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

April 30, 2012

Mr. Joseph E. 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 05000244/2012002

Dear Mr. Pacher:

On March 31, 2012, 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 10, 2012, with Mr. Edwin D. Dean, III 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 one self-revealing finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of its very low safety significance, and because it is entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV) consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a 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 this 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.

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,

/RA/

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

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

Enclosure: Inspection Report No. 05000244/2012002
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.:	05000244/2012002
Licensee:	Constellation Energy Nuclear Group, LLC
Facility:	R.E. Ginna Nuclear Power Plant, LLC
Location:	Ontario, New York
Dates:	January 1 through March 31, 2012
Inspectors:	P. McKenna, Acting Senior Resident Inspector D. Dodson, Resident Inspector N. Floyd, Reactor Engineer K. Mangan, Senior Reactor Inspector T. Moslak, Health Physicist M. Orr, Reactor Inspector N. Perry, Senior Project Engineer
Approved by:	Glenn T. Dentel, Chief Reactor Projects Branch 1 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000244/2012002; 01/01/2012 – 03/31/2012; R.E. Ginna Nuclear Power Plant (Ginna); Maintenance Effectiveness.

This report covered a 3-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. One self-revealing finding of very low safety significance (Green) was identified which was a non-cited violation (NCV). 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 the 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: Mitigating Systems

- Green. A self-revealing NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for Ginna's failure to implement adequate compensatory corrective actions associated with a series of human performance issues and valve mispositioning events. The corrective actions were inadequate in that Ginna failed to prevent an improperly tagged closed auxiliary feedwater (AFW) valve which resulted in two trains of AFW inoperable. Corrective actions included compensatory actions which required 100 percent peer checks on all tagout applications, a separate pre-job brief for the independent verification of tagouts, and for a senior reactor operator to observe the independent verification portion of the tagout process. This finding was entered into Ginna's corrective action program (CR-2012-0294).

  This finding is more than minor because it is associated with the human performance attribute of the Mitigating Systems cornerstone, and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors determined this finding is of very low safety significance because it was not a design or qualification deficiency, did not involve an actual loss of safety function for greater than its technical specification allowed outage time, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

  This finding has a cross-cutting aspect in the area of problem identification and resolution because Ginna did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner commensurate with their safety significance and complexity. Specifically, Ginna did not implement appropriate compensatory actions to address a weakness in procedure use and adherence by operations personnel [P.1(d)]. (Section 1R12)

Other Findings

None.

REPORT 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 20 and 21, 2012, Ginna experienced the coldest temperatures of the winter season. 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 service water (SW) pumps and the emergency diesel generators (EDGs). The inspectors verified that temperatures in these areas did not decrease below the values outlined in the updated final safety analysis report (UFSAR). Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04Q – Three samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- Fire SW system including the diesel- and motor-driven fire pumps during screen house sprinkler head replacement on February 9, 2012
- ‘A’ residual heat removal (RHR) system during ‘B’ RHR pump and valve maintenance on February 28, 2012
- Safety injection (SI) pumps after quarterly surveillance test and valve boric acid inspection on March 21, 2012

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, technical specifications (TSs), work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also

performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Ginna staff had properly identified equipment issues and entered them into the Corrective Action Program (CAP) for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

.2 Full System Walkdown (71111.04S – One sample)

a. Inspection Scope

On January 19, 2012, the inspectors performed a complete system walkdown of accessible portions of the auxiliary feedwater (AFW) system including the turbine-driven AFW (TDAFW) system, both trains of the motor-driven AFW (MDAFW), and the standby AFW systems to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures, surveillance tests, drawings, equipment lineup check-off lists, and the UFSAR to verify the system was aligned to perform its required safety functions. The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hangar and support functionality, and operability of support systems. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related CRs and WOs to ensure Ginna appropriately evaluated and resolved any deficiencies.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Resident Inspector Quarterly Walkdowns (71111.05Q – Five samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Ginna controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service (OOS), degraded or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Auxiliary building basement (Fire Zone ABB) while suppression system S01 was OOS on January 11, 2012
- Auxiliary building operating floor (Fire Zone ABO) on January 11, 2012
- Intermediate building basement clean side, elevation 253 feet 6 inches (Fire Zone IBN-1) on March 21, 2012
- Hemyc fire wrap tour with the fire protection specialist (Fire Areas/Zones ABB, ABM, IBN-1, and BR1B) on March 23, 2012
- Cable tunnel, elevation 260 feet 6 inches (Fire Area CT) on March 28, 2012

b. Findings

No findings were identified.

.2 Fire Protection – Drill Observation (71111.05A – One sample)

a. Inspection Scope

The inspectors observed a fire brigade drill scenario conducted on January 25, 2012, that involved a fire in the 'A' EDG room. The inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that Ginna personnel identified deficiencies, openly discussed them in a self-critical manner at the debrief, and took appropriate corrective actions as required. The inspectors evaluated specific attributes as follows:

- Proper wearing of turnout gear and self-contained breathing apparatus
- Proper use and layout of fire hoses
- Employment of appropriate fire-fighting techniques
- Sufficient fire-fighting equipment brought to the scene
- Effectiveness of command and control
- Search for victims and propagation of the fire into other plant areas
- Smoke removal operations
- Utilization of pre-planned strategies
- Adherence to the pre-planned drill scenario
- Drill objectives met

The inspectors also evaluated the fire brigade's actions to determine whether these actions were in accordance with Ginna's fire-fighting strategies.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – One sample)

Internal Flooding Review

a. Inspection Scope

The inspectors reviewed the UFSAR, the site flooding analysis, and plant procedures to assess susceptibilities involving internal flooding. The inspectors also reviewed the CAP to determine if Ginna identified and corrected flooding problems and whether operator actions for coping with flooding were adequate. The inspectors also focused on the 'A' and 'B' EDG rooms to verify the adequacy of equipment seals located below the flood line, floor and water penetration seals, watertight door seals, common drain lines, and sumps, sump pumps, level alarms, control circuits, and temporary or removable flood barriers.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 – Two samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on January 17, 2012, which included a dropped control rod followed by a small-break loss-of-coolant accident (LOCA) due to an ejected control rod, and the failure of select components to automatically start as required. The inspectors evaluated operator performance during the simulated event and verified completion of risk-significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the TS action statements entered by the shift technical advisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed rod control system testing on February 13, 2012, TDAFW pump quarterly in-service testing (IST) and temporary power reduction to 99 percent on February 26, and 'A' SI pump quarterly IST on March 15. The inspectors observed pre-shift briefings and reactivity control briefings to verify that the briefings met the criteria

specified in Ginna procedure CNG-OP-1.01-1000, "Conduct of Operations," Revision 00600. Additionally, the inspectors observed test performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12 – Two samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance WOs, and maintenance rule basis documents to ensure that Ginna was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by Ginna staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that Ginna staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- Radiation monitoring system failures on October 26, 2011
- AFW system tagging issue that rendered two MDAFW pumps inoperable during 'A' MDAFW maintenance on January 16, 2012

b. Findings

Introduction. A Green self-revealing non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for Ginna's failure to implement adequate compensatory corrective actions associated with a series of human performance issues and valve mispositioning events. The corrective actions were inadequate in that Ginna failed to prevent an improperly tagged closed AFW valve which resulted in two trains of AFW inoperable.

Description. On January 17, 2012, during the 'A' MDAFW maintenance, a tagging error was discovered by Ginna that rendered both MDAFW pumps inoperable. Specifically, valve 4482 ('A' MOAFW bypass inlet block valve) should have been tagged closed, but the tag was improperly hung on valve 4082 ('B' MDAFW pump recirculation inlet valve). Valve 4082 isolates the 'B' MDAFW pump recirculation line making it inoperable and, therefore, two trains of MDAFW were made inoperable. The TDAFW pump remained operable and was protected during the 'A' MDAFW pump maintenance. The 'B' MDAFW pump area was also protected at the time of the improperly hung tag. Approximately 16 hours after the 'A' MDAFW pump was removed from service by the existing tagout, a licensed operator in the field observed that valve 4082 was incorrectly tagged shut. The shift manager was notified, the 'B' MDAFW pump was declared

inoperable back to the time when 'A' MDAFW pump was removed from service, and Ginna entered a 72-hour limiting condition for operation in accordance with their TSs. The tagout boundaries were readjusted and the 'B' MDAFW pump was declared operable 2 hours later.

The inspectors reviewed Ginna's apparent cause evaluation (ACE) written for CR-2012-0294. Ginna determined that the auxiliary operators (AOs) had a perceived time pressure in hanging the tagout and that the high elevation of the valves 4081 and 4082 led to difficulty and distraction with the application of the tagout. The evaluation also confirmed that all three AOs failed to compare the valve label to the clearance tag information sheet. The inspectors noted that several requirements of Ginna's procedure CNG-OP-1.01-1007, "Clearance and Safety Tagging," Revision 00701, and procedure CNG-HU-1.01-1001, "Human Performance Tools and Verification Practices," Revision 00600, were not followed in the AFW tagging process. Neither the operator, the peer checker, nor the independent verifier identified the component being tagged. The operator did not have the peer checker confirm the correct valve prior to repositioning the valve. The peer checker stated that when he checked the tag on valve 4082, he could not read the valve number because the tag was partially covering the label, and he could not reach the tag to move it.

On October 4, 2011, Ginna completed a common ACE on an issue involving a trend in component mispositioning events. The trend included misalignment of equipment important to plant safety including an EDG and an AFW pump flow transmitter valve. Ginna determined that a common cause from this ACE was that procedure use and adherence was not at habit strength amongst operations personnel. On October 19, 2011, Ginna completed an ACE on an adverse trend in human performance errors across site organizations. Ginna determined that an apparent cause was a lack of questioning attitude, stopping when unsure, and verification practices.

Ginna's corrective action, in part, for the mispositioning events trend was to complete fundamentals event-free training of operations personnel that included procedure use and adherence, event-free checks, robust operational barriers, and pre-job briefs. This corrective action was scheduled to be completed by February 29, 2012. As a compensatory action until the corrective actions were completed, Ginna changed procedure OPG-OPERATIONAL-FOCUS, "Operational Focus Guidance," Revision 00202, to include review of the written responses of operationally focused questions by the control room or work control center before maintenance personnel performed work in the plant. No compensatory actions were directed at the apparent cause related to weakness in procedure use and adherence by operations personnel.

On January 31, 2012, Ginna had another tagging error that involved a danger tag hung on the incorrect boric acid storage tank (BAST) heat trace breaker. The untagged and incorrectly tagged breakers were found by maintenance personnel prior to work beginning on the system. Ginna's investigation of this error determined that the independent verifier did not maintain his independence in accordance with procedure CNG-HU-1.01-1001 prior to verifying the tagged component. The inspectors reviewed compensatory actions taken after the MDAFW tagging event on January 17 and determined that none were in place when the BAST tagout problem occurred. Ginna conducted a root cause evaluation that included both the MDAFW and BAST tagout issues. As part of the internal operating experience review for the root cause evaluation,

Ginna concluded that the corrective action taken from the component mispositioning ACE to date was ineffective at preventing the tagging issues.

Ginna procedure, CNG-CA-1.01-1005, "ACE," Revision 00601, requires that any issues in the extent of condition or the extent of cause be addressed by compensatory actions, corrective actions, preventive actions, or have a CR generated for further investigation. The procedure also defines that a compensatory action is taken to reduce the risk of adverse condition prior to implementing permanent corrective actions. The inspectors determined that Ginna's compensatory actions for adverse trends in human performance and component mispositioning events were not adequate to prevent the incorrect tagging and mispositioning of AFW valve 4082.

The inspectors determined that a performance deficiency existed in that Ginna did not take measures to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformance are promptly identified and corrected. Specifically, Ginna's compensatory actions for a deficiency identified in human performance and component mispositioning were not adequate to control the apparent cause of weakness in procedure use and adherence by operations personnel. This finding was determined to be of very low safety significance and was entered into Ginna's CAP (CR-2012-0294). This finding has a cross-cutting aspect in the area of problem identification and resolution because Ginna did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner commensurate with their safety significance and complexity.

Analysis. The inspectors determined that not having adequate compensatory corrective actions for the adverse trends in human performance and component mispositioning events was a performance deficiency. The inadequate compensatory actions resulted in AFW valve 4082 incorrectly mispositioned shut and tagged which inadvertently made the 'A' and 'B' MDAFW trains inoperable at the same time. The inspectors determined that the performance deficiency is more than minor because it was associated with the human performance attribute of the Mitigating Systems cornerstone, and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). The inspectors evaluated this finding using Phase 1, "Initial Screening and Characterization of Findings" of Attachment 4 to IMC 0609. The inspectors determined this finding to be of very low safety significance because it was not a design or qualification deficiency, did not involve an actual loss of safety function for greater than its TS allowed outage time, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a cross-cutting aspect in the area of problem identification and resolution because Ginna did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity [P.1(d)]. Specifically, Ginna did not implement appropriate compensatory actions to address a weakness in procedure use and adherence by operations personnel.

Enforcement. 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and

equipment, and nonconformance are promptly identified and corrected. Contrary to the above, in October 2011, Ginna did not establish adequate measures to assure that a condition adverse to quality identified in an ACE conducted as a result of an adverse trend in component mispositioning events, some of which involved safety related equipment, was promptly corrected. Specifically, Ginna's compensatory actions for a deficiency identified in human performance and component mispositioning were not adequate to correct the weaknesses in procedure use and adherence by operations personnel. As a result, on January 17, 2012, AFW valve 4082 was incorrectly mispositioned shut and tagged which made two trains of MDAFW inoperable.

Ginna's corrective actions included compensatory actions which required 100 percent peer checks on all tagout applications, a separate pre-job brief for the independent verification of tagouts, and for a senior reactor operator to observe the independent verification portion of the tagout process. Because this finding is determined to be of very low safety significance and was entered into Ginna's CAP (CR-2012-0294), this violation is being treated as an NCV consistent with the NRC Enforcement Policy. **(NCV 05000244/2012002-01, Inadequate Corrective Action on Human Performance Issues Results in Two Trains of Auxiliary Feedwater Inoperable)**

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

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that Ginna performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that Ginna personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When Ginna performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Planned testing of fire suppression system S01 concurrent with channel 3 axial offset calibrations and technical support center (TSC) inverter work on January 11, 2012
- Planned maintenance on the 'A' spent fuel pool (SFP) pump and heat exchanger (HX) and the 'C' SW pump on February 14, 2012
- Planned replacement of the 'B' feed regulating valve positioner PZ/4270, a licensee categorized nuclear high risk activity, on February 15, 2012
- Planned maintenance on the 'B' EDG on February 29, 2012

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – Four samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- High water content in 'A' MDAFW pump inboard bearing oil on January 25, 2012
- Potential spurious opening of containment sump valves motor-operated valve (MOV) 851A and MOV-851B on February 9, 2012
- 'B' EDG jacket water particulate on February 21, 2012
- Aging effects due to SW corrosion of the SI and AFW pump outboard bearing housings on March 21, 2012

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to Ginna's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by Ginna. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – Two samples)

Permanent Modifications

a. Inspection Scope

The inspectors evaluated the modifications listed below to verify that the design bases, licensing bases, and performance capability of the affected systems were not degraded by the modification. In addition, the inspectors reviewed modification documents associated with the upgrade and design change. For engineering change package (ECP) 11-000928, documents reviewed included the installation of 18 pumps, installation of discharge lines, and installation of five local control panels. For ECP 11-000380, documents reviewed included the installation of the new SW piping and welding to penetrations P201 and P209.

- ECP 11-000928 - Installation of Offsite Power Cable Manhole Dewatering System.
- ECP 11-000380 - Replacement of the Internals of SW Containment Penetrations P201 and P209.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- 'A' MDAFW system repairs on January 18, 2012
- 'B' MDAFW bypass valve actuator overhaul on February 8, 2012
- 'C' SW pump motor replacement on February 16, 2012
- 'C' SI pump suction MOV planned grease check and stem lube maintenance on March 13, 2012
- 'A' component cooling water (CCW) HX maintenance on March 16, 2012
- 'B' charging pump planned varidrive lube, inspection, and low speed stop check maintenance with the room coolers OOS on March 22, 2012

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – Seven samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and Ginna procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- STP-O-3QB, Containment Spray (CS) Pump 'B' Quarterly Test on January 5, 2012 (In-Service Test (IST))
- STP-I-9.1.16, 480-Volt Safeguard Bus 16 Undervoltage (UV) Protection Inspection on January 6, 2012
- CPI-Tavg-403, Calibration of Tavg Loop 403 on February 7, 2012

- STP-O-36QC, Standby AFW Pump 'C' Quarterly Test on February 13, 2012 (IST)
- STP-O-16QT, AFW Turbine Pump Quarterly Test on February 26, 2012 (IST)
- STP-I-9.1.17, 480-Volt Safeguard Bus 17 UV Protection Inspection on March 2, 2012
- S-12.4, Reactor Coolant System (RCS) Leakage Surveillance on March 27, 2012

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – One sample)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine Ginna emergency drill on March 6, 2012, to identify any weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator, TSC, and emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the station drill critique to compare inspector observations with those identified by Ginna staff in order to evaluate Ginna's critique and to verify whether the Ginna staff was properly identifying weaknesses and entering them into the CAP.

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

During the period March 12 through March 15, 2012, the inspectors conducted the following activities to verify that Ginna properly assessed the radiological hazards in the workplace and implemented appropriate radiation monitoring and exposure controls. Implementation of these controls was reviewed against the criteria contained in 10 CFR Part 20, TSs, and Ginna's procedures.

Radiological Hazards Control and Work Coverage

The inspectors identified work performed in radiological controlled areas and evaluated Ginna's assessment of the radiological hazards. The inspectors evaluated the survey maps, exposure control evaluations, electronic dosimeter dose/dose rate alarm set

points, and radiation work permits (RWPs) associated with these areas to determine if the exposure controls were acceptable. In particular, the inspectors reviewed the electronic dosimeter dose/dose rate alarm set points stated on the RWP to determine if the set points were consistent with the survey indications and plant policy. Specific work activities evaluated included routine operations and radiation protection department activities, RWP Nos.12-6001 and 12-5006, respectively.

The inspectors reviewed the hazard assessment related to installing a filtration system in the 'A' chemical and volume control system (CVCS) tank, a locked high radiation area. This recirculation system is designed to remove irradiated metallic debris (referred to as SWARF) that entered the CVCS system as a result of replacing baffle bolts during the spring 2011 outage. The inspectors discussed the system design and operating procedure with system engineering personnel, walked down areas affected by the system installation, and assessed the radiological controls that would be implemented for performing the cleanup.

The inspectors toured site radiological controlled areas including the auxiliary building, SFP area, contaminated material storage building, old steam generator mausoleum, and radioactive waste storage building to assess the adequacy of radiological controls. The inspectors performed independent radiation surveys of selected areas to confirm the accuracy of survey data, the adequacy of postings, and that selected locked high radiation areas were properly secured. The inspectors verified that continuous air monitors were strategically located to assure that potential airborne contamination could be timely identified and that the monitors were located in low background areas. During tours, radiation protection technicians (RPTs) were questioned regarding their knowledge of plant radiological conditions for selected jobs and the associated controls. The inspectors reviewed recent air sample records for samples taken during auxiliary building floor repairs including floor sanding, vacuum cleaner maintenance, and emptying debris from the collection hopper to determine if the samples collected were representative of the breathing air zone and analyzed/recorded in accordance with established procedures.

The inspectors reviewed the alpha contamination monitoring program and implementing procedures and during plant tours, verified that areas having potential alpha contamination were properly designated and controlled.

Instructions to Workers

By observing RWP briefings at the control point, the inspectors verified that workers performing radiological-significant tasks were properly informed of electronic dosimeter alarm set points, low dose waiting areas, stay times, work site radiological conditions, and that the worker recorded this information on a trip card.

During tours, the inspectors verified that locked high radiation areas had the appropriate warning signs and were secured. Additionally, the inspectors verified that hot spots were conspicuously identified and low dose waiting areas were appropriately surveyed, identified, and used by personnel.

The inspectors discussed with the radiation protection supervision the procedural controls for accessing locked high radiation areas and very high radiation areas and

determined that no changes have been made to reduce the effectiveness and level of worker protection. The inspectors inventoried locked high radiation area and very high radiation area keys to confirm that keys were properly accounted for.

Contamination and Radioactive Material Control

During plant tours, the inspectors confirmed that contaminated materials were properly bagged, surveyed/labeled, and segregated from work areas. The inspectors observed workers using contamination monitors to determine if various tools and equipment were potentially contaminated and met criteria for releasing the materials from the radiological controlled area.

Radiological Hazards Control and Work Coverage

During plant tours, the inspectors verified that workers wore the appropriate protective equipment, had dosimetry properly located on their bodies, and were under the positive control of radiation protection personnel. Supervisory personnel monitored work activities using remote audio/video and teledosimetry to assure that worker's exposure was minimized and that RWP requirements were met.

Radiation Worker/Radiation Protection Technician Performance

The inspectors observed and questioned radiation workers and RPTs regarding radiological controls applied to various tasks. The inspectors verified that the workers were aware of current RWP requirements, radiological conditions, access controls, and that the skill level was appropriate with respect to the potential radiological hazards and the work being performed.

The inspectors attended the radiation protection department daily planning meeting to assess the level of detail provided to workers regarding planned work activities including the job hazards assessment, industrial safety measures, and radiological controls.

The inspectors reviewed CRs related to radiation worker, RPT errors, and personnel contamination event reports to determine if an observable pattern traceable to a similar cause was evident.

Problem Identification and Resolution

A review of a quality performance assessment audit, dose/dose rate alarm reports, personnel contamination reports, and CRs was conducted to determine if identified problems and negative performance trends were entered into Ginna's CAP and evaluated for resolution and to determine if an observable pattern traceable to a similar cause was evident.

Relevant CRs associated with radiation protection program implementation initiated between July 2011 and March 2012 were reviewed and discussed with Ginna to determine if the follow-up activities were being performed in an effective and timely manner, commensurate with their safety significance.

b. Findings

No findings were identified.

2RS02 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

From March 12 to 15, 2012, 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) for activities performed during routine operations. 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 reviewed pertinent information regarding site cumulative exposure history, current exposure trends, and the exposure for the spring 2011 outage. The inspectors reviewed Ginna's 5-year dose reduction plan.

The inspectors reviewed the exposure status for tasks performed during power operations in 2011 and compared actual exposure with forecasted estimates.

The inspectors evaluated the departmental interfaces between radiation protection, operations, maintenance crafts, and engineering to identify missing ALARA program elements and interface problems. The evaluation was accomplished by interviewing site staff, reviewing recent station ALARA committee meeting minutes, and attending a station ALARA committee meeting.

The inspectors also reviewed the effectiveness of the ALARA advocate program in which various departments provide direct input to the radiation protection department to raise awareness of exposure control issues and focus on challenges in reducing personnel dose.

Verification of Dose Estimates

The inspectors reviewed the assumptions and basis for the annual forecasted exposure for power operations. Particular attention was given to dose-intensive tasks scheduled prior to the fall 2012 outage. These tasks included radiation waste packaging/shipping, use of sub-micron filters in the letdown filter system, and installation and operation of a filtration system for the 'A' CVCS tank.

The inspectors also reviewed the temporary shielding program that was used subsequent to the spring 2011 outage to lower the dose rates in areas affected by the transport of SWARF into piping and components of the CVCS system. The SWARF resulted from cutting and replacing baffle bolts. Since the 2011 refueling outage, the

CVCS cubicle upper and lower levels, RHR system sub-basement, the gas stripper pump area, and chemical holdup tank room have been locked high radiation areas as a result of SWARF contaminating these systems.

The inspectors evaluated Ginna procedures associated with monitoring and re-evaluating dose estimates and additional dose allocations when the forecasted cumulative exposure for tasks was approached. Included in the review was the criteria for initiating work-in-progress reports, and involvement by the station ALARA committee to assess the effectiveness of ALARA measures and address shortcomings in the original dose estimates.

Additionally, the inspectors reviewed the exposures for the 10 workers receiving the highest doses for 2011 to confirm that no individual exceeded the regulatory limits or performance indicator thresholds.

Source Term Reduction and Control

The inspectors reviewed the status and historical trends for the site source term. Through review of survey maps and interviews with the radiological engineering supervisor, the inspectors evaluated past source term measurements and control strategies. Specific strategies employed included use of macro-porous cleanup resin, increased filtration flow, decreasing filter pore size, enhanced chemistry controls, system flushes, and temporary shielding.

Job Site Inspections

The inspectors reviewed the ALARA controls for ongoing jobs. The dose reduction controls were evaluated for performing resin transfers (using a new auto-sampler fill head), cleanup of the 'A' CVCS tank, and using remote audio/video monitors for conducting surveys on spent filter shipments.

Workers were questioned regarding their knowledge of job site radiological conditions and ALARA measures applied to their tasks.

Problem Identification and Resolution

The inspectors reviewed elements of Ginna's CAP related to implementing the ALARA program to determine if problems were being entered into the program for timely resolution, the comprehensiveness of the cause evaluation, and the effectiveness of the corrective actions. Specifically, CRs related to programmatic dose challenges, personnel contaminations, dose/dose rate alarms, and the effectiveness in predicting and controlling worker exposure were reviewed.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Initiating Events (Three samples)

a. Inspection Scope

The inspectors reviewed Ginna's submittal for the initiating events cornerstone performance indicators for 2011 discussed below:

- Unplanned scrams per 7,000 critical hours
- Unplanned power changes per 7,000 critical hours
- Unplanned scrams with complications

To determine the accuracy of the performance indicator (PI) data reported during this period, the inspectors used definitions and guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment PI Guideline," Revision 6. The inspectors also reviewed Ginna's operator narrative logs, CRs, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – Two samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Ginna entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended CR screening meetings.

b. Findings

No findings were identified.

.2 Annual Sample: Failure of Turbine-Driven Auxiliary Feedwater Pump Recirculation Valve to Open

a. Inspection Scope

The inspectors performed an in-depth review of Ginna's prompt investigation and ACE regarding a failure of the TDAFW pump recirculation air-operated valve (AOV) 4291 to open. Specifically, on December 2, 2011, operators identified that after restoration, AOV-4291 failed to open as expected. The normally open valve automatically closes on a pump start and provides minimum flow protection for the TDAFW pump by opening when TDAFW flow is less than 100 gallons per minute. The valve had been closed as part of safety tagging boundary in order to complete an inspection of the TDAFW pump turbine bearing. The valve fails open on loss of control air via spring force from the actuator. Air is applied to close the valve when required. A hand wheel is installed on the actuator to allow manually closing the valve for maintenance purposes. However, once the hand wheel is opened, the actuator spring force should fully open the valve.

The apparent cause documented in the ACE was that excessive closure force applied during installation of the tagout caused the valve plug to be jammed into the seat resulting in the valves inability to reopen. The number of turns recorded to close the valve on the tagging order was 16½ turns. Technicians later measured the turns required to close the valve as 14½. During valve repair activities, the valve plug and seat were inspected with minor damage noted. The valve stem was replaced and the valve was repacked and was subsequently tested satisfactorily. The corrective maintenance for the valve failure resulted in additional unavailability time for the TDAFW pump.

The inspectors walked down the system and met with the system engineer and the component engineer. Additionally, the inspectors reviewed the other AOVs in the AFW system and discussed system operation with operations and engineering personnel. Corrective actions planned included revising the procedures where the valve is manipulated manually to include a caution stating the maximum expected hand wheel turns to close AOV-4291 is 14½ turns. Ginna personnel are also evaluating changing the isolation point from AOV-4291 to a manual valve downstream of AOV-4291.

b. Findings and Observations

No findings were identified.

Ginna personnel identified the failure of the valve to reopen before the system was fully restored and took immediate action to identify the cause of the valve failure and correct it. Through review of the prompt investigation, the CR, the ACE, and through discussions with appropriate station personnel, the inspectors found Ginna's conclusions and planned corrective actions reasonable. The inspectors found that the issues had been accurately documented in Ginna's CAP and appropriate extent-of-condition reviews had been performed to assess the potential impact on other system AOVs. The inspectors did not identify any additional issues. The inspectors determined Ginna's overall response to the issue was commensurate with the safety significance, was timely, and included appropriate corrective actions.

.3 Annual Sample: Valve Lubrication Program

a. Inspection Scope

The inspectors performed an in-depth review of Ginna's corrective actions associated with CR-2011-7817, inadequate valve maintenance program has contributed to injuries and equipment reliability, and CR-2011-7861, emergency operating procedure (EOP) directed manual valve operation. Specifically, these CRs questioned the lack of a manually operated valve maintenance program including manual valves that are required to be operated to implement EOPs.

The inspectors assessed Ginna's problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of Ginna's corrective actions to determine whether Ginna was appropriately identifying, characterizing, and completed corrective actions were appropriate. In addition, the inspectors observed the motor grease check and stem valve lubrication of MOV-857C, RHR pump discharge to SI pump suction valve on March 5, 2012, and interviewed Ginna personnel to assess the effectiveness of the implemented corrective actions.

b. Findings and Observations

No findings were identified.

Ginna's existing manual valve lubrication program currently contains approximately 250 valves. All manually operated EOP valves were added to this lubrication program. Ginna's current process requires that if a manually operated valve is identified as difficult to operate, a CR will be generated and a new preventive maintenance task will be created to periodically clean and lubricate the valve. The inspectors determined that Ginna's current process will add valves identified as difficult to operate into the manual valve lubrication program. The inspectors questioned if the licensee planned on conducting a programmatic evaluation to determine if additional valves, beyond those used in the EOPs, should be added to the lubrication program prior to being identified as difficult to operate. Station management determined that additional reviews should be taken and it was entered into Ginna's CAP as CR-2012-002748. The inspectors concluded that the completed and additional corrective actions were appropriate and no current operability concerns were identified.

4OA5 Other Activities

(Closed) NRC Temporary Instruction (TI) 2525/177: Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray System

a. Inspection Scope

The inspectors performed the inspection in accordance with TI 2515/177, "Managing Gas Accumulation in Emergency Core Cooling (ECC), Decay Heat Removal (DHR), and CS Systems." The NRC staff developed TI 2515/177 to support the NRC's confirmatory review of licensee responses to NRC Generic Letter (GL) 2008-01, "Managing Gas Accumulation in ECC, DHR, and CS Systems." Based on a review of Ginna's GL 2008-01 response letters, the Office of Nuclear Reactor Regulation staff provided additional

plant-specific guidance on inspection scope to the regional inspectors. The inspectors used this inspection guidance, along with the TI, to verify that Ginna implemented or was in the process of acceptably implementing the commitments, modifications, and programmatically controlled actions described in their GL 2008-01 response. The inspectors verified that the plant-specific information (including licensing basis documents and design information) were consistent with the information that Ginna submitted to the NRC in response to GL 2008-01.

The inspectors reviewed isometric drawings, piping and instrumentation drawings (P&IDs), and conducted selected system piping walkdowns to verify that Ginna's drawings reflected the subject system configurations and UFSAR descriptions. Specifically, the inspectors verified the following related to isometric drawings for the SI, CS, and RHR systems:

- High point vents were identified
- High points that did not have vents were recognized and evaluated with respect to their potential for gas buildup
- Other areas where gas could accumulate and potentially impact subject system operability such as orifices in horizontal pipes, isolated branch lines, HXs, improperly sloped piping, and under closed valves were acceptably evaluated in engineering reviews or had ultrasonic testing (UT) points which would reasonably detect void formation
- For piping segments reviewed, branch lines and fittings were clearly shown

The inspectors conducted walkdowns of portions of the above systems to evaluate the acceptability of Ginna's drawings used during their review of GL 2008-01. The inspectors verified that Ginna conducted walkdowns of the applicable systems to confirm that the combination of system orientation, vents, instructions and procedures, testing, and training would ensure that each system was sufficiently full of water to ensure operability. The inspectors reviewed Ginna's methodology used to determine system piping high points, identification of negative sloped piping, and calculations of void sizes based on UT equipment readings to ensure the methods were reasonable. The inspectors also reviewed engineering analyses associated with the development of acceptance criteria for as-found voids. The review included an assessment of the engineering assumptions for void transport and acceptability of void fractions at the suction and discharge piping of the applicable system pumps. In addition, the inspectors verified that Ginna included all emergency core cooling systems (ECCSs) within scope of the GL.

The inspectors reviewed a sample of Ginna's procedures used for filling and venting the associated GL 2008-01 systems to verify that the procedures were effective in venting or reducing voiding to acceptable levels. The inspectors verified that Ginna's venting surveillance frequencies were consistent with Ginna's TSs and associated bases and the UFSAR. The inspectors also reviewed a sample of system venting surveillance results to ensure proper implementation of the surveillance program.

The inspectors reviewed CAP documents to verify that selected actions described in Ginna's 9-month and supplemental submittals were acceptably documented including completed actions and implementation schedule for incomplete actions. The inspectors also verified that the NRC commitments in Ginna's submittals were included in the CAP.

Additionally, the inspectors reviewed evaluations and corrective actions for various issues Ginna identified during their GL 2008-01 review. The inspectors performed this review to ensure Ginna appropriately evaluated and adequately addressed any gas voiding concerns including the evaluation of operability for gas voids discovered in the field. Finally, the inspectors reviewed Ginna's training associated with gas accumulation to assess if appropriate training had been provided to the operations and engineering support staff to ensure appropriate awareness of the effects of gas voiding.

b. Findings and Observations

No findings were identified. This completes the inspection requirements for TI 2515/177.

4OA6 Meetings, Including Exit

Exit Meeting

On April 10, 2012, the inspectors presented the inspection results to Mr. Edwin D. Dean, III and other members of the Ginna staff. The inspectors verified that no propriety information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY 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
S. Doty	Manager, Maintenance
M. Geckle	Manager, Training
E. Hedderman	Director, Performance Improvement
K. McLaughlin	General Supervisor, Shift Operations
T. Mogren	Manager, Engineering Services
T. Paglia	Manager, Operations
J. Scalzo	Director, Emergency Preparedness
S. Snowden	General Supervisor, Chemistry
S. Wihlen	Manager, Integrated Work Management

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

05000244/2012002-01	NCV	Inadequate Corrective Action on Human Performance Issues Results in Two Trains of Auxiliary Feedwater Inoperable (Section 1R12)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures
ER-SC.1, Adverse Weather Plan, Revision 01800
IP-REL-7, Seasonal Readiness Program, Revision 00200
O-22, Cold Weather Walkdown Procedure, Revision 00802

Condition Reports
CR-2012-0204
CR-2012-0786
CR-2012-0983

Section 1R04: Equipment Alignment

Document
AFW System Health Report (October to December 2011)

Procedures
A-54.7, Fire Protection Tour, Revision 03402
STP-M-38.1, Diesel Fire Pump Engine Maintenance and Inspection, Revision 00200
STP-O-16QA, AFW Pump 'A' – Quarterly, Revision 00501
STP-O-16QB, AFW Pump 'B' – Quarterly, Revision 00002
STP-O-16QT, AFW Turbine Pump – Quarterly, Revision 00700
STP-O-30.1, SI System Valve and Breaker Position Verification, Revision 00100
STP-O-30.2, RHR System Valve and Breaker Position Verification, Revision 00001
STP-O-36QC, Standby AFW Pump 'C' – Quarterly, Revision 00300
STP-O-36Q-D, Standby AFW Pump 'D' – Quarterly, Revision 00300
T-41A, Alignment of AFW System Prior to Power Operation, Revision 08000
T-44.2, Standby AFW System Alignment for Normal Operation, Revision 03000

Drawings
33013-1234, Condensate Storage P&ID, Revision 041
33013-1237, AFW P&ID, Revision 058
33013-1238, Standby AFW P&ID, Revision 026
33013-1247, Auxiliary Coolant RHR P&ID, Revision 046
33013-1261, CS SI P&ID, Revision 042
33013-1262, SI and Accumulators P&ID, Sheet 1 of 2, Revision 27
33013-1262, SI and Accumulators P&ID, Sheet 2 of 2, Revision 7
33013-1989, Fire Protection Systems Fire SW Plant Systems P&ID, Revision 027

Condition Reports

CR-2011-1616	CR-2012-0230	CR-2012-0365
CR-2011-4416	CR-2012-0294	CR-2012-0391
CR-2011-6300	CR-2012-0326	CR-2012-0508
CR-2011-6907	CR-2012-0328	CR-2012-1243
CR-2011-7577	CR-2012-0344	CR-2012-1246
CR-2011-8556	CR-2012-0355	

Work Order
WO C91284099

Section 1R05: Fire Protection

Document
R.E. Ginna Fire Protection Program, Revision 6.1

Procedures
A-54.7, Fire Protection Tour, Revision 03402
EP-FIRE.0, Control Room Response to Fire Alarms and Reports, Revision 00904
FPS-16, Bulk Storage of Combustible Materials and Transient Fire Loads, Revision 01500
FRP-4.0, Auxiliary Building Basement, Revision 00701
FRP-6.0, Auxiliary Building Operating Floor, Revision 00603

FRP-24.0, Diesel Generator Room 'A' and Vault, Revision 004
SC-3, Site Contingency Plan-SC-3 Fire Emergency Plan, Revision 03902
SC-3.1.1, Fire Alarm Response (Fire Brigade Activation), Revision 017
SC-3.4.1, Fire Brigade Captain and Control Room Personnel Responsibilities, Revision 03902
SC-3.15.17, Technical Requirements Manual Fire Watch Posting, Revision 02602

Drawings
21488-0100, Sheet 4, Fire Barrier General Arrangement Drawing Fire, Smoke and Pressure Barriers Plan View, Elevation 271 feet, Revision 13
33013-2540, Fire Response Plan General Plant Drawing Index & Symbol Legend, Revision 7
33013-2543, Fire Response Plan Auxiliary Building Plan-Basement Floor, Elevation 235 feet 8 inches, Revision 004
33013-2544, Fire Response Plan Turbine Building Plan-Basement Floor, Elevation 253 feet 6 inches, Revision 011
33013-2545, Fire Response Plan Containment Structure and Intermediate Building Plan, Intermediate Floor, Elevation 253 feet 3 inches, Revision 9
33013-2552, Fire Response Plan Auxiliary Building Plan-Operating Floor, Elevation 271 feet, Revision 007
33013-2559, Fire Response Plan Control Building Plan Views, Revision 13

Condition Report
CR-2012-0210

Section 1R06: Flood Protection Measures

Document
Site Emergency Plan Topic II-3.B, Deer Creek Overflow Flooding Study, January 31, 1983

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

Condition Reports
CR-2010-6914
CR-2012-0786
CR-2012-0817
CR-2012-0983
CR-2012-1218

Work Orders
WO C90995235
WO C90995433

Section 1R11: Licensed Operator Requalification Program

Procedures
CNG-OP-1.01-1000, Conduct of Operations, Revision 00600
CNG-OP-1.01-2003, Alarm Response and Control, Revision 00200
OTG-2.2, Simulator Examination Instructions, Revision 43
STP-O-1, Rod Control System, Revision 00103

STP-O-2.1QALU, SI Pump 'A' Quarterly Test, Revision 00000
STP-O-16QT, AFW Turbine Pump – Quarterly, Revision 00700

Section 1R12: Maintenance Effectiveness

Documents
AFW System Health Report, October 1 to December 31, 2011
AFW System Maintenance Rule Functional Failure Evaluations, March 12, 2012
QPA Assessment Report 2011-0004, Assessment of Ginna Nuclear Power Plant Tagging Activities, January 31, 2011
QPA Assessment Report 2011-0060, Ginna Assessment of the Site Human Performance Program, September 22, 2011
Radiation Monitoring System Health Report, October 1 to December 31, 2011
Radiation Monitoring System Maintenance Rule Functional Failure Evaluations, January 31, 2012
RMS08 Maintenance Rule Status/Goal Record, February 1, 2012
RMS08A Maintenance Rule Status/Goal Record, February 1, 2012
Root Causal Analysis Report, Human Performance Errors by Operators Have Resulted in Repeat Events Such as Component Mispositioning and Tagging Events
WPLNRC-1002481, 30-Day Special Report – Inoperable Radiation Monitors, December 6, 2011

Procedures
CNG-CA-1.01, Performance Improvement Program, Revision 00200
CNG-CA-1.01-GL002, Casual Analysis Handbook, Revision 00200
CNG-CA-1.01-1000, CAP, Revision 00600
CNG-CA-1.01-1005, ACE, Revision 00601
CNG-HU-1.01-1001, Human Performance Tools and Verification Practices, Revision 00600
CNG-OP-1.01-1007, Clearance and Safety Tagging, Revision 00701
E-0, Reactor Trip or SI, Revision 04500
EPIP-2-5, Emergency Dose Projections – Personal Computer Method, Revision 02100
EPIP-2-18, Control Room Dose Assessment, Revision 02000
IP-EPP-10, Control of Emergency Response Facilities and Equipment, Revision 00301
OPG-OPERATIONAL-FOCUS, Operational Focus Guidance, Revision 00301
T-16J, Air Ejector Rate Measurement While Isolated From the Gland Steam Vent, Revision 00903

Drawing
33013-1237, AFW P&ID, Revision 058

Condition Reports

CR-2010-0395	CR-2011-5083	CR-2011-8285
CR-2010-4007	CR-2011-5555	CR-2011-8464
CR-2011-2513	CR-2011-5607	CR-2012-0010
CR-2011-2766	CR-2011-6173	CR-2012-0294
CR-2011-2781	CR-2011-6120	CR-2012-0297
CR-2011-2995	CR-2011-6652	CR-2012-0591
CR-2011-4062	CR-2011-8244	CR-2012-1286
CR-2011-4790	CR-2011-8247	CR-2012-1396

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures
CNG-HU-1.01-1002, Pre-Job Briefings and Post-Job Critiques, Revision 00500
CNG-OP-4.01-1000, Integrated Risk Management, Revision 01000
EM-800, Tuning and Positioner Replacement for PZ/4269 and PZ/4270, Revision 00500
ER-SFP.2, Diverse SFP Makeup and Spray, Revision 00201
OPG-PROTECTED-EQUIPMENT, Protected Equipment Postings for Major Equipment, Revision 00300

Condition Reports
CR-2012-0028
CR-2012-0159
CR-2012-0893
CR-2012-0911
CR-2012-0912

Work Orders
WO C90912610
WO C91038532
WO C91245111
WO C91785668

Section 1R15: Operability Determinations and Functionality Assessments

Documents
DA-EE-2000-066, Appendix R Conformance Analysis, Revision 2
Extent of Condition Review CR-2012-0697
License Amendment No. 7, dated May 14, 1975
Operability Determination CR-2012-0697
Operability Determination CR-2012-1018
Safety Evaluation Report, dated December 27, 1974
Secy-77-439, Single Failure Criteria, dated August 17, 1977
Secy-05-0138, Risk-Informed and Performance-Based Alternatives to the Single Failure Criterion, dated August 2, 2005
Technical Evaluation CR-2012-0697
Testoil Industrial Analysis Oil Analysis Report for 'A' AFW Pump, dated January 19, 2012
WCAP-8966, Evaluation of Mispositioned ECCS Valves, dated September 1977

Procedures
CNG-OP-1.01-1002, Conduct of Operability Determinations/Functionality Assessments, Attachment 1, Operability Determination, Revision 00101
ER-Fire.3, Alternate Shutdown for Auxiliary Building Basement/Mezzanine Fire, Revision 03105

Condition Reports
CR-2012-0365
CR-2012-0463
CR-2012-0556
CR-2012-0697

Section 1R18: Plant Modifications

Documents
ECP-11-000380, Replacement of the Internals of SW Containment Penetrations P201 and P209
ECP-11-000928, Installation of Offsite Power Cable Manhole Dewatering System, Revision 0000

Procedures
CNG-AM-1.01-1029, Medium Voltage Cable Program, Revision 00000
CNG-CM-1.01-1003, Design Engineering and Configuration Control, Revision 00500
CNG-MN-4.01-1008, Pre/Post-Maintenance Testing, Revision 00100
OPG-OPERATIONAL-FOCUS, Operational Focus Guidance, Revision 00301

Drawings
33013-14, 34.5-kV Duct and Control Duct Plan and Profile, Revision K
33013-1250, Station SW P&ID, Revision 34, Sheet 3 of 3
C381-0358, Station SW Inside Reactor From Penetration 201 to Reactor Cavity Cooler, Revision 003, Sheet 28

Condition Reports
CR-2010-5103
CR-2011-6677
CR-2011-6889
CR-2011-6990
CR-2012-0400
CR-2012-1119
CR-2012-1143
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Work Orders
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WO C91710210

Section 1R19: Post-Maintenance Testing

Procedures
M-11.4.13, Charging Pump Drive Inspection and Lubrication, Revision 02000
STP-O-2.3Q, Quarterly Safeguard Power Operated Valve Operation, Revision 00001
STP-O-2.8Q, CCW Pump Quarterly Test, Revision 00503
STP-O-16-COMP-A, AFW Pump ‘A’ – Comprehensive Test, Revision 00600
STP-O-16QA, AFW Pump ‘A’ – Quarterly, Revision 00501
STP-O-16QB, AFW Pump ‘B’ – Quarterly, Revision 00002
STP-O-31B, Charging Pump ‘B’ IST, Revision 00502
STP-O-39, Leakage Evaluation of Primary Coolant Sources Outside Containment, Revision 00101

Drawings
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33013-1262, SI and Accumulators P&ID, Revision 27, Sheet 1

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Work Orders
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Section 1R22: Surveillance Testing

Procedures
A-3.3, Containment Integrity Program, Revision 02000
CNG-HU-1.01-1001, Human Performance Tools and Verification Practices, Revision 00600
CNG-PR-1.01-1009, Procedure Use and Adherence Requirements, Revision 00601
CPI-Tavg-403, Calibration of Tavg Loop 403, Revision 02201
S-12.4, RCS Leakage Surveillance Record Instructions, Revision 05401
STP-I-9.1.16, UV Protection – 480-Volt Safeguard Bus 16, Revision 00300
STP-I-9.1.17, UV Protection – 480-Volt Safeguard Bus 16, Revision 00200
STP-O-3QB, CS Pump 'B' Quarterly Test, Revision 00201
STP-O-16QT, AFW Turbine Pump – Quarterly, Revision 00700
STP-O-39, Leakage Evaluation of Primary Coolant Sources Outside Containment, Revision 00101
STP-O-36QC, Standby AFW Pump 'C' – Quarterly, Revision 00300

Drawings
33013-1261, CS SI P&ID, Revision 037
10905-0055, Auxiliary Relay Rack Elementary Wiring Diagram UV Scheme Bus16, Revision 009, Sheet 2 of 3
10905-0055, 480-Volt Bus 16 – Unit 11A Potential Transformer and UV Relays Elementary Wiring Diagram, Revision 011, Sheet 3 of 3
33013-1238, Standby AFW P&ID, Revision 026

Condition Reports
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CR-2012-0085
CR-2012-0710
CR-2012-0760
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Work Orders
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WO C91285906
WO C91288078

Section 2RS01: Radiological Hazard Assessment and Exposure Controls

Documents
Comparison of Electronic Dosimeter Doses with Thermo Luminescent Dosimeter Doses
Electronic Dosimeter Dose/Dose Rate Alarm Reports, July 2011 to February 2012
Supervisory Observations of Radiological Controls from January to March 2012
Top 10 Individual Exposure Records for 2011

Procedures
A-1.1, Access Control to Locked High Radiation and Very High Radiation Areas, Revision 04802
CNG-RP-1.01-1000, On-Line Dose Performance Threshold Criteria, Revision 00000
CNG-RP-1.01-2001, Dosimetry, Revision 00000
CNG-RP-1.01-3001, Alpha Monitoring and Control, Revision 00000
RP-1006, Radiation Protection NRC Performance Indicator, Revision 00001
RP-ALPHA-RAD-MON, Alpha Radiation Monitoring, Revision 00200
RP-SUR-POST, Radiological Postings and Boundary Control, Revision 01300
RPG-72, Radiation Protection Guideline Alpha Characterization
RPP-SUR-REL, Unconditional Release of Material from Restricted Areas
RPSSG-21, Dosimetry Report Guideline

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CR-2011-0190	CR-2011-8201
CR-2011-6574	CR-2011-8239
CR-2011-8400	CR-0212-0601
CR-2011-7705	CR-2012-0602

Quality Performance Assessment Reports
Quality and Performance Assessment Report, 11-13P-G, September 1 to December 1, 2011
Quality Performance Report 2012-001

Section 2RS02: Occupational ALARA Planning and Controls

Documents
Ginna's 5-Year Dose Reduction Plan, 2012 to 2015
Station ALARA Committee Meeting Minutes, Meeting Dates February 8, 2012, December 14 and November 11, 2011

Procedures
IP-RPP-9, Department ALARA Advocate
ND-ALA, ALARA, Revision 00800
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Quality and Performance Assessment Report, 11-13P-G, September 1 to December 1, 2011
Quality Performance Report 2012-001

Section 4OA2: Problem Identification and Resolution

Documents
ACE 2009-003865
ACE 2011-008266
Decision Making Checklist/Event Response Checklist for AOV-4291, December 2, 2011
Prompt Investigation for AOV-4291, December 15, 2011

Procedures
CNG-AM-1.01-1000, Equipment Reliability Process, Revision 00500
CNG-AM-1.01-1010, MOV Program, Revision 00100
CNG-AM-1.01-1018, Preventive Maintenance Program, Revision 00700
CNG-QL-1.01-1008, Quarterly Report Process, Revision 00300
IP-REL-2.3, Lubrication Program, Revision 00300
STP-O-2.3, Safeguard Power Operated Valve Operation, Revision 00100

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CR-2009-0197	CR-2011-6970	CR-2011-7861	CR-2012-1256
CR-2009-3865	CR-2011-7219	CR-2011-8145	CR-2012-1463
CR-2010-2271	CR-2011-7573	CR-2011-8266	
CR-2011-3468	CR-2011-7645	CR-2012-1015	

Work Order
WO C91285226

Section 4OA5: Other Activities

Documents
Closure Letter for Ginna's Response to NRC GL 2008-01, Managing Gas Accumulation in ECC, DHR, and CS Systems, dated April 1, 2011
Letter from John Carlin to NRC, 9-Month Response to NRC GL 2008-01, Managing Gas Accumulation in ECC, DHR, and CS Systems, dated October 13, 2008
Letter from Paul Swift to NRC, Response to Request for Additional Information Related to GL 2008-01, dated March 2, 2011
Office of Nuclear Reactor Regulation Reactor Systems Branch Suggestions for Ginna Inspection Using the Guidance Provided in TI 2512/177
UFSAR, Revision 23

Procedures
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EP-UT-600, Ultrasonic Surveillance Testing of RHR Pump 'A' and Associated Piping, Revision 00100
EP-UT-601, Ultrasonic Surveillance Testing of RHR Pump 'B' and Associated Piping, Revision 00200

EP-UT-602, Ultrasonic Surveillance Testing of SI Pump 'A' and Associated Piping, Revision 00101
EP-UT-603, Ultrasonic Surveillance Testing of SI Pump 'B' and Associated Piping, Revision 00101
EP-UT-604, Ultrasonic Surveillance Testing of SI Pump 'C' and Associated Piping, Revision 00102
EP-UT-605, Ultrasonic Surveillance Testing of CS Pump 'A' and Associated Piping, Revision 00100
EP-UT-606, Ultrasonic Surveillance Testing of CS Pump 'B' and Associated Piping, Revision 00100
O-6.13, Daily Surveillance Log, Revision 17802
S-13B, RHR Pump Isolation and Restoration, Revision 02600
S-13I, RHR System Outage Restoration, Revision 01800
S-13J, Recirculation and Sample or Velocity Flush of RHR System, Revision 00802
S-16.16B, SI Pump 'B' Isolation/Restoration, Revision 01600
S-16A, SI System Alignment, Revision 07400
S-17.1, CS System Alignment, Revision 02500
STP-O-2.2QA, RHR Pump 'A' IST, Revision 00601
STP-O-23A, Containment Isolation Valve Test Connection/Boundary Control, Revision 00201

Drawings
1869E53, SI/RHR Line Layout Isometric, Revision 3C, Sheets 1, 2, and 3
33013-1247, Auxiliary Coolant RHR, Revision 46
33013-1260, Reactor Coolant, Revision 25
33013-1262, SI and Accumulators, Revision 27, Sheet 1 of 2
33013-1262, SI and Accumulators, Revision 7, Sheet 2 of 2
33013-2085, RHR Pump Recirculation System Modification Piping Isometric and Tubing Details, Revision 0, Sheet 1 of 2
33013-2085, RHR Pump Recirculation System Modification Piping Isometric and Tubing Details, Revision 1, Sheet 2 of 2
33013-2959, RHR Pipe Evaluations (GL 2008-01), Revision 001, Sheet 1
33013-2959, SI Pipe Evaluations (GL 2008-01), Revision 000, Sheet 2
33013-2959, CS Pipe Evaluations (GL 2008-01), Revision 000, Sheet 3
C-381-354, RHR and SI Seismic Isometric Drawing, Revisions 1, 3, 4, 5, 6, 11
C-381-354.2-004, Change in Location of RHR No. 4 Vent Valve (V-8730), Revision 1
C-381-355, SI Isometric, Revisions 1, 2, 2B, 3, 4, 5

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WO 20801607	WO 20802924	WO 90803956
WO 20801615	WO 20802926	
WO 20801616	WO 20802960	

Calculations and Evaluations
33013-1261, CS, Revision 42
A10397-C-001, Evaluation of RHR/SI Gas Void Pressure Transients, Revision 0
A10397-C-002, Structural Screening for RHR/SI Gas Void Pressure Transients, Revision 0
A10397-C-003, Structural Screening Methodology for Gas Void Pressure Transients, Revision 0
DA-ME-07-020, Containment Air Entrainment into the ECC and CS Systems, Revision 001
DA-ME-08-053, CS Pressure Transient, Revision 000

DA-ME-08-058, Gas Void in the RHR System, Revision 0
DA-ME-11-004, UT Gas Voiding Measurement Uncertainty, Revision 0
ECP-09-000386, Determine Acceptance Criterion for Void following Maintenance on RHR HX Bypass Valve V-626, Revision 0
ECP-10-000140, Acceptance Criteria for Voiding in the NaOH Lines to the CS Educator, Revision 0
ECP-11-000154-CN-001, Evaluation of Impact of RHR and SI Vent Voiding, Revision 0
ECP Change Notice 10-00078, Evaluation of RHR for Intermediate Break LOCAs with Void Remaining after V-626 Work, Revision 0

Completed Tests
EP-UT-601, Ultrasonic Surveillance Testing of RHR Pump 'B' and Associated Piping, performed October 28, 2011
EP-UT-603, Ultrasonic Surveillance Testing of SI Pump 'B' and Associated Piping, performed July 5, 2011
EP-UT-606, Ultrasonic Surveillance Testing of CS Pump 'B' and Associated Piping, performed July 6, 2011
51-9081078, Metrology Services Report of Ginna ECCS Piping Slope Measurements, performed June 24, 2008

Corrective Action Documents

2008-003064	2011-004077	2011-007643
2009-005328	2011-004381	2011-007648
2009-005331	2011-006311	2011-007995

Miscellaneous
Constellation Energy Operator Training - Gas Intrusion, LOR Cycle 09-03
CRP No. UFSAR 022.22, Change Request Package to Add GL 2008-01 Program for Gas Voiding into the UFSAR, dated March 23, 2011
ECP-10-000105-CN-005, Addition of RHR System Vents (8730, 8731, 8732, 8745 and 8746), Revision 0
ESP-GCC-Q4GL801, ESP Continuing Training - Gas Intrusion Management, 4th Quarter 2010
LOR-LP-10-02-05, SER 2-05/SOER 97-1, Gas Intrusion in Safety Systems Operating Experience Training, February 2010, Revision 0
PROGPLAN-20090403-00001, Gas Intrusion Management Program, Revision 3
R2501C, Licensed Operator Lesson Plan: RHR System, Revision 20
Technical Training-GL 2008-01, GL 2008-01, August 2008

LIST OF ACRONYMS

ACE	apparent cause evaluation
ADAMS	Agencywide Documents Access and Management System
AFW	auxiliary feedwater
ALARA	as low as is reasonably achievable
AO	auxiliary operator
AOV	air-operated valve
BAST	boric acid storage tank
CAP	corrective action program
CCW	component cooling water
CFR	*Code of Federal Regulations*
CR	condition report
CS	containment spray
CVCS	chemical and volume control system
DHR	decay heat removal
ECC	emergency core cooling
ECCS	emergency core cooling system
ECP	engineering change package
EDG	emergency diesel generator
EOP	emergency operating procedure
GL	generic letter
HX	heat exchanger
IMC	Inspection Manual Chapter
IST	in-service test
LOCA	loss-of-coolant accident
MDAFW	motor-driven auxiliary feedwater
MOV	motor-operated valve
NCV	non-cited violation
NRC	U.S. Nuclear Regulatory Commission
OOS	out of service
P&ID	piping and instrument drawing
PARS	Publicly Available Records
PI	performance indicator
RCS	reactor coolant system
RHR	residual heat removal
RPT	radiation protection technician
RWP	radiation work permit
SDP	significance determination process
SFP	spent fuel pool
SI	safety injection
SSC	structure, system, and component
SW	service water
SWARF	irradiated metallic debris
TDAFW	turbine-driven auxiliary feedwater
TI	temporary instruction
TS	technical specification
TSC	technical support center
UFSAR	updated final safety analysis report
UT	ultrasonic test

UV	undervoltage
WO	work order