

March 5, 2001

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 INSPECTION REPORT 50-456/01-03(DRP); 50-457/01-03(DRP)

Dear Mr. Kingsley:

On February 17, 2001, the NRC completed an inspection at your Braidwood Units 1 and 2. The enclosed report documents the inspection findings which were discussed with Mr. Schwartz and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and 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.

Based on the results of this 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 50-456/01-03(DRP);
50-457/01-03(DRP)

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report Nos: 50-456/01-03(DRP); 50-457/01-03(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: January 1 through February 17, 2001

Inspectors: C. Phillips, Senior Resident Inspector
N. Shah, Resident Inspector
T. Tongue, Project Engineer
J. Roman, Illinois Department of Nuclear Safety

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

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 05000456-01-03, 05000457-01-03; on 01/01-02/17/01; Commonwealth Edison Company; Braidwood Nuclear Power Station; Units 1 & 2. Resident Operations Report.

The inspection was conducted by resident and regional inspectors.

A. Inspector Identified Findings

No findings of significance were identified.

B. Licensee Identified Violations

No findings of significance were identified.

Report Details

Plant Status

Unit 1 operated at or near full power for the entire period and Unit 2 operated at or near full power until 11:00 p.m. on February 17, 2001, when Unit 2 reduced power to about 35 percent to perform repairs on the 2A steam generator feedwater drain valve. Upon completion of the repairs the licensee returned power to about 100 percent at 5:21 p.m on February 18, 2001.

1. REACTOR SAFETY

Cornerstone: Initiating Events and Mitigating Systems

1R04 Equipment Alignment

a. Inspection Scope

The inspectors verified the system alignment of the following systems while the alternate trains were out-of-service for planned maintenance:

- 1A safety injection (SI) pump,
- 0B motor and diesel driven fire protection (FP) pumps,
- 1A and 1B main feedwater pumps, and
- 2B containment spray (CS) pump.

The inspectors performed walkdowns of the accessible portions of the system and verified the system lineup and selected system operating parameters (i.e., pump and bearing lube oil levels, room temperature, electrical breaker position, etc). In addition, the inspectors reviewed the Updated Final Safety Analysis Report and Technical Specifications.

The inspectors reviewed the following documents to determine the correct system alignment:

- Braidwood Operating Procedure (BwOP) SI-M1, "Operating Mechanical Lineup–Unit 1," Revision 12;
- BwOP SI-E1, "Electrical Lineup–Unit 1 Operating," Revision 5E1;
- BwOP FP-M1, "Operating Mechanical Lineup Unit 0, Lake Screen House and Outside Ring Header–Operating," Revision 5;
- BwOP FP-M6, "Operating Mechanical Lineup Unit 0, Auxiliary Building Ring Header–Operating," Revision 2;
- BwOP FEW-E1, "Electrical Lineup Unit 1–Operating," Revision 4E1;
- BwOP FEW-M1, "Operating Mechanical Lineup–Unit 1," Revision 10;
- BwOP CB-M1, "Operating Mechanical Lineup–Unit 1," Revision 8;
- BwOP CS-M2, "Operating Mechanical Lineup–Unit 2," Revision 4;
- BwOP CS-E2, "Electrical Lineup–Unit 2," Revision 0E2;
- Station drawing M-129, "Diagram of CS," dated June 5, 1976;

- Station drawing M-52, "Diagram of FP System," Sheets 1 (dated June 7, 1999), 5 (dated October 12, 1999), and 15 (dated February 17, 1992);
- Station Drawing M-61, "Diagram of SI System, Unit 1," , dated April 11, 1997;
- Station training diagram FEW-1, "Feedwater Simple," Revision 2;
- Out-of-service package 990026038, for the Unit 0 A motor and motor (jockey) driven pumps, dated December 3, 2000; and
- Out-of-service package 990022958, for the Unit 1C Main Feedwater Pump, dated January 7, 2001.

The following condition report (CR) was generated due to inspector observations during this inspection:

- CR A2001-00048, "Lake screen house door propped open without plant barrier impairment had potential to affect ventilation."

The inspectors reviewed the following CRs to verify that identified problems had the appropriate characterization and significance, and that the licensee's corrective actions were adequate and completed in a timely manner:

- CR A2000-01812, "1FW041B (upstream isolation valve for main feed line to 1B steam generator) found closed";
- CR A2000-01077, "Out-of-service independent verification";
- CR A2000-01121, "Loss of unit 1 and 2 steam generator lowdown";
- CR A2000-04228, "Ineffective corrective action to prevent recurrence identified during effectiveness review 00005669-08"; and
- CR A2000-01539, "Inadequate corrective action for previous configuration control event."

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors evaluated the licensees FP controls for the following areas which were selected, because they had a higher associated fire induced core damage frequency:

- Unit 1 auxiliary electrical equipment room (fire zone 5.5-1),
- Unit 2 auxiliary electrical equipment room (fire zone 5.5-2),
- 2B centrifugal charging pump room (fire zone 11.3G-2),
- 1A residual heat exchanger room (fire zone 11.2A-1),
- 2B residual heat exchanger room (fire zone 11.2D-2), and
- 2B emergency diesel generator (DG) (fire zone 9.1-2).

The inspectors performed a walkdown of these areas to observe conditions related to the control of transient combustibles and ignition sources; the material condition, operational lineup, and operational effectiveness of FP systems, equipment and

features; and the material condition and operational status of fire barriers. The inspectors verified that the area (including associated FP and mitigation equipment) was as described in the Braidwood FP Plan, dated December 1988.

The following documents were reviewed during this inspection:

- Transkei products test report TR-160, "Three hour fire and hose stream test of LCO-001 cement installed in rigid and flexible steel and aluminum conduits," Revision 0;
- Transkei products test report TR-217, "Fire and hose stream test of a 5" thick LCO-001 cement seal for electrical penetrations," Revision 0;
- Transkei test report TR-110, "Fire and Hose Stream Tests of LCO-003 High Density Silicone Elastomer," dated April 22, 1983;
- Transkei test report TR-161, "Fire and Hose Stream Tests of LCO-001 Cement, LCO-002 Medium Density Silicone, and LCO-007 Silicone Adhesive Used in Electrical Conduit and Black out Penetrations," dated November 20, 1984;
- Seal package for penetration E0373032AO (dated December 14, 1987), E0373496AO (dated March 23, 1988), E2304001E0 (dated March 31, 1988), 2AI0161 (dated January 13, 1988), E2324071A0 (dated March 31, 1988) and, E2341001B0 (dated March 29, 1988) ; and
- Seal penetration drawing BR-E-16 (dated February 22, 1985), BR-E-25 (dated February 20, 1980), and BR-E-05A (dated July 23, 1986).

The following CR was generated due to inspector observations during these inspections:

- CR A2000-04695, "Tash Found in LCSR [Lower Cable Spreading Room]."

The inspectors reviewed the following CRs to verify that identified problems had the appropriate characterization and significance, and that the licensee's corrective actions were adequate and completed in a timely manner:

- CR A2000-04579, "Performance Weakness Found During Fire Drill";
- CR A2000-01063, "Nuclear Oversight Identified Issue With Fire Brigade Training Requirements"; and
- CR A2000-02472, "Nuclear Oversight Identified an FP Testing Concern."

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's licensed operator regualification program by observing simulator training conducted on January 23, 2001. Specifically, the inspectors observed operator response to a simulated event involving a loss of coolant accident, as described in licensee scenario 0112, Revision 0, dated January 5, 2001. The inspectors observed that the training was monitored by the

licensee's staff. The inspectors also observed how operations responded to alarms, communicated plant conditions, and made emergency declarations. The inspectors also selectively compared the simulator equipment to actual control room equipment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the maintenance rule, 10 CFR 50.65, as it pertained to identified performance problems with the following systems:

- Unit 1 and 2 DGs,
- Unit 1 and 2 DG Ventilation,
- Unit 1 and 2 Reactor Coolant (RC) System,
- Unit 1 and 2 Main Steam, and
- Unit 1 and 2 FP.

The inspectors interviewed the stations maintenance rule coordinator and reviewed the following documents to evaluate the licensee's monitoring and trending of equipment performance, the established performance criteria, the appropriateness of 10 CFR 50.65 a(1) goals and corrective actions, and whether identified problems were being entered into the licensee's corrective action and maintenance rule programs with the appropriate characterization and significance:

- CR A2000-01602, "1A Emergency DG Manual Trip Due to Loss of Jacket Water Level";
- CR A2000-00790, "Incorrect Sized Fuel Hose For 1B DG Work";
- CR A2000-00202, "Frequency Oscillations On 1A DG";
- CR A2000-00492, "1A DG Jacket Water Leak No Auto Make Up";
- CR A2000-01292, "Oil Leak From 1B DG While Performing BwOP DG-6";
- CR A2000-01712, "Ventilation Access Cover Found Open";
- CR A2000-00820, "1TZ-VD002AB Not Wired Per Print";
- CR A1999-03947, "2B DG Room Overcooled Due to Damper Hydrometer Failure";
- CR A1999-03031, "1VD01YA Damper Failed Full Open";
- CR A2000-01616, "QC Identified - Inconsistency in Work Package Instructions";
- CR A2000-00570, "Diesel Driven Fire Pump Unavailability";
- CR A2000-03258, "Stud Broken on 0FP03PB Starting Solenoid";
- CR A2000-00574, "Wrong Lubricant Used in Diesel Driven Fire Pump";
- CR A2000-01936, "Potential Adverse Trend—diesel Driven Fire Pump Equipment Failures";
- CR A2000-02433, "0B Fire Pump Failed to Start";
- CR A2000-01870, "Diesel Driven Fire Pump 0FP03PB Failure to Auto Start";
- CR A2000-01070, "Batteries for the Diesel Driven Fire Pump";

- CR A2000-00357, "Diesel Driven Fire Pump Did Not Start in Test Mode";
- CR A2000-04388, "Unit 2C T(average) Loop Failure";
- CR A2000-00751, "Unit 1D RC System Differential Temperature Spike Low";
- CR A2000-02368, "Increased RC System Leakage";
- CR A2000-00238 Air Leak on 2B Main Steam Isolation Valve (MSIV) Air Line to Hydraulic Pump and the associated Action Request;
- CR A2000-04423, "2P-403 Erratic Indication and Unplanned Limiting Condition for Operation Entry";
- Expert Panel meeting minutes dated January 14; February 10; February 15; April 21; May 22; July 24; August 14; August 21; September 11; and November 27, 2000;
- DG Maintenance Rule Evaluation History From January 1, 1999, to November 1, 2000;
- DG Ventilation Maintenance Rule Evaluation History From January 1, 1999, to November 1, 2000;
- Nuclear Station Procedure ER-AA-310 Maintenance Rule, Revision 0;
- Maintenance Rule Expert Panel Scoping Determination for Main Steam;
- Maintenance Rule - Performance Criteria for Main Steam;
- Maintenance Rule - Evaluation History (User Parameters) for Main Steam From January 7 to January 22, 2000;
- Updated Final Safety Analysis Report, Sections 10.3.3.1, 1.2.2, and 3.2;
- Technical Specifications 3.7.1, 3.7.2, and 3.7.4;
- Braidwood System Training Manual - Chapter 23 Main Steam System;
- NRC Maintenance Rule Data Request - Main Steam System;
- Disposition of System/Function Into (a)(2) from (a)(1) Category - Steam Generator Atmospheric Pressure Control of July 2000;
- Disposition of System/Function Into (a)(2) from (a)(1) Category - Steam Generator Pressure Relief;
- BwOP FP-M6, "Operating Mechanical Lineup—Unit 0: Auxiliary Building Ring Header—Operating," Revision 2; and
- Out-of-service package 990014491 for the rebuild of auxiliary building loop header sectionalizing isolation valve 0FP294.

The following CRs were generated due to inspector observations during these inspections:

- CR A2001-00050, "1B & 2A Emergency DG fuel oil supply lines 1DO20AB & 2DO20AA in contact with piping flanges";
- CR A2001-00107, "Residue at low point of 2B DG rupture disk"; and
- CR A2001-00201, "Possible revision needed to Performance Criteria for the VD [diesel ventilation] system."

The inspectors reviewed the following CRs to verify that identified problems had the appropriate characterization and significance, and that the licensee's corrective actions were adequate and completed in a timely manner:

- CR A2000-03845, "Maintenance Rule Functional Failure Monthly Review For July - August 2000"; and

- CR A2000-00722, “Maintenance Rule (a)(3) Periodic Assessment Engineering Recommendation.”

b. Findings

No findings of significance were 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 and/or surveillance activities on the following systems or components:

- 1B SI pump,
- 2A CS pump,
- 2B DG, and
- Unit 2 component cooling (CC) heat exchanger.

The inspectors attended shift briefings and daily status meetings to verify that the licensee took actions to maintain a heightened level of awareness of the plant risk status among plant personnel, and evaluated the availability of redundant train equipment. The inspectors reviewed Nuclear Station Procedure W.C.-AA-103, “On-Line Maintenance,” Revision 0, and evaluated licensee compliance with that procedure.

The inspectors reviewed the following documents in order to perform the evaluations listed above during this inspection:

- Work Request 990181214-01, “Engineering Qualification of the Unit 1B SI Pump Motor 0”;
- Work Request 990197010-01, “Unit 1B SI Pump Motor Replacement Contingency Plan”;
- Station operating log entries from January 2-5, January 11, and January 22-27, 2001;
- Braidwood station policy memorandum BR-023, “Unit 2B/VD Online Maintenance,” Revision 1;
- Braidwood Operating Surveillance Procedure (2BwOSR) 3.3.2.7-643A, “Unit 2 Engineered Safeguards Features Actuation System (EF) Instrumentation Relay Surveillance (Train A Automatic CS–K643),” Revision 0;
- 2BwOSR 3.3.2.7-644A, “Unit 2 EF Instrumentation Slave Relay Surveillance (Train A Automatic CS–K644),” Revision 1E1;
- Braidwood Engineering Surveillance Procedure (2BwVSR) 5.5.8.CS.1, “American Society of Mechanical Engineers Surveillance Requirements for 2A CS Pump and Check Valves 2CS003A and 2CS011A,” Revision 2;
- Braidwood Maintenance Procedure (BwMP) 3150-014, “SI Pump Coupling Inspection and Grease Change-Out,” Revision 3E1;
- Special Procedure 00-021, “Isolation and Drain of the Unit 2 CC Heat Exchanger (2CC01A),” Revision 0; and

- Braidwood Administrative Procedure BwAP 1300-6T1, "Special Procedures, Tests or Experiments," Revision 5E1.

The following CR was generated due to inspector observations during these inspections:

- CR A2001-00141, "Corrective actions not assigned as required for CR A2000-02171"; and
- CR A2001-00183, "Process Issue With Restoration Section of SPPs [special procedures]."

The inspectors reviewed the following CRs to verify that identified problems had the appropriate characterization and significance, and that the licensee's corrective actions were adequate and completed in a timely manner:

- CR A2000-02171, "Misclassification of On-line Risk Color with 120 Vac [volts - alternating current] Bus 214 Without Power";
- CR A2000-03836, "Managing On-line Risk Assessment";
- CR A2000-01343, "Operations Personnel Draining RC System Without a Pre-job Brief"; and
- CR A2000-02569, "Two Different Freeze Seal Procedures in One Work Package."

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed and evaluated the operability evaluations associated with the following CRs:

- CR A2001-00016, "Unit 2A Diesel Oil Storage Tank Door Gasket Degradation";
- CR A2001-00044, "2PS9356A Stroke Time Is in Excess of ALERT Limit";
- CR A2000-04650, "Incorrect Assumption Used in 125 VDC Battery Sizing Calculation"; and
- CR A2001-00495, "Instrument Inverter 213 Temperature Qualification."

The inspectors reviewed the technical adequacy of the evaluation against the Technical Specifications, Final Safety Analysis Report, and other design information; determined whether compensatory measures, if needed, were taken; and determined whether the evaluation was consistent with the requirements of Station Procedure RS-AA-105, "Operability Determination Process," Revision 0.

The inspectors reviewed the following documents in order to perform the above evaluations during this inspection:

- Licensee calculation BMW-97-0384, "Braidwood Station Unit 1 125V Battery Load Tabulation: 1DC01/2E C&D LCUN-33 Batteries," Revision 1;
- Nuclear Design Information Transmittal, BB-EPED-0208, dated December 18, 1996;
- Problem Identification Report 20-1-96-082, "Weakness Identified in HELB [high energy line break] Analysis Review; and
- Calculation EQC-BB-008, "Evaluation of the Thermal Endurance of 1E Components Located in the Miscellaneous Electric Equipment Room]," Revision 0.

In addition, the inspectors reviewed the following CRs to verify that identified problems had the appropriate characterization and significance, and that the licensee's corrective actions were adequate and completed in a timely manner:

- CR A2000-03693, "Discovery that 1PS9352A (1A SI accumulator sample isolation valve) leaks by"; and
- CR A2000-04061, "Unit 2A SI pump flow to the A/D hot legs was measured at 656.02 gallons per minute."

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspectors performed a semi-annual evaluation of the cumulative effects of identified operator workarounds (OWAs) on the reliability, availability, and potential for misoperation of the systems and the ability of operators to respond in a correct and timely manner to plant transients. The inspectors also evaluated the existing workarounds in regard to the potential impact on increasing the frequency of an initiating event. The inspectors interviewed the operator workaround coordinator and site engineering personnel, and reviewed the following documents:

- OWA 197 Heater Relief Valves Lift and Fail during Reactor Trip on Unit 1, and
- Nuclear Station Procedure OP-AA-101-303, "Operator Work-around Program"; Revision 0.

In addition, the inspectors reviewed the following CRs to verify that identified problems had the appropriate characterization and significance, and that the licensee's corrective actions were adequate and completed in a timely manner:

- CR A2000-00345, "Out of Service Procedure Workaround and the associated Action Request"; and
- CR A2000-02335, "Potential Operator Workaround [NRC identified]."

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed post-maintenance testing (PMT), following completion of maintenance activities on the following systems:

- 1B SI pump,
- 2B DG, and
- 2A MSIV.

The inspectors reviewed applicable sections of the Updated Final Safety Analysis Report and the Technical Specifications for these systems, and observed portions of the maintenance activities. The inspectors evaluated post-maintenance test data, and conducted walkdowns to determine if the systems were properly restored.

The following documents were reviewed to perform the above evaluations during this inspection:

- Unit 1B SI motor vibration test data from January 5, 1998, to January 4, 2001;
- 1BwVSR 5.5.8.SI.2, "American Society of Mechanical Engineering Surveillance Requirements for the Unit 1B SI Pump," Revision 2;
- BwVS 900-6, "2B DG Overspeed Trip Test," Revision 7E1;
- 2BwOSR 3.8.1.2.2, "Unit 2 2B DG Operability Monthly and Semi-Annual Surveillance," Revision 2;
- Work Request 990163594, "Replace all exciter free wheeling diodes";
- Work Request 990068229, "Slight leakage from shaft seal";
- Work Request 990255227-01, "Replace Actuator Hydraulic MSIV Pump"; and
- Station drawing D-10239, dated September 15, 1977, "Schematic for A/D.V. Self-Contained Hydraulic Actuator."

The inspectors reviewed the following CRs to verify that identified problems had the appropriate characterization and significance, and that the licensee's corrective actions were adequate and completed in a timely manner:

- CR A2000-04298, "Maintenance Work Planning Assessment - PMT Deficiencies";
- CR A2000-01409, "Three More Work Requests Had PMT Failed and Are Still At Status 54";
- CR A2000-03179, "Failed PMT on Work Request 990137089";
- CR A2000-00184, "1A DG Failed PMT Leaking Fitting"; and
- CR A2000-01464, "1CV131 and 1CV121."

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed surveillance testing, reviewed test data and determined if the associated structures, systems, and components met the Technical Specification and Updated Final Safety Analysis Report technical and design requirements. In addition the inspectors reviewed NES-MS-09.01, "DG Preventative Maintenance Basis Document," Revision 2, in order to evaluate the adequacy of licensee surveillance procedures.

The inspectors evaluated the following surveillance testing activities:

- Work Request 990053977-01, "Perform 18 Month Inspection on the Unit 2B Emergency DG";
- Work Request 99004977-01, "Unit 2B Emergency DG 18 Month Inspection–Generator/Exciter";
- Work Request 990252355-01, "Unit 2 2A Diesel Fuel Oil Tank Particulate Contamination Monthly Surveillance";
- Work Request 990047507-01, "2A DG 24 Hour Run."

The following CRs were generated due to inspector observations during these inspections:

- CR A2001-00257, "Exciter cover studs not fully engaged"; and
- CR A2001-00248, "Mechanic was not wearing his protective equipment."

The inspectors reviewed the following CRs to verify that identified problems had the appropriate characterization and significance, and that the licensee's corrective actions were adequate and completed in a timely manner:

- CR A2000-02435, "Unit 1 Containment Tendon Deficiencies Identified During Surveillance";
- CR A2000-01757, "Technical Specification Surveillances Not Performed Per Schedule";
- CR A2000-01105, "Inconclusive Acoustic Test Results On AF [auxiliary feedwater] Check Valves";
- CR A2000-01120, "1B AF Surveillance 1BwOS DC-W4 Acceptance Criteria Led";
- CR A2000-03321, "Unit 2 Emergency Core Cooling System Vent and Valve Alignment Surveillance"; and
- CR A2000-03248, "2SI8804 Valve Stroke Surveillances May Make Residual Heat Removal Trains Inoperable."

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors evaluated the following temporary modification activities:

- Work Request 990020347-02, "Install/Remove Freeze Seal to Isolate 2SX052B for Repairs"; and
- Work Request 990228269-01, "Install Temporary Modification 00-0-006 (Temporary Instrument Air Supply in the Auxiliary Building)."

The inspectors evaluated the licensee's documentation and actions placing freeze seals on the essential service water line to the 2B emergency DG in order to remove and repair isolation valve 2SX052B, and perform maintenance on the jacket water heat exchangers. The inspectors observed portions of the placing and removal of the freeze seals, temperature monitoring of the freeze seals, draining of the essential service water piping, removal and replacement of the isolation valve, and placing of the blank flanges and foreign material exclusion barriers.

The inspectors also evaluated the installation of a temporary instrument air supply in order to perform repairs to a four inch instrument air header in the auxiliary building. The inspectors observed the installation and removal of the temporary modification.

The following documents were reviewed:

- Work Request Task 990020347-01, "Replace Valve Seat with New Material To Improve Isolation";
- Engineering Request (ER) 9900366, "Freeze 2SX26AB10 to Isolate 2SX052B and the associated 10 CFR 50.59 Safety Evaluation";
- ER9702730, "Freeze Line 2SX26AB-10" to Isolate 2B DG Jacket Water Heat Exchanger";
- ER9903282, "Freeze 2SX266AB-10" Upstream of Valve 2SX052B";
- Nuclear Station Procedure CC-AA-112, "Temporary Modifications," Revision 12;
- Station Drawing M-55, "Diagram of Instrument Air Auxiliary Building Units 1 and 2," dated November 19, 1998; and
- Updated Final Safety Analysis Report, Section 9.3.

The licensee identified the following problems during the installation of the temporary modifications in CRs. The inspectors reviewed the CRs to verify that the identified problems had the appropriate characterization and significance:

- CR A2001-00180, "Quality Verification Identified Minimal Wall Deficiencies and Sediment in Freeze Seal 2SX27DB-10";

- CR A2001-00186, "Communications Problems Associated with Freeze for Valve 2SX052B"; and
- CR A2001-00188, "Communications."

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA6 Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Schwartz and other members of licensee management at the conclusion of the inspection on February 16, 2001. 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
J. Von Suskil	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 Director
L. Guthrie	Maintenance Manager
C. Dunn	Operations Manager
D. Goldsmith	Radiation Protection Director
G. Baker	Site Security Manager
B. Schramer	Chemistry Manager
J. Bailey	Regulatory Assurance - NRC Coordinator

Illinois Department of Nuclear Safety

J. Roman	Resident Engineer
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Nuclear Regulatory Commission

M. Jordan	Chief, Reactor Projects Branch 3
C. Phillips	Senior Resident Inspector
T. Tongue	Project Engineer
N. Shah	Resident Inspector

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.

<u>Inspection Procedure</u>		<u>Report Section</u>
<u>Number</u>	<u>Title</u>	
71111-04	Equipment Alignment	1R04
71111-05	Fire Protection	1R05
71111-11	Licensed Operator Requalification Program	1R11
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
71111-19	Post Maintenance Testing	1R19
71111-22	Surveillance Testing	1R22
71111-23	Temporary Plant Modifications	1R23

LIST OF ACRONYMS AND INITIALISMS USED

AF	Auxiliary Feedwater
AS	Actuation System
BwAP	Braidwood Administrative Procedure
BwMP	Braidwood Maintenance Procedure
BwOP	Braidwood Operating Procedure
BwOS	Braidwood Operating Surveillance Procedure
BwVS	Braidwood Engineering Surveillance Procedure
CC	Component Cooling
CFR	Code of Federal Regulations
CR	Condition Report
CS	Containment Spray
DG	Emergency Diesel Generator
ER	Engineering Request
FP	Fire Protection
MSIV	Main Steam Isolation Valve
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulations
OWA	Operator Workarounds
PMT	Post Maintenance Testing
RC	Reactor Coolant
SI	Safety Injection
SX	Essential Service Water