December 7, 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: BRAIDWOOD - NRC INSPECTION REPORT 50-456-00-15(DRP); 50-457-00-15(DRP)

Dear Mr. Kingsley:

On November 17, 2000, the NRC completed an inspection at your Braidwood Units 1 and 2 reactor facilities. The results were discussed with Mr. Tulon and other members of your staff. The enclosed report presents the results of that inspection.

The inspection was an examination of activities conducted under your license as they relate to safety, and to compliance with the Commission's rules and regulations, and with the conditions of your license. Within these areas the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. In addition, we reviewed your staff's performance indicator data collecting and reporting process.

Based on the results of the inspection, no findings were identified.

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).

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

/RA/

Michael J. Jordan, Chief
Reactor Projects Branch 3

Docket Nos. 50-456; 50-457
License Nos. NPF-72; NPF-77

Enclosure: Inspection Report 50-456-00-15(DRP);
50-457-00-15(DRP)

See Attached Distribution

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-456; 50-457
License Nos:	NPF-72; NPF-77
Report No:	50-456-00-15(DRP); 50-457-00-15(DRP)
Licensee:	Commonwealth Edison Company
Facility:	Braidwood Nuclear Power Station, Units 1 and 2
Location:	35100 S. Route 53 Suite 84 Braceville, IL 60407-9617
Dates:	October 1 through November 17, 2000
Inspectors:	C. Phillips, Senior Resident Inspector N. Shah, Resident Inspector J. Hopkins, Regional Inspector J. Roman, Illinois Department of Nuclear Safety R. Jickling, Emergency Preparedness Analyst
Approved by:	Michael J. Jordan, Chief Reactor Projects Branch 3 Division of Reactor Projects

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
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

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

IR 05000456-00-15, 05000457-00-15; on 10/01-11/17/00; Commonwealth Edison Company; Braidwood Nuclear Power Station; Units 1 & 2. Resident Operations Report and Emergency Action Level and Emergency Plan Changes.

The inspection was conducted by resident inspectors and emergency preparedness analysts. There were no findings identified.

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity and Emergency Preparedness

- There were no findings.

Report Details

Plant Status

Unit 1 operated at full power the entire period. Unit 2 started the inspection period at full power but shut down for a refueling outage on October 21. Unit 2 was returned to criticality and synchronized to the grid on November 5, 2000. The unit reached 100 percent power on November 7, 2000, and remained at full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Preparations

Cold Weather Preparations

a. Inspection Scope

The inspectors interviewed licensee staff, and performed a walkdown of selected, risk significant systems, including portions of the auxiliary building heating system, the Units 1 and 2 condensate traveling screens, the Units 1 and 2 emergency diesel generators, and the refueling water, condensate and primary water storage tanks for both units.

The following documents were reviewed during this inspection:

- NRC Information Notice 96-36, “Degradation of Cooling Water Systems Due to Icing;”
- NRC Information Notice 98-02, “Nuclear Power Plant Cold Weather Problems and Protective Measures;”
- Condition Report (CR) A2000-03955, “Station Heat System Seriously Degraded;”
- Letter from J. Kijowski, dated December 18, 1997, regarding risk significance of station heating system;
- Expert Panel meeting minutes, dated June 5, 2000, regarding monitoring of the circulation water traveling screens; and
- CR A2000-03576 “Potential Weakness Exists for Identifying Maintenance Rule Function Failures Across System Boundaries.”

b. Findings

There were no findings of significance identified.

1R05 Fire Protection

.1 Annual Fire Drill

a. Inspection Scope

The inspectors reviewed fire drill scenario 20.11.15.2000, dated November 15, 2000. The inspectors observed the following aspects of a simulated fire in the Unit 2B emergency diesel generator day tank room:

- fire brigade response time;
- proper donning of protective clothing (including self-contained breathing apparatus);
- availability, staging, and operability of fire fighting equipment;
- controlled entry/exit from the simulated fire area of concern;
- fire brigade leader command and control;
- radio communications with plant operators and between the fire brigade members;
- support from other work groups (such as security) as necessary; and
- post-drill critique.

b. Findings

There were no findings of significance identified.

.2 Fire Protection Area Walkdowns

a. Inspection Scope

The inspectors walked down the 1B and 2B auxiliary feedwater (AF) pump rooms, and the common area of the 383 foot level of the auxiliary building; interviewed the fire marshal and the fire protection system engineer; and reviewed the following documents:

- Braidwood Fire Protection Report Volume I, Sections 2.3.11.29, 2.3.11.31, and 2.3.11.32;
- CR A2000-04320, “Transient Combustibles & Liquid Found in Unit Two Auxiliary Feedwater Diesel Driven Pump Room,” which was generated based on observations made by the inspectors on November 9, 2000; and
- Work Request 980086627-03, “0VA386E Replace 1 Electro-Thermal Link After Zone 1S-41/42 CO2 Puff Test.”

b. Findings

There were no findings of significance identified.

1R12 Maintenance Rule Implementation

Maintenance Rule Implementation of Deficiencies Associated With the Units 1 and 2 Primary Containment

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the maintenance rule, 10 CFR Part 50.65, as it pertained to identified performance problems with the Units 1 and 2 primary containment. The inspectors interviewed the station's maintenance rule coordinator and reviewed the following documents:

- Nuclear Station Procedure ER-AA-310, "Maintenance Rule," Revision 0;
- Expert Panel meeting minutes dated April 14, May 22, May 30, June 19 and July 10, 2000;
- Station engineering report dated May 10, 1999, "Section XI IWE Evaluation of Containment Moisture Barrier Class CC [Component Cooling] Liner Degradation;"
- Station engineering reports dated October 28, 1999, "ASME [American Society of Mechanical Engineers] Section XI IWL Evaluation of Braidwood Unit 1 (Unit 2) Containment Post-Tensioning System for Free Water;"
- Problem Identification Form A1997-05225, "Primary Containment System Went to Maintenance Rule a(1) Due to Past Data Review;"
- Braidwood Engineering Surveillance Procedure (BwVSR) 5.5.6-4, Revision 0, "Non-Destructive Examination of ASME IWE Class MC Components and Shell Metallic Liners of Class CC Components;"
- BwVSR 3.6.1.1.0, Revision 2, "Visual Inspection of the Containment Surfaces Prior to the Type A Leak Test;"
- CR A1999-02158, "Unit 2 Containment Hatch Fails Local Leak Rate Test;"
- CR A1999-02220, "Repetitive Maintenance Rule Functional Failure on Unit 1 Steam Generator Power Operated Relief Valves;"
- CR A1999-02804, "Containment Tendon Grease Analysis Moisture Content Acceptance Critiera Exceeded;"
- CR A1999-04041, "Availability and Reliability Criteria Have Been Exceeded for Function MS2, Main Steam Isolation Valves;"

- CR A2000-01261, “Unit 1 1SI8880 Fails As-Found Local Leak Rate Test;”
- CR A2000-01935, “Maintenance Rule Criterion PC4 Did Not Return To A(2) Status After A1R08;”
- CR A2000-02799, “Unit 2 Containment Temperature Exceeded 120 Degrees;”
- CR A2000-03792, “1MS018A Trouble Alarm/Unplanned Limiting Condition for Operability Action Requirements (LCOAR) Entry;”
- CR A2000-04032, “Containment Liner Indications;”
- CR A2000-04057, “Standing Water Has Been Discovered in the Removed Moisture Barrier Area;”
- Engineering evaluation 00-IWE-02, Revision 0, “Section XI IWE Evaluation of Containment Moisture Barrier Class CC Liner Degradation,” and
- CR A2000-03576, “Potential Weakness Exists for Identifying Maintenance Rule Function Failures Across System Boundaries.”

b. Findings

There were no findings of significance identified.

1R13 Maintenance Risk Assessments And Emergency Work Control

a. Inspection Scope

The inspectors reviewed the licensee’s assessment and management of plant risk for planned maintenance activities on the Unit 1 system auxiliary transformers (SATs), the Unit 2B essential service water (SX) pump and the Unit instrument inverter 111. The inspectors selected these maintenance activities because they involved systems that were risk significant in the licensee’s risk analysis.

During this inspection, the inspectors reviewed redundant train equipment key safety functions, the proper use of the on-line risk monitoring software by the licensee, and the licensee’s implementation of actions to minimize plant risk. The inspectors also reviewed the licensee’s maintenance activity planning to minimize the duration that the plant was subject to the increased risk and observed that plant personnel were informed of the increased risk. The inspectors attended shift briefings and daily status meetings to monitor licensee actions to maintain a heightened level of awareness of the plant risk status among plant personnel.

The inspectors reviewed the following documents during this inspection:

- Nuclear Station Procedure WC-AA-103, “On-Line Maintenance,” Revision 0;
- Units 1 and 2 Control Room Logs (i.e., shift turnover and nuclear shift operator logs), dated October 5 to 10, 2000;
- Unit 2 Braidwood Operating Limitations Procedure (2BwOL) 3.8.1, “LCOAR AC [Alternating Current] Sources–Operating: Technical Specification Limiting Condition for Operation 3.8.1,” Revision 2;
- 2BwOL 3.7.8, “LCOAR Essential Service Water System: Technical Specification Limiting Condition for Operation 3.7.8,” Revision 1;
- Braidwood Operating Procedure (BwOP) SX-M2, “Operating Mechanical Lineup, Unit 2,” Revision 15;
- Station drawing M-42, sheets 1A (Revision dated August 30, 1997) and 1B (revision dated July 14, 1997), “Diagram of Essential Service Water Units 1 and 2;” and
- Station drawing M-42A, 1998, “Diagram of Essential Service Water (Composite) Units 1 and 2," dated July 27.

b. Findings

There were no findings of significance identified.

1R15 Operability Evaluations

Evaluation of Operability For The 2B Centrifugal Charging Pump

a. Inspection Scope

The inspectors interviewed system engineering personnel, reviewed CR A2000-04109, “2B Centrifugal Charging Pump Seal Leak,” and observed operation of the 2B centrifugal charging pump.

b. Findings

There were no findings of significance identified.

1R19 Post Maintenance Testing

.1 Unit 1 SAT Post Maintenance Testing Following Completion of Minor Maintenance Activities

s. Inspection Scope

The Unit 1 SATs were taken out-of-service independently and sequentially to perform several, routine maintenance activities. During this work, the Unit 1 safety-related electrical buses were cross-tied to Unit 2. The inspectors evaluated the adequacy of work controls, observed selected portions of the SAT and electrical systems restoration, reviewed test data, and walk down the Unit 1 and 2 electrical systems after restoration.

The following documents were reviewed during this inspection:

- BwOP AP-20, "Restoring System Auxiliary Transformer 142-2 with Unit 1 Unit Auxiliary Transformer Energized," Revision 9;
- BwOP AP-E-6, "Electrical Lineup–Unit 2: Operating Lineup for the 6900 Volt Buses," Revision 2;
- BwOP AP-E-7, "Electrical Lineup–Unit 2: Operating Lineup for the Safety-Related 4160V Buses, 480V Switchgear Buses, and 480V Motor Control Centers," Revision 3E3;
- BwOP AP-E1, "Electrical Lineup–Unit 1: Operating Lineup for the 6900V Buses," Revision 2E1;
- BwOP APE2, "Electrical Lineup–Unit1: Operating Lineup for the Safety Related 4160V Busses, 480V Switchgear Busses, and 480V Motor Control Centers," Revision 3E2; and
- Station Drawing 20E-1-4001A (revision dated January 14, 1980) and 20E-2-4001A (revision dated January 13, 1980).

The inspectors also reviewed the applicable sections of the Updated Final Safety Analysis Report and the Technical Specifications.

b. Findings

There were no findings of significance identified.

.2 Unit 2B SX Pump Breaker Refurbishment/Replacement

a. Inspection Scope

The Unit 2B SX pump breaker 01YNO47B4 was removed for refurbishment as part of the planned maintenance activities discussed in Section 1R13 of this report. The old breaker was removed and replaced with another, previously refurbished breaker.

The inspectors reviewed the breaker test package and recent vendor correspondence regarding breaker maintenance, observed the installation of the replacement breaker, and observed the start of the Unit 2B SX pump.

The following documents were reviewed during this inspection:

- Work Package 970010594-01, "Inspect, Test and Install Refurbished Breaker on Unit 2B SX Pump;"
- Station Procedure MA-AA-EM-4-00401, "Receipt Inspection of New or Refurbished Westinghouse Type DHP 4KV and 6.9KV [Kilovolt] Circuit Breakers," Revision 0;
- Westinghouse vendor document 1.B.32-253-4B, "Instructions for Porcel-line Type DHP Magnetic Air Circuit Breakers;"
- Westinghouse vendor correspondence IG-99-003, dated August 24, 1999, "Type DHP Circuit Breakers–Mechanism Operated Cell Switch Assembly Adjustment;" and
- Westinghouse vendor correspondence IG-99-004, dated September 13, 1999, "Type DHP Circuit Breakers–Floor Tripper Adjustment."

b. Findings

There were no findings of significance identified.

.3 Unit 2 B Diesel Driven AF Pump Post-Maintenance Testing Following Completion of Minor Maintenance Activities

a. Inspection Scope

The Unit 2B AF pump was taken out-of-service to perform several, routine maintenance activities, including inspection and cleaning of the battery chargers and other selected pump components, inspection and lubing of selected associated valves, and minor electrical work such as replacing fuses. The inspectors observed portions of these maintenance activities, a post-maintenance operability run, and reviewed selected, associated test packages.

The following documents were reviewed during this inspection:

- Work Package 990185286-01, "Repack/Adjust Packing of 2SX178 (Unit 2B AF Pump Service Water Return Valve;"
- Work Package 990055543-01, "Calibration of Unit 2B AF Pump Diesel Expansion Tank Make-up Water Level;"
- Work Package 990055953-01, "Cleaning and Inspecting of Battery Charger 2B;" and

- 2BwVSR 5.5.8.AF.2, “Unit 2 Diesel Driven Auxiliary Feedwater Pump ASME Quarterly Surveillance,” Revision 3E1.

b. Findings

There were no findings of significance identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors performed the following activities during the Unit 2 refueling outage from October 21 to November 5, 2000.

Outage Safe Shutdown Plan

The inspectors reviewed the outage schedule, the licensee’s safe shutdown plan, and the following documents:

- OU-AA-101, “Refueling Outage Instructions,” Revision 0;
- OU-AA-103, “Shutdown Safety Management Program,” Revision 0; and
- OU-AP-104, “Shutdown Safety Equipment Status Checklist,” Revision 2.

Reactor Shutdown and Cooldown

The inspectors observed portions of the shutdown including the plant cooldown prior to starting the residual heat removal system. The inspectors reviewed the following documents:

- Braidwood General Procedure 2BwGP 100-5, “Plant Shutdown and Cooldown,” Revision 18;
- Braidwood Operating Surveillance Procedure 2BwOSR 3.1.1.1-1, “Shutdown Margin Daily Verification During Shutdown,” Revision 3;
- 2BwOSR 3.4.3.1, “Reactor Coolant System Pressure/Temperature Limit Surveillance,” Revision 2;
- Braidwood Curve Book (BwCB)-2, Figure 28, “Reactor Coolant System Cooldown Limitations,” Revision 2;
- BwCB-2, Figure 29, “Auctioneered Low Reactor Coolant System Temperature vs. Maximum PORV [Power Operated Relief Valve] Setpoint,” Revision 1; and
- CR A2000-03958, “Entry Into LCOAR 3.4.5, Reactor Coolant System Loops Mode 3.”

Configuration Management

The inspectors reviewed configuration management to verify that the licensee maintained defense-in-depth commensurate with the shutdown risk plan and performed walkdowns of reactivity, electrical power and inventory control systems during periods of increased shutdown risk.

Clearance Activities

The inspectors determined if out-of-service were being properly controlled to support plant operating mode changes, by periodically reviewing the licensee's out-of-service log and selectively observing equipment alignment.

Reactor Coolant System Instrumentation

The inspectors frequently reviewed the status of reactor coolant system instrumentation and compared channels and trains against one another.

Electrical Power

The inspectors performed walkdowns of the electrical buses and equipment on several occasions during work on the electrical buses. The inspectors also reviewed the following CR that was based on an inspector observation.

- CR A2000-04108, "Temporary Power Supply Cable Supported By Safety Related Equipment."

Decay Heat Removal System Monitoring

The inspectors walked down the 2B residual heat removal train during a work window on the 2A residual heat removal train, and monitored the status of the residual heat removal system on a daily basis.

Spent Fuel Pool Cooling System Operation

The inspectors walked down the spent fuel pool cooling system before and during fuel movements, and reviewed the following documents:

- BwOP FC-E2, "Operating Electrical Lineup for the Unit 2 Spent Fuel Pool Cooling System," Revision 1E1; and

- BwOP FC-M2, "Operating Mechanical Lineup for the Unit 2 Spent Fuel Pool Cooling System," Revision 6E3.

Inventory Control

The inspectors performed control room and plant walk downs during periods where reactor inventory was at the reactor flange.

Reactivity Control

The inspectors observed licensee control of reactivity during the unit shutdown, fuel movements, and startup.

Containment Closure

The inspectors observed the alignment of selected containment integrity devices (inside containment), and the overall containment material condition following the licensee's containment closeout inspection. The inspectors also walked down the fuel handling building ventilation system during a period when fuel was moved and the containment equipment hatch was open. The inspectors reviewed the following documents:

- 2BwOS TRM 2.5.b.1, "Unit 2 Containment Loose Debris Inspection," Revision 0;
- 2BwOSR 3.6.3.4, "Unit 2 Primary Containment Integrity Verification of Isolation Devices Inside Containment," Revision 0E1;
- 2BwOSR 3.6.3.3, "Unit 2 Primary Containment Integrity Verification of Isolation Devices Outside Containment," Revision 2;
- 2BwGP 100-1T5, "Containment Integrity Checklist," Revision 7; and
- A2RO8 Containment Closure Contingency Plan for Spare Penetration (P-74 and P-64) Restoration (occurring November 1-2, 2000).

Refueling Activities

The inspectors observed portions of the core unloading and reloading and reviewed the following documents:

- 2BwGP 100-6, "Refueling Outage," Revision 13;
- 2BwGP 100-6T5, "Core Alterations Checklist," (both core offload and reload), Revision 4;
- Braidwood Administrative Procedure (BwAP) 2364-3T3, "Nuclear Component Transfer List Verification," (both core offload and reload), Revision 1E1;
- BwAP 2364-9, "Controlling Movements of Nuclear Fuel into the Spent Fuel Racks," Revision 4E1;
- BwAP 2364-3, "Safeguarding and Controlling Movements of Nuclear Fuel Within a Station," Revision 41E1;
- BwAP 370-3A14, "Fuel Handling Guidance for Fuel Movement in the Spent Fuel Pool," Revision 0;

- BwAP 370-3A12, “Fuel Handling Guidance for Fuel Movement From the Reactor Core to the Spent Fuel Pool,” Revision 3;
- BwAP 2364-3T2, “Nuclear Component Transfer List Package,” (both core offload and reload), Revision 1E2;
- BwAP 370-3A13, “Fuel Handling Guidance for Fuel Movement from the Spent Fuel Pool to the Reactor Core,” Revision 4;
- BwAP 2364-4T3B, “Braidwood Unit 2 Core Inventory Map (post-reload),” Revision 1; and
- Westinghouse vendor document F-5, Revision 17, “Instructions, Precautions, and Limitations for Handling New and Partially Spent Fuel Assemblies.”

Heatup and Startup Activities

The inspectors observed portions of the Unit 2 restart including reactor criticality, and the synchronizing of the Unit 2 main generator to the electrical grid; and reviewed the following documents:

- Control Room Operator Logs, dated November 4-6, 2000;
- BwCB-2, Table 1-1, “Braidwood Unit 2 Cycle 9: Minimum Required Boron Concentration for Shutdown Margin as a Function of Temperature and Burnup,” Revision 11;
- BwCB-2, Figure 27, “Reactor Coolant System Heat-Up Limitations,” Revision 2;
- 2BwGP 100-2, “Plant Startup,” Revision 14;
- 2BwGP 100-3, “Power Ascension,” Revision 18; and
- BwVS 500-6, “Low Power Physics Test Program With Dynamic Rod Worth Measurement,” Revision 5.

b. Findings

There were no findings of significance identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors evaluated the surveillance testing activities listed below. The inspectors witnessed surveillance testing, reviewed test data and determined if the associated structures, systems, and components met the Technical Specification requirements; met the Updated Final Safety Analysis Report requirements, and licensee procedural requirements. The inspectors also determined if in-service testing methods and

acceptance criteria were in accordance with American Society of Mechanical Engineering Code, Section XI, and were consistent with the station's design basis.

Specifically, the inspectors reviewed the following:

- 2BwVSR 3.3.1.15-4, "Unit 2 Reactor Coolant System Narrow Range Resistance Temperature Detector Response Time Measurement," Revision 2;
- BwOP AF-7, "Auxiliary Feedwater Pump 2B (Diesel) Startup on Recirc," Revision 15;
- 2BwVS 800-14, "Unit 2 Full Flow Test and Equipment Response Time of Auxiliary Feedwater Pumps," Revision 4;
- 2BwOSR 3.8.1.2-1, "Unit 2 2A Diesel Generator Operability Monthly and Semi-Annual Surveillance," Revision 3; and
- 2BwVSR 5.5.8.RH.2-2, "Residual Heat Removal System Check Valve Stroke Test," Revision 5.

b. Findings

There were no findings of significance identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector reviewed Revision 9 to Sections 1.0, 4, 8,and 9 of the Generating Stations Emergency Plan, which was submitted by letter dated April 26, 2000, in order to determine whether the changes in Revision 9 might decrease the plan's effectiveness. This emergency plan revision was submitted in accordance with 10 CFR 50.54(q).

b. Observations and Findings

There were no findings of significance identified during this inspection. Implementation of these changes will be subject to future inspection.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

.1 Unplanned Power Changes Per 7000 Critical Hours

a. Inspection Scope

The inspectors reviewed station power history as listed in monthly operating reports, shift operating logs, and previous NRC inspection reports.

b. Findings

There were no findings of significance identified.

.2 Emergency Diesel Generator Unavailability

a. Inspection Scope

The inspectors reviewed the emergency diesel generator unavailability performance indicator data reported by the licensee for April 1997 through June 2000 for Unit 1 and Unit 2. This was accomplished in part through evaluation of the control room log LCO times for the system and required support systems, discussions with licensee personnel, and review of the system engineers notebook.

b. Findings

The inspectors identified that the licensee failed to consider the diesel generators unavailable during time periods that the ventilation system was unavailable due to testing of the Fire protection system in the room. The testing of the carbon dioxide suppression system required the closing of ventilation dampers and placing the emergency diesel generator room ventilation fan out-of-service. There was no dedicated operator assigned to restore these components to service during the testing. In addition, the inspectors considered the restoration of the ventilation dampers as a repair. Either of these items would result in the unavailability of the ventilation system which is a required emergency diesel generator support system. The recalculation of unavailability time did not result in a color change to the performance indicator. The finding was entered into the licensee's corrective action program as CR A2000-02416, "Safety System Unavailability Performance Indicator for Emergency Diesel Generator." The failure to accurately report the performance indicator data is a violation of minor significance and is not subject to formal enforcement action in accordance with Section IV of the NRC's Enforcement Policy. This finding, although minor, impacts the NRC's ability to perform its regulatory function if the information provided is not correct.

4OA5 Other

Temporary Instruction 2515/144 Performance Indicator Data Collection and Reporting Process Review

b. Inspection Scope

The inspectors reviewed the licensee's performance indicator data collecting and reporting process for the performance indicators listed below:

- RS-AA-122, "Regulatory Assurance Performance Indicator Monthly Review Process," Revision 2;
- RS-AA-122-101, "Unplanned Scrams per 7000 Critical Hours," Revision 2;
- RS-AA-122-102, "Scrams with a Loss of Normal Heat Removal," Revision 2;
- RS-AA-122-103, "Safety System Functional Failures," Revision 2;
- RS-AA-122-104, "Safety System Unavailability (High Pressure Safety Injection, Residual Heat Removal, Auxiliary Feedwater, and Emergency Diesel Generator)," Revision 2;
- RS-AA-122-108, "Emergency Response Organization Drill/Exercise Performance," Revision 1;
- RS-AA-122-109, "Emergency Response Organization Drill Participation," Revision 1;
- RS-AA-122-110, "Alert and Notification System Reliability," Revision 1;
- RS-AA-122-111, "Unplanned Power Changes per 7000 Critical Hours," Revision 2;
- RS-AA-122-112, "Reactor Coolant System Specific Activity," Revision 1;
- RS-AA-122-113, "Reactor Coolant System Leakage," Revision 1;
- RS-AA-122-117, "Protected Area Security Equipment Performance Index," Revision 3;
- RS-AA-122-118, "Personnel Screening Program Performance," Revision 1;
- RS-AA-122-119, "Fitness-for-Duty/Personnel Reliability Program Performance," Revision 1; and
- Regulatory Assurance NRC Performance Indicator Data Steward Qualification Guide, Revision 1.

The inspectors interviewed selected individuals responsible for the indicator data collecting and reporting process. The review was conducted to verify that the indicator definitions, data reporting elements, calculational methods, definition of terms, and clarifying notes used by the licensee for consistency with industry guidance document Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 0, March 2000.

c. Findings

There were no findings of significance identified.

4OA6 Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Tulon and other members of licensee management at the conclusion of the inspection on November 17, 2000. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

T. Tulon	Site Vice President
K. Schwartz	Station Manager
T. Luke	Site Engineering Director
J. Harvey	Nuclear Oversight Manager
T. Simpkin	Regulatory Assurance Manager
R. Graham	Work Management Manager
L. Guthrie	Maintenance Manager
C. Dunn	Operations Manager
G. Dudek	Shift Operations Superintendent
D. Goldsmith	Radiation Protection Director
G. Baker	Site Security Manager
K. Ihnen	Nuclear Oversight
J. Steele	Engineering
J. Bailey	Regulatory Assurance - NRC Coordinator

NRC

M. Jordan	Branch Chief, Division of Reactor Projects
C. Phillips	Senior Resident Inspector
N. Shah	Resident Inspector
R. Jickling	Emergency Preparedness Analyst

Illinois Department of Nuclear Safety

J. Roman	Resident Engineer

LIST OF BASELINE INSPECTIONS PERFORMED

The following inspectable-area procedures were used to perform inspections during the report period. Documented findings are contained in the body of the report.

Inspection Procedure Number	Title	Report Section
71111-01	Adverse Weather Preparations	1R01
71111-05	Fire Protection	1R05
71111-12	Maintenance Rule Implementation	1R12
71111-13	Maintenance Risk Assessments And Emergency Work Control	1R13
71111-15	Operability Evaluations	1R15
71111-16	Operator Workarounds	1R16
71111-20	Refueling and Outage Activities	1R20
71111-22	Surveillance Testing	1R22
71114.04	Emergency Action Level and Emergency Plan Changes	1EP4
71151	Performance Indicator Verification	4OA1

LIST OF ACRONYMS AND INITIALISMS USED

AF	Auxiliary Feedwater
BwAP	Braidwood Administrative Procedure
BwCB	Braidwood Curve Book
BwGP	Braidwood General Procedure
BwOL	Braidwood Operating Limitations Procedure
BwOP	Braidwood Operating Procedure
BwOS	Braidwood Operating Surveillance Procedure
BwVS	Braidwood Engineering Surveillance Procedure
CC	Component Cooling Water
CFR	Code of Federal Regulations
CR	Condition Report
LCOAR	Limiting Condition for Operability Action Requirements
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulations
SAT	System Auxiliary Transformer
SX	Essential Service Water