March 18, 2002

Mr. John L. Skolds, President
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2
NRC INSPECTION REPORT 50-456/02-02(DRP); 50-457/02-02(DRP)

Dear Mr. Skolds:

On February 18, 2002, the NRC completed an inspection at your Braidwood Station, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on February 22, 2002, 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 activities.

Based on the results of this inspection, the inspectors identified two issues of very low safety significance (Green). One issue which involved a failure to close a flood door was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it was entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation, in accordance with Section V1.A.1 of the NRC's Enforcement Policy.

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, immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories and although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities,

and more limited access of personnel and vehicles to the sites. The NRC has conducted various audits of your response to these advisories and your ability to respond to terrorist attacks with the capabilities of the current design basis threat (DBT). From these audits, the NRC has concluded that your security program is adequate at this time.

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

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 50-456/02-02(DRP);
50-457/02-02(DRP)

cc w/encl: Site Vice President - Braidwood
Braidwood Station Plant Manager
Regulatory Assurance Manager - Braidwood
Chief Operating Officer
Senior Vice President - Nuclear Services
Senior Vice President - Mid-West Regional
Operating Group
Vice President - Mid-West Operations Support
Vice President - Licensing and Regulatory Affairs
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REGION III

Docket Nos:	50-456; 50-457
License Nos:	NPF-72; NPF-77
Report Nos:	50-456/02-02(DRP); 50-457/02-02(DRP)
Licensee:	Exelon Generation Company, LLC
Facility:	Braidwood Station, Units 1 and 2
Location:	35100 S. Route 53 Suite 84 Braceville, IL 60407-9617
Dates:	December 30, 2001, through February 18, 2002
Inspectors:	C. Phillips, Senior Resident Inspector N. Shah, Resident Inspector T. Tongue, Project Engineer J. Roman, Illinois Department of Nuclear Safety
Approved by:	Ann Marie Stone, Chief Branch 3 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000456-02-02(DRP), 05000457-02-02(DRP); on 12/30/01-02/18/02, Exelon Generation Company, LLC; Braidwood Station; Units 1 and 2. Fire Protection and Maintenance Risk Assessment and Emergent Work Control.

This report covers a 7-week routine resident inspectors inspection . The inspection was conducted by resident and regional inspectors. Two Green findings were identified. 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. Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violations.

A. Inspector Identified Findings

Cornerstone: Initiating Events

Green. A finding of very low safety significance was identified when the inspectors identified that the flood door to the 2B essential service water pump room was left open with no station personnel in attendance.

This finding was determined to be of very low safety significance because the door was open and unattended for a short period of time and there was no actual flooding in progress. The inspectors determined that this failure was a Non-Cited Violation of Technical Specification 5.4.1. (Section 1R05)

Green. A finding of very low safety significance was identified (self revealed) when a plant transient resulted from a configuration control error on January 23, 2002. An instrument maintenance technician assigned to perform a calibration of the 2A condensate booster pump flow loop connected a digital voltmeter to the Unit 2 heater drain tank level control loop card. This erroneous control signal caused the heater drain pump discharge flow control valves to close.

This finding was determined to be of very low safety significance because no actual initiating event occurred. The inspectors determined that this failure was not a violation of NRC requirements because the equipment was non-safety related. However, the transient nearly resulted in an initiating event. An alert control room operator manually re-opened the heater drain pump discharge flow control valves and prevented a loss of feedwater and/or a loss of condenser vacuum. (Section 1R13)

B. Licensee Identified Violations

A violation of very low significance which was identified by the licensee has been reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. This violation is listed in Section 40A7 of this report.

Report Details

Summary of Plant Status

Both units operated at full power throughout the inspection period.

1. REACTOR SAFETY

Cornerstone: Initiating Events and Mitigating Systems

1RO1 Adverse Weather (71111.01)

a. Inspection Scope

On February 14, 2002, the licensee was advised early in the day of the possibility of high winds in the area of the Braidwood Station. Operators were instructed to walkdown the outside areas of Units 1 and 2 transformers and the switch yard for material that could be potential missiles. Late in the day, the inspectors conducted a follow-up tour of the transformer areas to determine the effectiveness of the operator tours. The inspectors also monitored the licensee's actions in response to subsequent NRC-identified potential projectile material including an unsecured plastic toolshed by Unit 1, two wooden boxes with loose material, two open wheeled trash carts with cardboard, and pieces of sheet metal which were within 30-50 yards of the main transformer. The documents listed at the end of this report were also used by the inspectors to evaluate this area.

The wind conditions did not reach the threshold for entry into the emergency action for high winds.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111-04)

a. Inspection Scope

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

- 2B centrifugal charging pump;
- 2A centrifugal charging pump;
- 2A residual heat removal pump; and
- 2A essential service water pump.

The inspectors performed a partial walkdown of the accessible portions of these systems 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). The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), Technical Specifications, system drawings, condition reports (CRs) and station procedures, as applicable. As necessary, the inspectors also interviewed licensee engineering, maintenance and operations staff. 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.

1R05 Fire Protection (71111-05)

a. Inspection Scope

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

- 2B centrifugal charging pump room;
- auxiliary building general area 401 elevation;
- 2A centrifugal charging pump room;
- 2B essential service water pump room; and
- 2B residual heat removal pump room.

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 observed that the area (including associated fire protection and mitigation equipment) was as described in the Braidwood Fire Protection Plan, dated December 1988.

b. Findings

A finding of very low safety significance (Green) was identified when the inspectors identified that the flood door to the 2B essential service water (SX) pump room was left open. The inspectors determined that this failure was a Non-Cited Violation of Technical Specification 5.4.1.

While performing a routine fire protection baseline inspection of the 2B SX pump room, the inspectors found the water tight flood door open with no station personnel in attendance. The inspectors contacted shift operating management personnel and closed the door.

This finding was more than minor. The open and unattended door had a credible impact on safety because the reliability of the Units 1 and 2 B train essential service water pumps could have been affected. Internal flooding in the auxiliary building is a significant risk contributor, accounting for about 20 percent of the total core damage frequency. One purpose of the doors was to protect the 1B and 2B SX pumps from a flood originating outside the room. The licensee's internal flooding analysis assumes

that the flood doors to the SX pump rooms are closed. The open and unattended door could impact the operability of these pumps and impact the operator response time. The inspectors entered the significance determination process using Manual Chapter 0609, Appendix A, "Significance Determination For Reactor Inspection Findings For At-Power Situations." The inspectors determined that leaving the flood door open and unattended impacted the mitigating system event cornerstone only. The inspectors answered no to all five questions in the Phase I analysis under the mitigating systems cornerstone which resulted in the finding screening out as Green. The licensee entered this event into the corrective action program as CR 93970.

Technical Specification 5.4.1.a states in part, "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." Section 1c of this Regulatory Guide references administrative procedures for equipment control. Procedure CC-AA-201, "Plant Barrier Control Program," Revision 3, Step 1.3, required plant barriers such as doors to be evaluated for the impact of a flood and other design requirements as appropriate. The licensee determined that the watertight door to the 2B SX pump room was needed for flood protection; therefore, needed to be closed or able to be closed quickly by an individual in the room. Contrary to this, on February 5, 2002, the inspectors found the 2B SX pump room watertight door open and unattended, such that it could not perform its function as a flood boundary. This open and unattended condition was not evaluated for system impact. However, because this violation was of very low risk significance, was non-repetitive, and was captured in the licensee's corrective action program (CR 93970), it is considered a Non-Cited Violation consistent with Section VI.A of the NRC Enforcement Policy (NCV 50-457/02-02-01(DRP)).

1R11 Licensed Operator Requalification Program (71111-11)

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's Licensed Operator Requalification Program by observing simulator training conducted on February 13, 2002. Specifically, the inspectors observed operator response to a simulated event involving a design basis steam generator tube rupture as described in licensee scenario 0212, dated November 19, 2001, Revision 0.

The inspectors observed that the training was monitored by the licensee's staff and that deficiencies were identified and remediated. The inspectors also observed that operators 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.

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:

- charging and chemical volume control;
- residual heat removal; and
- auxiliary feedwater.

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 was 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.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments And Emergent 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:

- 2A centrifugal charging pump work window;
- 2B essential service water pump work;
- 2B centrifugal charging pump;
- 2B residual heat removal pump work window; and
- Unit 1 and 2 spent fuel pool cooling system.

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. The inspectors also 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 also reviewed Nuclear Station Procedure WC-AA-103, "On-Line Maintenance," Revision 3, and evaluated licensee compliance with that procedure.

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-revealed) when a plant transient resulted from a configuration control error on January 23, 2002. Specifically, an instrument maintenance technician, assigned to perform a calibration of the 2A condensate booster pump flow loop, instead connected a digital voltmeter to the Unit 2 heater drain tank level control loop card.

The instrument maintenance technician actually made two errors. In addition, to connecting the voltmeter to the wrong loop card, the voltmeter was in the amperage configuration instead of the voltage configuration required by the calibration procedure. Having the voltmeter in the amperage configuration resulted in giving an erroneous signal that the heater drain tank was empty. The heater drain pump flow control valves 2HD046A and 2HD046B closed automatically, stopping heater drain flow to the feedwater system. An alert control room operator immediately took manual control of the 2HD046A and 2HD046B valves and restored heater drain flow within a few seconds. The 2HD046A and 2HD046B valves failing shut could have caused the feedwater pumps to lose net positive suction head and trip, or most probable, could have caused the heater drain tank to overfill and fail the rupture disk, resulting in a loss of condenser vacuum.

This finding was more than minor. The configuration control error was viewed as a precursor to a significant event, and the issue could have caused an initiating event. The inspectors entered the significance determination process using Manual Chapter 0609, Appendix A, "Significance Determination For Reactor Inspection Findings For At-Power Situations." The inspectors determined that the configuration control error impacted the initiating event cornerstone only. The inspectors answered no to all three questions in the Phase I analysis under the initiating systems cornerstone which resulted in the finding screening out as Green. The licensee entered this event into the corrective action program as CR 91960. Based on the results of the SDP analysis, this event finding was of very low safety significance (FIN 50-457/02-02-02 (DRP)). However, it was not a violation of regulatory requirements because the procedure in use and the equipment were non-safety related.

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events (71111-14)

Infrequently Performed Activities - Unit 2 Main Feed Pump

a. Inspection Scope

On February 12, 2002, the licensee identified that the Unit 2A motor driven feed pump was experiencing higher than expected vibrations on the outboard motor bearing. At the time, the unit was at full power with the 2A motor driven and 2C turbine driven feed pump in operation. The 2B turbine driven feed pump was out-of-service for planned maintenance Because of the sensitivity to an initiating event, the inspectors monitored

the licensee's activities, observed the 2A motor driven feed pump in operation, observed the high level awareness brief and return to service of the 2B motor feedwater pump, and the coordination of shutting down the 2A motor driven feed pump and increasing load on the 2B feedwater pump. The inspectors also reviewed the applicable procedures and monitored the performance of control room personnel during the process.

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:

- 2A containment spray additive system;
- Units 1 and 2 containment leakage detection system radiation monitor; and
- CR 93026, "Potential Non-Conservatism Assumption for Safety Analysis."

The inspectors also reviewed the technical adequacy of the evaluations against the Technical Specification, UFSAR, and other design information; determined whether compensatory measures, if needed, were taken; and determined whether the evaluations were consistent with the requirements of LS-AA-105, "Operability Determination Process," Revision 0.

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

In CR 00089364, the licensee documented that during a review of the setpoint for containment atmosphere radiation monitors (1/2PR11J), a non-conservative error was found. The reactor coolant system (RCS) activities used to calculate the 1 gallon per minute (gpm) leak rate were substantially more than the existing RCS activities. This error affected the monitor's ability to detect a 1 gpm leak from the RCS within 1 hour. For example, the assumed Xe-135 concentration was 1.26 curies per gram (Ci/gm) and the actual [concentration] was 1.30 E-3 Ci/gm which was roughly a factor of 1000 lower.

10 CFR Part 50, Appendix A, General Design Criterion 30 required licensees to develop means for detecting reactor coolant leakage. Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," described acceptable methods to ensure conformance with the General Design Criterion 30. Regulatory Guide 1.45 states that, "In analyzing the sensitivity of leak detection systems...a realistic primary coolant radioactivity concentration assumption should be used. The expected values used in the plant environmental report would be acceptable." As stated in the Updated

Final Safety Analysis, Appendix A, the licensee was committed to Regulatory Guide 1.45, with the caveat that leak detector sensitivity was as low as practicable.

In addition, Technical Specification 3.4.15 required that, "The following RCS leakage detection instrumentation shall be operable: a. One containment sump monitor; and b. One containment atmosphere radioactivity monitor (gaseous or particulate). The bases for this Technical Specification states, in part, that radioactivity detection systems shall be operable to provide a high degree of confidence that extremely small leaks are detected in time to allow actions to place the unit in a safe condition, when RCS leakage indicated a possible reactor coolant pressure boundary degradation."

When the discrepancy with respect to assumed RCS activities was identified, the licensee determined that the containment radiation monitors were operable because the monitor could detect a 1gpm leakage within 1 hour at the reactor coolant activities specified in the plant environmental report. The licensee stated that the Technical Specification bases will be modified to reflect the actual capabilities of the monitors and will define other available means to detect leakage.

The inspectors questioned whether the 1/2PR11J containment atmosphere radiation monitors were technically operable because an informal licensee calculation showed that at current activity levels, a 1gpm RCS leakage would not be detected by the containment atmosphere radiation monitors for at least 12 days. This calculation did not take into account radioactive decay or that the containment was vented about every third day. It was unclear whether the current containment radiation monitors were sufficient to detect leakage defined in the licensee's leak-before-break analysis. In addition, the inspectors noted that the licensee's Technical Specification 3.4.15 required only two leakage detection instrumentation while Reg Guide 1.45 required three.

The operability of the containment radiation monitors is an Unresolved Item (50-456/457-02-02-03(DRP)) pending resolution of questions associated with the licensing basis for the leak-before-break analysis.

1R19 Post Maintenance Testing (71111-19)

a. Inspection Scope

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

- residual heat removal pump 2B refueling water storage tank to residual heat removal pump suction motor operated valve 2SI8812B;
- 2A centrifugal charging pump;
- 2SI8812B refueling water storage tank to RH pump suction valve; and
- 2A essential service water pump.

For each activity, the inspectors reviewed the applicable sections of the Technical Specification 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. 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.

1R22 Surveillance Testing (71111-22)

a. Inspection Scope

The inspectors reviewed the following surveillance activities:

- 2B safety injection pump testing;
- 2A containment spray pump testing; and
- 1A emergency diesel generator 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 operating criteria, Technical Specification 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 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 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.

1R23 Temporary Plant Modifications (71111-23)

a. Inspection Scope

The inspectors evaluated the licensee's installation of the following temporary modifications:

- freeze seal on the essential service water lines associated with the 2B CV pp lube oil coolers; and
- a temporary temperature gauge installed on the spent fuel pool cooling system.

The inspectors also 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.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed a licensee emergency response exercise regarding a simulated pressurizer level instrument failure and letdown isolation, turbine trip/reactor trip with control rods failing to insert, a large break loss of coolant accident with a loss of RH pump and emergency recirculation, and a loss of containment. This exercise was conducted on February 13, 2002. Specifically, the inspectors determined whether the licensee critique adequately evacuated 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.

b. Findings

There were no significant findings identified.

4. OTHER ACTIVITIES

40A1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed whether the licensee was accurately reporting data for the following performance indicators:

- unplanned scrams per 7000 critical hours; and
- scrams with a loss of normal heat removal.

The inspectors reviewed system operating logs and licensee monthly operating reports submitted to the NRC, and interviewed licensee engineering and operations staff to determine whether the performance indicator data was being collected and reported consistent with the guidance contained in NEI 99-02, “Regulatory Assessment Performance Indicator Guideline,” Revision 1.

b. Findings

No findings of significance were identified.

4OA6 Meetings

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 February 22, 2002. The licensee acknowledged the findings presented. No proprietary information was identified.

4OA7 Licensee Identified Violations

The following finding of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which met the criteria of Section VI of the NRC Enforcement Manual, NUREG-1600 for being dispositioned as Non-Cited Violation (NCV).

NCV Tracking Number	Requirement Licensee Failed to Meet
NCV 50-457/02-02-04	Technical Specification 5.4.1.a states in part, "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." Section 1c of this Regulatory Guide references administrative procedures for equipment control. Procedure BwAP 1110-3, "Plant Barrier Impairment Program," Revision 10 implemented, steps for equipment control. Condition Report 00093840 cited one example of the failure to follow BwAP1110-3 when a security guard failed to conduct a flood watch as required by procedure.

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
C. Dunn, Engineering Director
A. Ferko, Regulatory Assurance Manager
L. Guthrie, Maintenance Director
F. Lentine, Design Engineering Manager

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

LIST OF ITEMS OPENED AND CLOSED

Opened

50-457/02-02-01	NCV	Failure to follow equipment control procedure
50-457/02-02-02	FIN	Configuration control error that resulted in plant transient
50-456/457/02-02-03	URI	Ability of radiation monitors to detect RCS leakage
50-457/02-02-04	NCV	Licensee identified violation for failure to follow flood watch procedures

Closed

50-457/02-02-01	NCV	Failure to follow equipment control procedure
50-457/02-02-02	FIN	Configuration control error that resulted in plant transient
50-457/02-02-04	NCV	Licensee identified violation for failure to follow flood watch procedures

LIST OF ACRONYMS AND INITIALISMS USED

ADAMS	Agencywide Documents Access and Management System
AF	Auxiliary Feedwater
BwAP	Braidwood Administrative Procedure
BwHS	Braidwood Hydrogen Surveillance Procedure
BwOA	Braidwood Abnormal Operating Procedure
BwOP	Braidwood Operating Procedure
BwOSR	Braidwood Operability Surveillance Requirement
BwVS	Braidwood Engineering Surveillance
CFR	Code of Federal Regulations
CR	Condition Report
gpm	Gallons per Minute
LCO	Limiting Condition for Operation
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulations
OOS	Out-of-Service
PARS	Publicly Available Records
RCS	Reactor Coolant System
SDP	Significant Determination Process
SI	Safety Injection
SX	Essential Service Water
UFSAR	Updated Final Safety Analysis Report
WR	Work Request

LIST OF DOCUMENTS REVIEWED

1R01 Adverse Weather Protection

BwOA ENV-1	Adverse Weather condition Unit 0	Revision 100

1R04 Equipment Alignment

BwOP CV-E2	Electrical Lineup - Unit 2	Revision 3
BwOP CV-M2	Operating Mechanical Lineup Unit 2	Revision 14
BwOP RH-E2	Electrical Lineup - Unit 2 RH System Operating Electrical	Revision 1
BwOP RH-M3	Operating Mechanical Lineup Unit 2 2A Train	Revision 4E1

1R05 Fire Protection

	Fire Protection Manual - Volume 1 Section 2.3.11.11 and Section 2.3.11.21	Amendment 13
	Fire Protection Manual - Volume 1 Section 2.3.11.41	Amendment 15
	Fire Protection Manual - Volume 2 Section 2.4.2.39 and Section 2.4.2.45	Amendment 18
	Fire Protection Manual - Volume 2 Table 2.4.4	Amendment 18

1R12 Maintenance Rule Implementation

CR 00074717	1SI18804B Trips Breaker When Trying to Stroke	September 10, 2001
CR 00082252	Unexpected Increase in 2B RH Suction Pressure	November 7, 2001
CR 00085292	Unexpected Unit 2 RH Pump Discharge Pressure Increase	December 6, 2001
CR 00085710	2CV460 Failed Stroke Test	December 7, 2001
CR 00089260	Maintenance rule functional Failure Review for October/November 2001	January 16, 2002
	Plant Health Committee Meeting Minutes	January 28, 2002

	Expert Panel Meeting - AF [auxiliary feedwater]	January 22, 2001
	Expert Panel Meeting - AF	March 12, 2001
	Expert Panel Meeting - Spent Fuel Pool Cooling	May 14, 2001
	Expert Panel Meeting - Primary Containment Post LOSS of Coolant Accident Purge	June 29, 2001
	Performance Monitoring (Availability Graph) User Parameters - AF1 1A	
	Performance Monitoring (Availability Graph) User Parameters - AF1 1B	
	Performance Monitoring (Availability Graph) User Parameters - AF1 2A	
	Performance Monitoring (Availability Graph) User Parameters - AF1 2B	
	Performance Monitoring (Availability Graph) User Parameters - AF2 U2	
	Performance Monitoring (Availability Graph) User Parameters - AF	
	Maintenance Rule Performance Criteria For Chemical Volume and Control System	January 16, 2001
	Evaluation History (User Parameters) - AF	April 2, 2001 - April 2, 2002
	Expert Panel Scoping Determination - AF	
	High Safety Significant Status of In-Scope Function (User Parameters) - AF	
ER-AA-520	Instrument Performance Trending	Revision 0

1R13 Maintenance Risk Assessments And Emergent Work Control

AR 00091960	Secondary Plant Transient During IMD Calibration of 2F-CB001	January 23, 2002
BR-023	Braidwood Station Policy Memo - Fuel Pool Cooling System	Revision 2

BR-023	Braidwood Station Policy Memo - Project Summary Scope	Revision 2
BR-023	Braidwood Station Policy Memo - Mod Test: ASME Surveillance for 2CV01PB	Revision 2
BwAP 1300-6T1	Special Procedures, Tests, or Experiments Request Form, “SPP for Fuel Pool Cooling Work Window”	Revision 6
BwOP FC-3	Fill and Vent of the FC System	Revision 7E1
LS-AA-104-1002	50.59 Applicability Review Form	Revision 0
SPP 02-001	SPP for fuel Pool Cooling Work Window	Revision 0
WO 99207480 01	Lubrication of Unit 2 Safety Rel Motor; Centrifugal Charging Pump	January 9, 2002
WO 99220232 01	Chg Grease in cplg and Perform Insp 2A Cent Charging Pump; MOT	January 9, 2002
WO 99223805 01	Drain Line of Thrust Bearing slopes Pump, 2A Centrifugal Charging	January 9, 2002
WO 99262112-08	HLA Brief for the SX Freeze	January 29, 2002
WO 99262112-01	Welding Procedure Specification (QW-482)	Revision 8
CC-AA-103	Design Change Approval, “Supply FP Water to 2B CV Pump Oil Coolers as an Alternate Coolant	Revision 1
00006141	OOS Checklist for 2A CV pp - Motor; Centrifugal Charging Pump	
00006372	OOS Checklist for EQ Limitorque CC [component cooling] to RH HX 2b Isol Vlv	January 21, 2002
00006382	Residual Heat Removal HX 2 Flow cont Vlv Assembly	January 22, 2002
00006387	RHR Pump 2B Miniflow Isol Vlv Assembly	January 22, 2002

1R14 Personnel Performance During Nonroutine Plant Evolutions And Events

BwOP 23	Swapping Feedwater Pumps	Revision 3
BwOP CD/CB-2	Condensate/Condensate Booster System Startup	Revision 13

BwOP CDCB-2	Condensate/Condensate Booster System Shutdown	Revision 11

1R15 Operability Evaluations

AR 00091032	Concerns Raised During 1A CS Test	January 16, 2002
AR 00093026	Potential Non-Conservatism-SGTP Assumption in Safety Analysis	February 5, 2002
BwVSR 3.6.7.5.2	Containment Spray Additive Flow Rate Verification “Train B”	Revision 1
Drawing M-46	Diagram of Containment Spray	April 11, 1997
WR 960033547 01	Containment Spray Additive Flow Rate Verification Train A	April 2, 1997
WR 960047528 01	Containment Spray Additive Flowrate Verification	July 22, 1997
WR 970093172 01	Train B Containment spray Additive Flowrate Verification	September 16, 1997
WO 00355245 01	U1 Train A Containment Spray System Valve	November 19, 2001
WO 00362147 01	U2 Train A containment spray System Valve	December 12, 2001
WO 00370726 01	U2 Train B Containment spray System	December 26, 2001
WO 00371079 01	Braidwood Generating station U2 Train B Containment Spray System Valve	December 26, 2001

1R19 Post Maintenance Testing

WR 990181655 01	Replace Oil Piping with Flex Hoses Per DCP D20-2-00-352	February 6, 2002
WO 00380043 01	ASME Srv Rqmts for 2CV01PA	January 17, 2002
WO 00380044 01	Tech Spec Differential Pressure Chec Pressure Pump, 2A Centrifugal Charging	January 17, 2002
WO 99209342 02	Perform MA-BR-723-380 Thermal Overload Testing Procedure at MCC 232X4A, Cub. M2. This affects Valve 2SI8812B	October 27, 2001
WO 99209342 03	OP 2SI PMP Testing to Verify Correct MTR Rotation	February 8, 2002

WO 99212905 01	ESS SW Pump 2A Time Delay Relay	January 1-, 2002
WO 99222890 01	Perform BwHS 4002-064 on 2SI8812B: MOV EQ Inspection	December 26, 2001
WO 99222890 02	OP 2SI8812B PMT Valve functional Test	February 8, 2002
WO 99244413 01	ESS SW Pump 2A Suction Valve 2SX001A PIT Level Switch	February 5, 2002
BwAP 1610-5T1	Provide Alternative Cooling to 2B CV Pump Oil Coolers Design Change Test	Revision 4E1
2BwOL 3.7.8	LCOAR SX System Technical Specification LCO 3.7.8	Revision 1
BwVS 4.5.2.f.1.b	Surveillance Requirement for 2B Centrifugal Charging Pump Discharge Pressure	Revision 4
BwVSR 5.5.8.CV.2	ASME Surveillance Requirements for 2B Centrifugal Charging Pump and Check Valve 2CV8480B Stroke Test	Revision 3
2BwVSR 5.5.8.RH.2	ASME Surveillance Requirements for Residual Heat Removal Pump 2RH01PB	Revision 2

1R22 Surveillance Testing

ER-AA-321	Administrative Requirements for Inservice Testing	Revision 2
2BwVSR 5.5.8.SI.2	ASME Surveillance Requirements for the 2B Safety Injection Pump	Revision 3
BwOP SI-1	Safety Injection System Startup	Revision 13
BwOP SI-2	Safety Injection System Shutdown	Revision 9
BwOSR 5.5.8.CS-1A	Train A Containment Spray System Valve Stroke Quarterly Surveillance	Revision 2
BwVSR 3.6.7.5.1	Containment spray Additive Flow Rate Verification “Train A”	Revision 1
WO 00338224 01	ASME Surveillance Requirements for 2A Safety Injection Pump	October 16, 2001
WO 00354052 01	ASME Surveillance Requirements for 1A Safety Injection Pump	November 14, 2001
WO 00359385 01	ASME Surveillance Requirements for 1B Safety Injection Pump	December 5, 2001

WO 00390606 01	1A D/G Operability Monthly	January 10, 2002
AR 00089909	NRC Contact - Question on 1A DG [diesel generator] Start Sys Malfunction Alarm	January 10, 2002
AR 00091032	Concerns Raised During 1A CS Test	January 16, 2002
BRW-DIT-97-085	Transmittal of Results of Calculation VRW-96-071 Revision 1 for Use in Surveillance BwVS 6.2.2d-1	March 28, 1997

1R23 Temporary Plant Modifications

EC 0000334508 000	Provide Guidance for the Installation of Freeze On Line 2SX58AB-2" to Install Modification	Approved December 20, 2001
WO 99262112 08	Install EC 42942 to Supply FP Water MM Freeze SX Line	December 21, 2001
CC-AA-403	Temporary Freeze Seal Permit - Line Number 2SX58AB-2"	Revision 1

1EP6 Drill Evaluation

	Requalification Simulator Scenario Guide	
1BwOA INST-2	Operation with a Failed Instrument Channel, Unit 1	Revision 57B
1BwEP-0	Reactor Trip or Safety Injection, Unit 1	Revision 100 WOG 1C
1 BwEP ES-0.1	Reactor Trip Response, Unit 1	Revision 100 WOG 1C
1BwEP-1	Loss of Reactor or Secondary Coolant, Unit 1	Revision 100 WOG 1C
1BwFR-Z.1	Response to High Containment Pressure, Unit 1	Revision 1A, WOG 1C
1BwCA-1.1	Loss of Emergency Coolant Recirculation, Unit 1	Revision 100 WOG 1C

71151 Performance Indicator Verification

LSA-AA-2010	Monthly Performance Indicator for Unplanned Scrams per 7000 Critical Hours - February 2001 through January 2002	Revision 0
LS-AA-2020	Monthly Performance Indicator Date Elements for scrams with a Loss of Normal Heat Removal - February 2001 through January 2002	Revision 2
	Braidwood Units 1 and 2 4Q2001 Performance Summary	
NEI 99-02	Regulatory Assessment Performance Indicator Guideline - March 2000	Revision 1