

May 15, 2006

Mr. Christopher M. Crane  
President and Chief Nuclear Officer  
Exelon Nuclear  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2 NRC INTEGRATED  
INSPECTION REPORT 05000456/2006002; 05000457/2006002

Dear Mr. Crane:

On March 31, 2006, the U. S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Braidwood Station, Units 1 and 2. The enclosed report documents the inspection results, which were discussed on April 3, 2006, with Mr. K. Polson and other members of your staff. Additionally, on May 12, 2006, a followup telephone discussion was held with Mr. Ambler of your staff to reclassify one issue provided during the April 3, 2006, meetings.

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.

Based on the results of this inspection, one self-revealed finding of very low safety significance (Green) is documented in this report. This finding was determined to involve a violation of NRC requirements. Because this violation was of very low safety significance and because the issue was entered into your corrective action program, the NRC is treating this finding as a Non-Cited Violation in accordance with Section VI.A.1 of the NRC's Enforcement policy.

If you contest the subject or severity of the 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-001; and the Resident Inspector office at the Byron facility.

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Sincerely,

*/RA/*

Richard A. Skokowski, Chief  
Branch 3  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000456/2006002; 05000457/2006002  
w/Attachment: Supplemental Information

cc w/encl: Site Vice President - Braidwood Station  
Plant Manager - Braidwood Station  
Regulatory Assurance Manager - Braidwood Station  
Chief Operating Officer  
Senior Vice President - Nuclear Services  
Vice President - Operations Support  
Vice President - Licensing and Regulatory Affairs  
Director Licensing  
Manager Licensing - Braidwood and Byron  
Senior Counsel, Nuclear, Mid-West Regional  
Operating Group  
Document Control Desk - Licensing  
Assistant Attorney General  
Illinois Emergency Management Agency  
State Liaison Officer  
Chairman, Illinois Commerce Commission

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Vice President - Operations Support  
Vice President - Licensing and Regulatory Affairs  
Director Licensing  
Manager Licensing - Braidwood and Byron  
Senior Counsel, Nuclear, Mid-West Regional  
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-456; 50-457

License Nos: NPF-72; NPF-77

Report No: 05000456/2006002; 05000457/2006002

Licensee: Exelon Generation Company, LLC

Facility: Braidwood Station, Units 1 and 2

Location: Braceville, IL

Dates: January 1 through March 31, 2006

Inspectors: Steven Ray, Senior Resident Inspector  
N. Shah, Senior Resident Inspector  
G. Roach, Resident Inspector  
F. Ramírez, Reactor Engineer  
M. Wilk, Reactor Engineer  
J. Roman, Resident Inspector, Illinois Emergency  
Management Agency

Observers: Sheila Ray, General Engineer

Approved by: R. Skokowski, Chief  
Branch 3  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000456/2006002, 05000457/2006002; 01/01/2006 - 03/31/2006; Braidwood Station, Units 1 & 2; Event Followup.

This report covers a 3-month period of baseline resident inspection and an inspection in accordance with Temporary Instruction 2515/165, "Operational Readiness of Offsite Power and Impact on Plant Risk." The inspections were conducted by resident and inspectors based in the NRC Region III office. One Green finding which was a violation of NRC requirements was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

### **A. Inspector-Identified and Self-Revealed Findings**

Green. A finding of very low safety significance and associated Non-Cited Violation of Licensee Condition 2.C(1) "Maximum Power Level," was self-revealed during the November 18, 2004, feedwater heater transient, which resulted in an increase of reactor power as high as 103.3 percent. Power was returned below the maximum licensed power by an automatic control rod stop and a turbine runback.

This finding was considered more than minor because it had a credible impact on safety, in that exceeding the maximum allowed power level potentially challenged the integrity of the reactor coolant and fuel integrity barriers. This finding affected the Barrier Integrity Cornerstone and was considered to have a very low safety significance (Green). Specifically, using the SDP Phase 1 screening worksheet (IMC 0609, Appendix A, Attachment 1), the inspectors determined that the actual increase in reactor power did not significantly challenge either the reactor coolant or fuel integrity barriers. (Section 40A3.2)

### **B. Licensee-Identified Violations**

None.

## REPORT DETAILS

### Summary of Plant Status

Both units operated at or near full power throughout the inspection period except for brief power reductions for turbine valve testing, control rod adjustments, or feedwater system manipulations.

#### 1. REACTOR SAFETY

##### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R01 Adverse Weather Protection (71111.01)

##### a. Inspection Scope

The inspectors performed several walkdowns of the temporary liquid radwaste storage tank areas in response to actual high winds, tornado watches, rainfall events, and freezing conditions. The purpose of the inspections was to monitor the licensee's response to damage to the berm around the tanks and determine if additional concerns or vulnerabilities existed. Minor issues identified during the walkdowns were brought to the attention of plant management and the inspectors verified that they were entered into the licensee's corrective action program.

The inspectors also reviewed Issue Reports (IRs) generated since the tanks were installed to verify that problems with the tanks and transfer system identified by the licensee staff were being adequately addressed. Documents reviewed as part of this inspection are listed in the Attachment. This review constituted one sample of this inspection requirement for the onset of a site specific weather related condition.

##### b. Findings

No findings of significance were identified.

#### 1R04 Equipment Alignment (71111.04)

##### .1 Partial Walkdowns

##### a. Inspection Scope

The inspectors performed partial walkdowns of the accessible portions of risk-significant system trains during periods when the train was of increased importance due to redundant trains or other equipment being unavailable. The inspectors utilized the valve and electric breaker checklists listed to determine whether the components were properly positioned and that support systems were aligned as needed. The inspectors also examined the material condition of the components and observed operating parameters of equipment to determine whether there were any obvious deficiencies.

The inspectors reviewed IRs associated with the train to determine whether those documents identified issues affecting train function. The inspectors used the information in the appropriate sections of the Technical Specifications (TS) and the Updated Final Safety Analysis Report (UFSAR) to determine the functional requirements of the system. The inspectors also reviewed the licensee's identification of and the controls over the redundant risk-related equipment required to remain in service. The inspectors verified that minor issues identified during this inspection were entered into the licensee's corrective action program. Documents reviewed during this inspection are listed in the Attachment.

The inspectors completed three samples of this requirement by walkdowns of the following trains:

- 1A residual heat removal (RH) train;
- 1A safety injection (SI) train; and
- 2B containment spray train.

b. Findings

No findings of significance were identified.

.2 Complete Walkdowns

a. Inspection Scope

The inspectors performed a complete system walkdowns of the following systems:

- nonessential service water (WS) system; and
- Unit 1 diesel generator (DG) fuel oil transfer system.

The WS system was selected because it is considered risk-significant from an initiating event standpoint, and the Unit 1 DG fuel oil system walkdown was performed after the licensee discovered an out of positioned drain valve on the 1B DG fuel oil day tank.

In addition to the walkdowns, the inspectors reviewed the following:

- selected operating procedures regarding system configuration;
- the UFSAR, system drawings, and other selected design bases documentation regarding the system; and
- IRs for the system initiated within the last year.

The inspectors verified that minor issues identified during this inspection were entered into the licensee's corrective action program. Documents reviewed as part of this inspection are listed in the Attachment. These walkdowns represented two inspection samples.

b. Findings

No findings of significance were identified.



1R05 Fire Protection (71111.05)

.1 Quarterly Inspection

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of fire fighting equipment, the control of transient combustibles and ignition sources, and on the condition and operating status of installed fire barriers. The inspectors selected fire areas for inspection based on their overall contribution to internal fire risk, as documented in the Individual Plant Examination of External Events with additional insights or their potential to impact equipment which could initiate a plant transient or be required for safe shutdown. The inspectors used the Fire Protection Report, Revision 21, to determine: whether fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and that fire doors, dampers, and penetration seals appeared to be in satisfactory condition.

The inspectors completed nine samples of this inspection requirement during the following walkdowns:

- halon fire suppression system;
- 0FP10S fire hydrant out of service and compensatory measure review;
- 1B DG room;
- Unit 1 upper cable spreading room;
- Unit 1 lower cable spreading room;
- Unit 1 essential switchgear room - Division 11;
- Unit 2 essential switchgear room - Division 21;
- turbine building 451 foot elevation general area pre-outage review of transient combustibles; and
- auxiliary building 383 foot elevation.

The inspectors verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Annual Inspection (Fire Drill)

a. Inspection Scope

The inspectors observed licensee fire brigade response to a simulated fire in the Division 22 essential switchgear room. The inspector's evaluation included the following criteria:

- proper number of fire brigade members, including a brigade leader, responded;
- protective equipment, including self-contained breathing apparatus, was donned properly;
- adequate fire fighting equipment was brought to the scene;
- command and control, communications, and procedure usage was appropriate;
- checks for victims and fire propagation were conducted;
- attacks on the fire were conducted in accordance with training and procedures;
- smoke removal was simulated;
- drill objectives were met;
- emergency action level conditions were discussed; and
- a critique was conducted in which any deficiencies identified by the inspectors were also identified and discussed by the licensee evaluators or participants.

This inspection constituted one sample of the annual requirement.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

Internal Flooding Review

a. Inspection Scope

The inspectors evaluated the internal flooding controls for the following area:

- turbine building general area proximate to the 2C circulating water box with system drained and manhole covers removed during maintenance.

This area constituted one sample of this inspection requirement. This turbine building general area was selected because of the use of a temporary pumping system established to prevent water intrusion into the water box and subsequently into the turbine building lower levels while the manhole covers were removed on the system.

The inspectors reviewed the licensee's procedures for the pump rig set-up and performed walkdowns to assess the validity of the line-up to ensure both mechanical adequacy and electrical power supply diversity was achieved.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

Quarterly Review of Testing/Training Activity

a. Inspection Scope

The inspectors observed operating crew performance during an evaluated simulator out-of-the-box scenario involving a steam generator tube rupture and failure of the reactor containment fan coolers to switch to slow speed.

The inspectors evaluated crew performance in the following areas:

- clarity and formality of communications;
- ability to take timely actions in the safe direction;
- prioritization, interpretation, and verification of alarms;
- procedure use;
- control board manipulations;
- oversight and direction from supervisors; and
- group dynamics.

Crew performance in these areas was compared to licensee management expectations and guidelines.

The inspectors verified that the crew completed the critical tasks listed in the simulator guide. The inspectors also compared simulator configurations with actual control board configurations. For any weaknesses identified, the inspectors observed the licensee evaluators to determine whether they also noted the issues and discussed them in the critique at the end of the session. This review constituted one sample of this inspection requirement.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

Routine Inspection

a. Inspection Scope

The inspectors reviewed the licensee's overall maintenance effectiveness for selected plant systems. This evaluation consisted of the following specific activities:

- observing the conduct of planned and emergent maintenance activities where possible;
- reviewing selected IRs, open Work Orders (WOs), and control room log entries in order to identify system deficiencies;
- reviewing licensee system monitoring and trend reports;

- attending various meetings throughout the inspection period where the status of maintenance rule activities was discussed;
- a partial walkdown of the selected system; and
- interviews with the appropriate system engineer.

The inspectors also reviewed whether the licensee properly implemented Maintenance Rule, 10 CFR 50.65, for the chosen systems. Specifically, the inspectors determined whether:

- the system was scoped in accordance with 10 CFR 50.65;
- performance problems constituted maintenance rule functional failures;
- the system had been assigned the proper safety significance classification;
- the system was properly classified as (a)(1) or (a)(2); and
- the goals and corrective actions for the system were appropriate.

The above aspects were evaluated using the maintenance rule program and other documents listed in the Attachment. The inspectors also verified that the licensee was appropriately tracking reliability and/or unavailability for the systems.

The inspectors completed two samples in this inspection requirement by reviewing the following systems:

- WS system subsequent to an increasing trend of temperature control valve circuit issues and pump packing leaks; and
- auxiliary feedwater (AF) system.

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 management of plant risk during emergent maintenance activities or during activities where more than one significant system or train was unavailable. The activities were chosen based on their potential impact on increasing the probability of an initiating event or impacting the operation of safety-significant equipment. The inspections were conducted to determine whether evaluation, planning, control, and performance of the work were done in a manner to reduce the risk and minimize the duration where practical, and that contingency plans were in place where appropriate.

The licensee's daily configuration risk assessment records, observations of operator turnover and plan-of-the-day meetings, and observations of work in progress, were used by the inspectors to verify; that the equipment configurations were properly listed; that protected equipment were identified and were being controlled where appropriate; that work was being conducted properly; and that significant aspects of plant risk were being communicated to the necessary personnel.

In addition, the inspectors reviewed selected issues, listed in the Attachment, that the licensee encountered during the activities, to determine whether problems were being entered into the corrective action program with the appropriate characterization and significance.

The inspectors completed six samples by reviewing the following activities:

- troubleshooting and repair of feedwater isolation valve 1FW009D;
- 1B RH pump maintenance;
- 2SX016A unplanned extension of TS allowed outage time;
- 1C reactor coolant pump (RCP) undervoltage trip circuit troubleshooting and repair;
- 1A RH pump maintenance; and
- Unit Common component cooling water heat exchanger maintenance.

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Non-Routine Evolutions and Events (71111.14)

a. Inspection Scope

The inspectors completed three samples by observing and/or reviewing operator performance during the following events:

- Unit 1 power ascension with two moisture separator reheater drain tanks operating on their emergency level control valves;
- Unit 1 unplanned rod motion during routine surveillance testing; and
- failure of the Group C shutdown bank indication.

The inspectors observed the control room response, interviewed plant operators and reviewed plant records including control room logs, operator turnovers, and IRs. The inspectors verified that the control room response was consistent with station procedures and that identified discrepancies were captured in the corrective action program. Documents reviewed as part of this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors evaluated plant conditions and selected IRs for risk-significant components and systems in which operability issues were questioned. These conditions were evaluated to determine whether the operability of components was justified. The inspectors compared the operability and design criteria in the appropriate

section of the UFSAR to the licensee's evaluations presented in the IRs and documents listed in the Attachment to verify that the components or systems were operable. The inspectors also conducted interviews with the appropriate licensee system engineers and conducted plant walkdowns, as necessary, to obtain further information regarding operability questions. Documents reviewed as part of this inspection are listed in the Attachment.

The inspectors completed six samples by reviewing the following operability evaluations and conditions:

- review of Braidwood's evaluation of a Byron DG voltage regulator circuit failure;
- review of procedure modification and re-performance of Unit 1 K640A slave relay surveillance following surveillance failure;
- Westinghouse fuel manufacturing issue;
- intermittent failure of 1C RCP undervoltage relay;
- review of DG operability with flame-hardened pushrods; and
- power range nuclear instrument positive high flux rate reactor trip testing methodology.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed post-maintenance testing activities associated with important mitigating systems, barrier integrity, and support systems to ensure that the testing adequately demonstrated system operability and functional capability. The inspectors used the appropriate sections of the TS and UFSAR, as well as the WOs for the work performed, to evaluate the scope of the maintenance and to determine whether the post-maintenance testing was performed adequately, demonstrated that the maintenance was successful, and that operability was restored. The inspectors determined whether the tests were conducted in accordance with the procedures, including establishing the proper plant conditions and prerequisites; that the test acceptance criteria were met; and that the results of the tests were properly reviewed and recorded. The activities were selected based on their importance in demonstrating mitigating systems capability and barrier integrity. The inspectors verified that minor issues identified during the inspection were entered into the licensee's corrective action program by reviewing the documents in the Attachment.

Six samples were completed by observing post-maintenance testing of the following components:

- 1B RH pump;
- 1B AF pump;
- Unit 2 fuel pool cooling pump;
- 1B SI pump and SI system valve strokes;

- 1A RH valve strokes; and
- 0B diesel driven fire pump.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed surveillance testing activities associated with important mitigating systems, barrier integrity, and support systems to ensure that the testing adequately demonstrated system operability and functional capability. The inspectors used the appropriate sections of the TS and UFSAR to determine whether the surveillance testing was performed adequately and that operability was restored. The inspectors determined whether the testing met the frequency requirements; that the tests were conducted in accordance with the procedures, including establishing the proper plant conditions and prerequisites; that the test acceptance criteria were met; and that the results of the tests were properly reviewed and recorded. The activities were selected based on their importance in demonstrating mitigating systems capability, barrier integrity and the initiating events cornerstone. Documents reviewed as part of this inspection are listed in the Attachment.

Five samples were completed by observing and evaluating the following surveillance tests:

- 1A AF pump American Society of Mechanical Engineers (ASME) test;
- 2B DG bypass of automatic trips;
- 1B DG monthly slow start and turbo charger spindown tests;
- Unit 1 containment miniflow purge supply and exhaust isolation valve local leak rate test; and
- 2B DG oil transfer pump train ASME test.

b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator Verification (71151)

###### **Cornerstones: Initiating Events**

###### Reactor Safety Strategic Area

###### a. Inspection Scope

The inspectors reviewed the documents listed in the Attachment to verify that the licensee had correctly reported Performance Indicator data, in accordance with the criteria in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 2. The data reported by the licensee was compared to a sampling of control room logs, IRs, and other sources of data generated since the last verification. The inspectors verified that minor issues identified during the inspection were entered into the licensee's corrective action program. The inspectors completed six samples by reviewing the following Performance Indicators for the time frame covering January 1, 2004 through December 31, 2005:

- Unit 1 unplanned scrams per 7000 critical hours;
- Unit 1 unplanned scrams with loss of normal heat removal;
- Unit 1 unplanned transients per 7000 critical hours;
- Unit 2 unplanned scrams per 7000 critical hours;
- Unit 2 unplanned scrams with loss of normal heat removal; and
- Unit 2 unplanned transients per 7000 critical hours.

###### b. Findings

No findings of significance were identified.

##### 4OA2 Identification and Resolution of Problems (71152)

###### .1 Routine Review of Identification and Resolution of Problems

###### a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to determine whether they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Minor issues entered into the licensee's corrective action program as a result of the inspectors' observations are generally denoted in the Attachment. These activities were part of normal inspection activities and were not considered separate samples.



b. Findings

No findings of significance were identified.

.2 Selected Issue Follow-up Inspection

Issues related to effectiveness of the Focus Area Self Assessment Reports

Introduction

The inspectors reviewed the adequacy of the licensee's focus area self assessments (FASAs), occurring since January 2005. The inspectors reviewed the observations of multiple FASAs to determine if the licensee's program was effective at identifying potential issues and developing associated corrective actions. Documents reviewed during this inspection are listed in the Attachment. This activity completed one sample of the annual requirement.

a. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors assessed the licensee's evaluation and disposition of FASAs in 2005 concerning the following areas: FASA report for Problem Identification & Resolution of August 2005, Common Cause Analysis for NRC Findings/Non-Cited Violations of September 2005, FASA report for Essential Service Water (SX) of July 2005, and the FASA report for Emergency Preparedness (EP) of July 2005.

(2) Issues

The inspectors noted that each finding of the Safety System Design and Performance (SSDPC) inspection that the FASA did not identify was captured in an IR and was assigned a priority consistent with its significance. The inspectors also noted that two of the findings were outside the scope of the FASA charter. The three remaining findings were within the scope of the charter, but were not identified by the FASA team. Specifically, the FASA team looked into operator actions and procedures related to the SX system, but were unable to identify the deficiency for the recovery of plugged SX strainers and adequate DG SX cross-connect flow. The last finding concerned the ASME in-service inspection of the SX intake header piping, but the FASA did not evaluate for ASME in-service inspection adequacy. The licensee was planning to perform a root cause evaluation to determine the reason(s) for these five discrepancies and the plan was being tracked by IR 370513.

The inspectors determined that the August 2005 FASA for Problem Identification & Resolution had appropriately reviewed for common causes and resolutions of past findings and violations. However, the inspectors noted that the licensee failed to assess current unresolved items (URIs) for disposition. The licensee had disputed the validity of a URI concerning molded case circuit breakers and thus did not assess corrective actions for it.

The inspectors noted that the July 2005 FASA on EP had appropriately reviewed the EP program with the exception of the review of Emergency Action Level (EAL) changes. The licensee conducted a direct review of EAL changes 13 through 15 for 50.54(q) adequacy. A subsequent NRC inspection determined that an EAL change, which was part of the FASA review for unplanned radiological release in excess of limits, was not adequate and resulted in a Severity Level IV violation. Although these issues indicated shortcomings within the licensee's self-assessments, the issue with the self-assessments did not constitute violations of NRC requirements.

#### 4OA3 Event Followup (71153)

The inspectors completed two inspection samples in this area.

##### .1 Offsite Tritium Contamination From Prior Circulating Water Vacuum Breaker Leaks

###### a. Inspection Scope

This event was previously discussed in Inspection Report 05000456/2005010; 05000457/2005010; Section 4OA3.1. The inspectors continued activities following up this event to monitor the licensee's characterization of the leaks and contamination, plans for mitigation, root cause evaluations, and other actions.

Activities completed by the inspectors included:

- monitoring the licensee's efforts to identify historic spills/leaks from the blowdown line and other events that could have caused tritium releases;
- monitoring the licensee's efforts to identify the extent of contamination around the blowdown vacuum breaker valves;
- participating in a public information night on February 28, 2006, at the licensee's training facility;
- monitoring the licensee's response to a spill on March 13, 2006, from the berm around the outside temporary storage tanks;
- conducting several walkdowns of the outside temporary storage tanks and pumping system;
- monitoring the licensee's response to tritium found in Center Street ditches from a nearby overflowing cistern;
- observing licensee maintenance on blowdown vacuum breaker valves; and
- holding several discussions with licensee personnel regarding its plans to pump the water from Exelon pond, just north of Smiley Road.

The inspectors verified that minor issues identified during this inspection were entered into the licensee's corrective action program. Documents reviewed during this inspection are listed in the Attachment.

###### b. Findings

The NRC conducted a separate inspection regarding this event as documented in Inspection Report 05000456/2006008; 05000457/2006008. Violations and findings

were identified in that inspection. No additional findings of significance were identified during this inspection.

.2 (Closed) Licensee Event Report (LER) 05000456/2005003-00: Licensed Maximum Power Level Exceeded Due to Feedwater Heater Transient

Introduction: On November 18, 2004, a feedwater heater transient resulted in an increase of reactor power as high as 103.3 percent. The overpower event was self-revealing and determined to be a Non-Cited Violation of License Condition 2.C.(1) "Maximum Power Level." This finding was determined to be of very low safety significance.

Description: On December 2, 2005, the licensee identified that Unit 1 reactor power had exceeded its maximum licensed power level during a feedwater heater transient occurring on November 18, 2004. Initially, the licensee had concluded that the licensed power level was not exceeded based on the nuclear instrumentation readings during the event. However, during a subsequent evaluation, the licensee concluded that the Unit 1 peak power during this event was 103.3 percent, which was a violation of License Condition 2.C.(1) "Maximum Power Level."

On November 18, 2004, Braidwood Unit 1 experienced an isolation of extraction steam to the 15A and 15B low pressure feedwater heaters. The isolation occurred after the 15A level controller was inadvertently bumped due to nearby maintenance. The isolation caused a heater control system transient cascading through the 16A/B and 17A/B low pressure feedwater heaters, respectively. The loss of feedwater preheat allowed colder water to enter the steam generator, causing an increase in reactor power due to the positive reactivity feedback. Reactor power increased above the overpower delta-temperature set point on 2 of 4 channels, resulting in an automatic control rod stop and a turbine runback.

The licensee's initial evaluation was that event did not exceed the licensed power limit based on nuclear instrumentation readings and a 10 minute average computer calorimetric taken during the event. Although licensee operating staff noted that the reactor coolant loop temperature indications had exceeded 102 percent power during the event, these indications were considered less credible, as the delta temperature channels were less accurate during an event than during steady state operation. However, during a subsequent peer review of this event, it was questioned whether the Unit 1 power increase was accurately determined. As a result, the licensee asked Westinghouse Corporation to perform an independent evaluation of the Unit 1 power increase. This evaluation was completed on December 1, 2005, and concluded that Unit 1 reactor power was likely as high as 103.3 percent during this event. This new value was based on an evaluation of the affect of the reactor coolant temperature changes observed during the event on the nuclear instrumentation readings. On December 3, 2005, the licensee notified the NRC of the possible violation of the licensed power level.

The licensee's corrective actions, as described in the LER, included developing a standard work package for working on the level control assemblies for the low pressure feedwater heaters. This package included guidance on avoiding inadvertent isolation of

the heaters during maintenance on the level controllers. Additionally, the licensee was developing guidance for determining the appropriate corrections to nuclear power instrumentation readings, after a potential overpower transient. This event and the corrective actions were being tracked by licensee IR 280594, dated November 18, 2004.

Analysis: The inspectors determined that the inadvertent bumping of the feedwater heater level controller during nearby maintenance was a performance deficiency warranting a significance evaluation. This finding was considered more than minor because it had a credible impact on safety, in that exceeding the maximum allowed power level potentially challenged the integrity of the reactor coolant and fuel integrity barriers. This finding affected the Barrier Integrity Cornerstone and was considered to have very low safety significance (Green). Specifically, using the SDP Phase 1 screening worksheet (IMC 0609, Appendix A, Attachment 1), the inspectors determined that the actual increase in reactor power did not significantly challenge either the reactor coolant or fuel integrity barriers.

Enforcement: Licensee Condition 2.C.(1) "Maximum Power Level," required that Braidwood, Unit 1, reactor core power levels not exceed 3586.6 megawatts thermal (100 percent rated power). Contrary to this, on November 18, 2004, Braidwood Unit 1 power was 103.3 percent following a feedwater heater transient, caused by the inadvertent isolation of feedwater heaters during routine maintenance. This event and the corrective actions were being tracked by licensee IR 280594, dated November 18, 2004. Because the violation was of very low safety significance and the issue was captured in the licensee's corrective action program, this violation is being treated as a Non-Cited Violation consistent with Section VI.A of the NRC Enforcement Policy (NCV 05000456/2006002-01).

#### 40A5 Other

##### Implementation of Temporary Instruction (TI) 2515/165 - Operational Readiness of Offsite Power and Impact on Plant Risk

###### a. Inspection Scope

The objective of TI 2515/165, "Operational Readiness of Offsite Power and Impact on Plant Risk," was to confirm, through inspections and interviews, the operational readiness of offsite power systems in accordance with NRC requirements. On March 13 through 15, 2006, the inspectors reviewed licensee procedures and discussed the attributes identified in TI 2515/165 with licensee personnel. In accordance with the requirements of TI 2515/165, the inspectors evaluated the licensee's operating procedures used to assure the functionality/operability of the offsite power system, as well as, the risk assessment, emergent work, and/or grid reliability procedures used to assess the operability and readiness of the offsite power system.

The information gathered while completing this TI was forwarded to the Office of Nuclear Reactor Regulation for further review and evaluation. The TI is closed.

b. Findings

No findings of significance were identified.

4OA6 Meetings

Exit Meeting

The inspectors presented the inspection results to Mr. K. Polson and other members of licensee management at the conclusion of the inspection on April 3, 2006. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On May 12, 2006, an additional followup telephone discussion was held with Mr. Ambler of the licensee management to reclassify one issue described during the April 3, 2006, meeting.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

K. Polson, Site Vice President  
G. Boerschig Plant Manager  
D. Ambler, Regulatory Assurance Manager  
S. Butler, Licensing Engineer  
T. D'Antonio, Project Manager  
G. Dudek, Operations Director  
J. Kuczynski, Chemistry Manager  
J. Moser, Radiation Protection Manager  
M. Smith, Engineering Director  
E. Wrigley, Maintenance Director

#### Nuclear Regulatory Commission

R. Skokowski, Chief, Reactor Projects Branch 3

### LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

#### Opened

05000456/2006002-01	NCV	Licensed Maximum Power Level Exceeded Due to Feedwater Heater Transient
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#### Closed

05000456/2005003-00	LER	Licensed Maximum Power Level Exceeded Due to Feedwater Heater Transient
05000456/2006002-01	NCV	Licensed Maximum Power Level Exceeded Due to Feedwater Heater Transient

#### Discussed

None.

## LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### 1R01 Adverse Weather Protection

IR 465083; Enter 0/1/2BwOA ENV-1, Due to Tornado Watch for the Area; March 11, 2006

IR 465367; Enter 0/1/2BwOA ENV-1, Due to Tornado Watch for the Area; March 12, 2006

IR 465719; FRAC Tank Berm Pushed Flat due to High Wind Condition; March 13, 2006

IR 466356; FRAC Farm #2 Berm/Water Issues; March 14, 2006 [NRC-Identified]

### 1R04 Equipment Alignment

BwAR 1PL07J-1-E6; Day Tank Level Low; Revision 5E2

BwOP RH-E1; Electrical Lineup - Unit 1 Operating; Revision 6

BwOP RH-M1; Operating Mechanical Lineup Unit 1 1A RH Train; Revision 12

BwOP SI-E1; Electrical Lineup - Unit 1 Operating; Revision 9

BwOP SI-M1; Operating Mechanical Lineup Unit 1; Revision 16

BwOP CS-M2; Operating Mechanical Lineup Unit 2; Revision 6

BwOP CS-E2; Electrical Lineup - Unit 2; Revision 0E2

BwOP DO-M11; Operating Mechanical Lineup Unit 1 DG 1A Fuel Oil; Revision 3

BwOP DO-M13; Operating Mechanical Lineup Unit 1 DG 1B Fuel Oil; Revision 3

1BwOSR 3.8.1.2-2; 1B DG Operability Surveillance; Revision 15

—50; Diagram of Diesel Fuel Oil Unit 1; Sheet 1A

—50; Diagram of Diesel Fuel Oil Unit 1; Sheet 1D

—129; Diagram of Containment Spray -Sheet 1A

IR 443238; NRC Noted Rust on 2CS01T (Unit 2 Containment Spray Additive Tank);

January 18, 2006 [NRC-Identified]

IR 468586; 1DO2006B Found Out of Normal Position; March 20, 2006

### 1R05 Fire Protection

BwAP 1110-1; Fire Protection Program System Requirements; Revision 24

IR 436464; UCSR Halon Bottle Weight PM Issues; December 20, 2005

IR 440315; Excess Storage of Transient Combustibles in Unit 1 Turbine Building; January 9, 2006 [NRC-Identified]

IR 443407; Need to Add Steps to BwHS 4009-118 Concerning Low Halon Pressure; January 18, 2006 [NRC-Identified]

IR 443982; Potential Trend in Oversight/Involvement in Fire Protection; January 19, 2006 [NRC-Identified]

IR 455181; Appendix R Light "Ready" LED is not Lit; February 17, 2006 [NRC-Identified]

IR 462935; Unit 1 Upper Cable Spreading Room Needs General Housekeeping Cleanup; March 7, 2006 [NRC-Identified]

IR 467316; Fire Extinguisher T-8-19, Missing Quarterly Inspection Initials; March 16, 2006 [NRC-Identified]

IR 467659; Fire Extinguisher A-4-5, Missing Quarterly Inspection Initials; March 17, 2006 [NRC-Identified]

Braidwood Station Pre-fire Plans; Fire Zone 3.3; February 1, 2006  
Braidwood Station Pre-fire Plans; Zone 3.2; February 1, 2006  
Fire Protection Report; Figure 2.3-7, Upper Cable Spreading Area; Amendment 18  
Fire Protection Report; Figure 2.3-9, Lower Cable Spreading Area; Amendment 18  
Braidwood Station Pre-fire Plans; Fire Zone 5.2-1; February 1, 2006  
Braidwood Station Pre-fire Plans; Fire Zone 5.2-2; February 1, 2006  
Fire Protection Report; Figure 2.3.8.10; Turbine Building Main Floor (Fire Zone 8.6-0);  
Amendment 21  
Fire Protection Report; Figure 2.3-10, Mezzanine Floor Plan EL. 426'; Amendment 17  
Fire Protection Report; Figures 2.3-13, Floor Plan EL. 383'-0"; Amendment 18  
Fire Protection Report; Figure 2.4.2.54; Turbine Building Operating Floor (Fire Zone 8.6-0);  
Amendment 21  
Figure 2.3-8; Main Floor at Elevation 451"-0"; Sheets 1 and 2 of 4  
Fire Drill Scenario No. 20.01.21.06; Transformer 232X Fire; March 29, 2006

1R12 Maintenance Effectiveness (71111.12Q)

IR 291725; 0WS362B Leaks By and Will Not Isolate (Duplicate of WO 668623); January 18, 2005  
IR 302144; Pipe Leaking Upstream of Valve; February 16, 2005  
IR 303561; 2WS023A Leaks By (Winter Time Problem); February 20, 2005  
IR 305944; 1A Electro Hydraulic Cooler WS Inlet Flex Hose Bulged; February 27, 2005  
IR 305945; 2B Electro Hydraulic Cooler WS Outlet Flex Hose is Heavily Corroded; February 27, 2005  
IR 310779; 1WS021A Leaks By and Allowing Steady Stream of Water to Flow; March 10, 2005  
IR 311137; Raw Water Systems Corrosion Rates Higher than Exelon Target; March 10, 2005  
IR 313289; Numerous WS Valves Leak By; March 16, 2005  
IR 324061; 0C WS Pump Bowl Full of Water; April 13, 2005  
IR 326104; 2WS060A Had Solid Stream of Leak by When Used for Isolation; April 19, 2005  
IR 326428; Excessive Leakage from Packing Gland on 0WS01PC; April 19, 2005  
IR 330772; 2FW01A WS Lines to Motor Bearing Oil Coolers Plugged - Piping Replaced; May 1, 2005  
IR 334600; Unit 2 Generator Cold Gas Temperature Indication Erratic; May 12, 2005  
IR 335914; WS Piping Inlet Flange to Air Side Seal Oil Cooler Degraded; May 17, 2005  
IR 336098; WS Outlet Flange to H2 Side Seal Oil Cooler Needs Replacing; May 17, 2005  
IR 337347; Valve 0WS381A is Continuously Leaking By; May 21, 2005  
IR OC WS Pump Has Spraying Packing Leak; May 28, 2005  
IR 339919; Drain Assembly for WS on 2PS11MB Broke Off; May 31, 2005  
IR 346321; WS Flow at 900 Gallons Per Minute with Chiller Shutdown; June 22, 2005  
IR 351262; 2WS395B Leaks By Seat; July 8, 2005  
IR 351380; WS Supply and Return Lines are Clogged to 2AS02PA and 2AS02PB; July 8, 2005  
IR 355192; No Change in Unit 1 Exciter Temp When Fully Opening Bypass Valve; July 20, 2005  
IR 363643; 2WS113 Air Gauges not Functioning; August 16, 2005  
IR 368551; Excessive Packing Leak on 0WS01PA; August 31, 2005  
IR 368553; Excessive Packing Leak on 0WS01PB; August 31, 2005  
IR 373783; 1B Feedwater Pump WS Temperature Control Valve is Leaking By with Full Closed Demand; September 15, 2005  
IR 394127; Line 1WS15AA-1.5" Found to be Below Minimum Wall Thickness; November 3, 2005



IR 396107; OFI-WS070 Indicator Reading 0 Gallons Per Minute with Flow Present in Line; November 8, 2005  
IR 399239; 2WS143 Exciter Cooling Temperature Control Valve Failure; November 16, 2005  
IR 428436; Observed Wall Thinning on Line 1WS17BD-2" (Pre-Freeze Non Destructive Examination); November 29, 2005  
IR 436245; WS Temperature Control Valves (2WS054) Swinging; December 22, 2005  
IR 443267; 0WS112 Needs to be Changed from Bronze to Carbon Steel; January 18, 2006  
IR 455777; 2B Heater Drain Pump Motor Cooler WS Return Line Leak; February 19, 2006  
IR 457303; Bryozoa Suspected in Valve 1CW096C; February 22, 2006  
High Safety Significant Status of In-Scope Functions  
NEX-MS-03.1; Piping Minimum Wall Thickness Calculation; Revision 3  
Maintenance Rule - Performance Criteria; Cooling Water for Non Safety Loads  
Maintenance Rule Expert Panel Scoping Determination; WS System; Braidwood Station  
Maintenance Rule -Evaluation History; WS System; February 21, 2006  
IR 00225998; Unplanned Limiting Condition for Operation Entry for 2AF01PA Failure to Start; June 4, 2004  
IR 00227302; 2A AF Pump Failed to Start from Main Control Room - Unplanned Technical Requirements Manual Entry; June 6, 2004  
IR 00204230; Pump Oil Reservoir Goes Empty When Oil Auxiliary Oil Pump Starts; February 26, 2004  
IR 00205604; No Post Maintenance Test Specified for 5 Year AF Battery Test; February 24, 2006  
Maintenance Rule - Performance Criteria; AF System; Braidwood Station  
Maintenance Rule Expert Panel Scoping Determination; AF System; Braidwood Station  
Maintenance Rule - Evaluation History; AF System; March 13, 2006

#### 1R13 Maintenance Risk Assessments and Emergent Work Control

1BwOA; Attachment P RCP [Reactor Coolant Pump] Bus Undervoltage; Revision 101  
IR 455048; Received Unexpected Annunciator 1-13-A2 RCP Bus Undervoltage; February 17, 2006  
WC-AA-114; 1BwOSR 3.3.2.9-2 Unit 1 RCP Bus Undervoltage Surveillance; February 17, 2006; Revision 1  
Drawing 20E-1-4017C; Relaying and Metering Diagram 6900 Volts Switchgear Bus 158; Sheet E03  
Drawing 20E-1-4030AP21; 6.9 Kilovolts Switchgear Bus 158 Undervoltage and Underfrequency Relays Sheet E07  
Drawing 20E-1-4030F28; Reactor Protection - RCP Underfrequency and Undervoltage and Overpower and Over Temperature Trips; Sheet 07  
Drawing 20E-1-4030EF72; Reactor Protection - RCP Underfrequency and Undervoltage and Overpower and Over Temperature Trips; Sheet 07  
Issue Resolution Documentation Form; Bus 158 Undervoltage Engineered Safety Feature Actuation System Input; February 17, 2006  
Technical Bulletin TB-04-17, Revision 1; Replacement Relays in Solid State Protection System; November 18, 2005  
List of Protected Equipment; March 6, 2006  
Risk Assessment Sheet; Work Week of March 6, 2006  
Unit 0 Component Cooling Heat Exchanger Protected Equipment Log

1R14 Operator Performance During Non-Routine Evolutions and Events

IR 447364; Shutdown Bank C Group Step Counter Declared Inoperable; January 30, 2006  
IR 447696; Lessons Learned from U2 Step Counter Replacement; January 30, 2006  
IR 446848; Unexpected Rod Movement During Instrument Maintenance Calibration;  
January 27, 2006  
MA-AA-7176-004; Troubleshooting Log; January 30, 2006

1R15 Operability Evaluations

BwISR 3.3.1.8-005; Channel Operational Test of Nuclear Instrumentation System Power Range N41; Revision 12  
BwISR 3.3.1.11-205; Channel Verification/Calibration of Nuclear Instrumentation System Power Range N41; Revision 12  
IR 436037; 1A DG Large Swings in Volts Amps Reactive (VARs) During Monthly Surveillance; December 21, 2005  
IR 436037 Assign#2; Equipment Apparent Cause Evaluation to Investigate 1A DG VAR Swings; January 24, 2006  
IR 436037 Assign#4; 1A DG Large Swings in VARs During Monthly Surveillance; January 31, 2006  
IR 440621; 1BwOSR 3.3.2.8-640A Unexpected Results; January 10, 2006  
IR 456689; Diesel Generator Operation and Operability with Flame-Hardened Pushrods; February 27, 2006  
IR 466771; Potential Missed Surveillance Requirement for Power Range Positive Flux Rate Trip; March 15, 2006  
Regulatory Guide 1.118 - Periodic Testing of Electric Power and Protection Systems; Revision 3  
20E-1-4030DG54; DG 1B Starting Sequence Cont. (Description of Operation 1DG01KB Part 4); Sheet 1

1R19 Post-Maintenance Testing

1BwOSR 5.5.8 SI-1B; Train B Safety Injection System Valve Stroke Surveillance; Revision 4  
1BwOSR 5.5.8 SI-2; ASME Surveillance Requirements for the 1B Safety Injection Pump; Revision 4  
1BwOSR 5.5.8 SI-2B; Indication Test of 1SI8807B, SI and CV (Chemical and Volume Control) Pumps Suction Header X-Tie Valve; Revision 4  
EC [Engineering change] 352609; Design Change Package 1B Auxiliary Feedwater Performance Monitoring System; Revision 0  
IR 445952; Lessons Learned from Performance of 2BwOSR 3.8.2.23-2  
IR 458106; Pipe Wrench Staged on the Grating Near 1SI161; February 24, 2006  
[NRC-Identified]  
IR 459084; Door to 2AF01PB Not Fixed Since November 2, 2004; February 27, 2006  
[NRC-Identified]  
WO 863648 01; ASME Surveillance Requirements for Residual Heat Removal Pump; January 23, 2006  
WO 871148 01; September ASME Surveillance Requirements for 1B Safety Injection Pump; February 24, 2006  
1BwOSR 5.5.8.CC-2A; Train A Component Cooling Water Isolation Valve Indication 18 Month Surveillance; Revision 0  
1BwOSR 5.5.8.RH-2A; Train A Residual Heat Removal Valves Indication Test Surveillance; Revision 1

1BwOSR 5.5.8.SI-2A; Train A Safety Injection System Isolation Valve Indication Test Surveillance; Revision 3  
1BwOSR 5.5.8.RH-3A; Residual Heat Removal Train A Valves Stroke Surveillance; Revision 3  
1BwOSR 5.5.8.CC-1A; Train A Component Cooling Isolation Valves Stroke Quarterly Surveillance; Revision 1  
0BwOS FP.3.3.E-12; OB Fire Pump NFPA [National Fire Protection Association] Test; Revision 5

#### 1R22 Surveillance Testing

2BwOSR 3.8.1.13-2; 2B DG Bypass of Automatic Trips Surveillance; Revision 2  
IR 445967; High Strainer vP; January 25, 2006  
2BwVSR 5.5.8.DO.2; ASME Requirement for Testing the Diesel Fuel Oil Transfer System (B-Train); Revision 2  
WO 859409 01; Unit One Motor Driven Auxiliary Feedwater Pump ASME Quarterly Surveillance; January 6, 2006  
WO 872919; Mechanical Maintenance-Fuel Oil Transfer Pump Suction Strainer; March 24, 2006  
WO 881211 01; Train B ASME Requirement Diesel Oil Transfer System Test; March 23, 2006  
BwOP DG-1; Diesel Generator Alignment to Standby Condition; Revision 26  
BwOP DG-11; Diesel Generator Startup; Revision 30  
BwOP DG-12; Diesel Generator Shutdown; Revision 23  
BwVS 900-8; Diesel Generator Engine Analysis; Revision 7  
1BwOSR 3.8.1.2-2; 1B Diesel Generator Operability Surveillance; Revision 15  
1BwOSR 3.6.3.6; Primary Containment Type C Local Leakage Rate Tests of Containment Miniflow Purge Isolation Valves (VQ); Revision 4  
—130; Diesel Oil and Fuel Oil Supply Unit 2; Sheet 1B

#### 1R23 Temporary Plant Modifications

BwOP WX-501T4; Liquid Release Tank 0WX01T Transfer to Temporary Storage Tank; Revision 3  
EC 358522 (Temporary Configuration; Addition of Temporary Storage Capacity for the Liquid Radwaste System; Revision 0  
EC 358725; Temporary Tritium Tank Farm; December 22, 2005  
EC 358798; Provide Guidance for Installation of Electrical Power for the Outdoor Tritium Tank Farm; January 6, 2006  
IR 465817; Evaluate Whether TCC EC 358498 Hoses are Satisfactory; March 13, 2006 [NRC-Identified]

#### 4OA1 Performance Indicator Verification

LS-AA-2010; Monthly Data Elements for NRC/WANO [World Association of Nuclear Operators] Unit/Reactor Shutdown Occurrences; Revision 3

#### 4OA2 Identification and Resolution of Problems

AT 265884; EP Program Assessment Report; July 7, 2005  
IR 370513; Review for Missed Opportunities from NRC SSDPC Inspection; September 6, 2005  
IR 367473; Potential Enhancements to Strainer Backwash Response ; August 27, 2005  
IR 364793; SSDPC Inspection - Pressure Test of SX piping; August 18, 2005  
AT 287798-02; SSDPC FASA Report; July 8, 2005

CCA related to 358058; NRC Findings/Non-Cited Violations and Licensee Identified Violations;  
September 29, 2005  
IR 358058; NRC Findings/Non-Cited Violations and Licensee Identified Violations;  
July 29, 2005  
AT 265881; Problem Identification and Resolution; August 5, 2005

4OA3 Event Followup

LS-AA-125-001; Root Cause Investigation Charter; Tritium Release from Braidwood Station  
with Potential to Affect Public; Revision 5  
IR 274721; HI-2 Isolation of 15-17 Heaters Causing OPDT Runback; November 18, 2004  
IR 274718; Main Turbine Governor Valve Indication; November 18, 2004  
IR 281594; Evaluation of Reactor Power During Recent OPDT Runback Event; November 18,  
2004  
IR 442540; Leak at Circulating Water Blowdown Vacuum Breaker; January 16, 2006  
IR 448107; Tritium Found in Groundwater Northeast of Vacuum Breaker 4; January 30, 2006  
IR 472315; Concerns with FRAC Tank System Identified by NRC Resident; March 29, 2006  
[NRC-Identified]  
IR 472351; NRC Questions Temporary Tritium storage Inside Steam Generator Replacement  
Project Building; March 29, 2006 [NRC-Identified]

## LIST OF ACRONYMS USED

AF	Auxiliary Feedwater
ADAMS	Agencywide Documents Access and Management System
ASME	American Society of Mechanical Engineers
BwAP	Braidwood Administrative Procedure
BwAR	Braidwood Annunciator Response Procedure
BwISR	Braidwood Instrument Surveillance Requirement Procedure
BwOA	Braidwood Abnormal Operations Procedure
BwOP	Braidwood Operating Procedure
BwOSR	Braidwood Operating Surveillance Requirement Procedure
BwVS	Braidwood Engineering Surveillance Procedure
BwVSR	Braidwood Engineering Surveillance Requirement Procedure
CFR	Code of Federal Regulations
CV	Chemical and Volume Control System
DG	Diesel Generator
EAL	Emergency Action Level
EC	Engineering Change
FASA	Focus Area Self-Assessments
EP	Emergency Preparedness
IR	Issue Reports
LER	Licensee Event Report
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PI&R	Problem Identification and Resolution
RCP	Reactor Coolant Pump
RH	Residual Heat Removal
SDP	Significance Determination Process
SI	Safety Injection
SSDPC	Safety System Design and Performance
SX	Essential Service Water
TI	Temporary Instruction
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VAR	Volts Amps Reactive
WANO	World Association of Nuclear Operators
WO	Work Order
WS	Nonessential Service Water