



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

May 2, 2011

Mr. John T. Carlin, 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 05000244/2011002

Dear Mr. Carlin:

On March 31, 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 April 6, 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.

Based on the results of this inspection, no findings were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

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

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

Enclosure: Inspection Report No. 05000244/2011002  
w/ Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

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## U.S. NUCLEAR REGULATORY COMMISSION

## REGION I

Docket No.: 50-244

License No.: DPR-18

Report No.: 05000244/2011002

Licensee: Constellation Energy Nuclear Group, LLC

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

Location: Ontario, New York

Dates: January 1, 2011, through March 31, 2011

Inspectors: G. Hunegs, Senior Resident Inspector  
L. Casey, Acting Senior Resident Inspector and Resident Inspector  
P. Presby, Senior Operations Engineer  
R. Rolph, Health Physicist and Acting Resident Inspector

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

Enclosure

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### **SUMMARY OF FINDINGS**

IR 05000244/2011002; 01/01/2011 – 03/31/2011; R.E. Ginna Nuclear Power Plant, LLC (Ginna), Routine Integrated Inspection Report.

The report covered a 3-month period of inspection by resident inspectors and region-based inspectors. 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.

No findings were identified.

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## 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 full power for the entire period.

#### 1. REACTOR SAFETY

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

#### 1R01 Adverse Weather Protection (71111.01 – One sample)

##### Impending Adverse Weather Condition

##### a. Inspection Scope

On January 24, 2011, Ginna experienced unusually cold temperatures with temperatures at minus 4 degrees Fahrenheit. During this time, the inspectors toured areas of the plant that contained equipment and systems that could be adversely affected by cold temperatures. Areas of focus were the screen house and the standby auxiliary feedwater (AFW) pump house. During the tours, the inspectors verified that temperatures in those areas did not decrease below the values outlined in the plant updated final safety analysis report (UFSAR). Document reviewed for each section are listed in the Attachment.

##### b. Findings

No findings were identified.

#### 1R04 Equipment Alignment (71111.04)

#### .1 Partial System Walkdown (71111.04Q – Three 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 residual heat removal (RHR) system while the 'A' train was out of service (OOS) for planned maintenance;

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- The 'C' standby AFW train while the 'D' standby AFW train was OOS for planned maintenance; and
- The 'B' emergency diesel generator (EDG) while the 'A' EDG was OOS for planned maintenance.

b. Findings

No findings were identified.

.2 Complete Walkdown (71111.04S – One sample)

a. Inspection Scope

The inspectors performed a detailed walkdown of the service water (SW) system to identify any discrepancies between the existing equipment lineup and the specified lineup. The SW system was chosen because of its risk-significant function to provide cooling water to all safety-related components. 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 (71111.05Q – 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:

- Auxiliary Building Basement Floor (Fire Zone ABB);
- Auxiliary Building Mezzanine Floor (Fire Zone ABM);
- Cable Tunnel (Fire Area CT);
- Technical Support Center (TSC) Corridor including the TSC EDG, batteries, and inverter (Fire Zone TSC-1S); and
- Intermediate Building North Elevation 278 feet 4 inches (Fire Zone IBN-2).

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q – One sample)

a. Inspection Scope

On February 1, 2011, the inspectors observed a licensed operator training simulator scenario, SEG-11-01-02, "Crew Challenge 1," Revision 0. The inspectors reviewed and verified compliance with Ginna procedure CNG-TR-1.01-1019, "Conduct of Simulator Training," Rev. 0, and reviewed the critical tasks associated with the training scenario, observed the operators' performance, and observed the post-evaluation critique.

b. Findings

No findings were identified.

.2 Biennial Review (71111.11B – One sample)

a. Inspection Scope

On January 28 and March 11, 2011, two region-based inspectors performed an in-office review of the 2011 biennial written exams and the results of Ginna's administration of these exams. The inspection assessed whether pass rates were consistent with the guidance of NRC Inspection Manual Chapter 0609, Appendix I, "Operator Regualification Human Performance Significance Determination Process." The results of Ginna's administration of the annual operating tests were reported in inspection report 05000244/2010005.

The biennial written examinations for weeks 1, 2, and 3 were reviewed for content, quality, and excessive overlap to ensure that these exams met the criteria established in the examination standards and 10 CFR 55.59.

The inspectors verified that:

- Individual pass rates on the written exam were greater than 80 percent (pass rate was 95.2 percent); and
- Overall pass rate among individuals for all portions of the exam was greater than or equal to 75 percent (overall pass rate was 95.2 percent).

One senior reactor operator was on medical leave and did not take the annual operating test or biennial written exam, and one reactor operator was on medical leave and did not take the annual operating test.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – Two samples)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 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 issues were reviewed:

- Repetitive alarms and automatic insertion and withdraw of control rods by the control rod drive system as documented in condition reports (CRs) 2010-3801, 2010-3426, 2010-4319, 2010-4636, 2010-7387, 2011-0632, 2011-0654, and 2011-0759; and
- A potential adverse trend in CRs for emergency lighting as documented in CR 2011-0109.

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 00603.

Risk assessments for the following OOS SSCs were reviewed:

- Planned maintenance and testing on the 'A' train of the RHR system while work was occurring at station 13A (January 19, 2011);
- Planned maintenance and testing on the 'B' component cooling water (CCW) and 'D' standby AFW systems (January 26, 2011);
- Planned maintenance on the 'C' and 'D' standby AFW trains (February 15, 2011);
- Emergent work on safety-related bus 16 (February 21, 2011); and
- Emergent work on the 'A' EDG (March 7, 2011).

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15 – Four 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 2011-0297, Voids in the SW System Could Introduce Voids in the AFW system;
- CR 2011-0466, Quarterly Containment Spray Pump Testing May Not Accurately Measure Pump Performance;
- CR 2011-0753, Isolation Valve 5738 Failed Performance Test for Position Indication; and
- CR 2011-1430, Upper Hinge on the 'A' EDG Bassler Cabinet is Broken.

b. Findings

No findings were identified.

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

The inspectors reviewed the following temporary plant modification to determine whether the temporary change adversely affected system availability or a function important to plant safety. The inspectors reviewed the associated system design bases including the UFSAR and TS and assessed the adequacy of the safety determination screening and evaluation. The inspectors also assessed configuration control of the temporary change by reviewing selected drawings and procedures to verify whether appropriate updates had been made. The inspectors compared the actual installation with the temporary modification documents to determine whether the implemented change was consistent with the approved, documented modification. The temporary modification was reviewed by the inspectors in the field to verify it had been installed in conformance with the instructions contained in procedure CNG-CM-1.01-1004, "Temporary Plant Configuration Change Process," Revision 0, or procedure IP-MAI-7, "Control of Procedurally Controlled Alterations," Revision 00200.

The inspectors reviewed the following temporary plant modification:

- Procedurally controlled alterations to by-pass RTD2 and RTD8 on the main generator end windings as documented on Attachment 1 of procedure IP-MAI-7, dated January 11, 2011.

b. Findings

No findings were identified.

.2 Permanent Modification (71111.18 – One sample)a. Inspection Scope

The inspectors reviewed engineering change package (ECP) 09-000441, "Replace RHR Pump Room Cooling Coils and Reroute All Associated SW Piping and Components," Revision 0. The inspectors reviewed the ECP to ensure that the replacement components were consistent with design basis and were compatible with installed SSCs. The inspectors observed actions taken by personnel to complete the modification and test the resultant configuration.

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-2.2QA, "RHR Pump 'A' Inservice Test (IST)," Rev. 00600, to test the 'A' RHR train after maintenance under work order (WO) C90927983-040, "Perform Minor Preventive Maintenance (PM) RHR Pump 'A' – Minor," (January 19, 2011);
- STP-O-36.2D, "Standby AFW Pump 'D' Discharge Motor-Operated Valve (MOV) and Check Valve (CV) Test," Rev. 00300, to test standby AFW discharge valve 9701B after maintenance performed under WO C90934239, "9701B Diagnostic Testing," (January 26, 2011);
- STP-O-12.1, "EDG 'A'," Rev. 00901, to test the 'A' EDG following maintenance under WO C90961296, "Vendor Engine Analysis on the 'A' EDG," (February 2, 2011);
- STP-O-13, "Fire Pump Operation and System Alignment," Rev. 00006, to test the fire water booster pump following planned maintenance under WO C90816547, "Replace the Fire SW Booster Pump," (February 10, 2011);
- STP-O-36-COMP-C, "Standby AFW Pump 'C' – Comprehensive Test," Rev. 00200, to test the 'C' standby AFW pump following maintenance under WO C90973155, "Perform 'C' Standby AFW Pump Minor PM/Inspection," (February 17, 2011); and
- STP-O-16-COMP-T, "AFW Turbine Pump – Comprehensive Test," Rev. 01401, to test the turbine-driven auxiliary feedwater (TDAFW) pump following maintenance performed under WOs C91099192, "Sample, Flush, and Change Oil in the TDAFW Inboard Bearing," C90995281, "Replace TDAFW Lube Oil Cooler," and C90995430, "Perform Visual Inspection and Ultrasonic Testing of the Pump Outboard Thrust Bearing Cooler" (March 2, 2011).

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – Five 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

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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-2.1QB, "Safety Injection (SI) Pump 'B' IST," Rev. 00200 (January 7, 2011);
- STP-O-2.8Q, "CCW Pump Quarterly Test," Rev. 00502 (January 26, 2011);
- STP-O-16-COMP-T, "AFW Turbine Pump – Comprehensive Test," Rev. 01401 (January 31, 2011);
- CPI-Bistables-N44, "Calibration of Nuclear Instrumentation System Power Range N44 Bistables and Indications," Rev. 2100 (February 10, 2011); and
- RF-4.1, "New Fuel Receipt," Rev. 01701 (March 16, 2011).

b. Findings

No findings were identified.

2. **RADIATION SAFETY**

**Cornerstone: Public and Occupational**

2RS01 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

From March 28 to 31, 2011, the inspectors performed the following activities to verify that Ginna properly assessed the radiological hazards in the workplace and implemented appropriate radiation monitoring and exposure controls during routine operations. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, relevant TSs, and Ginna procedures.

Inspection Planning

The inspectors reviewed radiation protection program self assessments and audits.

Radiological Hazard Assessment

The inspectors verified there have been no changes to plant operations that resulted in a significant new radiological hazard for onsite workers or members of the public.

The inspectors reviewed the last two surveys of the general walkways of each elevation in the auxiliary building.

The inspectors walked down the plant including the auxiliary building, radioactive material storage building, and the radioactive waste building to evaluate material and radiological conditions. The inspectors verified the integrity of locked high radiation areas in the auxiliary building and the postings of those areas.

### Instructions to Workers

The inspectors verified that drums containing skimmer filters stored in the radioactive waste building had proper labeling and were controlled to prevent inadvertent exposure of workers.

The inspectors reviewed two CRs where workers' electronic dosimeters alarmed due to exceeding the dose rate set point. The inspectors verified that the workers responded in accordance with procedures.

### Contamination and Radioactive Material Control

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

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

#### b. Findings

No findings were identified.

### 2RS02 Occupational ALARA Planning and Controls (71124.02)

#### a. Inspection Scope

From March 28 to 31, 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 reasonably achievable (ALARA). Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, applicable industry standards, and Ginna procedures.

#### Verification of Dose Estimates and Exposure Tracking Systems

The inspectors reviewed the assumptions and basis described in the ALARA packages for baffle bolt replacements, steam generator work, reactor coolant pump (RCP) work, refueling activities, and scaffolding for the upcoming refueling outage (RFO). The inspectors reviewed the ALARA and radiation work permit preparation procedures to determine Ginna's methodology for estimating exposures for specific work activities.

For the above activities, the inspectors verified that Ginna had 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.

b. Findings

No findings were identified.

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

a. Inspection Scope

From March 28 to 31, 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 20, applicable industry standards, and Ginna procedures.

Engineering Controls

The inspectors verified Ginna used ventilation systems as part of its engineering controls to control airborne radioactivity. The inspectors verified Ginna had established trigger points for evaluating levels of airborne beta-emitting and alpha-emitting radionuclides.

Use of Respiratory Protection Devices

The inspectors verified that Ginna tests supplied air and that it exceeds grade 'D' quality.

The inspectors verified for five individuals, including control room operators, that they were deemed fit to wear respiratory protection equipment by a physician.

The inspectors verified that a vendor performs all repairs to all vital components. The inspectors reviewed the vendor individual's training certification and an audit of the vendor's program.

b. Findings

No findings were identified.

2RS04 Occupational Dose Assessment (71124.04)

a. Inspection Scope

From March 28 to 31, 2011, the inspectors performed the following activities to verify that Ginna appropriately monitors occupational dose. The inspectors verified that implementation of these controls was in accordance with the criteria contained in 10 CFR 20, applicable industry standards, and Ginna procedures.

### External Dosimetry

The inspectors verified that the vendor who processes Ginna's dosimeters is accredited by the National Voluntary Laboratory Accreditation Program. The inspectors also reviewed a May 25 to 28, 2010, on-site audit of the vendor by the National Institute of Standards and Technology (NIST).

### Special Dosimetric Situations

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.

#### b. Findings

No findings were identified.

### 2RS05 Radiation Monitoring Instrumentation (71124.05)

#### a. Inspection Scope

From January 10 to 14, 2011, the inspectors performed the following activities to verify that Ginna was providing accurate and operable radiation monitoring instruments to monitor areas, materials, and workers to ensure a radiological safe work environment and to detect and quantify radioactive process streams and effluent releases. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, TSs, and Ginna procedures.

#### Inspection Planning

The inspectors reviewed the UFSAR to identify applicable radiation monitors associated with transient high and very high radiation areas including those used in remote emergency assessment.

The inspectors reviewed a list of in service survey instrumentation including air samplers, neutron survey instruments, personnel and small article monitors (SAMs) to determine if an adequate number of instruments were available to support operations.

The inspectors reviewed the quality and performance assessment audit of Ginna's radiation protection program.

The inspectors reviewed source check and calibration procedures for the radiation monitoring instruments.

The inspectors reviewed alarm set points for area radiation monitors (ARMs) and the basis for the set points. The inspectors reviewed the alarm set points, the basis for effluent monitors, and the methods used to calculate the set points.

#### Walkdowns and Observations

The inspectors walked down the following monitors: R-11 containment vent particulate, R-12 containment vent noble gas, R-13 plant vent particulate, R-14 plant vent noble gas, R-18 liquid waste disposal, R-19 steam generator blow down, and R-21 retention tank. The inspectors verified that configuration of the monitors aligned with the offsite dose calculation manual (ODCM) descriptions. The inspectors looked for monitor degradation and OOS tags.

The inspectors verified the calibration and source check of eight portable survey instruments and observed their material condition.

The inspectors observed source checks of portable survey instruments and observed simulations of high range source checks on extending probe instruments.

The inspectors walked down five ARMs and verified the readout with a portable survey instrument.

The inspectors verified periodic source checks were performed for three personnel monitors and one SAM.

#### Calibration and Testing Program

The inspectors verified for three effluent monitor instruments that channel calibration and functional tests were performed consistent with TSs and the ODCM. The inspectors also verified that the monitors were calibrated with NIST traceable sources that represented the plant nuclide mix.

The inspectors verified that the effluent monitor alarm set points were established at 40 percent of the ODCM limits.

#### Laboratory Instrumentation

The inspector's verified laboratory analytical instrument's daily performance checks and calibration data indicated the frequency of calibrations were adequate and that there was no indication of degraded instrument performance. The inspectors reviewed performance for beta counter (BC) 4's, scintillation alpha counter (SAC) 4's, and the LABSOC system.

#### Whole Body Counter

The inspectors reviewed the methods and sources used to perform whole body counter functional checks before daily use and verified the check sources were appropriate and aligned with the plant isotopic mix.

The inspectors reviewed the most recent calibration report for the whole body counter and verified the sources used were representative of the plant source term and that appropriate calibration phantoms were used.

#### Post-Accident Monitoring Instrumentation

The inspectors reviewed a post-accident, high-range monitor calibration.

The inspectors verified that an electronic calibration was performed for all range decades above 10 roentgen equivalent man (rem)/hour and that at least one decade at or below 10 rem/hour was calibrated using an appropriate radiation source.

The inspectors verified that the acceptance criteria were reasonable.

The inspectors reviewed the calibration of two high-range effluent monitors and reviewed their availability.

The inspectors reviewed Ginna's capability to collect high-range, post-accident iodine effluent samples.

There was no opportunity to observe electronic or radiation calibration of these instruments during this inspection.

#### Portable Monitors, Personnel Contamination Monitors, and Small Article Monitors

The inspectors verified that the alarm set point values for one of each type of these instruments were reasonable to ensure that licensed material was not released from the site.

The inspectors reviewed the calibration documentation for each instrument selected.

#### Portable Survey Instruments, Area Radiation Monitors, Electronic Dosimetry, and Air Samplers/Continuous Air Monitors

The inspectors reviewed calibration documentation for at least one of each type of instrument. The inspectors reviewed detector measurement geometry, calibration methods, and had the technician demonstrate the use of its instrument calibrator.

The inspectors verified that Ginna takes appropriate corrective action for instruments found significantly out of calibration and evaluates the possible consequences of instrument use since the last successful calibration or source check.

#### Instrument Calibrator

The inspectors reviewed the current output values and verified Ginna periodically measures calibrator output over the range of instruments used. The inspectors verified the measurement device was calibrated by a facility using NIST traceable sources.

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### Calibration and Check Sources

The inspectors verified the check sources used were representative of the types and energies of the radiation encountered in the plant.

### Problem Identification and Resolution

The inspectors verified that problems associated with radiation monitoring instrumentation were being identified at the appropriate threshold and entered into Ginna's corrective action program (CAP).

b. Findings

No findings were identified.

## 4. OTHER ACTIVITIES

### 40A1 Performance Indicator Verification (71151)

#### Cornerstone: Mitigating Systems

a. Inspection Scope (71151 – Three samples)

Using the criteria specified in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator (PI) Guideline," Revision 6, the inspectors verified the completeness and accuracy of the PI data for calendar year 2010 for unplanned scrams per 7,000 critical hours, unplanned power changes per 7,000 critical hours, and unplanned scrams with complications. To verify the accuracy of the data, the inspectors reviewed monthly operating reports, NRC inspection reports, and Ginna event reports issued during 2010.

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 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.

Enclosure

b. Findings

No findings were identified.

.2 Annual Sample: Corrective Actions to Address Building Leaks (71152 – One sample)

a. Inspection Scope

The inspectors reviewed Ginna's corrective actions related to operating experience report 2010-001075 on the Calvert Cliffs' dual unit scram that was initiated by a roof leak which resulted in water entering a current transformer causing a trip of an RCP. The inspectors reviewed Ginna's actions to address roof and building leaks and related CRs. The inspectors assessed the timeliness of corrective actions, to determine whether Ginna was appropriately identifying, prioritizing, characterizing, and correcting roof and building leaks.

b. Findings and Observations

No findings were identified. The inspectors noted that Ginna developed and executed a plan to repair roof leaks following Calvert Cliffs' dual unit scram. However, the inspectors identified three instances of ground water leakage into the cable tunnel that houses safety-related 480-volt cables from 2007 to 2011, which had not been corrected by Ginna. The leakage into the cable tunnel has not impacted the function of any of the safety-related cables or supporting structures. Ginna documented this issue in their CAP under CRs 2007-0397, 2009-0105, and 2011-0746. The failure to take adequate corrective action constitutes a violation of minor significance that is not subject to enforcement action in accordance with the NRC Enforcement Manual.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On April 6, 2011, the resident inspectors presented the inspection results to Mr. John Carlin 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. Carlin	Vice President, Ginna
J. Sullivan	Acting Plant General Manager
J. Bowers	General Supervisor, Radiation Protection
T. Hedges	Director, Emergency Preparedness
K. McLaughlin	General Supervisor, Shift Operations
T. Paglia	Manager, Integrated Work Management
S. Snowden	General Supervisor, Chemistry
P. Swift	Manager, Engineering Services

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

None.

**LIST OF DOCUMENTS REVIEWED**

**Section 1R01: Adverse Weather Protection**

Document

UFSAR

Procedure

O-22, Cold Weather Walkdown Procedure, Rev. 00701

**Section 1R04: Equipment Alignment**

Procedure

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

Drawings

33013-1239, EDG 'B' P&ID, Rev. 21

33013-1250, Station Service Cooling Water P&ID, Rev. 49

**Section 1R05: Fire Protection**

Document

GINNA Fire Protection Plan, Rev. 5

Drawings

33013-2551, Fire Response Plan Intermediate Building Elevation 278 feet 4 inches, Rev. 7  
33013-2545, Fire Response Plan Intermediate Building Elevation 253 feet 3 inches, Rev. 9  
33013-2555, Fire Response Plan TSC, Rev. 5

**Section 1R11: Licensed Operator Requalification Program**

Documents

GINNA 2011 Biennial Written Exams, Weeks 1, 2, and 3  
OTG-2.2, Simulator Examination Instructions, Rev. 43

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**

Document

CNG-OP-4.01-1000, Integrated Risk Management, Rev. 00603

**Section 1R15: Operability Evaluations**

Procedure

STP-O-2.5.6, Air-Operated Valves – Quarterly Surveillance, Rev. 00200

Condition Reports

2011-0297  
2011-0466  
2011-0753  
2011-1466

**Section 1R18: Plant Modifications**

Document

ECP 09-000441, Replace RHR Pump Room Cooling Coils and Reroute All Associated SW Piping and Components, Rev. 0

Procedures

CNG-CM-1.01-1004, Temporary Plant Configuration Change Process, Rev. 0  
IP-MAI-7, Control of Procedurally Controlled Alterations, Rev. 00200

Drawing

33013-2995, SW Supply and Return to RHR Room Coolers Modification, Rev. 0

**Section 1R19: Post-Maintenance Testing**

Procedures

STP-O-2.2QA, RHR Pump 'A' IST, Rev. 00600  
STP-O-12.1, EDG 'A', Rev. 0090

STP-O-13, Fire Pump Operation and System Alignment, Rev. 00006  
STP-O-16-COMP-T, AFW Turbine Pump – Comprehensive Test, Rev. 01401  
STP-O-36-COM-C, Standby AFW Pump 'C' – Comprehensive Test, Rev. 00200  
STP-O-36.2D, Standby AFW Pump 'D' Discharge MOV and CV Test, Rev. 00300

Work Orders

C90927983-040	C90973155
C90934239	C91099192
C90961296	C90995281
C90816547	C90995430

**Section 1R22: Surveillance Testing**

Procedures

STP-O-2.1QB, SI Pump 'B' IST, Rev. 00200  
STP-O-2.8Q, CCW Pump Quarterly Test, Rev. 00502  
STP-O-16-COMP-T, AFW Turbine Pump – Comprehensive Test, Rev. 01401  
CPI-Bistables-N44, Calibration of Nuclear Instrumentation System Power Range N44 Bistables and Indications, Rev. 2100  
RF-4.1, New Fuel Receipt, Rev. 01701

Condition Report

2011-1628

**Section 2RS01: Radiological Hazard Assessment and Exposure Controls**

Procedures

A-1.1, Access Control to Locked High Radiation and Very High Radiation Areas, Rev. 04801  
RP-ALA-PLAN/RWP-PREP, Radiation Work Permit, Rev. 00400  
RP-ALPHA-RAD-MON, Alpha Radiation Monitoring, Rev. 00100  
RP-SUR-POST, Radiological Postings and Boundary Control, Rev. 01105  
RP-SUR-REL, Unconditional Release of Material from Restricted Areas, Rev. 01700

**Section 2RS02: Occupational ALARA Planning and Controls**

Procedures

IP-ALA-1, ALARA Challenge Board Instructions for Preparation and Leading ALARA Challenge Boards, Rev. 00001  
ND-ALA, ALARA, Rev. 00703  
RP-ALA-REVIEW, ALARA Job Review, Rev. 01001

ALARA Packages

11-5626, Baffle Bolt Inspection and Replacement  
Replace 'A' RCP and Replace 'B' RCP Motor  
Refueling Activities in Support of G1R036 RFO  
'A' and 'B' Steam Generator 70 Percent Eddy Current, Secondary Inservice Inspection and Foreign Object Search and Retrieval  
Scaffold Work Activities during 2011 RFO

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

RP-JC-AIRSAMPLE, Operation of Portable Air Sampling Equipment, Rev. 01703

**Section 2RS05: Radiation Monitoring Instrumentation**Procedures

P-9, Radiation Monitoring System, Rev. 09805

RP-INS-C-AMS4, Calibration of the Eberline AMS-4 Air Monitor, Rev. 00801

RP-INS-C-ASP1, Calibration of the Eberline ASP-1 Meter, Rev. 003

RP-INS-C-BC4, Calibration of the Eberline BC-4, Rev. 00301

RP-INS-C-FH40G, Calibration of the FH 40 G Meter and External Detectors, Rev. 00300

RP-INS-C-HD29A, Calibration of the Radeco HD-29A and Eberline RAP-1 Air Samplers, Rev. 4

RP-INS-C-MICROREM, Calibration of the Bicron Micro Rem Meter, Rev. 00301

RP-INS-C-MS3, Calibration of the Eberline MS-3 Scaler, Rev. 00401

RP-INS-C-PCM, Calibration of the Eberline PCM, Rev. 00301

RP-INS-C-PM7, Calibration of the Eberline PM-7 Gamma Portal Monitor, Rev. 00101

RP-INS-C-REMBALL, Calibration of Neutron Survey Instruments, Rev. 00801

RP-INS-C-RO20, Calibration of the Eberline RO-20 Survey Meter, Rev. 00401

RP-INS-C-SAC4, Calibration of the Eberline SAC-4 Scalar, Rev. 00202

STP-O-17.2M, Process Radiation Monitors R-11 thru R-22, and Iodine Monitors R-10A and R-10B, Source Check and Alarm Set Point Verification, Rev. 00001

Condition Reports

2010-0931	2010-3070	2010-4615	2010-5446
2010-1087	2010-3488	2010-4693	2010-5448
2010-1243	2010-3555	2010-4788	2010-5450
2010-1353	2010-3836	2010-4984	2010-6467
2010-1469	2010-3950	2010-5297	2010-7313
2010-1743	2010-4096	2010-5379	
2010-1791	2010-4330	2010-5414	

Calibration and Source Check Stickers Verification

RO-20 #4093

RO-20 #2650

RO-20 #4364

RM-14SA #441

RMS3 #537

GilAir-5 #13030

MS-3 #1181

HD-29A # 5189

PCM-1C #1223

PM-7 #1501

AMS-4, Calibration Due Date 06/07/2011

Particulate Sample Head Serial 876, Display Unit Serial 692

Iodine Sample Head Serial 814, Display Unit Serial 690

Noble Gas Sample Head Serial 798, Display Unit Serial 798

AMS-4, Calibration Due Date 06/09/2011  
 Particulate Sample Head Serial 714, Display Unit Serial 714  
 Iodine Sample Head Serial 791, Display Unit Serial 588  
 Noble Gas Sample Head Serial 712, Display Unit Serial 712

Calibration Records

<u>Model</u>	<u>Serial #</u>	<u>Calibration Date</u>
BC-4	129	2/19/10
MS-3	1098	4/19/2010
PCM-1C	1223	2/3/2010
PM-7	502	4/15/2010
REM-500	425	10/18/10
RM-25	950	7/15/10
RO-20	4364	2/4/2009
RO-20	2858	5/4/2010
SAC-4	1442	9/27/2010
SAM-9	153	8/5/2010
SAM-11	400	8/3/2010
GILAIR-5	14196	3/9/2010
AMS-4	692/876 P 690/814 I 798/798 NG	6/7/10
AMS-4	714/714 P 588/791 I 712/712 NG	6/9/2010
HD-25A	5186	1/6/11

ARMs

R2 – 8/30/10  
 R3 – 8/30/10  
 R4 – 8/31/10  
 R5 – 3/16/10  
 R6 – 2/16/10  
 R7 – 9/21/09

Containment High Range Area Radiation Detectors

R29 – 9/21/09  
 R30 – 9/21/09

Effluent Monitor

R14 Plant Vent Gas 11/13/09

Effluent and Process Stream Flow Devices

FIC 6020 12/10/09 (R16)  
 FIC 6021 3/11/09 (R20A)  
 FIC 117 10/27/09 (RM 10A/11/12)

DSP 207                    2/17/10 (10B/13/14)  
 DSP 214                    1/17/10 (10B/13/14)

**Section 4OA1: Performance Indicator Verification**

Document

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

**Section 4OA2: Problem Identification and Resolution**

Condition Reports

2010-3839	2010-4573	2008-7474	2008-5697
2010-3966	2010-7348	2009-2267	2008-5701
2010-7596	2010-7350	2010-1705	2008-5702
2011-0701	2004-2347	2010-4026	2010-1101
2010-3128	2006-6685	2007-8308	2010-4026
2010-4515	2007-0421	2008-2242	
2010-2307	2007-1766	2008-2596	
2010-2309	2007-4122	2008-3469	

Work Orders

C90801606	C20700393
C90971178	C90939975
C91092643	C20706484
C90801353	C90787453
C90936670	C90912623

## LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AFW	auxiliary feedwater
ALARA	as low as reasonably achievable
ARM	area radiation monitor
BC	beta counter
CAP	corrective action program
CCW	component cooling water
CFR	<i>Code of Federal Regulations</i>
CR	condition report
CV	check valve
ECP	engineering change package
EDG	emergency diesel generator
IST	inservice test
MOV	motor-operated valve
NEI	Nuclear Energy Institute
NIST	National Institute of Standards and Technology
NRC	Nuclear Regulatory Commission
ODCM	offsite dose calculation manual
OOS	out of service
PARS	Publicly Available Records
P&ID	pipng and instrument drawing
PI	performance indicator
PM	preventive maintenance
PMT	post-maintenance testing
RCP	reactor coolant pump
rem	roentgen equivalent man
RFO	refueling outage
RHR	residual heat removal
SAC	scintillation alpha counter
SAM	small article monitor
SI	safety injection
SSC	system, structure, and component
SW	service water
TDAFW	turbine-driven auxiliary feedwater
TS	technical specification
TSC	technical support center
UFSAR	updated final safety analysis report
WO	work order