Performance Indicator in the Physical Protection Cornerstone was reported to be within the Regulatory Response Band (White). The inspection was performed to assure that the root and contributing causes for the security equipment performance issue were understood, to assure the extent of the condition was identified, and to assure corrective actions were sufficient to address root causes and to prevent recurrence. The inspection was performed in accordance with Inspection Procedure 95001.

#### Cornerstone: Physical Protection

- The licensee conducted a comprehensive evaluation for the causes of the conditions that resulted in this performance indicator being an issue of low to moderate safety significance (White). The evaluation identified that the root cause for the performance of protected area security equipment issue was inadequate practices and procedures that involved the scheduling and work activities of maintenance for protected area security equipment. Licensee corrective actions were implemented. Those actions appeared effective to improve security equipment performance in the first quarter of 2000. Overall performance for the indicator remained in the white response band, however, continued effectiveness of corrective actions are expected to turn the indicator green by the third quarter (September) 2000.

## Report Details

### 01. Inspection Scope

The inspector reviewed the licensee's assessment and corrective actions to improve the performance of the security equipment associated with a white (Regulatory Response Band) performance indicator for Protected Area Security Equipment Performance. The inspector also assessed the specific risk consequences and evaluated compliance concerns associated with this issue.

### 02. Evaluation of Inspection Requirements

#### 02.01 Problem Identification

- a. Determine that the evaluation identified who and under what conditions the issue was identified.

Licensee's submitted first quarter 2000 data for the Protected Area Security Equipment showed the performance indicator (PI) to be in the white "Regulatory Response Band."

- b. Determine from the evaluation documents how long the issue existed, and prior opportunities for identification.

The licensee determined that the white PI had existed since the start of the collection process in the second quarter of 1999.

Prior to May 1999, the licensee did not collect data pertaining to compensatory man-hours expended for failed security equipment. Properly compensating for failed equipment was considered an acceptable work practice and did not violate the Code of Federal Regulations or the licensee's security plan. This practice fostered a philosophy that as long as there was no violation and minimal costs resulting from the compensatory measures, security equipment would not require immediate evaluation, repair, or replacement. This philosophy perpetuated poor maintenance efforts and created an atmosphere where problems with security equipment were prevalent.

In May 1999, the licensee gathered historical data to be submitted for the initial Protected Area Security Equipment Performance Index. Performance was determined to be in the "White" response band. Upon discovery of the deficiency, the licensee initiated a review to determine why security equipment performance was deficient and to develop and implement corrective actions to improve equipment performance. The licensee determined that performance standards did not exist at the time the historical data was being generated, which significantly reduced their opportunities for prior identification.

- c. Determine that the evaluations document the plant's specific risk consequences (as applicable) and compliance concerns associated with the issue.

The licensee conducted a qualitative assessment of the specific risk consequence of the issue regarding the unavailability of protected area security equipment. Their evaluation compared the risk associated with the operable systems and the risk associated with the compensatory measures. They concluded that the white index window for the Protected Area Security Equipment PI had a low risk consequence to the plant because compensatory measures were implemented as required. The inspector agreed with the licensee's conclusion regarding the low risk and determined that compensatory measures were implemented in accordance with security plan requirements.

## 02.02 Root Cause and Extent of Condition Evaluation

- a. Determine that the problem was evaluated using a systematic method(s) to identify root cause(s) and contributing cause(s).

The licensee used the Event and Causal Factor Charting Method to evaluate the problems relating to the protected area security equipment and availability. The licensee utilized this method because it was a systematic approach that identified human performance situations, process problems, and equipment failures in one integrated format. The inspector verified that the licensee's analysis followed their procedure guidance (Root Cause Investigation and Report Hand Book, (CAP-3, Revision 2)) for performing the root cause analysis. The procedure required that an effective analysis shall identify root cause(s) and contributing factor(s), develop corrective action(s), and that the results be documented in writing. The licensee's analysis included interviews of cognizant personnel, a review of appropriate records, and an evaluation of equipment performance and risk.

- b. Determine that the root cause evaluation was conducted at a level of detail commensurate with the significance of the problem.

The inspector verified that the evaluation was thorough and identified both primary and contributing factors. The root cause for the excessive compensatory hours for the protected area security equipment, which had resulted in a white PI index window, was caused by weak practices and procedures regarding scheduling and completion of maintenance for security equipment. Several contributing factors were also identified, which included: (1) no established performance standard or consequences for inadequate equipment performance, (2) work practices that did not allocate sufficient resources to repair more than one failed equipment component at a time, (3) procedures that did not place a high enough priority on the timely repair of security equipment, (4) security and station management applied low sensitivity to security equipment failures, (5) aging equipment that was not addressed through the use of a preventative maintenance program, and (6) unavailability of certain parts needlessly extended the duration of the equipment failure. The inspector concluded that the licensee's root cause analysis for the security equipment performance issues were conducted at a level commensurate with the significance of the problem.

- c. Determine that the root cause evaluation included a consideration of prior occurrences of the problems and knowledge of prior experience.



The licensee's root cause analysis examined their problem identification system (PIFs), security event reports, other required security logs, and their long-standing tracking and trending system for monitoring security equipment performance. The inspector verified that the licensee's review of prior occurrences was broad in scope and revealed no previous events or problems of the type referred to in this report.

- d. Determine that the root cause evaluation included consideration of potential common cause(s) and extent of condition of the problems.

The inspector determined that the licensee's root cause analysis did document potential common causes and extent of condition. The licensee's review included other security equipment applicability to their root cause analysis. The root cause team confirmed that other security equipment and systems performed to a satisfactory level due to effective work practices already in place and did not require an increased level of maintenance attention. The root cause team also expanded the extent of condition evaluation to discuss potential effects at the licensee's other nuclear stations and their evaluations. Although each station operates with independent scheduling and maintenance functions, the equipment in use at each station is similar in design and application.

### 02.03 Corrective Actions

- a. Determine that appropriate corrective action(s) are specified for each root/contributing cause or that there is an evaluation that no actions were necessary.

The inspector determined that the licensee's corrective actions appeared to have adequately identified and addressed the root cause and each contributing factor for the security equipment performance issue. Corrective actions for the excessive compensatory hours for the protected area security equipment included: (1) the establishment of regular and frequent management oversight (senior plant management, security and maintenance) of protected area security equipment performance that includes performance standards for equipment performance, (2) implementation of a procedure change to put a high priority on repair of protected area security equipment (changed from 14 days to within 24 hours to start work) and a call-in program for maintenance department personnel, (3) implementation of a preventative maintenance program for protected area security equipment, (4) maintain an adequate inventory of spare parts, and (5) train and qualify additional maintenance personnel for performing work on applicable protected area security equipment and systems.

- b. Determine that corrective actions have been prioritized with consideration of the risk significance and regulatory compliance.

The inspector concluded that the licensee's corrective actions were properly prioritized to address the risk significance of the issues, in that actions taken addressed the timely and effective repair of equipment to improve performance and reduce the need for compensatory measures. The licensee's root cause analysis and corrective action plan also addressed a review of NRC regulatory requirements. No regulatory issues were identified either by the licensee or the inspector.

- c. Determine that a schedule has been established for implementing and completing the corrective actions.

The inspector verified that the licensee's corrective action program identified assigned individuals and completion dates to ensure that the actions taken to improve protected area security equipment performance were conducted in a timely and effective manner. Some limited additional actions that addressed equipment evaluation remained outstanding, but were on schedule for completion. With the exception of a final, broad evaluation/overview of the continuing effectiveness of the corrective actions all significant corrective action have been completed by the licensee. NRC's review showed that all corrective action implementation dates were met and those outstanding were on-schedule to be completed as documented in the licensee's root cause analysis.

- d. Determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence.

The inspector verified that the license's corrective action program also included an action plan to further validate the effectiveness of the implemented corrective actions. This review, scheduled to be completed by February 2001, will include self-assessments and independent audits, follow up interviews of cognizant security and maintenance management personnel, and trending of equipment effectiveness.

#### OA6 Management Meetings

##### Exit Meeting Summary

The inspector presented the inspection results to Mr. M. Pacilio and other members of licensee management at the conclusion of the onsite inspection on June 14, 2000. The licensee representatives acknowledged the findings presented and did not identify any information discussed as proprietary or Safeguards Information.

## PARTIAL LIST OF PERSONS CONTACTED

M. Pacilio, Operations Manager  
B. Rybaic, Acting Regulatory Assurance Manager  
M. Rieder, Acting Nuclear Oversight  
J. Messana, Support Services Director  
P. Planning, UI Decommissioning Manager  
G. Kusnik, Station Security Administrator  
D. Walker, Corporate Security Representative  
B. Quick, Station Security  
L. O'Donnell, Security Operations Coordinator, TWC

## DOCUMENTS REVIEWED

Protected Area Security Equipment Performance Index - S.29, August 1999, January and June 2000  
Dresden Root Cause Analysis Report  
Weekly Protected Area Security Equipment Performance, March–June 2000  
Weekly Zone and CCTV Availability - Rolling 13 Month Schedule, March–May 2000  
WC-AA-101, "Work Screening and Classification System/Components Engineering and NGG - Security Interface Agreement"  
Master Material and Contract Requisitions  
Engineering Requests