October 23, 2000

Dr. Robert C. Mecredy
Vice President, Ginna Nuclear Operations
Rochester Gas and Electric Corporation
89 East Avenue
Rochester, New York 14649

SUBJECT: NRC's R. E. GINNA INSPECTION REPORT 05000244/2000-006

Dear Dr. Mecredy:

On September 30, the NRC completed an inspection of your R. E. Ginna facility. The enclosed report presents the results of that inspection. Preliminary findings were presented to RG&E management led by Mr. J. Widay in an exit meeting on October 4, 2000.

NRC inspectors examined numerous activities as they related to reactor safety and compliance with the Commission's rules and regulations, and with the conditions of your operating license. The inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel. There were no findings identified.

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Sincerely,

/RA/

William A. Cook, Chief
Projects Branch 1
Division of Reactor Projects

Docket No. 05000244
License No. DPR-18

Enclosure: Inspection Report 05000244/2000-006

cc w/encl:
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REGION I

Docket No:	05000244
License No:	DPR-18
Report No:	05000244/2000-006
Licensee:	Rochester Gas and Electric Corporation (RG&E)
Facility:	R. E. Ginna Nuclear Power Plant
Location:	1503 Lake Road Ontario, New York 14519
Dates:	August 13, 2000 through September 30, 2000
Inspectors:	H. K. Nieh, Senior Resident Inspector C. R. Welch, Resident Inspector Paul R. Frechette, Division of Reactor Safety Ram S. Bhatia, Division of Reactor Safety
Approved by:	William A. Cook, Chief Projects Branch 1 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000244-00-06, 08/13-09/30/2000; Rochester Gas & Electric; R. E. Ginna Nuclear Power Plant.

The report covers a seven week period of inspection performed by resident inspectors and regional specialists and conducted per the NRC's Reactor Oversight Process (Attachment 1). The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process described in Inspection Manual Chapter 0609.

This inspection identified no findings.

TABLE OF CONTENTS

ATTACHMENT

Report Details

SUMMARY OF PLANT STATUS

Ginna began the period at full reactor power and commenced a coast down from full power on August 27, for a scheduled refueling outage. During the reactor shutdown on September 18, an unplanned reactor trip occurred (see section 1R14). The plant was in refueling mode at the end of the inspection period.

1. REACTOR SAFETY
(Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity)

1R05 Fire Protection

a. Inspection Scope

The inspectors toured the following plant areas to assess RG&E's control of combustible materials and ignition sources, and the physical condition of installed fire suppression and detection systems:

- Battery room A
- Battery room B
- Standby auxiliary feedwater building
- Main turbine lube oil and seal oil areas
- Control building ventilation room

b. Issues and Findings

There were no findings identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed flood protection measures (for external sources) as described in the updated final safety analysis report and emergency procedures ER-SC.2, "High Water (Flood) Plan," and ER-D/G.2, "Alternate Cooling for Emergency D/Gs." This inspection included tours of plant areas identified as risk significant in Ginna's probabilistic safety assessment. Preventive maintenance activities for associated flood barriers and pumping/drainage systems were also reviewed and discussed with RG&E personnel.

b. Issues and Findings

There were no findings identified.

1R07 Heat Sink Performance

a. Inspection Scope

Biennial Review

The inspector reviewed RG&E's heat exchanger maintenance, testing, and inspections to ensure proper heat transfer for the following heat exchangers:

- Component cooling water (CCW) heat exchanger A
- Emergency diesel generator A jacket water and lube oil coolers
- Spent fuel pool heat exchanger B

The inspector reviewed RG&E's test methodology, test frequency, test conditions, acceptance criteria, and test results for the above heat exchangers. The inspector also reviewed associated heat exchanger inspection, cleaning, and maintenance methods, and discussed service water (SW) system reliability with associated system engineers and a chemistry specialist. This inspection was to determine if the methods used for inspection and cleaning were consistent with expected degradation and that the final conditions of the heat exchangers were acceptable. Selected calculations of component performance data were also reviewed to verify that test results reflected heat exchanger design conditions. The inspector assessed the trending of measured data for the components inspected and RG&E's proposed actions for selected results.

Additionally, the inspector reviewed SW system condition (including the fore bays, discharge canal, and intake structure) and ongoing design changes for debris control and intake structure heater design and bar spacing to minimize ice buildup. A sample of deficiencies related to biofouling, intake structure ice formation, and chemical control were reviewed to verify that RG&E had entered the problems into the corrective action program and provided or planned appropriate corrective action.

Annual Review

The inspectors witnessed the performance of PT-60.6A; "CCW Heat Exchanger Performance Test," and reviewed test data to verify that the heat exchangers demonstrated the system's functional capability and operational readiness. The inspector also discussed the test method and results with the responsible system engineer.

b. Issues and Findings

There were no findings identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed RG&E's maintenance rule implementation for the below listed performance problems. This inspection evaluated system scoping, performance criteria/goal monitoring, and problem classification.

- Motor-operated valve (MOV) 871 gear damaged - (AR 2000-0513)
- Auxiliary building ventilation system damper/ductwork - (AR 2000-0804),
- Containment isolation train CTS02 functional failures - (ARs 99-0328, 98-1492, 97-1971, 97-1643, 96-0258)

b. Issues and Findings

There were no findings identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors evaluated the effectiveness of risk assessments performed for maintenance on the below listed systems. This inspection included discussions with control room operators and scheduling personnel regarding the use of RG&E's online risk monitoring software. The inspectors also verified that RG&E's risk management actions were consistent with those described in procedure IP-PSH-2, "Integrated Work Schedule Risk Management."

- Emergency diesel generator B surveillance testing (PT-12.2)
- N-31 source range nuclear connector inspection/replacement (WO 19902400)

The inspectors also reviewed and observed RG&E's controls for emergent work performed to restore the N-31 source range detector high voltage setting.

b. Issues and Findings

There were no findings identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions

a. Inspection Scope

The inspectors observed the control room operators' response and execution of station emergency procedures E-0, "Reactor Trip or Safety Injection," and ES-0.1, "Reactor Trip Response," for a reactor trip that occurred on September 18, while shutting down the reactor for refueling. This unplanned reactor trip resulted from a blown control power fuse in one of the two intermediate range nuclear instrument channels (N-36), causing a reactor trip signal to be generated. The inspectors attended RG&E's post event critique and reviewed the associated post trip evaluation.

b. Issues and Findings

There were no findings identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the technical adequacy of the following action reports (AR) and their associated operability evaluations:

- AR 2000-1067 Fire water booster pump
- AR 2000-0804 Auxiliary building ventilation system damper/ductwork

b. Issues and Findings

There were no findings identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed the post maintenance tests for the following work orders (WO) to verify that RG&E appropriately demonstrated the components' ability to perform their intended safety function:

- WO 20001006 Pressurizer backup heater breaker preventive maintenance
- WO 19902311 Remove breaker 52/BT16-14 lockout coil and trip switch (PCR 99-039)
- WO 19902400 N-31 source range connector inspection/replacement

b. Issues and Findings

There were no findings identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

Review of Outage Plan

The inspectors attended several outage planning meetings and reviewed the following documents to assess RG&E's consideration of plant risk, industry experience, and site specific outage problems:

- Ginna 2000 Refueling Outage Safety Review
- Procedure IP-OUT-1, "Outage Scheduling"
- Procedure IP-OUT-2, "Outage Risk Management"

Monitoring of Shutdown Activities

The inspectors observed the performance of all or portions of the following procedures:

- O-2.1, "Normal Shutdown to Hot Shutdown"
- O-2.2, "Plant Shutdown From Hot Shutdown to Cold Conditions"
- O-2.3, "Draining the Reactor Coolant System to < 84" But > 64""

The inspectors verified the proper establishment of shutdown cooling and observed that technical specifications, such as reactor vessel cooldown limits, were satisfied.

Licensee Control of Outage Activities

The inspectors conducted frequent plant tours and control room walkdowns to observe RG&E's control of various outage activities. This inspection included: reviews of plant configuration management controls, such as equipment tagouts; observations of control room instrumentation used to monitor reactor plant parameters; and frequent operational verifications of the residual heat removal system and required electrical systems.

Refueling Activities

The inspectors reviewed the performance of various refueling procedures and witnessed performance of portions of the following activities from the control room, the spent fuel pool, and the refueling platform in containment:

- Reactor disassembly
- Fuel assembly movements
- Fuel assembly nozzle block inspections
- Fuel assembly sipping activities

The inspectors also verified that RG&E satisfied technical specifications associated with refueling operations.

b. Issues and Findings

There were no findings identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed the performance and/or reviewed test data for the following activities to verify that the tests demonstrate the associated system's functional capability and operational readiness:

- PT-36Q-6 Standby auxiliary feedwater pump C quarterly
- PT-12.2 Emergency diesel generator B
- PT-9 Undervoltage/underfrequency testing bus 11A and 11B

b. Issues and Findings

There were no findings identified.

3. SAFEGUARDS

Physical Protection [PP]

PP1 Access Authorization

a. Inspection Scope

The following activities were conducted to determine the effectiveness of the behavior observation portion of the personnel screening and fitness-for-duty programs:

- Five supervisors representing the maintenance, operations, radiation protection, system engineering, and instrumentation & control departments were interviewed regarding their understanding of behavior observation responsibilities and the ability to recognize aberrant behavior traits.

- Two access authorization/fitness-for-duty self-assessments, an audit, and event reports and loggable events for the four previous quarters were reviewed.

- Five individuals, who perform escort duties, were interviewed to establish their knowledge level of those duties.

- Behavior observation training procedures and records were also reviewed.

b. Issues and Findings

There were no findings identified.

PP2 Access Control

a. Inspection Scope

The following activities were conducted to verify that the licensee had effective site access controls, and equipment in place designed to detect and prevent the introduction of contraband (firearms, explosives, incendiary devices) into the protected area:

- A random sample of ten personnel, granted unescorted access to the protected and vital areas, was checked to assure that they were properly screened, identified, and authorized.
- Site access control activities were observed, including personnel and package processing through the search equipment at the access point during peak ingress periods on August 28, 29, and 30, and vehicle searches, on August 30.
- Observation of material transfer and search activities in the warehouse was conducted on August 30.
- Testing of all access control equipment; including the metal detector, explosive material detectors, and X-ray examination equipment, was observed.
- The access control event log, an audit, and three maintenance work requests were also reviewed.

b. Issues and Findings

There were no findings identified.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors verified the accuracy and completeness of the following performance indicators (PI):

- Protected area security equipment performance index
- Personnel screening program performance
- Fitness-for-duty/personnel reliability program performance
- High pressure safety injection system unavailability
- Auxiliary feedwater system unavailability
- Safety system functional failures

For the protected area security equipment, personnel screening, and fitness-for-duty PIs, the inspectors conducted personnel interviews, and reviewed tracking and trending reports and security event reports for the second quarter of 1997 through the first quarter of 2000.

For the high pressure safety injection and auxiliary feedwater system unavailability PIs, the inspectors reviewed control room operator and equipment logs, action reports, maintenance rule unavailability reports, and various surveillance procedures from the second quarter of 1999 through the second quarter of 2000.

For the safety system functional failure PI, the inspectors reviewed all licensee event reports and selected action reports from all of 1999 through the end of this inspection period.

b. Issues and Findings

The inspectors identified two minor discrepancies in the reported PI data for the second quarter of 2000. The number of planned unavailable hours reported for train 3 of the high pressure injection system was reported as 25.4 hours vice 29.4 hours and for train 3 of the auxiliary feedwater system as 0 hours vice 3.2 hours. RG&E intends to correct the values in the next PI submittal and has entered these items into their corrective action program (action report 2000-1301).

4OA5 Other

.1 Performance Indicator Data Collecting and Reporting Process Review

a. Inspection Scope

Using temporary instruction 2515/144, the inspectors reviewed RG&E's performance indicator (PI) process to determine if they were appropriately implementing NRC/industry guidance specified in Nuclear Energy Institute (NEI) 99-02, Revision 0, "Regulatory Assessment Performance Indicator Guideline." This inspection reviewed the data collection and reporting process for the following PIs:

- Unplanned power changes
- Safety system unavailability
- Safety system functional failures
- Protected area security equipment performance index

b. Issues and Findings

The inspectors determined that RG&E had established an adequate process for collecting and reporting PI data. However, the inspectors identified that RG&E did not correctly report compensatory hours for the protected area security equipment performance index. Specifically, RG&E reported total compensatory hours per affected zone instead of total compensatory man-hours, as specified in NEI 99-02. For example, when two security zones were unavailable and one compensatory security guard was posted for one hour, RG&E reported a total of two compensatory hours (i.e., 2 zones x 1 hour). Guidance in NEI 99-02 states that only one compensatory hour should be reported (i.e., 1 guard x 1 hour). This incorrect interpretation of the NEI 99-02 guidance resulted in higher unavailability indexes for this performance indicator. RG&E acknowledged this misinterpretation and plans to revise this indicator in the next quarterly PI submittal.

.2 (Closed) Licensee event report (LER) 2000-S01: Attempted introduction of contraband (firearm) into the Ginna station protected area. The inspectors reviewed the subject LER that documents a safegaurds event on July 18, 2000, involving the discovery of a firearm during a routine entry search of a delivery vehicle. The inspectors determined that RG&E's vehicle search processes were effective and that the LER appropriately documented the circumstances and licensee response to the event.

4OA6 Meetings

a. Exit Meeting Summary

On October 4, 2000 the inspectors presented their overall findings to members of RG&E management led by Mr. J. Widay. RG&E management acknowledged the findings presented and did not contest any of the inspectors' conclusions. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

RG&E

J. Widay	VP, Plant Manager
P. Bamford	Primary Systems and Reactor Engineering Manager
R. Biedenbach	Safety/Fire Coordinator
M. Flaherty	Configuration Support Manger
B. Flynn	Scheduling Manager
R. Forgensi	Operational Review
G. Graus	I&C/Electrical Engineering Manager
J. Hotchkiss	Mechanical Maintenance Manager
G. Joss	ISI/IST Coordinator
M. Lilley	Quality Assurance Manager
R. Marchionda	Nuclear Assessment Department Manager
F. Mis	Acting Radiation Protection and Chemistry Manager
T. Plantz	Maintenance Systems Manager
R. Ploof	Balance of Plant Systems Engineering Manager
P. Polfleit	Corporate Emergency Planner
R. Popp	Production Superintendent
J. Smith	Maintenance Superintendent
R. Teed	Nuclear Security Supervisor
G. Verdin	System Engineering
R. Watts	Nuclear Training Department Manager
J. Wayland	I&C/Electrical Maintenance Manager
T. White	Operations Manager
G. Wrobel	Nuclear Safety & Licensing Manager

ITEMS OPENED AND CLOSED

Closed

LER 05000244/2000-S01	Attempted introduction of contraband (firearm) into the Ginna station protected area

LIST OF ACRONYMS USED

AR	Action report
CCW	Component cooling water
EDG	Emergency diesel generator
MOV	Motor operated valve
NRC	Nuclear Regulatory Commission
PCR	Plant change request
PI	Performance indicator
RG&E	Rochester Gas and Electric Corporation
RHR	Residual Heat Removal System

SFP	Spent Fuel Pool
SW	Service Water
WO	Work order

LIST OF DOCUMENTS REVIEWED

Assessment Plan:

SWSROP, Rev. 3	Service Water System Reliability Optimization Program

Engineering Analyses:

DA-ME-99-026, Rev. 0	Component Cooling Water Heat Exchanger A & B Thermal Performance Testing Data Reduction, Fouling, and Uncertainty Analysis
DA-ME-99-025, Rev. 0	Spent Fuel Pool Heat Exchanger B Thermal Performance Testing Data Reduction, Fouling, and Uncertainty Analysis
DA-ME-98-139, Rev. 1	Emergency Diesel Generator Lube Oil and Jacket Water Heat Exchanger Service Water Differential Pressure Limits Analysis
DA-ME-98-138, Rev. 1	Emergency Diesel Generator Lube Oil and Jacket Water Heat Exchanger Plugging Limits and Thermal Performance at Limiting Service Water Flows Analysis

Heat Exchanger Inspections and Corrective Maintenance Procedure:

WO 19603547	'A' CCW HX Exchanger Inspection
WO 19800679	'B' Spent Fuel Pit HX Exchanger Inspection
WO 19903100	ESW08A/09A EDG 'A' Jacket Water and Lube Oil Coolers HX Exchanger Inspection

CMP-10-04-EAC01B, Rev. 3	Corrective Maintenance Procedure for the Atlas Industrial Manufacturing, Heat Exchanger Maintenance for EAC01A

Action Reports:

AR 97-2149	Evaluation Required Based on CCW HX Thermal Test Results
AR 99-1047	B SFP Heat Exchangers Tube Degradation
AR 99-0877	Tube Wall Degradation in D/G A Jacket Water Heat Exchanger
AR 99-0920	A EDG exceeds SW D/P for Jacket Water Heat Exchanger
AR 99-1043	Diesel Generator A & B Jacket Water Heat Exchanger Require Back Flush
AR 99-1087	B EDG High Jacket Water Cooler D/P

AR 99-1092	Secondary Plant Temperature Problems Associated with Lake Algae
AR 2000-0151	Traveling Screen High Differential Pressure Level
AR 2000-0167	Entry into ER-SC.3 on Indications of Frazzle Ice

Technical Evaluation:

TE 98-0200, Rev. 1	CCW HX Re-tubing

Plant Change Records:

PCR 98-089, Rev. 0	Installation of Differential Pressure Gauges on Jacket Water Cooler and Lube Oil Cooler on Diesel HX
PCR 99-090, Rev. 0	Provide Enhancements of the Traveling Screen Spray Wash System Phase 1A work
PCR 2000-0014, Rev. 1	Refurbish Intake Structure Heater Screens

Ultimate Heat Sink Inspection:

Underwater Construction Corporation Inspection Report of Intake Structure, dated April 19, 1999.

Procedures:

T-27.9, Rev. 6	Diesel Generator A Lube Oil and Jacket Coolers Back Flushing
T-27.10, Rev. 4	Diesel Generator B Lube Oil and Jacket Coolers Back Flushing
O-6.13, Rev. 110	Daily Surveillance Log
PT-60.60A, Rev. 1	CCW Heat Exchanger Performance Test
M-92.1, Rev. 5	Underwater Inspection and Maintenance of the Intake Tunnel Structure and Shaft

System Health Reports:

Safety System Performance Indicators of EDG A and B system, Period 1/17/2000 to 7/31/2000
Station Service Water, System Status of 2nd Quarter 2000
Station Component Cooling Water, System Status of 2nd Quarter 2000
Station Spent Fuel Pool Cooling Water, System Status of 2nd Quarter 2000

ATTACHMENT 1

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
• Initiating Events	• Occupational	• Physical Protection
• Mitigating Systems	• Public	
• Barrier Integrity		
• Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.