



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
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KING OF PRUSSIA, PA 19406-1415

July 29, 2011

Mr. Joseph Pacher, Vice President
R.E. Ginna Nuclear Power Plant, LLC
Constellation Energy Nuclear Group, LLC
1503 Lake Road
Ontario, New York 14519

SUBJECT: R.E. GINNA NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION
REPORT 05000244/2011003

Dear Mr. Pacher:

On June 30, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your R.E. Ginna Nuclear Power Plant. The enclosed integrated inspection report documents the inspection results, which were discussed on July 11, 2011, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents two self-revealing findings of very low safety significance (Green). These findings were determined to be violations of NRC requirements. However, because of the very low safety significance, and because they were entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs) consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a written response within 30 days of the date of this inspection report with the basis of your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington D.C. 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at R.E. Ginna Nuclear Power Plant. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at R.E. Ginna Nuclear Power Plant.

J. Pacher

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Sincerely,

A handwritten signature in black ink, appearing to read "Glenn T. Dentel". The signature is written in a cursive style with a large initial 'G'.

Glenn T. Dentel, Chief
Projects Branch 1
Division of Reactor Projects

Docket No. 50-244
License No. DPR-18

Enclosure: Inspection Report No. 05000244/2011003
w/ Attachment: Supplemental Information

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Sincerely,

/RA/

Glenn T. Dentel, Chief
Projects Branch 1
Division of Reactor Projects

Docket No. 50-244
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w/ Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-244

License No.: DPR-18

Report No.: 05000244/2011003

Licensee: Constellation Energy Nuclear Group, LLC

Facility: R.E. Ginna Nuclear Power Plant, LLC

Location: Ontario, New York

Dates: April 1 through June 30, 2011

Inspectors: G. Hunegs, Senior Resident Inspector
L. Casey, Resident Inspector
M. Modes, Senior Reactor Inspector
N. Perry, Senior Project Engineer
N. Floyd, Reactor Engineer
J. Hawkins, Project Engineer
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Approved by: Glenn T. Dentel, Chief
Projects Branch 1
Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000244/2011003; 04/01/2011 – 06/30/2011; R.E. Ginna Nuclear Power Plant (Ginna), Surveillance Testing.

The report covered a three-month period of inspection by resident inspectors and region-based inspectors. Two Green non-cited violations (NCVs) were 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). The cross-cutting aspect for each finding was determined using IMC 0310, "Components Within the Cross-Cutting Areas." 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 4, dated December 2006.

Cornerstone: Initiating Events

Green. A self-revealing NCV of technical specification (TS) 5.4.1.a, "Procedures," was identified when Ginna personnel did not correctly perform procedure STP-O-R-2.2, "Diesel Generator Load and Safeguard Sequence Test," Revision 00500 during the refueling outage with the plant in Mode 5. This resulted in a partial safety injection (SI) actuation, including the automatic start of the 'B' emergency diesel generator and an associated service water pump. Ginna's corrective actions included immediately returning all equipment to its pretest position, performing a crew stand down and crew clock reset, ensuring each test had a clearly identified test supervisor, and that each test supervisor re-brief the crew if there was a break in the test, if test results were unexpected, or if any part of the test needed to be reperformed. Additionally, Ginna provided training to operation's personnel and verified that procedure STP-O-R-2.2 was adequate.

This finding is more than minor because it is associated with the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Additionally, the inspectors determined that more than minor example 4.b of IMC 0612, Appendix E, was similar because control room operators caused a partial SI actuation. The inspectors determined that this finding was of very low safety significance (Green) using IMC 0609, Appendix G, "Shutdown Operations SDP." Specifically, Ginna maintained adequate mitigation capability for a Pressurized-Water Reactor during cold shutdown operation with the reactor coolant system (RCS) closed and steam generators available for decay heat removal.

This finding has a cross-cutting aspect in the area of human performance, work practices, in that Ginna failed to ensure adequate supervisory and management oversight of the diesel generator load and safeguard sequence test such that nuclear safety was supported. Specifically, operations personnel failed to adequately supervise the diesel generator load and safeguard sequence test, and as a result, an SI partial actuation occurred during testing (H.4(c) of IMC 0310). (Section 1R22)

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Cornerstone: Barrier Integrity

Green. A self-revealing NCV of TS 5.4.1.a, "Procedures," was identified when Ginna personnel did not correctly establish procedure RF-401, "Fuel Transfer Blind Flange Removal and Installation," Revision 0, by not ensuring that the procedure contained sufficient guidance to ensure that the flange bolts were properly tightened. The bolts were not tightened which resulted in an increase in the containment leakage rate. Ginna's corrective actions included revising the procedure to include torque specifications.

This finding is more than minor because it is associated with the barrier performance attribute of the Barrier Integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, RCS, and containment) protect the public from radionuclide releases caused by accidents or events. The inspectors determined that this finding is of very low safety significance (Green) using IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The finding did not represent a degradation of the radiological barrier function provided for the control room, or auxiliary building, or spent fuel pool; the finding did not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere; the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, containment isolation system (logic and instrumentation) and heat removal components; and the finding did not involve an actual reduction in function of hydrogen ignitors in the reactor containment. Specifically, although the finding resulted in an increase in the containment leak rate, it did not represent an actual open pathway in the physical integrity of reactor containment.

This finding had a cross-cutting aspect in the area of human performance, resources, in that the fuel transfer blind flange installation procedure was not complete, accurate and up-to-date. Specifically, the procedure did not contain sufficient installation guidance to ensure that the flange bolts were properly tightened (H.2(c) per IMC 0310). (Section 1R22)

REPORTS DETAILS

Summary of Plant Status

R.E. Ginna Nuclear Power Plant (Ginna) began the inspection period operating at full rated thermal power and operated at essentially full power until April 23, 2011, when the plant was shut down for a scheduled refueling outage (RFO). On June 9, 2011, the plant was taken critical, and the turbine was synchronized to the grid. Full rated thermal power was reached on June 14, 2011, and Ginna operated at full power for the remainder of the report period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – Three samples)

.1 Hot Weather Preparations

a. Inspection Scope

During the week of June 20, 2011, the inspectors reviewed Ginna's preparations for hot weather and performed walkdowns of plant areas important to plant safety. To perform the review, the inspectors used the criteria outlined in Ginna procedure O-23, "Hot Weather Seasonal Readiness Walkdown," Revision 00701, and the updated final safety analysis report (UFSAR). As part of the walkdown, local area temperatures were checked, as well as the availability of ventilation and air conditioning cooling systems to ensure that the plant was prepared to operate in hot weather conditions. Areas of focus included the 'A' and 'B' emergency diesel generator (EDG) rooms, screen house, and standby auxiliary feedwater (AFW) pump room.

b. Findings

No findings were identified.

.2 External Flood Protection Measures

a. Inspection Scope

The inspectors performed a review of the external flood preparation and mitigation program. To perform this review, the inspectors toured the auxiliary building and screen house. The inspectors used procedure ER-SC.2, "High Water (Flood) Plan," Revision 00800, and the UFSAR as reference material. The purpose of the walkdown was to verify Ginna personnel could implement procedures that were developed to mitigate the consequences of an external flood condition and to verify flood protection equipment was installed in accordance with the UFSAR.

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b. Findings

No findings were identified.

.3 Impending Adverse Weather Condition

a. Inspection Scope

On April 27, 2011, at 4:00 p.m., control room operators received communication from the energy control center that a tornado watch was in effect. Operators entered ER-SC.1, "Adverse Weather Plan," Revision 01800. The reactor vessel was in a lowered inventory condition at the time with containment closed as part of the refueling outage. The inspectors performed a tour of protected equipment and areas including the 'A' and 'B' EDG rooms, screen house, and transformer yard and verified that actions taken were consistent with ER-SC.1. Operators exited procedure ER-SC.1 at 10:30 p.m.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial System Walkdown (71111.04Q – Four samples)

a. Inspection Scope

The inspectors reviewed the alignment of system valves and electrical breakers to ensure proper in-service or standby configurations as described in plant procedures, piping and instrument drawings (P&IDs), and the UFSAR. During the walkdown, the inspectors evaluated the material condition and general housekeeping of the system and adjacent spaces. The inspectors also verified that operators were following plant technical specifications (TSs) and system operating procedures. The inspectors performed a partial walkdown of the following systems:

- The 'B' train of the spent fuel pool (SFP) cooling system when the 'A' SFP heat exchanger (HX) was drained for maintenance during the RFO (April 26, 2011);
- Containment system integrity prior to reactor pressure vessel head removal (April 28, 2011);
- The 'B' EDG while the 'A' EDG was out of service (OOS) for planned maintenance (May 2, 2011); and
- The hydrogen recombiner system inside containment (May 12, 2011).

b. Findings

No findings were identified.

.2 Complete Walkdown (71111.04S – One sample)

a. Inspection Scope

The inspectors performed a detailed walkdown of the fire water system to identify any discrepancies between the existing equipment lineup and the specified lineup. The fire water system was chosen because of its risk-significant function to mitigate a plant fire. The inspectors verified proper system alignment as specified by TSs, UFSAR, plant procedures, and P&IDs. Documentation associated with open maintenance requests and design issues were reviewed and included items tracked by plant engineering to assess their collective impact on system operation. In addition, the inspectors reviewed the associated corrective action database to verify that any equipment alignment problems were being identified and appropriately resolved.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Inspection (71111.05Q – Five samples)

a. Inspection Scope

The inspectors performed walkdowns of fire areas to determine if there was adequate control of transient combustibles and ignition sources. The material condition of fire protection systems, equipment and features, and the material condition of fire barriers were inspected against Ginna's licensing basis and industry standards. In addition, the passive fire protection features were inspected including the ventilation system fire dampers, structural steel fire proofing, and electrical penetration seals. The following plant areas were inspected:

- Containment Basement Floor (Fire Zone RC-1);
- Containment Intermediate Floor (Fire Zone RC-2);
- Containment Operating Floor (Fire Zone RC-3);
- Auxiliary Building Basement (Fire Zone ABB); and
- Auxiliary Building Intermediate Level (Fire Zone ABM).

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07A – Two samples)

a. Inspection Scope

On May 20, 2011, the inspectors reviewed performance tests, periodic cleaning, eddy current inspections, chemical control methods, tube leak monitoring, tube plugging condition, operation procedures, and maintenance practices for a sample of safety-related HXs. The inspectors examined and verified that the HXs' thermal performance,

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based on previous performance evaluation calculations and current flow conditions, met the design requirements outlined in Ginna's UFSAR. The inspectors also reviewed pictures of the HX internals. The following safety-related HXs were inspected:

- 'A' Residual Heat Removal (RHR) HX; and
- 'B' RHR HX.

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (71111.08 – One sample)

a. Inspection Scope

The inspectors reviewed a sample of volumetric inspection activities and discussed the results of the examination with the inservice inspection (ISI) program manager. There were no volumetric or surface examinations from the previous outage with relevant indications that were analytically evaluated and accepted by Ginna for continued service.

The inspectors reviewed the recorded results from the visual examination (VT-3) of the core barrel with a Constellation representative, an Electric Power Research Institute (EPRI) engineer, and a researcher from Idaho National Laboratories. The inspectors compared the results against Materials Reliability Program 227, "Pressurized-Water Reactor (PWR) Internals Inspection and Evaluation Guidelines."

No vessel head activities were performed during this outage.

The inspectors reviewed the boric acid control program with the engineering lead. The inspectors reviewed the photographic evidence of boric acid leaks with the engineering lead and discussed various engineering evaluations performed for boric acid found on the reactor coolant system (RCS) piping and components. The inspectors discussed with the engineering lead the on-going reactor cavity leakage and its effect on the boric acid program. The inspectors reviewed the indication of boric acid in the RHR piping pit and the corrective actions planned to differentiate this suspected fuel pool leak from pressure boundary leakage. Also, the inspectors verified that degraded or non-conforming conditions were identified properly in Ginna's corrective action program (CAP).

The inspectors reviewed the actions taken in response to a bottom-mounted instrument penetration indication at A86. The inspectors reviewed the results of two time-of-flight diffraction scans, multiple VT-3 inspections, and compared them against indications of a similar nature from North Anna Unit 2 control rod drive mechanism nozzle 59 that were confirmed by metallurgical sectioning and reported in NUREG/CR-6996, "Nondestructive and Destructive Examination Studies on Removed-from-Service Control Rod Drive Mechanism Penetrations."

No in-situ pressure testing was being performed. The inspectors compared the estimated size and number of tube flaws detected during the current outage against the previous outage operational assessment predictions to assess Ginna's prediction

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capability. The inspectors confirmed that the steam generator (SG) tube eddy current examination scope and expansion criteria meet TS requirements, EPRI guidelines, and commitments made to the NRC. The inspectors confirmed all areas of potential degradation (based on site-specific experience and industry experience) were being inspected, especially areas which are known to represent potential eddy current challenges. The inspectors confirmed that the eddy current probes and equipment were qualified for the expected types of tube degradation and assessed the site-specific qualification of one or more techniques.

Because Ginna identified loose parts or foreign material on the secondary side of the SG, the inspectors evaluated Ginna's corrective actions. The inspectors confirmed Ginna has taken/planned appropriate repairs of affected SG tubes and inspected the secondary side of the SG to remove foreign objects. For the foreign objects that were inaccessible, the inspectors verified Ginna performed an evaluation of the potential effects of object migration and/or tube fretting damage.

The inspectors reviewed randomly sampled eddy current data.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11Q – One sample)

a. Inspection Scope

On June 28, 2011, the inspectors observed a licensed operator simulator scenario, SEG-11-04-01 "Crew Fundamental Challenge," Revision 0. The inspectors reviewed the critical tasks associated with the scenario, observed the operators' performance, and observed the post-evaluation critique. The inspectors also reviewed and verified compliance with Ginna procedure OTG-2.2, "Simulator Examination Instructions," Revision 43.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – One sample)

a. Inspection Scope

The inspectors evaluated work practices and follow-up corrective actions for selected systems, structures, and components (SSCs) for maintenance effectiveness. The inspectors reviewed the performance history of those SSCs and assessed extent-of-condition determinations for those issues with potential common cause or generic implications to evaluate the adequacy of corrective actions. The inspectors reviewed Ginna's problem identification and resolution actions for these issues to evaluate whether Ginna had appropriately monitored, evaluated, and dispositioned the issues in accordance with procedures and the requirements of 10 CFR Part 50.65, "Requirements for Monitoring the Effectiveness of Maintenance." In addition, the inspectors reviewed

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selected SSC classifications, performance criteria and goals, and corrective actions that were taken or planned to verify whether the actions were reasonable and appropriate.

The following issue was reviewed:

- The 'A' and 'B' EDGs reverse power relays found out of tolerance as documented in condition reports (CRs) 2007-3073, 2010-1137, and 2011-2997.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – Five samples)

a. Inspection Scope

The inspectors evaluated the effectiveness of Ginna's maintenance risk assessments required by 10 CFR Part 50.65(a)(4). The inspectors discussed the use of Ginna's online risk monitoring software with control room operators and scheduling department personnel. The inspectors reviewed equipment tracking documentation and daily work schedules, and performed plant tours to verify that actual plant configuration matched the assessed configuration. Additionally, the inspectors verified that risk management actions, for both planned and emergent work, were consistent with those described in CNG-OP-4.01-1000, "Integrated Risk Management," Revision 00800.

Risk assessments for the following OOS SSCs and plant configurations were reviewed:

- Planned maintenance and testing on the technical support center (TSC) battery charger and reactor protection system (RPS) channel 2 (April 12, 2011);
- Plant equipment related to electrical power available, core cooling, containment and RCS inventory during planned operation to drain the RCS to 64 inches (20 inches less than the reactor vessel flange) (April 26, 2011);
- Planned maintenance on the 'A' service water (SW) loop in Mode 6 with reduced inventory in the RCS (April 27, 2011);
- Plant equipment related to containment and RCS inventory control during planned maintenance for the reactor vessel head lift (April 28, 2011); and
- Plant equipment related to electrical power available, reactivity control, containment and RCS inventory during reactor startup activities including heatup, approach to criticality, and generator synchronization (June 9, 2011).

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – Eight samples)a. Inspection Scope

The inspectors reviewed operability evaluations and/or CRs in order to verify that the identified conditions did not adversely affect safety system operability or plant safety. The evaluations were reviewed using criteria specified in NRC Regulatory Issue Summary 2005-20, "Revision to Guidance formerly contained in NRC generic letter 91-18, Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability" and Inspection Manual Part 9900, "Operability Determinations and Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety." In addition, where a component was inoperable, the inspectors verified the TS limiting condition for operation implications were properly addressed.

The inspectors performed field walkdowns, interviewed personnel, and reviewed the following items:

- CR 2011-3790, RHR Pump Suction Valve Has High as Found and as Left Unseating Thrust Values;
- CR 2011-3660, Plant Vent Particulate Sample Filter Paper Exhibited Discoloration After Removal from Sample Stream;
- CR 2011-3697, Containment Spray (CS) Sodium Hydroxide Tank Concentration Was Out of Specification;
- CR 2011-4269, Unexpected 'A' EDG Auto Start and Subsequent Trip;
- CR 2011-3069, Reactor Cavity Water Leakage at Lower Cavity Floor Slab;
- CR 2011-3422, Grease Inside Motor-Operated Valve 878A, 'A' Safety Injection (SI) Pump Hot Leg Injection Actuator is Hard;
- CR 2011-2650, Emergency Diesel Loading Sequence Timing Does Not Meet Allowable Acceptance Criteria; and
- CR 2011-3871, Agastat Relay for Containment Recirculation Fan 'B' Exceeded Allowable Drift Band.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18).1 Temporary Modification (One sample)a. Inspection Scope

The inspectors reviewed engineering change package (ECP) change notice 11-00244, "Lower Reactor Cavity Slab Structural Support for Lower Internals," for ECP 10-000422, "Baffle Former Bolt Equivalency Evaluation." The ECP change notice consisted of placing temporary structural supports underneath the lower cavity slab for stress support in preparation for the baffle bolt replacement project. The baffle bolt project consisted of removing the core barrel and placing it in the lower reactor cavity, and then installing a platform and lead shielding to perform the work. The added weight on the lower cavity

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would have caused loading to exceed the design capacity of the concrete floor without additional support. The inspectors reviewed calculation GNP010-C-1, "Reactor Building Slab Analysis," and the ECP change notice to ensure that the temporary structural supports were consistent with the design basis and compatible with the installed SSCs. The inspectors also walked down the modification to verify that the structural supports were positioned according to the location plan.

b. Findings

No findings were identified.

.2 Permanent Modification (Three samples)

a. Inspection Scope

The inspectors reviewed the following ECPs along with the associated technical evaluations, engineering calculations, and testing procedures to ensure that the modifications were consistent with the design basis and were compatible with the installed SSCs. The inspectors observed actions taken by personnel to complete the modifications and test the resultant configuration. The following modifications were reviewed:

- ECP 10-000105, "Emergency Core Cooling System (ECCS) and CS System High Point Vent Modification;"
- ECPs 10-000069, "Turbine-Driven AFW (TDAFW) Steam Admission Check Valve (CV) Replacement," and 10-000072, "TDAFW Steam Admission Valve Replacement;" and
- ECP 09-000275, "CS and SI System Full Flow Recirculation Modification."

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – Six samples)

a. Inspection Scope

The inspectors observed portions of post-maintenance testing (PMT) activities in the field to determine whether the tests were performed in accordance with approved procedures. The inspectors assessed each test's adequacy by comparing the test methodology to the scope of maintenance performed. In addition, the inspectors evaluated the test acceptance criteria to verify that the tested components satisfied the applicable design and licensing bases, and TS requirements. The inspectors reviewed the recorded test data to determine whether the acceptance criteria were satisfied.

The following PMT activities were reviewed:

- STP-O-12.1, "EDG 'A'," Rev. 00902, to test the 'A' EDG following maintenance under work order (WO) C91036315, "ITS – STP-O-12.1 – EDG 'A' – Monthly Requirements," and replacement of the reverse power relay (32/DGA) (May 3, 2011);
- STP-O-2.2-COMP-A, "RHR Pump 'A' Comprehensive Test," Rev. 00201, following alignment of the 'A' RHR pump under WO C90830944, "RHR Pump 'A' Repair" (May 24, 2011);
- STP-O-23.18B, "Local Leak Rate Test of CS Header 'B' Penetration 109," Rev. 00100, following installation of CS full flow recirculation lines under WO C90752111, "Install Full Flow CS Recirculation Lines" (May 25, 2011);
- STP-O-12.1, "EDG 'A'," Rev. 00902, to test the 'A' EDG following maintenance performed under WOs C91385329, "Replace 18BX2/14 Relay," and C91384795, "Perform Preventive Maintenance on Breaker 52/EG1A1 Diesel Supply Breaker," as a result of a reverse power trip (June 5, 2011);
- STP-O-7, "ISI System Leakage Test RCS," Rev. 00000, under WO C90678778, "RCS Leakage Test" (June 7, 2011); and
- PT-34.1, "Initial Criticality and Low-Power Physics Testing," Rev. 03404, under WO 0120000100, "Low Power Physics Testing" (June 9, 2011).

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – One sample)

a. Inspection Scope

On April 23, 2011, the inspectors observed the plant shutdown for a scheduled RFO. During the plant shutdown, the inspectors observed activities in the control room and toured plant areas to verify that pre-outage work activities, such as scaffold installation, did not adversely impact installed plant equipment. The inspectors also verified that plant TS cool-down rates had not been exceeded.

Shortly after the plant entered Mode 3, the inspectors toured the containment structure to examine the condition of plant SSCs. During the containment walkdown, the inspectors verified that boric acid leaks from plant components had been identified and assessed per Ginna's boric acid monitoring program.

Prior to the plant shutdown, Ginna performed an outage risk assessment that examined the outage schedule and recommended methods to minimize plant risk. The inspectors reviewed the outage risk schedule, and on a sampling basis, verified that the risk reduction approaches/strategies outlined in the risk plan were implemented. For example, during the outage, the inspectors verified that Ginna containment integrity closure strategies were consistent with the requirements outlined in the plant TSs and consistent with Ginna's outage risk plan. To ensure that equipment was properly aligned, the inspectors walked down several plant tagouts.

Several plant systems were walked down to ensure that they were available to provide decay heat removal. Systems examined included the residual heat removal (RHR) and

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SFP systems. During the RHR system walkdown, the inspectors verified that both trains had electric power, and maintenance was not being performed on the protected system.

The inspectors observed fuel shuffle, core off-load and core reload operations locally and from the control room. Ventilation and equipment lineups were verified to be in accordance with requirements to move fuel.

Several normally locked high radiation areas, that are not accessible during plant operations, were walked down to determine that general conditions were acceptable. Areas examined included the rooms for the volume control tank (VCT), reactor coolant pump seal injection filter, reactor coolant filter, waste holdup tank, and non-regenerative HX.

When refueling was completed, the plant transitioned to Mode 5 in preparation for plant startup. The inspectors observed plant startup activities including plant heatup, control rod withdrawal and the approach to reactor criticality.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – Six samples)

a. Inspection Scope

The inspectors observed the performance and/or reviewed test data for the following surveillance tests that are associated with selected risk-significant SSCs to verify that TSs were followed and that acceptance criteria were properly specified. The inspectors also verified that proper test conditions were established as specified in the procedures, no equipment preconditioning activities occurred, and acceptance criteria were met.

- STP-O-R-10.3, "Preparation for and Performance of Main Steam Safety Valve Test Using Setpoint Verification Device," Rev. 00100 (April 22, 2011);
- STP-O-R-2.2, "Diesel Generator Load and Safeguard Sequence Test," Rev. 00500 (April 24, 2011);
- STP-O-23.54, "Local Leak Rate Test of Fuel Transfer Flange Pen 29," Rev. 00101 (April 27, 2011);
- STP-O-R-27, "'A' and 'B' Hydrogen Recombiner Testing," Rev. 00000 (May 9, 2011);
- STP-O-R-2.1, "SI Integrated Functional Test," Rev. 00102 (May 26, 2011); and
- STP-O-R-6.0, "Containment Integrated Leakage Rate Test," Rev. 00001 (June 2, 2011).

b. Findings(1) Inadequate Oversight Resulting in Inadvertent Partial Safety Injection Actuation

Introduction. A Green self-revealing non-cited violation (NCV) of TS 5.4.1.a, "Procedures," was identified when Ginna personnel did not correctly perform procedure STP-O-R-2.2, "Diesel Generator Load and Safeguard Sequence Test," Rev. 00500 during the refueling outage with the plant in mode 5. This resulted in a partial SI actuation, including the automatic start of the 'B' EDG and an associated SW pump.

Description. On April 24, 2011, during the performance of STP-O-R-2.2, an inadvertent SI signal was generated. This caused the start or repositioning of several safety-related components. The 'B' EDG, 'B' control room emergency air treatment system, and the 'D' SW pump started and valve 871B, SI pump 'C' discharge valve, and 852B, RHR pump 'B' discharge valve, opened. The containment purge supply and exhaust fans and the control room air handling unit supply and exhaust fans stopped. The inspectors verified that equipment response was correct for the SI signal that was generated. A test team consisting of licensed operators was performing STP-O-R-2.2. Members of the test team were in the field, and a test team member was also in the control room. At the same time, Ginna control room operators were performing STP-O-17.2, "Process Radiation Monitors R-11 Thru R-18, R-20 Thru R-22 and Iodine Monitors R-10A and R-10B Source Check, Alarm Setpoint Verification, and Functional Test," Revision 00001. While the control room operators were performing STP-O-17.2, several valves failed to stroke as required. Operators determined that these valves failed to stroke due to the dc safeguards breakers being open as required for the performance of STP-O-R-2.2. Control room operators decided to reclose the safeguards dc breakers to complete STP-O-17.2, although the safeguards sequence test required them to be open. Additionally, these operators failed to communicate this deviation to all members of the test team, including the test team supervisor, and to suspend STP-O-R-2.2 until radiation monitor testing was complete, because they believed the load sequence test was on hold while the test team resolved an SI relay configuration issue. Subsequently, once the relay configuration issue was resolved, the test team supervisor outside of the control room continued with the diesel generator load and safeguard sequence test without communicating with control room operators, and as a result of the safeguards breakers being closed, an SI signal was generated when SI relay SI-20X was tested.

The inspectors determined that the failure to properly implement and control the surveillance testing was a procedure violation. The inspectors also determined that inadequate supervision was the most significant contributor to the performance deficiency. This finding was determined to be of very low safety significance and was entered into Ginna's CAP (CR 2011-2598). There were no actual safety consequences. Ginna's corrective actions included immediately returning all equipment to its pretest position, performing a crew stand down and crew clock reset, ensuring each test had a clearly identified test supervisor, and that each test supervisor re-brief the crew if there was a break in the test, if test results were unexpected or if any part of the test needed to be reperformed. Additionally, Ginna provided training to operation's personnel and verified that procedure STP-O-R-2.2 was adequate.

Analysis. The performance deficiency associated with this finding was the failure of Ginna personnel to follow procedures. Specifically, STP-O-R-2.2 required the dc

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safeguards breakers to be open. Contrary to that, Ginna control room operators closed the dc safeguards breakers. This finding is more than minor because it is associated with the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Additionally, the inspectors determined that more than minor example 4.b of Inspection Manual Chapter (IMC) 0612, Appendix E, was similar because control room operators caused a partial SI signal actuation. The inspectors determined that this finding was of very low safety significance (Green) using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process." Specifically, Ginna maintained adequate mitigation capability as described in IMC 0609, Appendix G, Attachment 1, "Phase 1 Operational Checklists for Both PWRs and Boiling Water Reactors," Checklist 2, for a PWR cold shutdown operation with the RCS closed and steam generators available for decay heat removal. IMC 0609, Appendix G is applicable, in part, during a refueling outage when residual heat removal cooling is in service which was the condition during the performance of STP-O-R-2.2.

This finding has a cross-cutting aspect in the area of human performance, work practices, in that Ginna failed to ensure adequate supervisory and management oversight of the diesel generator load and safeguard sequence test such that nuclear safety was supported. Specifically, operations personnel failed to adequately supervise the diesel generator load and safeguard sequence test, and as a result, an SI partial actuation occurred during testing. (H.4(c) of IMC 0310)

Enforcement. TS 5.4.1.a, "Procedures," requires, in part, that the applicable procedures recommended in regulatory guide (RG) 1.33, "Quality Assurance Program Requirements (Operation)," Revision 2, Appendix A, February 1978, be established, implemented, and maintained. RG 1.33 requires, in part, specific procedures for surveillance tests including those listed in TSs. STP-O-R-2.2 is required by TS surveillance requirement 3.8.1.9. Contrary to the above, on April 24, 2011, Ginna failed to correctly implement STP-O-R-2.2 when operators reclosed dc safeguards breakers which resulted in an inadvertent SI.

There were no actual safety consequences. Ginna's corrective actions included immediately returning all equipment to its pretest position. Because this finding was determined to be of very low safety significance and was entered into Ginna's CAP (CR 2011-2598), this violation is being treated as an NCV, consistent with the NRC's Enforcement Policy. **(NCV 05000244/2011003-01, Inadequate Oversight Resulting In Inadvertent Partial Safety Injection Actuation)**

(2) Inadequate Procedure for Fuel Transfer Flange Installation

Introduction: A Green self-revealing NCV of TS 5.4.1.a, "Procedures," was identified when Ginna personnel did not correctly establish procedure RF-401, "Fuel Transfer Blind Flange Removal and Installation," Revision 0, by not ensuring that the procedure contained sufficient guidance to ensure that the flange bolts were properly tightened. The bolts were not tightened which resulted in an increase in the containment leakage rate and the leakage of approximately 42,000 gallons of water from the fuel transfer canal (SFP water) into containment.

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Description: On April 24, 2011, upon initial containment walkdown, water was noted in the lower cavity, and the source was determined to be leakage from the refueling transfer canal through the blind flange into the lower reactor vessel refueling cavity inside containment. Chemistry personnel sampled the water to confirm the source and to estimate the amount of water that had leaked into the cavity. Based on the chemical analysis, the source of the water was from the spent fuel pool. Due to the concentration effects of evaporation, based on the current Boron concentration of the water, it was determined that approximately 42,000 gallons had leaked into containment. Ginna personnel conducted an apparent cause evaluation and determined that the blind flange was not properly torque. The flange was 20 inches in diameter and had two gaskets on the seating surface to provide containment isolation. It was bolted on from the containment side. As-found testing showed that the back-off torque values were less than 10 foot-pounds, and some bolts did not register on the torque wrench. Ginna procedure RF-401 stated, in part, to "tighten all bolts until seated." Engineering calculations that were subsequently performed determined that a final torque range of 150 to 200 foot-pounds was required to ensure that the flange maintained its design function. The procedure was revised to include the torque values.

Containment integrity was maintained during the previous operating cycle. Containment leakage rate acceptance criterion is less than 181,971 standard cubic centimeters per minute (sccm). The as-found penetration leakage was determined to be 44,700 sccm which exceeded the administrative limit of 520 sccm for the flange. However, including the flange leakage, the total amount was 103,775 sccm for the previous cycle. Therefore, containment integrity was maintained within the design limits.

The inspectors determined that the failure to establish a flange installation procedure with guidance appropriate to the circumstances was a violation. The inspectors also determined that the lack of sufficient installation guidance to ensure that the flange bolts were properly tightened was the most significant contributor to the performance deficiency. This finding was determined to be of very low safety significance and was entered into Ginna's CAP (CR 2011-2572). There were no actual safety consequences. Ginna's immediate corrective actions included revising procedure RF-401 to include torque specifications.

Analysis: The performance deficiency associated with this finding is a failure of Ginna personnel to develop a maintenance procedure appropriate to the circumstances. Specifically, fuel transfer blind flange torque values were not specified in the installation procedure. This finding is more than minor because it is associated with the barrier performance attribute of the Barrier Integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, RCS, and containment) protect the public from radionuclide releases caused by accidents or events. The inspectors determined that this finding is of very low safety significance (Green) using IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." Specifically, Table 4a, "Characterization Worksheet for Initiating Events, Mitigating System, and Barrier Integrity Cornerstones," was used. The finding did not only represent a degradation of the radiological barrier function provided for the control room, or auxiliary building, or spent fuel pool; the finding did not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere; the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, containment

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isolation system logic and instrumentation), and heat removal components; and the finding did not involve an actual reduction in function of hydrogen ignitors in the reactor containment. Specifically, although the finding resulted in an increase in the containment leak rate, it did not represent an actual open pathway in the physical integrity of reactor containment.

This finding had a cross-cutting aspect in the area of human performance, resources, in that the fuel transfer blind flange installation procedure was not complete, accurate and up-to-date. Specifically, the procedure did not contain sufficient installation guidance to ensure that the flange bolts were properly tightened. (H.2(c) per IMC 0310)

Enforcement. TS 5.4.1.a, "Procedures," requires, in part, that the applicable procedures recommended in RG 1.33, "Quality Assurance Program Requirements (Operation)," Revision 2, Appendix A, February 1978, be established, implemented, and maintained. RG 1.33 requires, in part, that performing maintenance that can affect the performance of safety-related equipment should be properly performed in accordance with written procedures appropriate to the circumstances. Contrary to the above, on May 2, 2011, maintenance that can affect the performance of safety-related equipment was not properly performed as written procedures were not established appropriate to the circumstances. Specifically, procedure RF-401, "Fuel Transfer Blind Flange Removal and Installation," Revision 0, did not contained sufficient guidance to ensure that the flange bolts were properly tightened.

There were no actual safety consequences. Ginna's immediate corrective actions included revising procedure RF-401 to include torque specifications. Because this finding was determined to be of very low safety significance and was entered into Ginna's CAP (CR 2011-2572), this violation is being treated as an NCV, consistent with the NRC's Enforcement Policy. **(NCV 05000244/2011003-02, Inadequate Procedure for Fuel Transfer Flange Installation)**

2. RADIATION SAFETY

Cornerstone: Public and Occupational

2RS01 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

From May 9 to 26, 2011, the inspectors performed the following activities to verify that Ginna properly addressed the radiological hazards in the workplace and implemented appropriate radiation monitoring and exposure controls during RFO operations. Implementation of these controls was reviewed against the criteria contained in 10 CFR Part 20, relevant TSs, and Ginna procedures.

Inspection Planning

The inspectors reviewed radiation protection (RP) program self assessments and audits.

Radiological Hazard Assessment

The inspectors verified that Ginna assessed the potential impact of the unit shutting down for the RFO.

The inspectors reviewed pre-work and in-progress surveys for the SG's primary man ways, work at the hand holes of the stem generator secondary side, and the baffle bolt replacement work area.

The inspectors walked down the facility, including containment, to evaluate material and radiological conditions. The inspectors verified the integrity and postings of the locked high radiation areas in containment.

The inspectors verified the surveys included identification of hot particles, alpha emitters, potential airborne radioactive material, hazards associated with work activities, and severe radiation fields, as appropriate.

The inspectors verified for five lapel air samples that they were collected and analyzed in accordance with Ginna procedures.

Instructions to Workers

The inspectors toured radioactive material storage areas and verified containers were labeled and controlled in accordance with 10 CFR Part 20.1904.

The inspectors reviewed radiation work permits (RWPs) for entrance into the chemical and volume control system (CVCS) tank room, a locked high radiation area, and verified stay times or dose rates and limits were identified. The inspectors also verified that electronic personal dosimeter set points were appropriate and that workers responded appropriately to dosimeter alarms in the CVCS room and that the incidents were entered into Ginna's CAP.

The inspectors verified that Ginna had established a means to inform workers of changes that could significantly impact their occupational dose. The inspectors verified that Ginna has a robust central monitoring system and alarming electronic dosimeters with transmitting capability.

Contamination and Radioactive Material Control

The inspectors observed the surveys of material and actions taken when alarms occurred at the radiological controlled area exit point and the containment equipment hatch. The inspectors verified that the surveys and actions taken in response to alarms were in accordance with Ginna procedures.

The inspectors reviewed Ginna's procedure for the survey and release of material. The inspectors verified the instrumentation was used at its typical sensitivity and was sufficient to control the spread of contamination and prevent the unintended release of radioactive materials from the site.

Radiological Hazards Control and Work Coverage

The inspectors verified conditions were consistent with surveys, RWPs, and worker briefings.

The inspectors verified the adequacy of RP job coverage, contamination control, and job area surveys.

The inspectors verified the placement of monitoring devices on selected individuals.

The inspectors verified the use of multiple dosimeters for the SG hand holes was adequate.

The inspectors verified the RWP and in field controls used to mitigate airborne radioactivity for the 'A' reactor coolant pump (RCP) replacement were appropriate.

The inspectors reviewed the controls in place at the refuel cavity and the SFP for highly activated material stored in the pools and verified appropriate controls were in place.

The inspectors verified posting and physical controls for high radiation areas were appropriate at the 'A' sump, the entrances to the pump bays, and the regenerative HX.

Radiation Worker Performance

During observations of workers, the inspectors verified workers were aware of the work area radiological conditions and the RWP requirements. The inspectors observed that workers performed in accordance with the RWP requirements.

The inspectors reviewed CRs for human performance errors and observable trends.

Radiation Protection Technician Proficiency

During observations of radiation protection technicians (RPTs), the inspectors verified the technicians were aware of the area radiological conditions and the RWP requirements. The inspectors observed the RPTs performed in accordance with their training and qualifications.

The inspectors reviewed CRs for RPT errors and observable trends.

Problem Identification and Resolution

The inspectors verified problems associated with radiation monitoring and exposure control were being identified at an appropriate threshold.

b. Findings

No findings were identified.

2RS02 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

From May 9 to 26, 2011, the inspectors performed the following activities to verify that Ginna was properly implementing operational, engineering, and administrative controls to maintain personnel exposure as low as is reasonably achievable (ALARA).

Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, applicable industry standards, and Ginna procedures.

Radiological Work Planning

The inspectors obtained a list of the work activities ranked by estimated exposure for the RFO.

The inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure control requirements.

The inspectors verified Ginna identified appropriate dose mitigation, defined reasonable dose goals, included decreased worker efficiency from use of respirators and heat stress, and included remote technologies.

The inspectors compared the actual exposure received with the dose estimates and the actual hours with the estimated hours.

The inspectors reviewed a post-job review for the independent spent fuel storage installation (ISFSI) and verified problems were entered in the CAP.

Verification of Dose Estimates and Exposure Tracking Systems

The inspectors reviewed the assumptions and basis described in the RWP and ALARA packages for ISI activities, RP activities, reactor path minor maintenance activities, scaffold activities, and minor maintenance activities. The inspectors reviewed the ALARA and RWP preparation procedures to determine Ginna's methodology for estimating exposures for specific work activities. The inspectors verified for these activities that Ginna established measures to track, trend, and adjust occupational dose estimates for ongoing work activities. The inspectors verified trigger points were used to prompt additional reviews.

The inspectors reviewed Ginna's method for adjusting exposure estimates when unexpected changes in scope, dose rates, or emergent work were encountered.

Source Term Reduction and Control

The inspectors reviewed Ginna's data on zinc injection and the effects on dose rates.

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Radiation Worker Performance

See Section 2RS01.

Problem Identification and Resolution

The inspectors verified that problems associated with ALARA planning and controls were identified in Ginna's CAP and properly addressed.

b. Findings

No findings were identified.

2RS03 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

a. Inspection Scope

From May 9 to 26, 2011, the inspectors performed the following activities to verify that Ginna was controlling in-plant airborne concentrations consistent with ALARA. Implementation of these controls was reviewed against the criteria contained in 10 CFR Part 20, applicable industry standards, and Ginna procedures.

Inspection Planning

The inspectors reviewed Ginna's UFSAR to identify potential airborne areas and the associated ventilation systems or airborne monitoring instrumentation.

The inspectors reviewed Ginna's procedures for maintenance, inspection, and use of respiratory protection equipment.

The inspectors verified there were no reported performance indicators.

Engineering Controls

The inspectors verified Ginna used ventilation systems as part of its engineering controls to control airborne radioactivity.

The inspectors verified the 'A' RCP replacement portable ventilation unit efficiencies and airflow capacities were consistent with maintaining concentrations of airborne radioactivity in the work area below the concentrations of an airborne area to the extent practicable and were consistent with Ginna's procedural guidance and ALARA.

The inspectors verified the containment purge and containment monitoring systems have alarms and set points that are sufficient to prompt Ginna and workers to take action to ensure that doses are maintained within the limits of 10 CRF Part 20 and ALARA.

The inspectors verified that Ginna had established trigger points for evaluating levels of airborne beta-emitting and alpha-emitting radionuclides.

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Use of Respiratory Protection Devices

The inspectors verified that Ginna provided respiratory protective devices such that occupational doses were ALARA. The inspectors verified that Ginna performed an evaluation concluding that the use of respirators is consistent with ALARA practices during the 'A' RCP removal activity. The inspectors also verified that the level of protection provided by the respiratory protection devices during use was consistent with assumptions used in Ginna's work controls and dose assessment.

The inspectors verified that the respiratory protection devices used were National Institute for Occupation Safety and Health certified, the air used in self-contained breathing apparatus (SCBA) was tested and met grade 'D' quality, that several individuals on the fire brigade and emergency responders were deemed fit to use the devices by a physician, and the individuals were properly trained.

Self-Contained Breathing Apparatus for Emergency Use

The inspectors observed the monthly inspection of three SCBAs staged in the outage control center and control room. The inspectors verified Ginna's capability to refill and transport bottles to and from the control room and the operations support center during emergency conditions.

The inspectors verified control room operators and shift RPTs were trained and qualified in the use of SCBAs. The inspectors also verified personnel assigned to fill bottles were trained and qualified to the task.

The inspectors verified appropriate mask sizes were available and that the control room operators on duty had no facial hair that would interfere with the sealing surface of the face seal. The inspectors verified that corrective lenses for those operators that require vision correction were kept readily available in the control room.

The inspectors reviewed maintenance records for the three SCBAs inspected and verified any work performed was done by a contractor with certified training.

Problem Identification and Resolution

The inspectors verified that problems associated with control and mitigation of in-plant airborne radioactivity were put in the CAP and properly addressed for resolution.

b. Findings

No findings were identified.

2RS04 Occupational Dose Assessment (71124.04)

a. Inspection Scope

From May 9 to 26, 2011, the inspectors performed the following activities to verify that Ginna was appropriately monitoring occupational dose. Implementation of these

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controls was reviewed against the criteria contained in 10 CFR Part 20, applicable industry standards, and Ginna procedures.

Inspection Planning

The inspectors reviewed audits and self assessments of the RP program.

The inspectors reviewed the most recent National Voluntary Laboratory Accreditation Program (NVLAP) accreditation report for Ginna's vendor.

The inspectors reviewed Ginna's dosimetry procedures. The inspectors verified that Ginna had established procedural requirements for determining when external and internal dosimeters are required.

External Dosimetry

The inspectors verified that Ginna's personnel dosimeters are NVLAP accredited. The inspectors evaluated the storage of dosimeters onsite and verified guidance was provided to radiation workers with respect to care and storage of dosimeters. The inspectors verified that Ginna does not use non-NVLAP dosimeters.

Internal Dosimetry

The inspectors verified the procedures used to assess dose from internally deposited nuclides addressed methods for determining if an individual was internally or externally contaminated, the release of contaminated individuals, the determination of entry route, and assignment of dose. The inspectors verified that the frequency of whole body count measurements was consistent with the biological half-life of the potential nuclides available for intake. The inspectors verified that whole body counting was the method for screening intakes. The inspectors reviewed whole body counts performed for contaminated individuals and verified that each had sufficient counting time/low background, used an appropriate nuclide library, and anomalous peaks/nuclides received appropriate disposition. The inspectors verified that hard-to-detect nuclides were accounted for in the dose assessments.

The inspectors verified that no in-vitro monitoring was performed during the inspection period.

The inspectors reviewed the adequacy of Ginna's program for dose assessments based on airborne/derived airborne concentration monitoring. The inspectors verified that Ginna's derived airborne concentration calculations were representative of the actual airborne radionuclide mixture and include respiratory protection factors as appropriate.

The inspectors verified that there were no internal dose assessments for any actual internal exposure greater than 10 millirem.

Special Dosimetric Situations

The inspectors reviewed Ginna's process to inform workers of the risks of radiation exposure to the embryo/fetus and the process to be used for declaring a pregnancy. The inspectors reviewed the exposure records for two individuals who declared their pregnancies. The inspectors verified that Ginna's radiological monitoring program was technically adequate to assess dose to the embryo/fetus.

The inspectors reviewed Ginna's methodology for monitoring external dose in situations in which non-uniform fields are expected. The inspectors verified that Ginna had established criteria for determining when alternate monitoring techniques were to be used.

The inspectors reviewed more than four dose assessments performed for the SG secondary side hand-hole work where multiple badges were worn. The inspectors verified that the assessments were performed consistently with Ginna's procedures and dosimetric standards.

The inspectors verified that no skin dose assessments were necessary during this inspection period.

The inspectors reviewed Ginna's neutron dosimetry program. The inspectors noted that Ginna was currently evaluating a new dosimeter which measures both neutron and beta gamma dose instead of the two dosimeter methods currently in use.

The inspectors verified that Ginna appropriately assigns total effective dose equivalent, shallow dose equivalent, and lens dose equivalent to individuals from both internal and external monitoring results, supplementary information, and surveys including air monitoring results as required.

Problem Identification and Resolution

The inspectors verified that problems associated with occupational dose assessment have been identified at the appropriate threshold and properly addressed in Ginna's CAP.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Cornerstone: Public and Occupational Radiation Safety

a. Inspection Scope (One sample)

The inspectors reviewed implementation of Ginna's occupational exposure control effectiveness performance indicator (PI) program for the period September 1, 2010,

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through March 31, 2011. Specifically, the inspectors reviewed recent CRs and associated documents for occurrences involving locked high radiation areas, very high radiation areas, and unplanned exposures against the criteria specified in Nuclear Energy Institute (NEI) 99-02 to verify that all occurrences that met the NEI criteria were identified and reported as PIs.

b. Findings

No findings were identified.

40A2 Problem Identification and Resolution (71152)

.1 Continuous Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As specified by Inspection Procedure (IP) 71152, "Problem Identification and Resolution," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into Ginna's CAP. This review was accomplished by reviewing electronic copies of CRs, periodic attendance at daily screening meetings, and accessing Ginna's computerized database.

Additionally, the extent of oversight of ISI/nondestructive examination activities including the topics of current ISI oversight and surveillance were reviewed. The inspectors reviewed a sample of CRs to confirm that identified problems were being documented for evaluation and proper resolution.

b. Findings

No findings were identified.

.2 Semi-Annual Review (One sample)

a. Inspection Scope

The inspectors performed a semi-annual review of site issues to identify trends that might indicate the existence of more significant safety issues as required by IP 71152. The inspectors included in the review repetitive or closely related issues that may have been documented by Ginna outside of the CAP such as trend reports, PIs, major equipment problem lists, system health reports, maintenance rule assessments, and maintenance or CAP backlogs. The inspectors also reviewed Ginna's CAP data base for the period of January through June 2011 to assess CRs written in various subject areas (equipment problems, human performance issues, etc.) as well as individual issues identified during NRC daily CR review. The inspectors reviewed Ginna's quality and performance assessment report for the period January 1 through April 30, 2011, performed under CNG-QL-1.01-1008, "Quarterly Report Process," Revision 00200, to verify Ginna personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

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b. Findings and Observations

No findings were identified. No trends were noted that indicated a potential safety significant issue. The inspectors verified that Ginna appropriately identified trends and captured them in the CAP, performance monitoring program, system health reports, and quality assurance assessments. Examples of trends identified by Ginna were trends in the areas of procedure use and adherence, and tagging equipment and systems.

.3 Annual Sample: Corrective Actions Related to Outage Deficiencies (One sample)

a. Inspection Scope

The inspectors reviewed Ginna's corrective actions related to deficiencies identified in their 2009 RFO as documented in CRs 2009-7520 and 2009-6741. These CRs describe Ginna's performance of an inadequate containment closeout inspection, and Ginna inappropriately securing both trains of the RHR system while reactor cavity level was less than 23 feet. The inspectors also reviewed Ginna's corrective actions to address OE-2010-1439 on a different nuclear plant's inadvertent reactor vessel drain to a lower than expected level. Finally, the inspectors reviewed Ginna's corrective actions to address their inadvertent lowering of SFP level as documented in CRs 2009-6994 and 2010-7260, and a loss of configuration control that resulted in lowering VCT level as documented in CR 2009-5783.

b. Findings and Observations

No findings were identified. The inspectors noted that, to address the deficiencies described above, Ginna enhanced their containment closeout procedure to incorporate lessons learned from their 2009 RFO and enhanced several other procedures including O-15.4, "Draining of the Refueling Canal," Revision 02300; O-15.3, "Filling the Refueling Canal," Revision 01202; and CNG-MN-4.01-1003, "WO Planning," Revision 00401. Additionally, Ginna installed additional reactor cavity level instrumentation during their 2011 RFO.

40A3 Followup of Events and Notices of Enforcement Discretion (71153)

(Closed) Licensee Event Report (LER) 05000244/2010-002, Revision 1, Unanalyzed Condition due to Leakage of Residual Heat Removal Pump Suction Relief Valves

On September 9, 2010, the isolation valves for the RHR system suction relief valves (RVs) 686H and 686J were closed in preparation for maintenance. Following isolation, the shift operating crew identified that the flow rate to the auxiliary building sump tank had slowed. Accordingly, the source of the elevated leakage was attributed to the RHR pump suction RVs. Based on an estimated leakage of 6 gallons per hour (gph), which exceeded the TS 5.5.2, "Primary Coolant Sources Outside Containment Program," limit of 2 gph for primary coolant leakage outside of containment, the licensee reported the event. Additionally, during certain accident conditions, this would also have placed the plant in an unanalyzed condition because the current site dose calculation assumes ECCS leakage of 4 gph. However, subsequent review determined that the actual total ECCS leakage was 1.45 gph. Therefore, TS requirements and dose calculation assumptions were not exceeded.

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Ginna determined that the apparent cause was damage to the valve seats due to excessive cycling of the RVs during the conduct of surveillance tests. The test alignment subjected these valves to pressure in excess of the lift set point which was not anticipated when a modification was implemented during January 2009. Corrective actions included revising surveillance procedures for the RHR system to isolate the RVs, additional monitoring of the auxiliary building sump tank within system performance monitoring, and additional evaluation of system pressure effects during modification design reviews. The inspectors reviewed the LER, applicable CRs, and corrective actions associated with the root cause evaluation. The inspectors concluded that the corrective actions were adequate to address the identified causal factors. This finding constitutes a violation of minor significance that is not subject to enforcement action in accordance with the NRC's Enforcement Policy. Specifically, the inspectors determined that, because TS limits were not exceeded, and example 2.a of Inspection Manual Chapter 0612, Appendix E, was similar, the issue was of minor significance. Additionally, there was no impact on the RHR system operation as the pressure relief function was preserved and the impact of loss of inventory during a postulated accident would be nominal. The licensee documented the problem in CR 2010-1640. This LER is closed.

4OA5 Other Activities

.1 (Closed) NCV 05000244/201010-01, Deliberately Providing Inappropriate Assistance During General Employee Training (92702)

The inspectors reviewed activities associated with an NCV documented in a November 18, 2010, NRC letter to Ginna. The NCV was associated with Bartlett supervisors compromising the integrity of general employee training (GET) examinations contrary to Ginna TS Section 5.4.1. Specifically, the Bartlett supervisors were providing assistance to contract Bartlett employees taking the exams in order to help them pass. Although Constellation was unaware that the Bartlett supervisors were compromising the integrity of the GET examinations, Constellation is responsible for the actions of its employees, including contracted employees.

Ginna verified that the inappropriate proctoring occurred because the two identified proctors exhibited less than adequate trustworthiness and reliability to maintain the integrity of examinations. Ginna also verified through numerous interviews of proctors and trainees that this inappropriate proctoring was limited to the two proctors previously identified. To correct this performance deficiency, several corrective actions were implemented including the revoking of proctoring qualifications for the two individuals identified and denying these proctors site access. Additionally, Ginna suspended all site proctor qualifications while conducting briefs on the correct examination proctoring guidelines. Ginna also retrained all personnel that passed examinations proctored by the two identified individuals, completed an effectiveness review of the implemented corrective actions, and performed industry benchmarking regarding proctor qualification and best practices.

The inspectors reviewed the corrective actions outlined in Ginna's apparent cause evaluation (CR-2009-6025), benchmarking report (CA-2009-002742), and the effectiveness evaluations (CA-2009-002741 and CA-2009-002740). The inspectors

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concluded that the apparent cause evaluation was thorough and complete. Additionally, all corrective actions taken were appropriate and timely. This NCV is closed.

.2 (Closed) NRC Temporary Instruction (TI) 2515/183, Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event

The inspectors assessed the activities and actions taken by Ginna to assess its readiness to respond to an event similar to the Fukushima Daiichi nuclear plant fuel damage event. This included (1) an assessment of Ginna's capability to mitigate conditions that may result from beyond design basis events with a particular emphasis on strategies related to the SFP as specified by NRC Security Order Section B.5.b issued February 25, 2002, as committed to in severe accident management guidelines (SAMG) and as specified by 10 CFR 50.54(hh); (2) an assessment of Ginna's capability to mitigate station blackout conditions as specified by 10 CFR 50.63 and station design bases; (3) an assessment of Ginna's capability to mitigate internal and external flooding events as specified by station design bases; and (4) an assessment of the thoroughness of the walkdowns and inspections of important equipment needed to mitigate fire and flood events which were performed by Ginna to identify any potential loss of function of this equipment during seismic events possible for the site.

Inspection Report 05000244/2011008 (ML111310015) documented detailed results of this inspection activity. Following issuance of the report, the inspectors performed detailed follow-up on selected issues.

.3 (Closed) NRC TI 2515/184, Availability and Readiness Inspection of Severe Accident Management Guidelines

On May 10, 2011, the inspectors completed a review of Ginna's SAMG implemented as a voluntary industry initiative in the 1990's to determine (1) whether the SAMG were available and updated, (2) whether Ginna had procedures and processes in place to control and update its SAMG, (3) the nature and extent of Ginna's training of personnel on the use of SAMG, and (4) Ginna's personnel's familiarity with SAMG implementation.

The results of this review were provided to the NRC task force chartered by the Executive Director for Operations to conduct a near-term evaluation of the need for agency actions following the Fukushima Daiichi fuel damage event in Japan. Plant-specific results for Ginna were provided in an attachment to a memorandum to the Chief, Reactor Inspection Branch, Division of Inspection and Regional Support, dated May 27, 2011 (ML111470361).

40A6 Meetings, Including Exit

Exit Meeting

On July 11, 2011, the resident inspectors presented the inspection results to Mr. Joseph Pacher and other members of his staff, who acknowledged the findings. The inspectors verified that none of the material examined during the inspection is considered proprietary in nature.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION**KEY POINTS OF CONTACT**Licensee Personnel

J. Pacher	Vice President, Ginna
D. Bierbrauer	Manager, Nuclear Safety and Security
J. Bowers	General Supervisor, Radiation Protection
E. Dean, III	Plant General Manager
T. Hedges	Director, Emergency Preparedness
K. McLaughlin	General Supervisor, Shift Operations
T. Mogren	Manager, Engineering Services
T. Paglia	Manager, Integrated Work Management
S. Snowden	General Supervisor, Chemistry
J. Sullivan	Manager, Operations

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSEDOpened and Closed

05000244/2011003-01	NCV	Inadequate Oversight Resulting In Inadvertent Partial Safety Injection Actuation (Section 1R22)
05000244/2011003-02	NCV	Inadequate Procedure for Fuel Transfer Flange Installation (Section 1R22)

Closed

05000244/2010-002	LER	Unanalyzed Condition due to Leakage of Residual Heat Removal Pump Suction Relief Valves (Section 4OA3)
05000244/201010-01	NCV	Deliberately Providing Inappropriate Assistance During General Employee Training (Section 4OA5.1)
05000244/2515/183	TI	Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event (Section 4OA5.2)
05000244/2515/184	TI	Availability and Readiness Inspection of Severe Accident Management Guidelines (Section 4OA5.3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Document

UFSAR

Procedure

ER-SC-1, Adverse Weather plan, Rev. 01800

ER-SC.2, High Water (Flood) Plan, Rev. 00800

O-23, Hot Weather Seasonal Readiness Walkdown, Rev. 00701

SC-3.17, Auxiliary Building Flood Barrier Installation/Removal/Inspection, Rev. 00101

Section 1R04: Equipment Alignment

Documents

EWR 4562, Diesel Fuel Oil System Design Criteria, Rev. 2

UFSAR

Procedures

O-6.11, Surveillance Requirement/Routine Operations Check Sheet

O-15.2, Valve Alignment for Reactor Head Lift, Core Component Movement, and Periodic Status Checks, Rev. 03500

O-2.2, Plant Shutdown from Hot to Cold Conditions, Rev. 15202

SC-3.16.3.1, Setup of Containment Hose Reels During Outage, Rev. 1

STP-O-30.11, EDG 'B' Pre-Startup Alignment, Rev. 00401

Drawings

33013-1239, EDG 'A' P&ID, Sheet 1 of 2, Rev. 25

33013-1239, EDG 'B' P&ID, Sheet 2 of 2, Rev. 22

33013-1250, Station Service Cooling Water Safety-Related P&ID, Sheet 1 of 3, Rev. 54

33013-1275, Hydrogen Recombiner, Sheet 1 of 2, Rev. 13

33013-1275, Hydrogen Recombiner, Sheet 2 of 2, Rev. 6

33013-1991, Fire SW Auxiliary, Intermediate, and Containment Buildings, Rev. 21

33013-1989, Fire SW P&ID, Rev. 27

Condition Reports

2011-3430

2011-3431

Section 1R05: Fire Protection

Document

Ginna Fire Protection Plan, Rev. 5

Procedures

FRP-1.0, Containment Basement, Rev. 00501

FRP-2.0, Containment Intermediate Floor, Rev. 00601

FRP-3.0, Containment Operating Floor, Rev. 00601

Section 1R07: Heat Sink Performance

Documents

CA-2010-001866, Write Procedure to Perform RHR Flow Test
CN-SEE-04-84, Ginna Uprate Cooldown Analysis
DA-ME-93-0052, CCW HX Flow Analysis for Potential Flow-Induced Vibration
DA-ME-97-016, CCW and RHR HX Performance Evaluation
MRP-227, PWR Internals Inspection and Evaluation Guidelines
UFSAR

Procedures

M-110.2, '1A' RHR HX Inspection and Maintenance, Rev. 00800
M-110.3, '1B' RHR HX Inspection and Maintenance, Rev. 00800

Condition Report

2010-2969

Work Orders

C90671909
C90671911

Section 1R08: Inservice Inspection Activities

Documents

ISI 1200400-RI, Reports 11GU042, V170, VE009
ISI 1200415-RI, Reports 11GU043, V171, VE008
ISI 1200410-RI, Reports 11GU044, V188, VE007
ISI 1080600-RI, Reports 11GU060, V156, VE006
LR-RVI-PROGPLAN, Reactor Vessel Internals Program, Rev. 2
WCAP-17354-P, Determination of Acceptable Baffle-Barrel Bolting for R. E. Ginna, Rev. 0

Section 1R11: Licensed Operator Regualification Program

Procedure

OTG-2.2, Simulator Examination Instructions, Rev. 43

Section 1R12: Maintenance Effectiveness

Documents

PM P200044 (PMCR P-GINNA-002667)
RG 1.160, Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Rev. 2
VTD-W120-4028, Type CRN-1 Reverse Power Relay 50 and 60 Hertz, April 1988

Procedures

CNG-AM-1.01-1023, Maintenance Rule Program, Rev. 00100
CNG-AM-1.01-1004, Equipment Reliability Reporting, Rev. 00701
CNG-CM-1.01-3004, PRA Process for Internal Evaluations, Rev. 00100
CNG-OP-4.01-1000, Integrated Risk Management, Rev. 00800
EP-3-S-0308, Maintenance Rule Scoping, Rev. 00901

M-60.2, Replacement of Agastat Timers for 'A' and 'B' Train in Safeguards Rack, Rev. 00701
STP-O-R-2.2, Diesel Generator Load and Safeguard Sequence Test, Rev. 00500
STP-O-R-2.7B, Train 'B' SI Sequence Timers, Rev. 00100

Drawings

11253-1, EDG 'A' Electric System Protection Relay Setting Schedule, Sheet 1, Rev. 5
33013-1952, Electrical Three-Line Diagram 480-Volt Switchgear Metering and Relaying,
Sheet 2, Rev. 3

Condition Reports

2007-3073
2010-1137
2011-0774
2011-2650
2011-2997

Work Orders

C90792059
C91118095

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedure

O-2.3, Draining the RCS to Lowered Inventory, Rev. 04802

Section 1R15: Operability Evaluations

Procedures

E-10, Testing and Adjustment of Agastat Relays, Rev. 00300
STP-O-R-2.7A, Train 'A' SI Sequence Timers, Rev. 00102
STP-O-R-2.7B, Train 'B' SI Sequence Timers, Rev. 00100

Condition Reports

2011-3790	2011-3069
2011-3660	2011-3422
2011-3697	2011-2650
2011-4269	2011-3871

Section 1R18: Plant Modifications

Documents

ECPCN 11-00244, Lower Reactor Cavity Slab Structural Support for Lower Internals
ECP 10-000422, Baffle Former Bolt Equivalency Evaluation
ECP 10-000105, ECCS
ECP 10-000069, TDAFW Steam Admission CV Replacement
ECP 10-000072, TDAFW Steam Admission Valve Replacement
ECP 09-000275, CS and SI System Full Flow Recirculation Modification
GNP010-C-1, Reactor Building Slab Analysis

Procedure

CNG-OP-4.01-1000, Integrated Risk Management, Rev. 00800

Drawing

D421-0043, Reactor Containment Vessel Interior Wall Section and Detail, Rev. 005

Condition Reports

2011-2130

2011-3069

Work Order

C91259554

Section 1R19: Post-Maintenance Testing

Documents

Branch Technical Position ICSB-17

GMM-15-01-KDG01A/B, ALCO Diesel Generator Mechanical Inspection and Maintenance
UFSAR

Procedures

PT-34.1, Initial Criticality and Low-Power Physics Testing, Rev. 03404

SEG-4.1, EDG Reliability and Unavailability Performance Criteria, Rev. 00200

STP-O-12.1, EDG 'A', Rev. 00902

STP-O-2.2-COMP-A, RHR Pump 'A' Comprehensive Test, Rev. 00201

STP-O-23.18B, Local Leak Rate Test of CS Header 'B' Penetration 109, Rev. 00100

STP-O-7, ISI System Leakage Test RCS, Rev. 00000

Drawing

33013-1247, Auxiliary Coolant RHR P&ID, Rev. 44

Condition Reports

2011-2995

2011-2997

2011-2650

2007-1519

2007-3073

Work Orders

C91384795

C90830944

C91385329

C90752111

C91036315

C90678778

Section 1R20: Refueling and Other Outage Activities

Documents

G-FMEA-2011-0015, FME Plan for the Reactor Cavity Area and Reactor Head Stand, Rev. 0

Procedures

O-1, Pre-Startup Checklist, Rev. 03000

O-1.1, Plant Heatup from Cold Shutdown to Hot Shutdown, Rev. 16600
O-1.2, Plant Startup from Hot Shutdown to Full Load, Rev. 19300
O-2, Plant Shutdown, Rev. 00801
O-2.1, Normal Shutdown to Hot Shutdown, Rev. 13104
O-2.2, Plant Shutdown from Hot Shutdown to Cold Conditions, Rev. 15302
RE-100, Preparation, Review, and Approval of Fuel Movement Sequence Sheets, Rev. 01000
RF-301, Refueling Operations (Offload, Shuffle, Refuel), Rev. 00202

Condition Reports

2011-3274
2011-3263
2011-3161
2011-3151

Section 1R22: Surveillance Testing

Procedures

PT-34.1 Initial Criticality and Low-Power Physics Test, Rev. 03404
STP-O-7, ISI System Leakage Test RCS, Rev. 00000
STP-O-17.2, Process Radiation Monitors R-11 Thru R-18, R-20 Thru R-22 and Iodine Monitors R-10A and R-10B Source Check, Alarm Setpoint Verification, and Functional Test, Rev. 0004
STP-O-23.54, Local Leak Rate Test of Fuel Transfer Flange Pen 29, Rev. 00101
STP-O-R-2.1, SI Integrated Functional Test, Rev. 00102
STP-O-R-2.2, Diesel Generator Load and Safeguard Sequence Test, Rev. 00500
STP-O-R-6.0, Containment Integrated Leakage Rate Test, Rev. 00001
STP-O-R-10.3, Preparation for and Performance of Main Steam Safety Valve Test Using Setpoint Verification Device, Rev. 00100
STP-O-R-27, 'A' and 'B' Hydrogen Recombiner Testing, Rev. 00000

Condition Reports

2011-3879
2011-2598

Work Orders

C91372913
C91375918

Section 2RS01: Radiological Hazard Assessment and Exposure Controls

Documents

ECP 11-000340, ECP for the Temporary Waste Storage System, Rev. 0000
ECPCN 11-00362, Change to the ECP for the Temporary Waste Storage System, Rev. 0000

Procedures

A-1, Radiation Control Manual, Rev. 08100
CNG-RP-1.01-2001, Dosimetry, Rev. 00000
CNG-RP-1.01-2002, Effective Dose Equivalent – External, Rev. 00000
RP-ALPHA-RAD-MON, Alpha Radiation Monitoring, Rev. 00100
RP-JC-ALARM-PORTAL, Response to Portal Monitor Alarms, Rev. 00903

RP-JC-HOTPART-ASSESS, Hot Particle Dose Assessment, Rev. 10
 RP-SUR-LABEL, Labeling and Control of Radioactive Material, Rev. 01100
 RP-SUR-PERS-DECON, Personnel Contamination Monitoring, Decontamination, and Reporting,
 Rev. 02800
 RP-SUR-POST, Radiological Posting and Boundary Control, Rev. 01105
 RP-WBC-EVAL, Whole Body Count Evaluation, Rev. 02000
 RPG-71, Radioactive Material Storage Facility, Rev. 1
 RPG-74, Implementing EDEX, Rev. 0

Condition Reports

2011-3044	2011-3721
2011-3080	2011-3757
2011-3175	2011-3981
2011-3192	

Audits and Self Assessments

SA-2011-000028, 10 CFR 20.1101 RP Programs
 SA-2010-000167, Review Health of the Respiratory Protection Program

Surveys

<u>Map No.</u>	<u>RWP No.</u>	<u>Date</u>	<u>Time</u>
214c	11-5605	5/7/2011	0520
214c	11-5618/5626	5/8/2011	1500
214c	11-5618/5626	5/9/2011	1600
230	11-5605-2	5/2/2011	1300
236	11-5608-2	5/16/2011	0315
236.1	11-5605-2	5/10/2011	0430
236.1	11-9623-2	5/12/2011	0100
243	11-5615	5/1/2011	0100
243.1	11-5621-3	5/11/2011	2315
248	11-5621-2	5/1/2011	1445
1000	11-11	5/1/2011	0715
1000	11-11	5/11/2011	1100
1000	11-11	5/13/2011	0230
1000	11-3	4/20/2011	1730

Section 2RS02: Occupational ALARA Planning and Controls

Document

10-5001, ALARA Post-Job Review for the ISFSI

Condition Report

2011-3582

RWP and ALARA Packages

11-6, Declared Pregnant Workers
 11-5626, Baffle Bolts
 11-5618, Refueling

11-5621/5622, SGs
11-5623, 'A' RCP

Section 2RS03: In-Plant Airborne Radioactivity Control and Mitigation

Document

Grade 'D' Air Analysis Report No. 144073-0, March 4, 2011, TRI Air Testing, Inc.

Condition Reports

2010-6509
2010-6573
2010-6669
2010-7117

SCBA Packs

<u>Pack No.</u>	<u>High Pressure Reducer Serial No.</u>
4	19010049
6	29100004
8	8850275

Section 2RS04: Occupational Dose Assessment

Document

RP-DOSE-CALC-INT, Determination of Internal Dose Using the Indos Computer Program, Rev. 3

Condition Reports

2011-2800
2011-3198

Section 4OA1: Performance Indicator Verification

Document

NEI 99-02, Regulatory Assessment PI Guideline, Rev. 6

Section 4OA2: Problem Identification and Resolution

Documents

ECP 2009-0018, Addition of Reactor Cavity Level Indication to Support Refueling, Rev. 0
OE31082, Reactor Cavity Water Level Drained Further than Planned

Procedures

A-3.1, Containment Closeout Inspection, Rev. 04400
A-52.16, Operator Workaround/Challenge Control, Rev. 02300
CNG-MN-4.01-1003, WO Planning, Rev. 00401
CNG-QL-1.01-1008, Quarterly Report Process, Rev. 00200
O-15.3, Filling the Refueling Canal, Rev. 01202
O-15.4, Draining of the Refueling Canal, Rev. 02300

Condition Reports

2011-1562	2009-6994
2009-7520	2010-7260
2009-6741	2009-5783

Section 40A3: Followup of Events and Notices of Enforcement Discretion

Document

LER 2010-002, Unanalyzed Condition due to Leakage of RHR Pump Suction RVs, Rev. 1

Drawing

33013-1247, Auxiliary Coolant RHR P&ID, Rev. 44

Condition Reports

2010-1640
2010-5517

Section 40A5: Other Activities

Documents

CA-2009-002738
CA-2009-002739
CA-2009-002740
CA-2009-002741
CA-2009-002742
Inspection Report 05000244/2010010
NRC Allegation RI-2009-A-0087
NRC Enforcement Action EA-2010-149
NRC Office of Investigation Report 1-2009-050

Procedure

IP 92702, Follow-up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternative Dispute Resolution Confirmatory Orders, January 10, 2008

Condition Report

2009-6025

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AFW	auxiliary feedwater
ALARA	as low as is reasonably achievable
CAP	corrective action program
CFR	<i>Code of Federal Regulations</i>
CR	condition report
CS	containment spray
CV	check valve
CVCS	chemical and volume control system
dc	direct current
ECCS	emergency core cooling system
ECP	engineering change package
EDG	emergency diesel generator
EPRI	Electric Power Research Institute
GET	general employee training
gph	gallons per hour
HX	heat exchanger
IMC	Inspection Manual Chapter
IP	inspection procedure
ISFSI	independent spent fuel storage installation
ISI	inservice inspection
LER	licensee event report
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
NVLAP	National Voluntary Laboratory Accreditation Program
OOS	out of service
P&ID	pipng and instrument drawing
PARS	Publicly Available Records
PI	performance indicator
PMT	post-maintenance testing
PWR	pressurized-water reactor
RCP	reactor coolant pump
RCS	reactor coolant system
RFO	refueling outage
RG	regulatory guide
RHR	residual heat removal
RP	radiation protection
RPS	reactor protection system
RPT	radiation protection technician
RV	relief valve
RWP	radiation work permit
SAMG	severe accident management guidelines
SCBA	self-contained breathing apparatus
sccm	standard cubic centimeters per minutes

SDP	significance determination process
SFP	spent fuel pool
SG	steam generator
SSC	system, structure, and component
SI	safety injection
SW	service water
TDAFW	turbine-driven auxiliary feedwater
TI	temporary instruction
TS	technical specification
TSC	technical support center
UFSAR	updated final safety analysis report
VCT	volume control tank
WO	work order