November 21, 2005

Mrs. Mary G. Korsnick
Vice President R. E. Ginna Nuclear Power Plant
R. E. Ginna Nuclear Power Plant, LLC
1503 Lake Road
Ontario, NY 14519

SUBJECT: R. E. GINNA NUCLEAR POWER PLANT - NRC SAFETY SYSTEM DESIGN AND PERFORMANCE CAPABILITY INSPECTION REPORT 05000244/2005006

Dear Mrs. Korsnick:

On October 7, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed a safety system design and performance capability team inspection at your R. E. Ginna facility. The enclosed report documents the inspection finding which was discussed on October 7, 2005, with Mr. David Holm 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 inspection team reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one NRC-identified finding of very low safety significance (Green). The finding was also determined to involve a violation of NRC requirements. However, because of the very low safety significance, and because it was entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV) consistent with Section VI.A.1 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 for 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 Ginna.

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

Sincerely,

/RA/

Lawrence T. Doerflein, Chief
Engineering Branch 2
Division of Reactor Safety

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

Enclosure: Inspection Report 050244/2005006
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.	05000244/2005006
Licensee:	Constellation Energy, R. E. Ginna Nuclear Power Plant, LLC
Facility:	R. E. Ginna Nuclear Power Plant
Location:	1503 Lake Road Ontario, New York 14519
Dates:	September 19, 2005 - October 7, 2005
Inspectors:	J. Schoppy, Senior Reactor Inspector, Division of Reactor Safety (DRS) (Team Leader) J. Kulp, Reactor Inspector, DRS J. Lilliendahl, Reactor Inspector, DRS J. Richmond, Reactor Inspector, DRS G. Skinner, NRC Electrical Contractor D. Werkheiser, Reactor Inspector, DRS
Approved by:	Lawrence T. Doerflein, Chief Engineering Branch 2 Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000244/2005006; 09/19/2005 - 10/07/2005; R. E. Ginna Nuclear Power Plant; Safety System Design and Performance Capability.

This inspection was conducted by five inspectors from the NRC's Region I office and an NRC contractor. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for failure to assure that the station battery test procedure incorporated acceptance limits and that test results were evaluated to assure that the test requirements had been satisfied. During the period 2000-2005, the licensee performed three Technical Specification surveillances on each safety-related station battery to verify the Operability of the safety-related components. The inspection team found that the results from the battery test procedure were not adequately assessed. Test results from this period indicated erratic readings on several battery cells; however, the licensee failed to evaluate the impact these readings had on the Operability of the batteries. In response to the team's questions, the licensee entered the issue into their corrective action program (CAP) and was able to show via subsequent test results that the batteries were Operable.

  This finding is greater than minor because it affects the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences as it related to the Procedure attribute. The finding is of very low safety significance because it did not result in a loss of function per existing operability determination guidance. The cause of the finding is related to the cross-cutting area of problem identification and resolution (PI&R). (Section 1R21.3)

B. Licensee-Identified Violations

None.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Mitigating Systems and Barrier Integrity

1R21 Safety System Design and Performance Capability (SSD&PC) (IP 71111.21)

1. Inspection Basis

The NRC team performed an inspection to verify that the selected safety systems would achieve their design and performance capability. The inspection effort reviewed Ginna's programs and methods for monitoring the capability of selected safety systems to perform the current design basis functions. The scope of the team's inspection also included non-safety-related structures, systems and components (SSCs) that provided functions required to support the selected system's safety functions.

The systems reviewed during this inspection were selected by the inspection team using information from Ginna's and NRC's probabilistic risk analysis models. The models were used to identify the risk significant SSCs in the Mitigating System and Barrier Integrity cornerstones. The inspectors also used a deterministic criteria in the selection process by considering previous SSDPC sample selection, recent inspection history, site problem history, and operational experience. The two systems selected for review were:

- component cooling water (CCW)
- turbine driven auxiliary feedwater (TDAFW)

The inspection included review and examination of support systems, such as electrical power, instrumentation, and related structures and components. The team assessed the adequacy of calculations, analyses, engineering processes, and engineering and operating practices that were used by the licensee to support the performance of the selected safety systems and associated support systems during normal, abnormal, and accident conditions. Acceptance criteria utilized by the NRC inspection team included NRC regulations, the technical specifications, applicable sections of the Updated Final Safety Analysis Report (UFSAR), applicable industry codes and standards, as well as, industry initiatives implemented by Ginna's programs. The team also assessed the licensee's ability to monitor the system for age related degradation that could result in the system failing to fulfill its design requirement. A complete list of documents reviewed is included in the attachment to this report.

2. System Needs

a. Inspection Scope

The team inspected the following attributes of the two systems and associated support systems: Process Medium, Energy Sources, Controls, Operator Actions, and Heat Removal. The inspectors verified the above attributes met the requirements and design basis specifications identified in the UFSAR, technical specifications (TSs), licensee commitments, design basis documents, vendor technical manuals and plant drawings. A complete list of documents reviewed is included in the attachment. The attributes that were verified to meet system requirements are described below:

Process Medium. The team assessed the capability of the TDAFW system to supply water at the required flow rate and pressure to the steam generators (SGs), during normal transients, design basis events (DBEs) and station blackout (SBO) conditions and that sufficient water inventory was available to meet design requirements. The team evaluated the net positive suction head (NPSH) available to verify whether cavitation would occur under expected operating conditions at the minimum condensate storage tank (CST) level. The team also assessed whether vortexing would occur at minimum CST level, to evaluate whether adverse effects from air entrainment could result in pump air bindings and loss of suction flow. In addition, the team evaluated the minimum recirculation capability for the TDAFW pump, to verify whether there was adequate removal of pump heat under low flow conditions and to assess whether there were any adverse effects from strong-pump weak-pump interactions from the motor driven AFW pumps, which shared the common recirculation line.

The team assessed the CCW system to determine whether it would supply the required flow rates and cooling water temperature to the residual heat removal system heat exchangers and pump motor coolers, safety injection pumps, containment spray pumps, and reactor coolant pump seals during normal transients and DBEs. The team evaluated the system design to determine whether there were any adverse effects from strong-pump weak-pump interactions to verify adequate removal of pump heat under low flow conditions. In addition, the team reviewed system interactions with other non-safety significant components cooled by CCW, to assess whether there were any common mode adverse effects.

Energy Sources. The team verified that electric (onsite and offsite power), steam, control power and air supplies for the CCW and TDAFW systems would be available during a DBE or SBO accident; and were adequate to energize/actuate the associated equipment during the accident. For electrical systems, the team reviewed the operating procedures, setpoints for degraded voltage relays, battery capacity, circuit breaker coordination, TSs, and other related calculations. The team verified that control power would be available and capable of supplying the required CCW and TDAFW system loads. The team assessed the systems' redundancy and individual component fail-safe capability to determine whether the loss of a single steam or air supply source could prevent the system from performing its design functions. The team also ensured that hydraulic and pneumatic sources for TDAFW turbine governor and air-operated valves (AOVs) were capable of supplying demanded loads. In addition, the inspectors conducted a walkdown to sample proper air regulator pressures that supply vital AOVs.

Controls. The team reviewed the automatic and manual controls for the CCW and TDAFW systems to assure that the automatic and manual control functions would be available for initiation, control and shutdown actions. Additionally, a review of alarms and indicators was performed to ensure that operator actions could be accomplished in accordance with the design assumptions. The inspectors conducted a walkdown to sample available controls, alarms, and indications required for safe operation.

Operation Actions. The team reviewed normal, abnormal and emergency operating procedures (EOPs) to verify that operator actions for the CCW and TDAFW systems assumed in the design bases could be completed. The team also reviewed those operator actions that were identified by the licensee as risk significant. Additionally, the team verified that operators were able to manually initiate the system, monitor components and system indications, automatically or manually control system functions and shutdown the system. The inspectors conducted a detailed "table top" review of the operator actions required during an SBO event (ECA-0.0, Loss of All AC Power) with Ginna senior reactor operators (see also Section 1R21.3, Operation).

Heat Removal. The team evaluated whether acceptable environmental conditions would be maintained in the TDAFW room to support system operations, as described in the design basis. Additionally, the team verified that the temperature rise on system components, due to heat generated by the system, was limited such that component temperature qualification was not exceeded.

b. Findings

No findings of significance were identified.

3. System Condition and Capability

a. Inspection Scope

The inspectors inspected the following attributes of the CCW and TDAFW systems and associated support systems: Installed Configuration, Operation, Design, and Testing. The inspectors verified the above attributes met the requirements and design basis specifications identified in the UFSAR, TSs, licensee commitments, design basis documents, vendor technical manuals, calculations and plant drawings. A complete list of documents reviewed is included in the attachment to this report. The attributes that were verified to meet system requirements are described below:

Installed Configuration. The team performed detailed system walkdowns of accessible portions of the CCW and TDAFW systems to verify whether the installed configurations conformed to design basis requirements and assumptions. The team also walked down CCW and TDAFW support systems (including the control room, CSTs, emergency diesel generators, battery rooms, and electrical distribution motor control centers). The walkdowns focused on the installation and configuration of pumps, motors, valves, piping, and instruments; component material condition; licensee identified deficiencies; the placement of protective barriers; the susceptibility to flooding, fire, or other environmental concerns; physical separation of redundant trains; and provisions for seismic and other pressure transient concerns. The team compared their observations of the current installation configuration of the systems with the design and licensing bases to assure that the system would be capable of functioning during plant transients or accident conditions. Additionally, the team determined if the licensee had identified system deficiencies and entered them into the CAP.

Operation. The team performed a procedure walk-through of selected manual operator actions to confirm that the operators had the ability, access and tools necessary to accomplish actions credited in the design basis. The team assessed whether operating procedure performance was consistent with the design and licensing basis. The inspectors accompanied equipment operators on an infield walkdown to verify adequacy and timing of abnormal operating procedures needed to align alternate cooling to the TDAFW pump and supply backup water supply to the CSTs and TDAFW pump suction. The inspectors reviewed the active operator workarounds, operator challenges, and operability determinations to assess the aggregate impact on the operator’s ability to operate the CCW and TDAFW systems as designed. The inspectors also conducted a thorough walkdown of control room instrumentation and control panels to assess CCW and TDAFW system configuration control and material condition.

Design. The team reviewed the mechanical, electrical, and instrumentation design of the CCW and TDAFW systems to assess whether the systems and subsystems would function as required under design conditions. This review included the design basis, design changes, formal and informal design assumptions, calculations, boundary conditions, and hydraulic and electrical system models, as well as selected modification packages. Instrumentation was reviewed to verify appropriateness of applications and setpoints, based on the required equipment function. Additionally, the inspectors performed limited independent calculations and analyses in several areas to verify the reasonableness of the design values. For the TDAFW system, the independent checks included NPSH, minimum CST level, and time available for manual operator action to swap suction sources from the CST to safety-related service water (SW).

For the DC system, the team reviewed DC system drawings and calculations to verify the adequacy of the capacity of the station batteries and the capability of the DC system to support the TDAFW system during a DBE or SBO. The inspectors walked down the DC system to verify that the installed conditions and equipment lineups matched the conditions and assumptions as described in the design documentation. The inspectors also reviewed and discussed DC modifications to verify that the licensee adequately maintained the DC system design and licensing bases.

Testing. The team reviewed selected periodic test records, including inservice tests (ISTs), post maintenance tests, and calibration tests. The inspectors assessed the test’s adequacy by comparing the test methodology to the scope of the required testing or the maintenance work performed. The inspectors compared the test acceptance criteria to system calculations, drawings, and procedures to verify the test demonstrated that the tested components satisfied the applicable design and licensing bases and TS requirements, and were capable of performing their intended safety functions. The inspectors reviewed the recorded test data to determine whether the acceptance criteria were satisfied. The inspectors also reviewed test results to ensure automatic initiations occurred within required times and tolerances, and that testing was consistent with design bases information. In addition, the inspectors directly observed portions of the quarterly TDAFW system surveillance (PT-16Q-T) on October 5, 2005, to independently verify adequacy of controls, indications and performance characteristics of the system. The team verified that circuit breaker maintenance for vital components was adequately performed in accordance with vendor documents. Inspectors observed CCW pump motor breaker maintenance and verified that Amptector testing techniques were in accordance with vendor recommendations. The inspectors also interviewed personnel and reviewed documentation to assess the adequacy of surveillance testing to monitor the capabilities of the DC system.

b. Findings

Introduction. The team identified a Green NCV regarding the licensee's failure to assure that the station battery TS surveillance procedure results demonstrated that the station batteries were Operable.

Description. In 1999, Ginna developed a new testing process that used new instrumentation to measure and record voltages for TS required battery testing. This setup included calibrated and non-calibrated components which feed into a computer that used a data acquisition program (LabView). In 1997, the LabView setup was evaluated and qualified through the Software Quality Assurance process for safety significant applications. The licensee performed a retest of the setup prior to the 1999 battery testing. The inspectors reviewed the 2000, 2003, and 2005 battery tests for both the A and B station batteries to evaluate the surveillance results.

In 2000 and 2003, the licensee performed the testing on the station battery as required by the TS. The inspectors found that the data recorded by the test device and recorded in the test surveillance forms showed erratic voltage results for cell 56 for the A and B batteries. This data indicated significant cell degradation. The inspectors determined that Ginna personnel did not recognize the data as erratic or problematic. Specifically, Ginna personnel made no mention of the erratic data in the test documentation, they did not initiate a corrective action report, and they did not evaluate the erratic data. Additionally, the 2003 test results were used to determine overall battery voltage. This result was used by the licensee as the basis for satisfactory completion of the surveillance and Operability of the Batteries.

In 2005, during the surveillance, the B battery exhibited erratic results for cell 16, but had acceptable readings from cell 56. The A battery testing results indicated that 23 of the 60 cells produced erratic data. Ginna technicians noticed the erratic data and decided to continue the test using alternate means to measure the obvious erratic cells. However, they did not confirm that the data for the remaining cells was accurate. In response to the teams questions, Ginna was able to show the inspectors, using subsequent testing data, that the battery cells were Operable and entered the issue into their CAP.

Analysis. The inspectors determined that Ginna's failure to set proper acceptance criteria and evaluate erratic testing data for TS surveillances, over a five-year period, constituted a performance deficiency. Traditional Enforcement does not apply because there were no actual safety consequences, impacts on the NRC's ability to perform its regulatory function, or willful aspects to the violation. This finding was more than minor because, if left uncorrected, this finding would result in a more significant safety concern because the licensee test equipment provided data that could not be used to detect a degraded battery cell and the finding affects the Mitigating Systems cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences as it relates to the procedure quality attribute. This finding was evaluated using phase 1 of the SDP and was determined to be of very low safety significance (Green) because it did not result in a loss of function per existing operability determination guidance (NRC Inspection Manual Part 9900 Technical Guidance, dated 9/26/05). The inspectors found that this finding was related to the cross-cutting element of PI&R because Ginna did not identify the erratic indications in 2000 and did not document or resolve them when they recurred in 2003 and 2005.

Enforcement. 10 CFR 50 Appendix B, Criterion XI, "Test Control," states, in part, that testing required to demonstrate that SSC will perform satisfactorily are performed with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents and that test results be evaluated to assure that the test requirements have been satisfied. Contrary to the above, invalid test results from the station battery test were used to confirm operability of this SSC from 2000 to 2005. Because this finding is of very low safety significance and has been entered into Ginna's CAP (CR 2005-5383), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy:
NCV 05000244/2005006-01, Inadequate Battery Test Procedure Resulted in Use of Inaccurate Test Instrumentation.

4. System Components

a. Inspection Scope

The inspectors selected several risk significant components in the CCW and TDAFW systems to ensure equipment at the component level met design requirements. The components selected for detailed review included:

C TDAFW pump
C CCW pumps "A" and "B"
C Main feedwater check valves V-3992 and V-3993
C Main steam supply check valves to TDAFW CV-3504B and CV-3505B
C CCW heat exchangers "A" and "B"
C CSTs "A" and "B"
C TDAFW pump discharge flow control valves AOV-4297 and AOV-4298
C Alternate SW return lines from CCW heat exchangers
• TDAFW turbine governor (Woodward PGD type with differential servomotor)
• SG narrow range level instrument inputs to AFW initiation logic

The inspectors inspected the following attributes of the CCW and TDAFW components: Component Degradation, Environmental Qualification, Equipment Protection, Input/Output, and Operating Experience (OE). The inspectors verified the above attributes met the requirements and design basis specifications identified in the UFSAR, TSs, licensee commitments, design basis documents, vendor technical manuals, calculations and plant drawings. A complete list of documents reviewed is included in the attachment to this report. The attributes that were verified to meet system requirements are described below:

Component Degradation. The team reviewed Ginna's maintenance, operations, and engineering procedures to determine how potential age related degradation of selected components were monitored and identified. The team assessed the licensee's criteria for component and/or component material replacements to verify whether corrective actions were scheduled and performed prior to exceeding a component's qualified service life. Additionally, the team verified whether deficiencies which could potentially reduce the life expectancy of the components; such as flow induced vibrations, fouling due to silt, and microbiological corrosion in heat exchangers; were appropriately identified, evaluated, and corrected.

Environmental Qualification. The team assessed whether the CCW and TDAFW components were qualified to operate under normal and design basis accident environmental conditions. The team reviewed design information, vendor specifications, and industry OE; to identify temperatures, pressures, humidity, and radiation levels that the components were exposed to while installed in the system. The inspectors compared the results to evaluate whether the components were qualified to operate within their expected environments.

Protection. The team assessed the CCW and TDAFW system components to determine whether they were adequately protected from external events, natural phenomenon (including cold weather), and other hazards; such as high energy line breaks, fire, floods, or missiles. The team reviewed design information, vendor specifications, and industry OE to assess whether the system components were adequately protected from those hazards. The inspectors also reviewed the basis for no hydrogen detection in the battery rooms and the acceptability of the bounding conditions.

Input/Output. The team reviewed selected TDAFW and CCW system component inputs and outputs (e.g., water flow, electrical voltage, and control air pressure) to determine whether they were appropriate for the selected component during normal and accident conditions. The team reviewed design information, specifications, and documentation to ensure that system components were adequately protected from those hazards identified in the UFSAR that could impact their ability to perform their safety function. The team also verified that safety and non-safety related signals, where applicable, were properly identified and adequately separated.

Operating Experience. The team reviewed the licensee's assessment of extent-of-condition for Ginna issues and applicable industry OE to verify whether insights from issues in similar systems had been appropriately evaluated for the CCW and TDAFW systems. The inspectors also reviewed the Ginna Licensee Event Reports (LERs) since 1999 for insights into potential issues or recurrent problems associated with the TDAFW and CCW systems.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution

5. Systems Sample Review

a. Inspection Scope

The team reviewed a sample of CCW and TDAFW system issues that were identified by the licensee. The team also reviewed the operator work-around log, active operability determinations, Maintenance Rule (a)(1) systems, TDAFW and CCW system health reports, and selected condition reports (CRs). The team assessed the licensee's problem identification thresholds, and evaluated the effectiveness of the licensee's prioritization and corrective actions, related to design or qualification issues for the CCW and TDAFW systems. In addition, CRs written on NRC identified issues during the inspection were reviewed to verify whether there was adequate problem identification in the corrective action system. The specific corrective action documents that were sampled and reviewed by the team are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

The NRC presented the inspection results on October 7, 2005, to Mr. D. Holm and other members of Ginna's staff. The inspection team verified that this inspection report does not contain proprietary information.

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

P. Bamford, Acting Director - Reliability Engineering
M. Bauman, Electrical Engineer
A. Butcavage, Engineer
D. Dean, Shift Manager
M. Farnan, System Engineer - CCW
T. Fouts, Shift Foreman
M. Gallaway, Maintenance Manager
D. Garofoli, Performance Testing Supervisor
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J. Jones, Instrumentation & Controls Engineer
S. Kimbrough, Risk Assessment Engineer
M. Milly, Director - Balance of Plant Engineering
J. Pacher, Primary Systems and Reactor Engineering Manager
R. Schmidt, Performance Testing Technician
M. Smith, System Engineer - AFW
P. Swift, Electrical Systems Director
R. Whalen, Manager Nuclear Engineering Services
G. Wrobel, Nuclear Safety and Licensing Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000244/2005006-01	NCV	Inadequate Battery Test Procedure Resulted in Use of Inaccurate Test Instrumentation. (Section 1R21.3)

LIST OF DOCUMENTS REVIEWED

Audits and Self-Assessments
Safety Function Validation Review for Turbine Driven Auxiliary Feedwater System, dated 9/9/05
Safety Function Validation Review for Component Cooling Water System, dated 9/1/05

Ginna Self-Assessment of Safety System Design and Performance Capability for Turbine Driven Auxiliary Feedwater Pump, dated 7/22/05
SQUA-2004-0122-MPH (Quality Assurance Surveillance Report), dated 10/26/04
SQUA-2004-0123-MPH (Quality Assurance Surveillance Report), dated 10/26/04
Q&PA Report 2005-904, dated 7/15/05
Q&PA Report 2005-848, dated 6/27/05
Q&PA Report 2005-265, dated 3/22/05

Calculations
AFWP-NPSH-88, Auxiliary Feedwater Pump NPSH, dated 10/7/88
DA-ME-99-009, Condensate Inventory Requirements for Station Blackout Event - Ginna Station, Rev. 0
DA-ME-2002-041, Condensate Inventory During Station Blackout Using Fire Water System, Rev. 1
CALC No. 128, Ginna CST Switchover Level, dated 3/29/89
CN-TA-94-225, Loss of Normal Feedwater Analysis for R. E. Ginna, dated 6/22/95
NSL-0000-003, Determination of Required Level in Condensate Storage Tanks, dated 10/4/88
NSL-0000-DA031, Turbine Driven Auxiliary Feedwater Pump Performance and Degradation Calculation, dated 4/12/91
0499-02, Hydraulic Model of AFW System, dated 9/15/92
DA-EE-92-033-21, Instrument Loop Performance Evaluation and Setpoint Verification for CST L2022A (Condt Storage Tank Level, CPI-LVL-2022A), Rev. 1
DA-EE-92-043-21, Instrument Loop Performance Evaluation and Setpoint Verification for AFW F2001 (‘A’ MDAFW Flow – CPI-FLO-2001/2002), Rev. 1
DA-EE-92-044-21, Instrument Loop Performance Evaluation and Setpoint Verification / Loop Number AFW F2006, Rev. 0
DA-EE-92-050-21, Instrument Loop Performance Evaluation and Setpoint Verification / Loop Number S/G L461(NR), Rev. 6
DA-EE-92-051-21, Instrument Loop Performance Evaluation and Setpoint Verification / Loop Number S/G L504(WR), Rev. 2
DA-EE-93-104-07, 480 Volt Coordination and Circuit Protection Study / CCW Pumps and MDAFW Pumps, Rev. 6
DA-EE-95-109, Evaluation of 24-Month Instrument Surveillance Intervals, Rev. 1
DA-EE-96-112, Addition of Control Relay to Differential Pressure Switch Logic Circuitry, Rev. 0
DA-EE-97-077, Calibration and Setpoint Analysis for Selected Temperature Monitoring Instrumentation, Rev. 0
DA-EE-98-096-16, Service Life Expectancy for Amerace Corp Agastat E7000 Series Relays, Rev. 0
DA-EE-99-068, Vital Battery Room Hydrogen Analysis, Rev. 2
DA-ME-2001-053, Minimum Engineering Limit for Differential Pressure for Preferred and Standby Auxiliary Feedwater Pumps During Periodic Testing, dated 8/24/01
EOP Setpoint P.2, CST Level Calculation, dated 7/21/89
NLC-0000-001, Calculation of the Required CST Water Volume to Remove Two Hours of Decay Energy Following a Reactor Trip from Full Power Using BTP ASB 9-2, Rev. 0
DA-EE-2001-028, Vital Battery 8-Hour Capacity Calculation, dated 3/12/05
EP-3-P-0504, Electrical/I&C Load Growth Control Program, dated 11/2/04
DA-EE-99-013, DC Class 1E System Fault Current Analysis, dated 5/2/00

DA-EE-99-066, DC System Fuse Coordination Study, dated 6/2/00
DA-EE-97-069, Sizing of Vital Batteries A and B, dated 3/12/05
DA-EE-99-047, DC System Voltage Drop Calculation
Calculation Note 118, TDAFW Pump Performance, Rev. 0
DA-NS-92-121, AFW Room SBO Heat Up Calculation, Rev. 1
DA-EE-92-008-07, Effect of Degraded Voltage on Motor Control Center Safety Related Loads, Rev. 1
DA-EE-92-011-07, Class 1E Motor Control Center Loading, Rev. 7
DA-EE-92-131-06, A.C. Motor Operated Valve Degraded Voltages, Rev. 15
DA-EE-93-006-08, Instrument Performance Evaluation and Setpoint Verification Undervoltage Relays and Voltmeters on 480V Safeguards Buses, Rev. 2
DA-EE-96-068-03, Offsite Power Load Flow Study, Rev. 2
DA-ME-98-012, MOV Thrust Limit Calculation for MOV 738A, Rev. 2
DA-ME-98-013, MOV Thrust Limit Calculation for MOV 738B, Rev. 2
DA-ME-98-038, MOV Thrust Limit Calculation for MOV 3504A, Rev. 2
DA-ME-98-039, MOV Thrust Limit Calculation for MOV 3505A, Rev. 2
EWR 1892, Under Voltage Effects on Standby Auxiliary Feedwater Pump Motor Control Centers, dated 6/1/78
Report No. 1053-01, Report on Offsite Power Evaluation for Ginna Station, dated 7/12/04

Completed Calibrations

CPI-AOV-4304, Calibration of Auxiliary FW Pump A Recirc Air Operated Valve 4304 and Pressure Controller PC-2033, dated 9/16/94
CPI-AOV-4310, Calibration of Auxiliary FW Pump A Recirc Air Operated Valve 4310 and Pressure Controller PC-2034, dated 9/8/94
CPI-FLO-619, Calibration of CCW HX Outlet Flow Loop 619; dated 9/28/04, 2/17/03, 12/27/01
CPI-LT-473, Calibration of Steam Generator B Level Transmitter LT-473, dated 3/31/05 and 8/7/00
CPI-LVL-2022A, Calibration of Condensate Storage Tank Level Loop 2022A
CPI-MON-R17, Calibration of R-17 for CCW
CPI-MON-R15/R20B, Calibration of R15/R20B for CCW, dated 11/22/04, 4/15/03, 2/19/02
CPI-PIC-617, Calibration of CCW Pump Discharge Pressure PIC-617 and Suction Gauges; dated 3/29/04, 9/5/02, and 7/10/01
CPI-PRESS-2019, Calibration of AFW Discharge Pressure Loop 2019
CPI-PRESS-REG-5490P, Calibration of Oil Pressure Regulator, Pressure Indicators, and Pressure Switches for the TDAFW; dated 7/7/03
CPI-TIA-616, Calibration of CCW Return Line Temperature Indicating Alarm, TIA-616; dated 9/29/04, 2/17/03, and 12/26/01
DS-TI-621, Calibration of CCW TIC-621, TE-621; dated 2/4/03

Completed Surveillance Test Procedures

PT-16Q-T, Auxiliary Feedwater Turbine Pump - Quarterly; dated 01/25/05, 7/14/05, 7/25/05, and 10/5/05
PT-2.8Q, Component Cooling Water Pump Quarterly Test, dated 12/22/04 and 6/6/05
S-30.9, Component Cooling Water Flow Path Verification, dated 8/5/05
S-30.4, Auxiliary Feedwater System Valve and Breaker Position verification, dated 8/5/05
PT-60.6A, CCW Heat Exchanger Performance Test, dated 11/20/00

PT-11.3, DC Throw-over Switch Verification Test, dated 4/7/02
PT-16.1, Auxiliary Feedwater System Flow Balance, dated 12/5/74
RSSP-2.1, Safety Injection Functional Test, dated 4/13/05
RSSP-3.0, Verification of Emergency Start Logic for Auxiliary Feedwater Pumps, dated 4/7/05
RSSP-21, Anticipated Transients Without Scram (ATWS) Mitigation System Actuation Circuitry (AMSAC) Operability Test, dated 3/28/05
CME-38-12-STABATTMON, Station Battery Monthly Performance Checks, dated 7/20/05 and 8/19/05
CME-38-12-STABATTQTR, Station Battery Quarterly Performance Checks, dated 6/23/05 and 9/15/05
PT-10.2, 'B' Station Battery Service Test, dated 10/1/03
PT-10.3, 'A' Station Battery Service Test (partial), dated 9/28/03
PT-10.4, 'A' Station Battery Performance Test, dated 9/21/00 and 3/31/05
PT-10.5, 'B' Station Battery Performance Test, dated 10/5/00 and 3/28/05
PT-2.10.9, Main Feedwater Check Valve Reverse Flow Closure Test; dated 10/20/97, 03/01/99, 09/18/00, 03/18/02, 04/16/02, 09/17/03, 10/11/03, and 04/09/05
PT-2.4, Shutdown Motor Operated Valve Surveillance, dated 03/22/05
PT-8.13, Leakrate Testing of Component Cooling Water Penetrations, dated 03/22/05
PTT-23.30, Containment Isolation Valve Leak Rate Testing Excess Letdown Heat Exchanger Cooling Water Supply Pen 124a, dated 03/30/05
PR-1.1, Protective Relay Calibration 480V Undervoltage and Ground Alarm Scheme for Buses 14, 16, 17, and 18; dated 3/31/05
PR-1.1, Protective Relay Calibration 480V Undervoltage and Ground Alarm Scheme for Buses 14, 16, 17, and 18; dated 9/24/03

Condition Reports

1998-0301	2003-0006	2004-1357	2005-2767	2005-4466
1998-0313	2003-0261	2004-2156	2005-3263	2005-4467
1998-1578	2003-0296	2004-2267	2005-3264	2005-4534
1999-0262	2003-0489	2004-2595	2005-3270	2005-4909
1999-1157	2003-0548	2004-2662	2005-3540	2005-4975
2000-0267	2003-0676	2004-2824	2005-3556	2005-4977
2000-0420	2003-0820	2005-0081	2005-3557	2005-5060*
2001-0002	2003-2006	2005-0126	2005-3559	2005-5073*
2001-0272	2003-2111	2005-0601	2005-3562	2005-5083*
2001-0286	2003-2128	2005-1242	2005-3570	2005-5085*
2001-0890	2003-2275	2005-1543	2005-3660	2005-5087*
2001-1973	2003-2611	2005-1698	2005-3828	2005-5088*
2002-0076	2003-3029	2005-1778	2005-3834	2005-5119
2002-0153	2003-3030	2005-1793	2005-4175	2005-5120
2002-0773	2003-3243	2005-1817	2005-4323	2005-5132*
2002-1113	2004-0016	2005-2041	2005-4324	2005-5134*
2002-1354	2004-0017	2005-2052	2005-4329	2005-5142*
2002-1489	2004-0569	2005-2054	2005-4334	2005-5143*
2002-1677	2004-0654	2005-2055	2005-4403	2005-5144*
2002-2296	2004-0702	2005-2116	2005-4448	2005-5150*
2002-2828	2004-1110	2005-2496	2005-4465	2005-5151*

2005-5152*	2005-5191*	2005-5361*	2005-5444*	2005-5499*
2005-5155*	2005-5215*	2005-5381*	2005-5445*	2005-5509*
2005-5156*	2005-5238*	2005-5382*	2005-5450*	2005-5513*
2005-5157*	2005-5282*	2005-5383*	2005-5451*	2005-5514*
2005-5158*	2005-5287*	2005-5384*	2005-5468*	2005-5520*
2005-5177*	2005-5295*	2005-5408*	2005-5472*	2005-5522*
2005-5178*	2005-5298	2005-5414*	2005-5475*	2005-5539*
2005-5179	2005-5341*	2005-5415*	2005-5486*	2005-5559*
2005-5180*	2005-5351*	2005-5417*	2005-5496*	
2005-5181*	2005-5356*	2005-5418*	2005-5497	

* NRC identified during this inspection

<u>Drawings</u>

33013-1952, Electrical Three Line Diagram 480 Volt Switchgear Metering and Relaying, Sheets 1 & 2
109-0590, Elementary Wiring Diagram MCC C - Pos. 10J CCW to RCP A Vlv MOV-749, Rev. 2
1095-0239, Elementary Wiring Diagram Turb Drvn FW Pmp DC Lube Oil Pmp PL011 (72/TAOP), Rev. 8
1095-0661, Elementary Wiring Diagram Turbine Driven Aux FW Pump SW Suction Vlv MOV-4013, Rev. 2
1095-0594, Elementary Wiring Diagram CCW to Rx Support Coolers ISOL Vlv MOV-813, Rev. 5
1095-0595, Elementary Wiring Diagram CCW from Rx Support CLRS ISOL Vlv MOV-814, Rev. 5
33013-2285, Motor Driven and Turbine Driven Auxiliary Feedwater Pumps Lube Oil Skid
03201-0102, 120V AC Instrument Bus - One-Line Diagram, Rev. 20
03202-0102, One-Line Diagram 125 vdc Distribution System, Rev. 14
101909-8, D.C. System Fuse Reference 480V Switchgear Bus No. 14 (Unit 18) Rev. 7
10905-0072B, Elementary Wiring Diagram Component Cooling Wtr Pmp B, Rev. 1
10905-317, Elementary Wiring Diagram Steam Auxiliary Relays, Rev. 8
10905-11, Elementary Wiring Diagram Switch Development, Sheets 1 & 2
10905-0072A, Elementary Wiring Diagram Component Cooling Wtr Pmp A, Rev. 1
10905-0059A, DC Control Power Transfer Elementary Wiring Diagram, dated 10/25/93
10905-0076, AFW ‘A’ Pump Elementary Wiring Dia., Sh. 1 & 2
10905-0115, Turbine Solenoid Control, Elementary Wiring Dia., Rev. 7
10905-0317, Steam Auxiliary Relays, Elementary Wiring Dia., Rev. 8
10905-0415, Annunciator Panel ‘K’, Elementary Wiring Dia., Rev. 8
10905-0441, Auxiliary Feedwater Bypass Control Elementary, Rev. 10
10905-0650, TDAFW Pump Steam Supply Valve MOV-3504A Wiring, Rev. 6
10905-0651, TDAFW Pump Steam Supply Valve MOV-3505A Wiring, Rev. 7
10905-0656, TDAFW Pump Discharge Valve MOV-3996 Wiring, Rev. 3
10905-0739, S/G ‘A’ Blowdown Isol Vlv AOV-5738 Elementary Wiring Diagram, Rev. 1
10909-39, D.C. System Fuse Reference Aux Bldg DC Dist Panel B & B1, Rev. 4
10909-53, D.C. PMP DC Lube Oil Pump Motor Starter Relays, Rev. 3
10909-38, D.C. System Fuse Reference Aux Bldg DC Dist Panel A & A1, Rev. 3

1095-0596, Elementary Wiring Diagram CCW to CNMT ISOL Vlv MOV-817, Rev. 5
1095-0727, Elementary Wiring Diagram TD AFW PMP B Control Vlv, Rev. 1
1095-239, Elementary Wiring Diagram Turb Drvn Aux FW Pmp DC Libe Oil Pmp, Rev. 8
1095-0656, Elementary Wiring Diagram TDAFW Pump Discharge Vlv MOV-3996, Rev. 3
1095-0727, Elementary Wiring Diagram TD AFW PMP A Control Vlv, Rev. 1
1095-0593, Elementary Wiring Diagram CCW from RCP B ISOL Vlv MOV-759B, Rev. 3
1095-0592, Elementary Wiring Diagram CCW from RCP A ISOL Vlv MOV-759A, Rev. 2
1095-0590, Elementary Wiring Diagram CCW to RCP A ISOL Vlv MOV-749A, Rev. 2
1095-0591, Elementary Wiring Diagram CCW to RCP B ISOL Vlv MOV-749B, Rev. 2
11302-0101, Instrument Loop Index, Sht. 3, Rev. 0
11302-0233, Loop FT-619 / CCW Loop Total Flow – Instr Wiring Diag, Rev. 1
11302-0238, Loop LT-618 / CCW Surge Tank Lvl – Instr Wiring Diag, Rev. 3
11302-0239, Loop PIC-617 /CCW Pump Discharge Press – Instr Wiring Diag, Rev. 3
11302-0244, Loop TIA-616 /CCW Pump Inlet Header Temp – Instr Wiring Diag, Rev. 2
11302-0246, Loop TIA-621 /CCW Pump Outlet Header Temp – Instr Wiring Diag, Rev. 2
21488-100, Fire, Smoke and Pressure Barriers; Sheets 3-6
21489-441, Condensate Storage Tank Level Control & Indication Wiring Dia., Rev. 5
21946-0650, Control Schematic TDAFW Pump Steam Supply Vlv MOV-3504A, Rev. 8
21946-0239, Control Schematic Turb Drvn Aux FW PMP DC Lube Oil PMP, Rev. 6
21946-0597, Control Schematic RMW to CCW Surge Tank MOV-823, Rev. 4
21946-0072B, Control Schematic Component Cooling Wtr Pmp B, Sheets 1 and 2
21946-0072A, Control Schematic Component Cooling Wtr Pmp A, Sheets 1 and 2
21946-0596, Control Schematic CCW to CNMT ISOL Vlv MOV-817, Rev. 5
21946-0656, Control Schematic TDAFW Pump Discharge Vlv MOV-3996, Rev. 7
21946-0595, Control Schematic CCW from Rx Support CLRS ISOL Vlv MOV-814, Rev. 5
21946-0650, Control Schematic TDAFW Pump Steam Supply Vlv MOV-3505A, Rev. 7
21946-0650, TDAFW Pump Steam Supply Valve MOV-3504A Control, Rev. 8
21946-0728, Control Schematic - AOV-4298 TDAFW Pump B Control Valve, Rev. 2
33013-1234, Condensate Storage, Rev. 30
33013-1231, Main Steam (Safety Related)
33013-2539, One Line Diagram AC System Plant Load Distribution, Rev. 13
33013-1236, Feedwater (Sheets 1-2)
33013-1237, Auxiliary Feedwater, Rev. 49
33013-2252, Service Building Hot Water heater, Tank and Laundry, Hot Shower Schematic
33013-1246, Auxiliary Coolant Component Cooling Water, Sheets 1 and 2
33013-1245, Auxiliary Coolant Component Cooling Water, Rev. 29
33013-2409, One Line Wiring Diagram AC Electrical System, Rev. 5
33013-0652, One Line Diagram 480 Volt, Rev. 24
33013-2539, One Line Wiring Diagram AC System Plant Load Distribution, Rev. 13
33013-0653, One Line Diagram 4160 Volt, Rev. 12
33013-2632, "B" CCW Heat Exchanger Tube Sheet
33013-1238, Standby Auxiliary Feedwater, Rev. 23
33013-2631, "A" CCW Heat Exchanger Tube Sheet
33013-1250, Service Water P&ID, Sheet 2, Rev. 30
33013-1353, Logic Diagram – Safeguards Sequence, Sh. 8, Rev. 3
33013-1353, Logic Diagram – Feedwater Isolation & AFW Pump, Sh. 9, Rev. 2
33013-2095, LO-LO Steam Generator Water Level Loop A - Reactor Trip, Sh. 23, Rev. 6

33013-2095, Reactor Protection System Train A Component to Drawing Index, Sh. 65, Rev. 2
33013-2095, Reactor Protection System - Notes, Index, and Legend, Sh. 1, Rev. 5
34480-0100, Index and Legend 480 Volt Switchgear, Rev. 2
88N45349-FD-001, AMSAC Logic Functional Diagram, Rev. 5
88N45349-FD-002, AMSAC Logic Functional Diagram, Rev. 5
88N45349-FD-003, AMSAC Logic Functional Diagram, Rev. 7
88N45349-FD-004, AMSAC Logic Functional Diagram, Rev. 7
9989-398, Gov. Outline - PGD wW/17 ft-lb Linear Servo and PG Base, Rev. 0
C-314-602, Redundant SW Return Line Thermal and Seismic Analysis Diagram, Rev. 2
CCW Pump Curve # 46402, dated 09/10/68 for pump # 0567318/9
D-305-001, Auxiliary Feed Water Pump Drains and Oil Piping
D-304-023, Main Steam Relief Line and Turbine Driven Auxiliary Feed Water Pipe Exhaust Line
E-195763, MDAFW Pump Curve
E-195834, TDAFW Pump Curve
P-447076, Main Feedwater Check Valve -Vendor General Assembly Drawing, Rev. 1A
S-380-351, As Built Sketch Feedwater Support FW-25, Rev. 23
SK-106282, Multiple Pressure Reducing Orifice for TDAFW Recirculation Flow, Rev. A
SK-106283, Multiple Pressure Reducing Orifice for MDAFW Recirculation Flow, Rev. A
W7820112, 6"-600 Carbon Steel Swing Check Valve with Counterweight

Engineering Evaluations

DA-ME-2003-039, CCW Heat Exchanger A & B Thermal Performance Testing Data Reduction, Fouling and Uncertainty Analysis, dated 9/16/03
DA-ME-97-117, CCW Heat Exchanger A & B Thermal Performance Testing Data Reduction, Fouling and Uncertainty Analysis, dated 12/19/97
EWR-4520, Station Blackout Program, dated 8/24/99
TSR 2001-004, TSR to restore condensate buffer to AFW Pumps, dated 3/12/01
TSR 2001-0046, Restoration of Condensate Blocking Water to MDAFW and TDAFW Pumps, dated 10/29/03
TSR 2005-0158, Evaluate the Recommendations to Prevent Future Service Water Intrusions into the Auxiliary Feedwater System, dated 8/22/05
TSR 93-115, Eliminate Blocking Water, dated 5/11/93
EWR 3571, Design Criteria / CCW Surge Tank Level Indication, Rev. 0
EWR 4230, Design Criteria / AMSAC, Rev. 1
EWR 4230, Design Analysis / AMSAC Setpoints, Time Delays and Time Constants, Rev. 1
EWR 4230, Appendix R Conformance Review / AMSAC, Rev. 0
EWR 4960-1, Time Delay Relay Setpoints ESFAS System, Rev. 4
DA-EE-2000-066, Appendix-R Conformance Analysis, Rev. 1
DA-ME-89-0002, Inservice Testing Check Valve Full Flow Rates, Rev. 2
DA-ME-96-035, CCW Heat Exchanger Tube Plugging Analysis, Rev. 0
DA-ME-97-066, Hydraulic Analysis for Single CCW Pump Operation and Max Flow, Rev. 0
DA-ME-2000-036, CCW Heat Exchanger SW Side Differential Pressure, Rev. 1
DA-ME-2002-049, CCW Parallel Pump Operation Low Flow Setpoint, Rev. 0
DA-NS-97-082, Reduced AFW Flow during Station Blackout, Rev. 0
EWR 4495, Auxiliary Building Crane Upgrade, Rev. 0
FPPRCN 2005-0005, dated 6/30/05

PCR 99-085, Amptector Setting Changes as Identified in Design Analysis DA-EE-93-104-07, Rev. 1
PCR 2001-0001, Amptector Jumper for Ground Function Noise Reduction, Rev. 0
PCN 2005-1281 to PT-9.1.14, Revise Acceptance Criteria per Tech Spec Amendment 85, dated 9/28/05

Maintenance Work Orders

P301738	20100679	20203219	20400503	20502319
19601810	20100701	20203959	20401017	20502706
19802823	20101149	20204270	20401106	20502920
19902229	20101150	20302315	20401462	20503633
19903860	20103494	20302525	20404560	20504260
20000457	20103495	20400134	20404561	
20000458	20203213	20400502	20502305	

Miscellaneous

IP-QAP-1, Structure, System, and Component Safety Classifications; Rev. 5
SBO-PROGPLAN, Station Blackout Program PROGPLAN Ginna Station, Rev. 2
CIE 2002-0097, Restoration of Condensate Blocking Water to MDAFW and TDAFW Pumps, dated 8/3/04
EOOSCRF 2001-0002, PSA and EOOS Risk Monitor Change Request, dated 3/7/01
LTR Auxiliary Feedwater Pump NPSH, dated 10/24/88
LTR Westinghouse: Auxiliary Coolant System, dated 4/9/67
MDCN 2704, Weld and Support Detail, dated 1/20/05
MDCN 2794, Pipe Supports Relocation, dated 3/31/05
PCR 2002-0040, Restoration of Condensate Blocking Water to MDAFW and TDAFW Pumps, dated 3/15/05
GC-76.6, Installation and Inspection of Piping Systems, dated 6/21/02
M37.130, Disassembly and Reassembly of Pipe Flange Connections, dated 9/23/05
REPTASK P501325, Perform Major Inspection of MOV-4013
SWSROP 4.59.1, Service Water System Reliability Optimization Program (SWSROP), Rev. 6
ME-121, For the Fabrication and Installation of Seismic Category I Pipe Supports, dated 12/31/01
ME-320, Threaded Fastener and Torque Application Guidelines Document, dated 10/17/94
ME-89, Installation of ASME Class 2 or 3 Carbon and Alloy Steel Piping, dated 2/13/93
R. E. Ginna Nuclear Power Plant ODCM, Section 2.5, Rev. 20
M-11.5K, Auxiliary Feedwater Pump Turbine Major Mechanical Inspection, dated 4/11/05
CME-50-02-52/CCP1A, Rev. 3
CME-50-02-52/CCP1B, Rev. 5
Ginna Integrated Work Schedule, week 322L (9/18/2005 – 9/24/2005)
GME-50-02-DB50-52/CCP1A, DB-50 Breaker Preventive Maintenance, Rev. 17
GME-50-02-DB50-52/CCP1B, DB-50 Breaker Preventive Maintenance, Rev. 16
Ginna Fire Protection Program, Safe Shutdown Analysis, Rev. 2c
Procedure Change Notice 2005-0230, Key Number Change for Battery Testing, dated 5/12/05
UFSAR Change Notice 19/010, Standby Mode for Battery Chargers, dated 5/28/04
R0639866, SQA Software Product Evaluation, Battery Discharge Test, dated 5/3/96

Inservice Testing Program, Rev. 3
Inter-Office Correspondence, from M. Lilley to P. Wilkens, "AFW NPSH," dated 10/24/88
IP-IIT-2, Operations Group Interface Procedure for Inservice Test Program, Rev. 5
PCR 2004-0021, TDAFW Pump Alternate Cooling Modification, Rev. 0
CMM-11-01-4GAFTM, TDAFW PLO11 DC Oil Pump Rebuild, Rev. 1
CMM-11-01-5GAFTM, TDAFW PLO10 AC Oil Pump Rebuild, Rev. 1
CPI-CV-4297, AOV-4297 Calibration Procedure, Rev. 4
ASME OMa-1988 Part 10, Inservice Testing of Valves in Light Water Reactor Power Plants
QUAD-7-89-007, System Primary Function Analysis Report for Ginna Nuclear Power Station Equipment Safety Classification, Rev. 4
R. E. Ginna Probabilistic Risk Assessment Project (Response to GL 88-20), dated 2/28/94
Risk-Informed Inspection Notebook for R. E. Ginna Nuclear Power Plant, Revision 1
Review of Ginna Individual Plant Examination of External Events (IPEEE) Submittal, dated 12/21/00
A-52.16:10 Attachment 4, Operator Challenges, dated 8/26/05
A-52.16:9 Attachment 3, Operator Workarounds, dated 8/26/05
Inter-office Correspondence, NRC Information Notice 95-05 Undervoltage Protection Relay Settings out of Tolerance Due to Test Equipment Harmonics CATS ID# R04747, dated 4/17/95
TSR 2005-0122, Establish Safety Related MCCB design life and replacement schedule, dated 7/7/05
Substation Operating Agreement Between R.E. Ginna Nuclear Power Plant, LLC and Rochester Gas and Electric Corporation, dated 6/2/04
Power Transformer Test Report for Transformer 751, dated 6/27/05
Letter L. D. White RG&E to A. Schwencer NRC, Design Analysis for the Addition of a Second Level of Undervoltage Protection, dated 7/21/77
Letter L. D. White RG&E to A. Schwencer NRC, Proposed Second Level of Undervoltage Protection - Relay Setpoints, dated 9/30/77
NRC Letter LS05-81-03-069, Technical Evaluation of the Proposed Design Modifications and Technical Specification Changes for the R.E. Ginna Nuclear Power Plant, dated 3/26/81
NRC Letter LS05-83-014, Integrated Plant Safety Assessment Report (IPSAR) Section 4.25.3, Flooding Due to Failure of Tanks R.E. Ginna Nuclear Power Plant, dated 7/8/83
NRC Letter LS05-83-04-055, Integrated Plant Safety Assessment Report (IPSAR) Section 4.14, Pipe Break Outside Containment R.E. Ginna Nuclear Power Plant, dated 4/21/83
SP-5201, Specification for Motors, dated 3/16/66

<u>Normal and Special (Abnormal) Operations Procedures</u>
ECA-0.0, Loss of All AC Power, Rev. 29
ECA-0.1, Loss of All AC Power Recovery Without SI Required, Rev. 24
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ER-AFW.1, Alternate Water Supply to the AFW Pumps, Rev. 23
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AR-H-13, Condensate Storage Tank Hi-Low Level 18' 4" 22' 4", Rev. 9
AP-SG.1, Steam Generator Tube Leak, Rev. 4
E-3, Steam Generator Tube Rupture, Rev. 38
FRP-36.0, Service Building Basement, Rev. 7
ES-1.2, Post LOCA Cooldown and Depressurization, Rev. 8
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ER-SH.1, Response to Loss of Screenhouse, Rev. 1
E-0, Reactor Trip or Safety Injection, Rev. 37
AP-TURB.1, Turbine Trip Without RX Trip Required, Rev. 15
E-1, Loss of Reactor or Secondary Coolant, Rev. 32
S-30.1, Safety Injection System Valve and Breaker Position Verification, Rev. 45
S-30.2, RHR System Valve and Breaker Position Verification, Rev. 37
S-30.3, Containment Spray System Valve and Breaker Position Verification, Rev. 26
S-30.4, Auxiliary Feedwater System Valve and Breaker Position Verification, Rev. 69
A-54.4.1, Cold Weather Walkdown Procedure, Rev. 45
Alarm Response Procedures (AR-A-5, 6, 7, 9, 13, 15, 17, 22, 24, 27, 31, 32) & (AR-H-15, 27)
T-41C, Turbine Driven Auxiliary Feedwater Pump Restoration to Service After Maintenance, Rev. 15
T-41A, Alignment of Auxiliary Feedwater System Prior to Power Operation, Rev. 70
CME-38-12-STABATTMON, Station Battery Monthly Performance Checks, Rev. 02
ER -ELEC.8, Restoration of Charging Pump Supply from Bus 16 Following HELB in Auxiliary Building, Rev. 0
O-6.9, Operating Limits for Ginna Station Transmission, Rev. 19
AP-WLEC.2, Safeguard Busses Low Voltage or System Abnormal Frequency, Rev. 11

Operating Experience
NRC IN 86-14, PWR Auxiliary Feedwater Pump Turbine Control Problems
Davis-Besse LER 2003-012-00, Auxiliary Feedwater Pump Turbine Inoperable due to Degraded Steam Traps
SOER-86-01, Reliability of PWR Auxiliary Feedwater Systems
NRC IN 86-14, Supplement 2: Overspeed Trips of AFW, HPCI and RCIC Turbines
NRC IN 85-76, Recent Water Hammer Events
NRC IN 94-66, Overspeed of Turbine-driven Pumps Caused by Governor Valve Stem Binding
Ginna Station GL 96-01 Review of Safety-Related Logic Testing for AFW MOV-3504A & 3505A, dated 12/17/97
NRC Generic Letter 95-07, Pressure Locking & Thermal Binding of Safety-related MOVs
NRC IN 85-94, Potential Loss of minimum Flow Paths Leading to Pump Damage
NRC IN 87-59, Potential RHR Pump Loss
NRC IN 88-70, Check Valve Inservice Testing Program Deficiencies
NRC IN 90-61, Potential RHR Pump Damage Caused by Parallel Pump Operation Interaction

NRC IN 92-18, Potential for Loss of Remote Shutdown Capability During a Control Room Fire
NRC IN 99-17, Problems Associated with Post-fire Safe Shutdown Circuit Analyses
Letter to NRC re: Ginna Response to NRC Generic Letter 95-07, dated 02/16/96
Letter to NRC re: Ginna Response to NRC Bulletin 88-04, dated 07/07/88
Ginna LERs: 1999-006, 2000-005, 2002-001, 2003-001, 2003-002, 2003-004, 2003-005, and 2005-001

Operator Training
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RAP10S, Loss of Instrument Air (Licensed Operator Training), Rev. 17
RAP02S, Loss of CCW During Power Operations (Licensed Operator Training), Rev. 10
R4202S, Auxiliary Feedwater System (Licensed Operator Training), Rev. 6
R4201C, Auxiliary Feedwater System (Licensed Operator Training), Rev. 19
R2801C, Component Cooling Water System (Licensed Operator Training), Rev. 15
DA-NS-2002-008, Operator Action Time Requirement Evaluation, Rev. 1
Simulator Discrepancy Report for the period 1/1/00 - 9/12/05
GSS-1.4, Simulator Discrepancy Report (SDR), Rev. 11
Cycle 05-06 Simulator vs. Plant Differences Report; dated 8/9/05, 8/12/05, and 9/12/05

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125V DC Electrical System Health Report, dated 3/04 - 6/05
CCW, 2nd Quarter, 2005

Vendor Technical Manuals
VTD-D0245-4001, Worthington WT Multistage Centrifugal Pump, Rev. 2
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MPM-DB Breaker, VTM for DB-50 CCW Breakers, dated March 2002
VTD-W0290-4001, Woodward-Basic Elements PG Governor with Differential Servomotor, dated 1964
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VTD-W0315-4001, Worthington-Instructions for 465HP Non-condensing Steam Turbine, Rev. 1
VTD-W0120-4182, Westinghouse-Installation for types DB-50, DBF-16, and DBL-50 Air Circuit Breakers, Rev. 001
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LIST OF ACRONYMS

AC	Alternating Current
AFW	Auxiliary Feedwater
ADAMS	Agency-Wide Documents Access and Management System
AMSAC	ATWS Mitigation System Actuation Circuitry
AOV	Air-Operated Valve
ASME	American Society of Mechanical Engineers
ATWS	Anticipated Transient Without Scram
CAP	Corrective Action Program
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CR	Condition Report
CST	Condensate Storage Tank
DBE	Design Basis Event
DC	Direct Current
EOP	Emergency Operating Procedure
GL	[NRC] Generic Letter
IMC	Inspection Manual Chapter
IN	[NRC] Information Notice
IP	[NRC] Inspection Procedure
IST	In-Service Test
LER	Licensee Event Report
MOV	Motor Operated Valve
NCV	Non-Cited Violation
NPSH	Net Positive Suction Head
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
OE	Operating Experience
P&ID	Piping and Instrument Diagram
PARS	Publicly Available Records
PI&R	Problem Identification and Resolution
QA	Quality Assurance
RHR	Residual Heat Removal
SBO	Station Blackout
SDP	Significance Determination Process
SG	Steam Generator
SQA	Software Quality Assurance
SSC	Structure, System, and Component
SSD&PC	Safety System Design and Performance Capability
SW	Service Water
TDAFW	Turbine Driven Auxiliary Feedwater
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report