October 26, 2001

EA 01-131

Mr. Oliver D. Kingsley, President
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 and 2
NRC INSPECTION REPORT 50-456/01-10(DRP); 50-457/01-10(DRP)

Dear Mr. Kingsley:

On September 30, 2001, the NRC completed an inspection at your Braidwood Station Units 1 and 2. The enclosed report documents the inspection findings which were discussed on October 2, 2001, with Mr. J. von Suskil and other members of your staff.

The inspection examined 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. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, this inspection focused on resident inspection and licensed operator requalification activities.

One finding of very low safety significance (GREEN) and two findings of very low safety significance (NO COLOR) were identified. Two of the issues were determined to involve violations of NRC requirements. However, because of their very low safety significance and because they were entered into your corrective action program, the NRC is treating the issues as Non-Cited Violations, in accordance with Section V1.A.1 of the NRC's Enforcement Policy. One issue involved a deliberate violation of NRC regulations in which a violation was issued in a letter dated September 25, 2001, to Mr. O. Kingsley from Mr. J. Grobe.

If you contest a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region III, Resident Inspector and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

In addition, since September 11, 2001, your Braidwood Station has assumed a heightened level of security based on a series of threat advisories issued by the NRC. Although the NRC is not aware of any specific threat against nuclear facilities, the heightened level of security was recommended for all nuclear power plants and is being maintained due to the uncertainty about the possibility of additional terrorist attacks. The steps recommended by the NRC include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with local law enforcement and military authorities, and limited access of personnel and vehicles to the site.

The NRC continues to interact with the Intelligence Community and to communicate information to your staff. In addition, the NRC has monitored maintenance and other activities which could relate to the site's security posture.

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/***

Ann Marie Stone, Chief
Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 50-456/01-10(DRP);
50-457/01-10(DRP)

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REGION III

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| Docket Nos: | 50-456; 50-457 |
| License Nos: | NPF-72; NPF-77 |
| Report Nos: | 50-456/01-10(DRP); 50-457/01-10(DRP) |
| Licensee: | Exelon Generation Company, LLC |
| Facility: | Braidwood Station, Units 1 and 2 |
| Location: | 35100 S. Route 53<br>Suite 84<br>Braceville, IL 60407-9617 |
| Dates: | August 21 through September 30, 2001 |
| Inspectors: | C. Phillips, Senior Resident Inspector<br>N. Shah, Resident Inspector<br>M. Bielby Sr., Senior Operations Examiner<br>D. Jones, Reactor Engineer<br>V. Lougheed, Reactor Engineer<br>C. Thomas, Reactor Engineer<br>T. Tongue, Project Engineer<br>K. Walton, Reactor Engineer<br>J. Roman, Illinois Department of Nuclear Safety<br>B. Metrow, Illinois Department of Nuclear Safety |
| Approved by: | Ann Marie Stone, Chief<br>Branch 3<br>Division of Reactor Projects |

## SUMMARY OF FINDINGS

IR 05000456-01-10(DRP), 05000457-01-10(DRP); on 08/21-09/30/01, Exelon Generation Company, LLC; Braidwood Station; Units 1 & 2. Equipment Alignment, and Operability Evaluations.

This report covers a 6-week routine resident inspectors inspection, a baseline licensed operator requalification program, and an emergency preparedness inspection. The inspection was conducted by resident and specialist inspectors. One Green and two No Color findings were identified. Two of the findings involved Non-Cited Violations. One finding resulted in a Cited Violation. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

**Cornerstone: Initiating Events and Mitigating Systems**

NO COLOR. Valve 1CV8396A was left open during the local leak rate testing for the seal water return header penetration P-28 which resulted in the spill of a large amount of water when other portions of the chemical and volume control system were tested.

This event was more than minor, as the incorrect manipulation of a valve resulted in a spill of a large amount of water which lead to the estimated low level contamination of 29 individuals and an additional 128 millirem of dose to clean up of the spill. The failure to properly perform valve manipulations during valve lineups was reasonably viewed as a precursor to a significant event. The finding was of very low safety significance because the dose received due to clean up was low and the spill did not impact reactor safety because Unit 1 was shutdown for a refueling outage. The spill did not impact reactor vessel or cavity water level. A Non-Cited Violation was identified for the failure to follow a pretest valve lineup procedure. (Section 1R04)

GREEN. The Unit 1 motor operated valve 1MOV-SI8804B, failed to open during a routine surveillance rendering the B train of the emergency core cooling systems inoperable.

This event was more than minor, in that it had an actual impact on safety as it resulted in the inoperability of one train (i.e., the 1B train of the emergency core cooling systems) of a safety-related, mitigating system. The finding was of very low safety significance, because the 1A emergency core cooling system remained operable and the licensee could manually restore the 1B train. A Non-Cited Violation was identified for the failure to adequately set the instantaneous current trip setpoint for the 1MOV-SI8804B valve motor operator breaker. (Section 1R15)

**Cornerstone: Occupational Radiation Safety**

NO COLOR. On September 25, 2001, the NRC issued a Severity Level IV Violation for a deliberate violation of Station Procedure BwRP 5822-3, Revision 1, “Operation and Calibration of the Eberline PM-7 Portal Monitors.” The NRC concluded that a contractor boilermaker deliberately violated this radiation protection procedure when exiting the protected area on October 23, 2000. The licensee identified the incident, entered the incident into its corrective action program, and implemented immediate corrective actions.

Since the violation was determined to be willful, the NRC did not assign a significance to the violation using the NRC’s Significance Determination Process. In accordance with the NRC Enforcement Policy, the NRC determined that the incident constituted a Severity Level IV violation of the Braidwood Station Facility Operating License (i.e., Technical Specifications) (Section 4OA5.2).

B. <u>Licensee Identified Violations</u>

No findings of significance were identified.

# Report Details

## Summary of Plant Status

On September 22, 2001, Unit 1 began a planned shutdown to begin the ninth refueling outage (A1RO9) and remained shutdown through the end of the inspection period. Unit 2 remained at or near full power for the entire inspection period.

## 1. REACTOR SAFETY

### Cornerstone: Initiating Events and Mitigating Systems

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors verified the alignment of the following system while the alternate train was out-of-service for planned maintenance:

- 1B residual heat removal (RH) pump.

The inspectors performed a partial walkdown of the accessible portions of this system and observed the system (electrical and mechanical) lineup and selected, system operating parameters (i.e., pump and bearing lube oil levels, room temperature, electrical breaker position, etc). The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), Technical Specifications (TSs), system drawings, condition reports (CRs) and station procedures, as applicable, to verify the alignment was proper for the current conditions. The documents listed at the end of this report were also used by the inspectors to evaluate this area. As necessary, the inspectors also interviewed licensee engineering, maintenance and operations staff.

In addition, the inspectors reviewed selected issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance.

b. Findings

A finding of very low safety significance (No Color) was identified (self-disclosing) after a non-licensed operator failed to close a valve during a pre-leak rate test valve lineup. The inspectors determined this failure to follow procedure was a Non-Cited Violation.

The non-licensed operator was instructed to close the reactor coolant pump seal water filter inlet isolation valve 1CV8396A in accordance with the local leak rate test lineup procedure for the seal water return header penetration P-28. The operator mistakenly closed another valve instead of 1CV8396A. This mismanipulation resulted in a flow path from the running 1A charging pump through open vent and drain valves and onto the floor. The licensee was unable to quantify the amount of water that spilled onto the floor but determined that the leakage lasted for about 10 minutes.

This failure to follow procedure was considered more than minor. The failure to properly identify the correct valve during valve manipulations could reasonably be viewed as a precursor to a significant event. There was no actual impact on reactor safety because Unit 1 was shutdown for a refueling outage with the reactor head removed. The leakage from the charging system did not impact reactor or reactor cavity water level. However, an estimated 29 individuals were contaminated and 128 millirem of total dose was received by individuals who cleaned up the spill. The inspectors reviewed Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," consulted a regional radiation specialist, and determined that there was no as low as reasonably achievable (ALARA) finding due to the low dose received. Based on this information the inspectors determined that this finding had very low safety significance (No Color). This finding was documented because it was a violation of NRC requirements and was considered more than minor.

Technical Specification 5.4.1, states, "Written procedures shall be established, implemented, and maintained covering the following activities: a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Paragraph 1.c of this Regulatory Guide states, in part, that procedures for equipment control shall be prepared. The licensee's procedure, 1BwOSR 3.6.1.1-9, "Primary Containment Type C Local Leakage Rate Tests Of Chemical and Volume Control System," Revision 3, provided instruction for equipment alignment control for this testing condition. Contrary to the above, on September 24, 2001, non-licensed operators failed to close 1CV8396A as instructed by step F.2.8.a of 1BwOSR 3.6.1.1-9. This is considered a Severity Level IV violation of TS 5.4.1. However, because this violation was of very low risk significance, was non-repetitive, and was captured in the licensee's corrective action program (CR 76372), in accordance with Section V1.A.1 of the NRC Enforcement Policy, this violation is being treated as a Non-Cited Violation (NCV 50-456/457-01-10-01(DRP)).

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors evaluated the licensees fire protection controls for the following areas:

- 1A containment spray pump room;
- 1B emergency diesel generator (DG) room; and
- Elevation 346' (general areas) of the auxiliary building.

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 fire protection systems, equipment and features; and the material condition and operational status of fire barriers. The inspectors verified that the areas (including associated fire protection and mitigation equipment) were as described in the Braidwood Fire Protection Plan, dated

December 1988. The documents listed at the end of this report were also used by the inspectors to evaluate this area.

The inspectors observed the control of welding activities occurring inside the 1A containment spray pump room, in support of the letdown booster pump modification discussed in section 1R17 of this inspection report.

The inspectors also reviewed selected CRs to determine whether identified problems were being entered into the corrective action program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors evaluated the following licensee heat exchanger inspections and/or performance tests:

- 1A RH pump cubicle cooler inspection/cleaning and eddy current testing; and
- 2A reactor containment fan cooler essential service water (SX) cooler thermal performance test.

For the above activities, the inspectors determined whether the test acceptance criteria and results appropriately considered differences between test and design conditions, whether the test/inspection frequency was appropriate, and whether the test/inspection acceptance criteria were acceptable. The documents listed at the end of this report were also used by the inspectors to evaluate this area.

The inspectors also reviewed selected CRs to determine whether identified problems were being entered into the corrective action program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection Activities (71111.08)

a. Inspection Scope

The inspectors evaluated the implementation of the licensee’s inservice inspection program for monitoring degradation of the reactor coolant system boundary and the risk significant piping system boundaries. Specifically, the inspectors verified through observations that in-process ultrasonic and liquid penetrant inspections of safety injection piping welds (ISI-37-12, -21, -22, -24) were conducted in accordance with the

American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code requirements. The inspectors also reviewed radiographic film of weld 1FW03CD-FW#1, inservice inspection procedures and personnel certifications.

The inspectors reviewed the NIS-2 forms for Code repairs performed during the last Unit 1 outage (A1RO8) and confirmed that ASME Code requirements were met. In addition, the inspectors reviewed reports concerning inservice inspection issues to verify that an appropriate threshold for identifying issues had been established. The inspectors also evaluated the effectiveness of the corrective actions for identified issues. Documents reviewed are included at the end of the report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (LOR) Program (71111.11)

.1 Implementation of Licensee's LOR Program

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's LOR program by observing simulator training conducted on August 21, 2001. Specifically, the inspectors observed operator response to a simulated event involving a small break loss of coolant accident as described in licensee Scenario 0151, dated June 18, 2001, Revision 0.

The inspectors observed whether the training was monitored by the licensee's staff; and whether operations effectively 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.

.2 Facility Operating History

a. Inspection Scope

The operations inspectors reviewed the plant's operating history from July 1999 through August 2001, to assess whether the LOR training program had addressed operator performance deficiencies noted at the plant.

b. Findings

No findings of significance were identified.

.3 Licensee Requalification Examinations

a. Inspection Scope

The operations inspectors reviewed the annual requalification operating and written examination material to evaluate general quality, construction, and difficulty level. The operating examination material consisted of dynamic simulator scenarios and job performance measures (JPMs). The written examination material consisted of a combined "Plant and Control Systems," Section A, static simulator and "Administrative Controls/Procedural Limits," Section B. The written examination material included a total of 40 open reference multiple choice questions. The inspectors reviewed the methodology for developing the examinations, including the LOR training program two year sample plan, probabilistic risk assessment insights, previously identified operator performance deficiencies, and plant modifications. The inspectors assessed the level of examination material duplication during the current year annual examination (through three examinations) and with last year's annual examinations. The inspectors also interviewed members of the licensee's training staff and discussed various aspects of the examination development.

b. Findings

No findings of significance were identified.

.4 Licensee Administration of Requalification Examinations

a. Inspection Scope

The operations inspectors observed the administration of the requalification operating test to assess the licensee's effectiveness in conducting the test and to assess the facility evaluators' ability to determine adequate performance using objective, measurable performance standards. The inspectors evaluated the performance of one operating shift crew (two unit site) during four dynamic simulator scenarios and five JPMs in parallel with the facility evaluators. The inspectors observed the training staff personnel administering the operating test, including pre-examination briefings, observations of operator performance, individual and crew evaluations after dynamic scenarios, techniques for JPM cuing, and the final evaluation briefing for licensed operators. The inspectors noted the performance of the simulator to support the examinations. The inspectors also reviewed the licensee's overall examination security program.

b. Findings

No findings of significance were identified.

.5 Licensee Requalification Training Feedback Process

a. Inspection Scope

The operations inspectors assessed the methods and effectiveness of the licensee’s processes for revising and maintaining its LOR training program up to date, including the use of feedback from plant events and industry experience information. The inspectors interviewed licensee personnel (operators, instructors, training and operations management) and reviewed the applicable licensee’s procedures.

b. Findings

No findings of significance were identified.

.6 Licensee Remedial Training Program

a. Inspection Scope

The operations inspectors assessed the adequacy and effectiveness of the remedial training conducted since the previous annual requalification examinations and the training planned for the current examination cycle to ensure that they addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans, and interviewed licensee personnel (operators, instructors, and training management). In addition, the inspectors reviewed the licensee’s current examination cycle remediation packages for unsatisfactory operator performance on the written and operating examinations to ensure that remediation and subsequent re-evaluations were completed prior to returning individuals to licensed duties.

b. Findings

No findings of significance were identified.

.7 Conformance with Operator License Conditions

a. Inspection Scope

The operations inspectors evaluated the facility and individual operator licensees' conformance with the requirements of 10 CFR Part 55. The inspectors reviewed the facility licensee’s program for maintaining active operator licenses, including the process for tracking on-shift hours for licensed operators. The inspectors also reviewed eight (four reactor operators and four senior reactor operators) licensed operators’ medical records maintained by the facility for ensuring the medical fitness of its licensed operators and to assess compliance with medical standards delineated in ANSI/ANS-3.4 and with 10 CFR 55.21 and 55.25.

b. Findings

No findings of significance were identified.

.8 Written Examination and Operating Test Results

a. Inspection Scope

The operations inspectors reviewed the pass/fail results of individual written examinations and operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee during calendar year 2001.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

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:

- Diesel oil storage and transfer system;
- Chemical and volume control (CV) system; and
- Containment isolation valves.

The inspectors evaluated the licensee's monitoring and trending of performance data and the appropriateness of a(1) goals and corrective actions. Specifically, the inspectors determined whether performance criteria were established commensurate with safety and whether equipment problems were appropriately evaluated in accordance with the maintenance rule. The inspectors interviewed the stations maintenance rule coordinator and reviewed selective CRs to determine whether identified problems were being entered into the corrective action program with the appropriate characterization and significance. The documents listed at the end of this report were also used by the inspectors to evaluate this area.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments And Emergency Work Control (71111.13)

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:

- 1A RH pump; and
- 1 main steam safety valve Trevi testing

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. In particular, the inspectors observed whether licensee operating and engineering staff were aware of the licensee's revised probabilistic risk assessment model which was issued on June 28, 2000. The inspectors reviewed Nuclear Station Procedure WC-AA-103, "On-Line Maintenance," Revision 3, and evaluated licensee compliance with that procedure. The documents listed at the end of this report were also used by the inspectors to evaluate this area.

In addition, the inspectors reviewed selected issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed and evaluated the following operability evaluations:

- The 2B CV pump mini-flow check valve 2CV8480B exhibits a 6 gallon per minute (gpm) back leakage when the pump is not in operation;
- Snubber 1SD23093S, installed on the 1D loop steam generator blowdown line, failed to meet the functional test acceptance criteria;
- Motor operated valve 1SI8804B failed to stroke due to breaker trip; and
- Unit 1 auxiliary feedwater (AF) surveillance test had difficulty detecting acoustic check valve indications on the first attempt.

The inspectors also reviewed the technical adequacy of the evaluations against the TS, UFSAR, and other design information; determined whether compensatory measures, if needed, were taken; and determined whether the evaluations were consistent with the requirements of RS-AA-105, "Operability Determination Process," Revision 0. The documents listed at the end of this report were also used by the inspectors to evaluate this area.

In addition, the inspectors reviewed selected issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance.

b. Findings

A finding of very low safety significance (Green) was identified (self-disclosing) after motor operated valve 1MOV-SI8804B, failed to open during a routine surveillance on September 10, 2001 due to improper setting of the instantaneous current trip setpoint. This valve provides the suction path from the RH system to the B train of the emergency core cooling systems (i.e., the 1B charging (CV and safety injection (SI) pumps)) during the transition from the hot to the cold leg mode of recirculation cooling. The inspectors determined this failure to follow procedure was a Non-Cited Violation.

The licensee concluded, based on engineering judgement, that the valve breaker's instantaneous current trip setpoint was set too low for plant conditions. This setpoint was designed to trip the breaker if the current immediately following valve operation (in-rush current) was too high. Specifically, the licensee had adjusted the breaker's instantaneous current setting to "LO," corresponding to a setpoint of 35 amps ± 25 percent. The licensee had calculated this setpoint based on the valve motor design. However, this current varies proportionately with the voltage on the associated electrical bus powering the valve. The licensee theorized that the actual setpoint of the breaker was in the low range of the error band, and overlapped the range of available instantaneous current due to the normal variance in the electrical bus voltage. This meant that the breaker could trip upon demand, if the electrical bus voltage was too high. The licensee reset the setpoint in accordance with revised guidance and initiated CR 74717 to determine extent of condition and corrective actions.

This finding was considered more than minor, as it had a credible impact on safety by affecting the availability of one train (i.e., 1B emergency core cooling system) of a safety-related, mitigating system. Because this finding only affected the mitigating systems cornerstone, the inspectors performed a Phase I analysis of the event using the significance determination process (SDP). The inspector answered "Yes" to Question 3, specifically that the system was unavailable for greater than the seven day outage time allowed by TS 3.5.2. (The valve was last successfully tested on August 10, 2001, resulting in an attributed unavailability time of 15 days.) The inspector then performed a Phase II analysis for the following accident sequences: transient, transient with a loss of power conversion system, loss of offsite power, stuck open power operated relief valve, steam generator tube rupture, main steam line break outside containment, loss of a DC bus, loss of one division of AC power, and medium and small break loss of coolant accidents. These analyses determined that this issue was of very low safety significance, in that, the 1A emergency core cooling system was still capable of operating in the recirculation mode, and that operators could restore the B train using existing emergency operating procedures within the assumed accident analysis time.

10 CFR part 50, Appendix B, Criterion V, states, that "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Contrary to the above, the licensee's instructions for determining the instantaneous current trip setpoint for 1MOV-CV8804B did not contain appropriate acceptance criteria such that sufficient margin would be provided to account for the aggregate variance from the breaker setpoint setting and the electrical bus voltage. This is considered a Severity Level IV violation of 10 CFR Part 50, Appendix B, Criterion V. However, because this violation was of very low risk significance, was non-repetitive, and was captured in the licensee's corrective action program, it is considered a Non-Cited Violation consistent with Section VI.A.1 of the NRC Enforcement Policy (50-456/457-01-10-02(DRP)).

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

The inspectors reviewed the following permanent plant modifications:

- Installation of the Unit 1 letdown booster pump; and
- Change of the Unit 1 feedwater valve isolation trip logic.

The installation of the letdown booster pump was performed as an operating enhancement to reduce the reactor cleanup time needed following a shutdown. The modification consisted of installing new piping on the safety-related, suction line of the 1A RH system and on non-safety-related portions of the CV system which were connected to a new, non-safety-related booster pump.

The feedwater valve isolation trip logic was modified to address a design problem that resulted in deadheading of the heater drain pumps due to feedwater isolation after a reactor trip. This resulted in numerous secondary heater relief valves failing which complicated plant operations' response during the transient. The modification consisted of changing the isolation system logic to allow the feedwater recirculation valves to open following a reactor trip signal from any operating pump, and to prevent the feedwater isolation, regulating, and bypass valves from immediately isolating after a reactor trip and thereby allowing the peak pressure to lower below the relief valve setpoint.

For each modification, the inspectors determined if potential unresolved safety questions and/or risk evaluations were evaluated by the licensee, if the associated design and licensing documents and/or station procedures were being revised, and if the modification was correctly installed.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the post-maintenance testing associated with the following components:

- 1B SI pump;
- 1B RH pump; and the
- Unit 1 letdown booster pump.

Although the letdown booster pump was a non-safety-related and low risk significant system, the associated testing required that the 1A RH train, a risk significant system, be made inoperable. Additionally, portions of this test also verified the adequacy of the piping welds connecting to the 1A RH line as discussed in Section 1R17 of this report.

For each activity, the inspectors reviewed the applicable sections of the TS and UFSAR, and observed portions of the maintenance work. The inspectors also evaluated the adequacy of work controls (including foreign material exclusion controls), reviewed post-maintenance test data, and conducted walkdowns to verify system restoration after the testing was completed.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the following surveillance activities:

- 1A emergency diesel generator testing; and
- 1B emergency diesel generator testing
- 1B diesel driven AF full flow test; and
- Unit 1 main steam safety valve Trevi testing.

For each activity, the inspectors witnessed portions of the testing or reviewed the test data and determined if the associated structures, systems, and components met the American Society of Mechanical Engineers (ASME) operating criteria, TS and UFSAR technical and design requirements. For selected activities, the inspectors also reviewed past test results to evaluate any adverse trends and to determine whether past testing was performed using consistent protocols.

The testing of the 1A and 1B diesel generators consisted of several, sequentially performed surveillance procedures. The inspectors observed the performance of one of these procedures during each test, and evaluated whether the overall testing was conducted satisfactorily, specifically regarding potential preconditioning of the diesels.

In addition, the inspectors reviewed selected issues that the licensee had entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

On September 27, 2001, the licensee identified that TS surveillance requirement 3.7.2.1 which verified the closure time of each main steam isolation valve (MSIV) and TS surveillance requirement 3.7.2.2 which verified each MSIV closes on an actual or simulated actuation signal were not conducted in accordance with technical requirements. Specifically, the TS Basis stated that these surveillances were to be performed in operational Mode 3. The licensee determined that the surveillance tests for Unit 1 and Unit 2 MSIVs were conducted in Mode 4. The licensee entered TS 3.0.4 which required the licensee to perform these tests within 24 hours. Because Unit 2 was in Mode 1, the licensee requested a Notice of Enforcement Discretion to prevent plant shutdown and an exigent TS change. The NRC granted the Enforcement Discretion based on no net increase in risk while remaining at power and a technical correlation between testing in Mode 3 and Mode 4. Unit 1 was in a refueling outage at the time of the discovery and was not in an operational mode which required the main steam isolation valves to be operable. The licensee's failure to perform the TS surveillance in the correct mode of operation is an unresolved item (URI 50-456/457/01-10-03(DRP)) pending review of the licensee's extent of condition evaluation.

**Cornerstone: Emergency Preparedness**

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed:

- Emergency response drill conducted on June 27, 2001; and
- Emergency response exercise conducted on August 21, 2001.

Specifically, the inspectors determined whether the licensee's critique adequately evaluated emergency classification, notification of offsite authorities, and protective action recommendation development activities during the exercise. Additionally, the inspectors determined whether the exercise results were properly counted in the Performance Indicator for emergency preparedness. The documents listed at the end of this report were also used by the inspectors to evaluate this area.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA5 Other

.1 (Closed) Unresolved Item (URI) 50-456/01-02-02; 50-457/01-02-02: "Information in UFSAR Table 8.3-5 Not Updated and Correct Regarding Post-Accident EDG Loadings." On May 14, 2001, the licensee issued condition report 2001-01427 to address this issue. Although this issue needs to be corrected, it constitutes a violation of minor significance as the NRC determined that the emergency diesel generators were capable of performing their design function during the safety system design inspection (see Inspection Report 50-456/01-02; 50-457/01-02). Therefore, this issue is not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy.

.2 (Closed) Violation (EA-01-131)(50-456/457-01-10-04 (DRS)): Failure to follow radiation protection procedure. On September 25, 2001, in a letter to Mr. O. Kingsley from Mr. J. Grobe, the NRC issued Enforcement Action (EA) No. 01-131 concerning a deliberate violation of licensee procedure, BwRP 5822-3, Revision 1, "Operation and

Calibration of the Eberline PM-7 Portal Monitors," that occurred on October 23, 2000, at the licensee's facility. Specifically, the NRC concluded that a contractor boilermaker deliberately violated the procedure when he exited the protected area after twice activating the alarms on two separate portal monitors at the gatehouse and deliberately failed to contact the radiation protection department, as required by station procedure. Upon leaving the gatehouse, the individual proceeded to an onsite warehouse building to obtain parts for a job he was assigned. Upon returning to the gatehouse, he was confronted by management and was surveyed by radiation protection personnel who identified a small quantity of radioactive contamination on the boilermaker's boot. This deliberate failure to follow the portal monitor procedures is significant in that the gatehouse monitors represent the last barrier to stop the removal of radioactive contamination from the site.

Since the violation was determined to be willful, the NRC did not assign a significance to the violation using the NRC's Significance Determination Process. In accordance with the NRC Enforcement Policy, the NRC determined that the incident constituted a Severity Level IV violation of the Braidwood Station Facility Operating License, (50-456/457-01-10-04 (DRS)).

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved was adequately addressed on the docket in our June 11, 2001 letter, and in Exelon's response dated July 13, 2001. Since the subject violation, no similar violations have been identified. This item is closed.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. J. von Suskil and other members of licensee management at the conclusion of the inspection on October 2, 2001. The licensee acknowledged the findings presented. No proprietary information was identified.

Interim Exit Meetings

The inspectors presented the results of inspections of the licensee's LOR Program and the Biennial Inservice Inspection Program to Mr. J. von Suskil and other members of licensee management at the conclusion of the inspection on September 4 and 20, 2001, respectively. The licensee acknowledged the findings presented. No proprietary information was identified.

## KEY POINTS OF CONTACT

Licensee

J. von Suskil, Site Vice President
K. Schwartz, Plant Manager
J. Bailey, Regulatory Assurance - NRC Coordinator
G. Baker, Security Manager
G. Burton, Licensed Operator Requalification Training Group Lead
D. Chrzanowski, ISI Coordinator
G. Dudek, Operations Manager
C. Dunn, Engineering Director
W. Dupuis, Training Director
S. Erickson, Senior Reactor Operator Limited Requalification Training
A. Ferko, Regulatory Assurance Manager
R. Fielding, Maintenance
R. Graham, Work Management Director
T. Green, NDE Level III
L. Guthrie, Maintenance Director
J. Harvey, NOS Manager
J. Hausser, Nuclear Oversight Assessor
P. Hippely, Licensed Operator Requalification Training Instructor
B. Keller, Senior Reactor Operator Limited Requalification Training
F. Lentine, Design Engineering Manager
D. Myers, Training Manager
M. Sears, Engineering Programs

Nuclear Regulatory Commission

M. Chawla, Project Manager, NRR
A. Stone, Chief, Reactor Projects Branch 3

## LIST OF ITEMS OPENED AND CLOSED

Opened

| | | |
|---|---|---|
| 50-456/01-10-01 | NCV | Failure to follow procedure |
| 50-456/457-01-10-02 | NCV | Failure to have procedure appropriate to circumstances |
| 50-456/457-01-10-03 | URI | Extent of condition of a failure to comply with TSs |
| 50-456/457-01-10-04 | VIO | Deliberate failure to follow procedures |

Closed

| | | |
|---|---|---|
| 50-456/457-01-02-02 | URI | Information in UFSAR Table 8.3-5 Not Updated and Correct Regarding Post-Accident EDG Loadings |
| 50-456/01-10-01 | NCV | failure to failure to follow procedure |
| 50-456/457-01-10-02 | NCV | failure to have procedure appropriate to circumstances |
| 50-456/457-01-10-04 | VIO | Deliberate failure to follow procedures |

LIST OF ACRONYMS AND INITIALISMS USED

| | |
|---|---|
| ADAMS | Agencywide Documents Access and Management System |
| AF | Auxiliary Feedwater |
| ASME | American Society of Mechanical Engineers |
| BwAP | Braidwood Administrative Procedure |
| BwEP | Braidwood Emergency Procedure |
| BwOP | Braidwood Operating Procedure |
| BwOSR | Braidwood Operability Surveillance Requirement |
| BwVS | Braidwood Engineering Surveillance |
| CC | Component Cooling Water |
| CFR | Code of Federal Regulations |
| CR | Condition Report |
| CV | Chemical and Volume Control |
| DG | Diesel Generator |
| DRP | Division of Reactor Projects |
| DRS | Division of Reactor Safety |
| ESF | Engineered Safety Features |
| gpm | Gallon per Minute |
| JPM | Job Performance Measure |
| LCOAR | Limiting Condition for Operation Action Requirement |
| LLRT | Local Leak Rate Test |
| LOCA | Loss of Coolant Accident |
| LOR | Licensed Operator Requalification |
| NRC | Nuclear Regulatory Commission |
| NRR | Nuclear Reactor Regulations |
| OWA | Operator Work-Around |
| PARS | Publicly Available Records |
| PBI | Plant Barrier Impairment Permit |
| PI&R | Problem Identification and Resolution |
| RH | Residual Heat Removal |
| SDP | Significant Determination Process |
| SI | Safety Injection |
| SX | Essential Service Water |
| TS | Technical Specification |
| UFSAR | Updated Final Safety Analysis Report |
| VA | Auxiliary Building Ventilation System |
| WR | Work Request |

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

| | | |
|---|---|---|
| BwOP RH-E1 | Electrical Lineup - 1 RH System Operating | Revision 3E1 |
| BwOP RH-M2 | Operating Mechanical Lineup 1B Train | Revision 6 |
| CR A2000-03495 | Poor Sequencing of 2B RH Train Work Due to Procedure Inadequacies (PI&R) | September 5, 2000 |
| CR A2001-00494 | LCOAR Entry When 2B CC Pump Was Removed From PTL (PI&R) | February 15, 2001 |
| CR A2001-00515 | 1CF5000B Found Out of Position (PI&R) | February 18, 2001 |
| CR A2001-00786 | 2FP5073 Found Out of Position (PI&R) | March 16, 2001 |
| CR A2001-00985 | Status Control Event on 1AF004B (PI&R) | April 3, 2001 |
| CR 76327 | 1CV8396A Found Open During LLRT Subsequent Leak In Containment | September 25, 2001 |
| M-64 Sheet 2 | Diagram of Chemical & Volume Control & Thermal Regen | Revision AN |
| M-64 Sheet 3A | Diagram of Chemical & Volume Control & Thermal Regen | Revision BD |

1R05 Fire Protection

| | | |
|---|---|---|
| Core 1AG-5964C | Core Drilling NSWP S-06 Exhibit A | August 20, 2001 |
| AR 00074104 | Combustibles Found Within 35 Feet of Welding (NRC Identified) | August 28, 2001 |
| AR 00072949 | Missed Fire Watch on U-1 Cable Tunnel | August 22, 2001 |
| BwAP 1110-1 | Fire Protection Program System Requirements | Revision 15 |
| BwAP 1100-10 | Control and Use of Flammable and Combustible Liquids and Aerosols | Revision 3 |
| BwAP 1100-13 | Compensatory Watch Inspection | Revision 12 |
| CR 00071477 | Transient Fire Load Controls (PI&R) | August 9, 2001 |
| DWC TM-1 | High Density Silicone Elastomer Radiation Seal for Stationary Mechanical Penetrating Members | February 20, 1986 |

| | | |
|---|---|---|
| TR 148 | Fire and Hose Stream Test of TCO-003 High Density Silicone Elastomer, TCO-049 High Density Silicone Gel, TCO-050 Silicone Foam, and TCO-029 Pre-fab Aluminized Seals for Mechanical Penetrations | March 14, 1985 |
| TR 207 | Fire and Hose Stream Test of Empty Embedded Steel Sleeve and Plugs (each end) and an Embedded Steel Conduit Filled with 5" (max.) TCO-010 Ceramic Blanket and Steel Plugs at Each End | Revision 1 |
| Dwg. A-485, Sheet 6 | Hollow Metal Door Schedule | February 18, 1977 |
| Dwg. BR-E-26 | Ceramic Blanket Fire/Air/Flood or Plugged Conduits' Sleeves | August 28, 1986 |
| CC-AA-201 | Plant Barrier Control Program | Revision 3 |
| PBI 6371 | Cable Tunnel Hatch | August 20, 2001 |
| PBI 6385 | Rear Access Cover | August 20, 2001 |

1R07 Heat Sink Performance

| | | |
|---|---|---|
| CR A2000-02156 | GL 89-13 Heat Exchanger Inspection Trend Database (PI&R) | May 9, 2000 |
| CR A2001-01850 | RCFC Performance Test Conditions Altered by the Shutdown of the 2B DG (PI&R) | June 20, 2001 |
| WO 99023785 | Therm PFMC Test of Reactor Containment Fan Coolers | July 6, 2001 |
| WO 99134943 01 | Cleaning of 1A RH Cubicle Cooler | August 23, 2001 |
| WO 99258616 01 | 1VA02SA Eddy Current Testing/Trend | August 23, 2001 |

1R08 Inservice Inspection

| | | |
|---|---|---|
| NDT-C-65 | Manual Ultrasonic Examination of Austenitic Pipe Welds | May, 2000 |
| NDT-D-2 | Non-Aqueous Red Dye Liquid Penetrant Examination for Section XI Class IWB and IWC Components for Nuclear Stations | February, 1999 |
| NDT-A | Radiographic Examination | August 1, 1999 |

| | | |
|---|---|---|
| PIF# A2000-02033 | Section XI Repair/Replacement Program Assessment Deficiency | April 26, 2000 |
| PIF# A1999-01794 | Inadequate Field Change to Special Process Procedure, NDT C-2 | June 3, 1999 |
| CR# A2000-03536 | 90 Day Post Outage ISI Summary Report Discrepancies at LaSalle Station | September 7, 2000 |
| 12R-07 | Limited Volumetric Examination of Residual Heat Removal Heat Exchanger Nozzle-to-Shell Welds and Nozzle Inner Radii | September 10, 1999 |

1R11 Licensed Operator Requalification Program

| | | |
|---|---|---|
| LOR Simulator Scenario Guide #0151 | Small Break LOCA with RH Check Valve Leakage | Revision 0 |
| CR A2001-02116 | Improper Use of Simulator Procedure Checklist (PI&R) | July 20, 2001 |
| Regulatory Guide 1.134 | Medical Evaluation of Nuclear Power Plant Personnel Requiring Operator Licenses | Revision 1 |
| ANS-3.4 | Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants | Revision Dated 1976 |
| CR A2001-73203 | Near Miss JPM Security Violation During Administration of LORT Annual Licensed Operator Exams | August 24, 2001 |
| CR A2000-03417 | New Lesson Plans for LORT Cycle 4, 2000 Do Not Meet Requirements of NTAFT DEV09 | August 24, 2000 |
| CR A2001-00505 | Just-In-Time Effectiveness Effected by Simulator Initial Conditions | February 15, 2001 |
| CR A2001-00523 | Missed Training Notifications for Senior Reactor Operator Limited Requal Program Not Filled Out | February 15, 2001 |
| CR A2001-00543 | Shift Manager Training Program Deficiencies | February 22, 2001 |
| CR A2001-00682 | Facility Operator Reports Not Signed by Station Manager Prior to Medical Exams | November 30, 2000 |

| | | |
|---|---|---|
| CR A2001-02052 | Licensed Operator Medical/License File Missing Medical Certification Memos | July 6, 2001 |
| CR A2001-02116 | Improper Use Of Simulator Procedure Checklist | July 20, 2001 |
| Medical Evaluation Records | Various (4 Reactor Operator, 4 Senior Reactor Operators) | |
| | LOR Exam Sample Plan | 2000-2001 |
| TQ-AA-106 | LORT Program | Revision 0 |
| NTAFT JLOR01 | Nuclear Generation Group LORT Simulator Training Practices Job Aid | Revision 1, June 1999 |
| NTAFT JLOR02 | Nuclear Generation Group LORT Simulator Training Scenario Development Job Aid | Revision 02, October 1999 |
| NTAFT JLOR03 | Nuclear Generation Group LORT JPM Development Job Aid | Revision 2, August 1999 |
| NTAFT JLOR04 | Nuclear Generation Group LORT Examination Development Job Aid | Revision 1, June 1999 |
| NTAFT JLOR05 | Nuclear Generation Group LORT Examination Administration Job Aid | Revision 2 |
| NTAFT JLOR06 | Nuclear Generation Group LORT Accelerated Requalification Program Job Aid | Revision 2, June 1999 |
| NTAFT JLOR07 | Nuclear Generation Group LORT PWR Long Range Training Plan Development Job Aid | Revision 1, June 1999 |
| NOA-20-00-PS11 | Braidwood Station Assessment Report Nuclear Oversight Assessment Plant Support-Training Administrative Programs | September 25, 2000 |
| LS-AA-126 | Braidwood 2001 LORT Self-Assessment Report | Revision 0 |
| | Braidwood Operations Training Monthly Self-Assessments (INPO ACAD 91-015) | February 2000 through July 2001 |
| | Braidwood Operations Training Monthly Self-Assessment (INPO ACAD 91-015) | |
| | Braidwood LORT End of Cycle Reports | Cycle 6, 1999<br>Cycle 1-6, 2000<br>Cycle 1-4, 2001 |

| | | |
|---|---|---|
| | Braidwood LORT Curriculum Review Committee Meeting Minutes | Cycle 6, 2000<br>Cycle 1-5, 2001 |
| OP-AA-101-701 | NRC Active License Maintenance | Revision 2 |
| OP-AA-105-101 | Administrative Process For NRC License And Medical Requirements | Revision 0 |
| TR 99-1522 | 2001 Results of UFSAR Timed Scenarios for all Crews for: 1) Design Basis Loss of all AC; 2) Design Basis SGTR; 3) Performance of BwEP ES-1.3; 4) Design Basis Steam Line Break; and 5) Inadvertent SI Timing | |
| WD.5-3 | Simulator Work Requests (status) | August 2001 |
| | Braidwood Station 2000 LOR Exam Report | |
| Operating Crews 1-6 | LOR Annual Written Exams | 2001 |
| | LOR Annual JPM Exams | 2001 First 4 weeks |
| | LOR Annual Dynamic Scenario Exams | 2001 First 4 weeks |
| | LORT Attendance Records | 2000-2001, Cycle 3 |
| Annual LORT Exam Remediation Packages | One Crew With Three Individual Failures on Dynamic Scenarios; one Written Examination Failure | 2001 |
| | Training Feedback Forms | 2000-2001 |
| | Management Observation Feedback Forms | 2000-2001 |

1R12 Maintenance Rule Implementation

| | | |
|---|---|---|
| CAP-8 | Apparent Cause Evaluation Quality Checklist | Revision 2 |
| CR A2000-00299 | Leaking Valve Found in 364' Curve Wall Area | January 19, 2000 |
| CR A2000-00533 | Potential Rework 2B CV Pump Seal Injection Leaking on Return to Service | February 3, 2000 |
| CR A2000-00588 | Unauthorized Piping Installed On Line 2A DOST Drain Connection | February 4, 2000 |
| CR A2000-01757 | Tech Spec Surveillance Not Performed Per Schedule | April 2, 2000 |

| | | |
|---|---|---|
| CR A2000-03473 | Review NON BY-00-27 for Applicability, Inadvertent Actuation of Diesel FO Tank Fire Suppression | April 20, 2000 |
| CR A2000-02709 | B5 Trend Code: 1PI-SI116 Out of Tolerance | June 27, 2000 |
| CR A2000-03169 | Diesel Oil Tank 0DO03T | August 7, 2000 |
| CR A2000-04000 | 2CC9486 LLRT Failure | October 23, 2000 |
| CR A2000-04025 | 2CS008B Failed LLRT | October 24, 2000 |
| CR A2000-04189 | Operability Question for the 2B CV Pump for Loss of One Cubicle Cooler Fan | October 31, 2000 |
| CR A2000-04477 | Confusing Maintenance Rule Monitoring | December 30, 2000 |
| CR A2001-00016 | 2A DOST Door Gasket Degradation | January 3, 2001 |
| CR A2001-00201 | Possible Revision Needed to Performance Criteria for the VD System | January 22, 2001 |
| CR A2001-00424 | Increasing Particulate in Diesel Oil Tanks | January 26, 2001 |
| CR A2001-00324 | Failed IST Setpoint Test of Relief Valve 2CV8117 | January 31, 2001 |
| CR A2001-00432 | C/S for the #2 Diesel Oil Transfer Pump of the 2B EDG Found in the OFF Position | February 9, 2001 |
| CR A2001-00469 | Maintenance Rule Expert Panel Meeting Canceled Due to Lack of Quorum (PI&R) | February 12, 2001 |
| CR A2001-01041 | 1BwOS SX-Q1 Surveillance Failed Due to Valve Which Could Not be Cycled | April 7, 2001 |
| CR A2001-01425 | VQ System Warrants Maintenance Rule (a)(1) (PI&R) | May 14, 2001 |
| CR A2001-01802 | 2A CV Pump Has Excessive Inboard Seal Leakage | June 17, 2001 |
| CR A2001-02307 | 1A CV Pump Seal Work Was Not Performed During the 7/30/01 Work Window | August 8, 2001 |
| BwOP CV-M1 | Operating Mechanical Lineup Unit 1 | Revision 14 |
| NRC Maintenance Rule Data Request | CV System | September 11, 2001 |

1R13 Maintenance Risk Assessments And Emergency Work Control

| | | |
|---|---|---|
| System Engineering Memo | Propping Open Doors D-245 and D-239 to Support Maintenance Activity in 1A RH Pump Room Per W/O #99147982 | August 27, 2001 |
| Braidwood Station Policy Memo BR-023 | 1A RH Pump | Revision 1 |
| WO 99210957 | MM Rebuild Actuator RH HX 1A Flow Con | July 21, 2001 |
| CR A2001-00637 | Risk Level change Not Logged (PI&R) | March 1, 2001 |
| CR A2001-01878 | Loss of AC Input to Instrument Inverter 211 (PI&R) | June 23, 2001 |

1R15 Operability Evaluations

| | | |
|---|---|---|
| OE 97-066 | Operability Determination for the 2CV8480B Recirculation Check Valve | June23, 1997 |
| OE 96-079 | 2CV8480B Exhibits a 6 gpm Back Leakage When the 2CV01PB Pump is Not in Operation | July 8, 1996 |
| CR A2001-01828 | Molded Case Breaker Failed Test Criteria | June 19, 2001 |
| CR 00072891 | 1SI8919B Experiencing 1.5 - 2 gpm Seat Leakage | August 22, 2001 |
| CR 00073928 | Minute Oil Leak and Water Leaks on 1A and 2A CV Pumps (NRC Identified) | August 30, 2001 |
| AR 00074196 | 1CV01PA Elevated Seal Leakage (PI&R) | September 2, 2001 |
| AR 00074215 | Snubber 1SD23093S (On Line 1SD01CG-2") Failed Functional Test | September 4, 2001 |
| AR 00074524 | 2CV8524A Spraying Water (PI&R) | September 6, 2001 |
| AR 00074717 | 1SI8804B Trips Breaker When Trying to Stroke - Unplanned LCO | September 10, 2001 |
| AR 00075556 | AF001A/B,3A/B, 29A/B Acoustic Testing | September 17, 2001 |
| ER-AA-33–004 | Visual Examination of TS Snubbers | Revision 0 |
| WO 99161388 | Functional Testing of SFREL Snubbers | August 23, 2001 |
| WO 99162367 | Full Flow Test and Equipment Response | September 14, 2001 |
| WO 99172451 | Trip Test 1SI8804B; Molded Case Circuit Br | June 19, 2001 |

| | | |
|---|---|---|
| WR 990170219 03 | 1SI8804B Tech Spec Thermal Overload Surveillance | August 14, 2001 |
| S&L T-001 | Breaker Magnetic Trip Adjustment Procedure | April 15, 1993 |
| CC-AA-11 | Nonconformances | Revision 0 |
| Drawing M-37F | Diagram of AF Unit 1 | Rev BD |
| 1BwEP ES-1.3 | Transfer to Cold Leg Recirculation Unit 1 | Revision 1A |
| TID-E/I&C-06 | Molded Case Circuit Breaker Selection and Settings | Revision 1 |
| NES-E/I&C 10.01 | Molded Case Circuit Breaker Selection and Setting Design Standard | Revision 0 |
| MA-BR-EM-1-3.8.a.3-1 | Surveillance for Inspection and Testing of 480 Volt Motor Control Center (MCC) Draw-Out Units | Revision 2 |

1R17 Permanent Plant Modifications

| | | |
|---|---|---|
| Design Change Package 9900675 | Installation of a RH Letdown Flow Booster Pump | |
| CR 00075297 | Problems Noted During Pre-job Brief for the LD Booster Pump (PI&R) | January 1, 2001 |
| BRW-SE-2000-1207 | Unit 1 Feedwater Isolation Logic Modification | |
| OWA 197 | Heater Relief Valves Lift and Fail During Reactor Trip on Unit 1 | |
| Memo From Riedinger to Steele | Transmittal “For Construction” Design Change Notice: 001591E, Design change Number: D20-1-00-327 | December 8, 2000 |
| SPP-01-008 | DCP9900399 Special Procedure Test for Lo Tave w/P4 Feedwater Isolation Mod. | November 1, 2001 |
| EC 0000042948 | Crud Cleanup Booster PP/BR Demin HDR Re-Route Mod | July 24, 2001 |

1R19 Post Maintenance Testing

| | | |
|---|---|---|
| WO 00332760 | ASME Surveillance Requirements for the 1B SI Pump | September 11, 2001 |

| | | |
|---|---|---|
| 1BwVSR 5.5.8.SI.2 | ASME Surveillance Requirements for the 1B SI Pump | Revision 3 |
| D20-1-01-017-01 | Letdown Booster Pump 1CV03P Modification Test | September 14,2001 |
| BwOP CV-17 | Establishing and Securing Normal and RH Letdown Flow | Revision 13 |

1R22 Surveillance Testing

| | | |
|---|---|---|
| 1BwOSR 3.8.1.2-1 | 1A DG Operability Monthly and Semi-Annual Surveillance | Revision 3 |
| 1BwOSR 3.3.2.7-611A | 1ESFAS Instrumentation Slave Relay Surveillance (Train A Automatic SI - K611) | Revision 1 |
| BwVS 800-14 | Heightened Level of Awareness Briefing Worksheet | September 17, 2001 |
| 1BwVS 800-14 | Full Flow Test and Equipment Response Time of AF Pumps | Revision 5 |
| WR 990052256 | MSIV Full Stroke Test | November 4, 2000 |
| WR 990136835 | SI Bypass of Automatic Trips Surveillance | August 22, 2001 |
| BwVS 900-6 | 1 A/B SI Overspeed Trip Test | Revision 7E1 |
| 1BwVS 8.1.1.2.f-6 | Starting System Lockout Test for 1B DG | Revision 5 |
| 1BwVSR 3.8.1.13-2 | 1B DG Bypass of Automatic Trips Surveillance | Revision 4 |
| CR A2001-00509 | 2C Main Feedwater Pump 2A Main Oil Pump Test solenoid Failure (PI&R) | February 17, 2001 |
| CR A2001-00666 | Turbine Driven Feedwater Pump Oil Pump Test Solenoids (PI&R) | March 3, 2001 |
| CR A2001-01520 | Valve 2CV8116 Exceeded the Alert Limit Closed Stroke Time (PI&R) | May 21, 2001 |
| CR 00074108 | Missed Maintenance Item Due to Incorrect Discipline Code (PI&R) | August 31, 2001 |
| CR 00076047 | Failed Acceptance Criteria & Reportability Not Logged (NRC Identified) | September 19, 2001 |

1EP6 Drill Evaluation

| | | |
|---|---|---|
| | Braidwood Station General Station Emergency Plan Integrated Drill Scenario Package | June 27, 2001 |
| Memorandum | 2001 Off-Year Exercise Findings and Observation Report | August 9, 2001 |
| Logs | General Station Emergency Plan Log Package | June 27, 2001 |