August 28, 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 05000244/2000-005

Dear Dr. Mecredy:

On August 12, 2000, 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 August 16.

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. Specifically, it involved seven weeks of resident inspection and region-based inspections of occupational and public radiation safety, and emergency preparedness. Inspection findings were assessed using the applicable Significance Determination Process (SDP). All findings were determined to be of very low safety significance (Green).

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Sincerely,

/RA/

Michele G. Evans, Chief
Projects Branch 1
Division of Reactor Projects

Docket No. 05000244
License No. DPR-18

Enclosure: Inspection Report 05000244/2000-005

cc w/encl:
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REGION I

Docket No:	05000244
License No:	DPR-18
Report No:	05000244/2000-005
Licensee:	Rochester Gas and Electric Corporation (RG&E)
Facility:	R. E. Ginna Nuclear Power Plant
Location:	1503 Lake Road Ontario, New York 14519
Dates:	July 2, 2000 through August 12, 2000
Inspectors:	H. K. Nieh, Senior Resident Inspector C. R. Welch, Resident Inspector W. A. Cook, Senior Project Engineer J. C. Jang, Senior Health Physicist T. A. Moslak, Health Physicist D. M. Silk, Senior Emergency Preparedness Inspector S. K. Chaudhary, Division of Reactor Safety S. X. Dennis, Division of Reactor Safety
Approved by:	M.G. Evans, Chief Projects Branch 1 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000244-00-05; on 07/02 - 08/12/2000; Rochester Gas and Electric Corporation; R. E. Ginna Nuclear Power Plant. Mitigating System.

The report covers a seven-week period of resident inspection and region-based inspections of occupational and public radiation safety, and emergency preparedness, conducted per the NRC's Reactor Oversight Process (Attachment 1). The inspection identified one green issue. The significance of issues is indicated by their color (green, white, yellow, or red) and was determined by the Significance Determination Process (SDP).

Cornerstone: Mitigating Systems

1. GREEN. The inspectors identified that RG&E did not thoroughly consider the risk associated with the implementation of a temporary modification to the refueling water storage tank (RWST) purification system. Installation of the modification increased the probability of internal flooding and RWST loss of inventory events. RG&E subsequently determined that the overall increases in core damage frequency for these events were minimal. (Section 1R23)

TABLE OF CONTENTS

Report Details

SUMMARY OF PLANT STATUS

Ginna was at or near full power throughout the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed partial walkdowns of the following system trains while their redundant trains were out of service for maintenance.

a. Emergency core cooling system (train A)
b. Component cooling water (train B)
c. Turbine driven auxiliary feedwater

These inspections reviewed alignment of system valves and electrical circuit breakers to ensure proper in-service or standby configurations described in plant procedures and drawings. During the walkdowns, the inspectors also evaluated material conditions and general housekeeping of the systems and adjacent spaces.

b. Issues and Findings

There were no findings identified.

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.

a. Relay room
b. Auxiliary building charging pump room
c. Intermediate building (clean side)

This inspection also included the observation of a fire brigade drill conducted on August 12. During the drill, the inspectors evaluated the station's readiness and response to a simulated fire in the turbine building. The post-drill critique was also observed.

b. Issues and Findings

There were no findings identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed RG&E's flood protection measures (for internal flooding sources) for areas identified as risk significant in Ginna's probabilistic safety assessment. The inspectors also verified that RG&E was performing periodic inspections and preventive maintenance on associated barriers and pumping/drainage systems.

a. Relay room
b. Auxiliary building - middle and lower levels

During the auxiliary building tour, the inspectors determined that an installed temporary modification to the refueling water storage tank (RWST) purification system created an additional source of internal flooding from the RWST. This observation is further described in section 1R23 of this report.

b. Issues and Findings

There were no findings identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On August 8, the inspectors observed an annual simulator exam to assess training effectiveness and the operating crew's performance. The inspectors reviewed the evaluators' critiques and verified that the simulator board configuration matched that of the actual control room.

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. The inspection included evaluation of system scoping, performance criteria/goal monitoring, and problem classification.

a. Control room ventilation system functional failures, action reports (ARs) 1999-1271 and 2000-1541
b. Battery room ventilation system functional failures, ARs 1997-0136 and 1999-1622.
c. Rod control system urgent failures, ARs 2000-0640 and 2000-0916.

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 scheduled maintenance on the following systems. This inspection included discussions with control room operators and scheduling department 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."

a. Emergency core cooling system (train B), August 7
b. Offsite electrical distribution circuits 767 and 751, August 18 and 20, respectively

This inspection also included an evaluation of RG&E's emergent work controls for rod control system troubleshooting activities conducted on August 10. The inspectors reviewed the applicable work documents; attended the pre-job briefings, and observed worker performance to determine if the troubleshooting activities would increase the probability of a reactor trip.

b. Issues and Findings

There were no findings identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following operability evaluations to determine if RG&E properly justified equipment functional capability. Ginna's technical specifications and updated final safety analysis report were used as references.

a. Fire protection system check valve internal wear, AR 2000-0749
b. Component cooling water pump concrete foundation cracks, AR 2000-0116

b. Issues and Findings

There were no findings identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspector reviewed all active operator workarounds and operator challenges, as defined by Ginna procedure A-52.16, "Operator Workaround/Challenge Control." The inspector also examined all active operator aid tags. The cumulative effect of active operator workarounds and challenges was assessed. This assessment included a determination of the impact of the discrepant condition on the affected systems and on the operators' ability to respond to plant transients and accidents.

b. Issues and Findings

There were no findings identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the following plant change records (PCRs) and associated evaluations. This review verified that the selected PCRs maintained system functional capabilities and conformed to applicable design/licensing bases.

a.	PCR 1999-055	Refueling water storage tank high level switch
b.	PCR 2000-014	Refurbish intake structure heater screens

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 (WOs) to verify that RG&E appropriately demonstrated the components' ability to perform their intended safety function:

a.	WO 19904183	B safety injection pump preventive maintenance (PM)
b.	WO 20002414	A component cooling water heat exchanger service water (SW) outlet piping replacement
c.	WO 19904083	C SW pump breaker PM

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 demonstrated the associated system's functional capability and operational readiness.

a. PT-6.3.1 Power range nuclear instrument (PRNI) channel 41
b. PT-6.3.2 PRNI channel 41
c. PT-2.8Q A and B component cooling water pumps

b. Issues and Findings

There were no findings identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the details of temporary modification 99-032, which installed a filter in the refueling water storage tank (RWST) purification system to remove sulfate. This review included inspection of the modified configuration, procedures, and drawings. The inspectors referenced Ginna's technical specifications, updated final safety analysis report, and probabilistic safety assessment (PSA).

b. Issues and Findings

The modification, as installed in the auxiliary building, consisted of a filter pressure vessel, various lengths of flexible hose, and fittings for quick connection into existing RWST system piping. RG&E's evaluation did not fully consider the potential risk impact of the modification. In particular, the modification's risk impact on internal flooding events and the RWST loss of inventory event were not addressed in the associated safety evaluation. RG&E personnel subsequently determined that the resultant change in core damage frequency (CDF) due to the temporary modification was an increase of less than two percent. The inspectors reviewed RG&E's revised evaluation with regional risk analysts and no additional problems were identified. Using the Significance Determination Process, the inspectors determined that the observed shortcomings in the temporary modification safety evaluation was a finding of very low safety significance (Green), based on the minimal increase in CDF.

1EP2 Alert and Notification System Testing

a. Inspection Scope

The inspector performed the following to evaluate the adequacy of Ginna's alert and notification system (ANS) testing program.

a. Reviewed system description and design manuals.
b. Interviewed personnel responsible for system testing and maintenance.
c. Reviewed testing and corrective maintenance data.

d. Observed the performance of a growl test.
e. Inspected selected ANS equipment, including the Monroe County 911 Center (one of the two ANS activation points for that county).
f. Reviewed ANS emergency plan commitments.

b. Issues and Findings

There were no findings identified.

1EP3 Emergency Response Organization Augmentation

a. Inspection Scope

The inspector evaluated the adequacy of Ginna's emergency response organization (ERO) augmentation system. This inspection reviewed:

a. RG&E commitments for facility staffing and activation.
b. Emergency responder qualification records to ensure that sufficient numbers of responders were available.
c. Procedures for initiating ERO call-in.
d. Quarterly call-in test results.
e. Data from the 1997 off-hours response drill, which required ERO members to report onsite.

b. Issues and Findings

There were no findings identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector reviewed a sample of emergency plan changes to determine if the changes adversely impacted the plan's effectiveness. RG&E's 10 CFR 50.54(q) review process was also evaluated. There were no emergency action level changes to review.

b. Issues and Findings

There were no findings identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector reviewed selected action reports (ARs) assigned to the emergency preparedness (EP) department to determine if RG&E was appropriately evaluating and correcting problems in the EP area. The ARs reviewed involved siren system silent test performance problems; emergency response organization (ERO) notification system functional problems; and ERO respirator qualifications.

The inspector also evaluated RG&E's 1998 and 1999 10 CFR 50.54(t) reviews to verify that the reviews met the applicable requirements.

b. Issues and Findings

There were no findings identified.

2. RADIATION SAFETY

Cornerstones: Occupation Radiation Safety and Public Radiation Safety

2OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

The inspector conducted the following activities to determine the effectiveness of access controls to radiologically significant areas during power operations:

a. All locked high radiation areas in the auxiliary and intermediate buildings were physically checked and the keys inventoried.
b. Independent measurements were made of radiation levels in radiologically controlled areas (RCAs) within the auxiliary and intermediate buildings to verify the accuracy of posted surveys and the adequacy of radiation work permits.

The inspector also observed the following jobs and discussed with the workers the radiological practices that applied to their tasks:

c. Scaffold construction in the residual heat removal pump room, July 18.
d. Pressurizer liquid sample, July 19.

The following action reports (ARs) were reviewed to assess RG&E's corrective actions:

e. AR 00-0733, visitor not correctly logged in on the electronic dosimetry system before entering the RCA in the auxiliary building.
f. AR 99-0636, control of the intermediate building sub-basement as a locked high radiation area during fuel transfers.

b. Issues and Findings

There were no findings identified.

2OS2 ALARA Planning and Controls

a. Inspection Scope

The inspector reviewed the effectiveness of various controls to minimize and equalize personnel exposure for recent activities conducted during power operations. Performance was reviewed for those work groups having an elevated cumulative exposure, including the mechanical maintenance, operations, and radiation protection departments. The inspector discussed, with RG&E, the causes for certain tasks to exceed their projected estimates, in particular, the troubleshooting and repair of level transmitter LT-935.

The inspector reviewed RG&E's progress in resolving various action reports (ARs) that addressed reducing personnel exposure from contaminated systems. Included in this review were the radiological controls implemented to resolve ARs 1997-2033 and 1999-0771, residual heat removal system isolated before the reactor coolant system clean-up completed; ARs 2000-0344 and 0726, personnel exceeding the electronic dosimeter dose rate alarm set points; and AR 1999-0664, unplanned exposures during reactor cavity decontamination.

The inspector evaluated RG&E's effectiveness in identifying areas for radiation protection program improvements by reviewing the following self-assessments (SA) and quality assurance (QA) audit:

a. Radiation protection outage critique, SA-99-64
b. 1999 ALARA post outage assessment, SA-99-80
c. Radiation protection QA audit report, AINT-2000-0011-RTD

b. Issues and Findings

There were no findings identified

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

a. Inspection Scope

The inspector reviewed the following documents to ensure the licensee met the requirements specified in the improved technical specification/offsite dose calculation manual (ITS/ODCM):

a. 1999 radiological effluents monitoring program (REMP) report.
a. The most recent ODCM (Revision 9, November 22, 1999) and technical justifications (10 CFR 50.59 safety evaluation) for ODCM changes, including sampling locations.

b. Comparisons of required exposure pathway samples (Regulatory Guide 4.8/Branch Technical Position) and the RG&E's ODCM((Revision 9, November 22, 1999).
c. Meteorological parameters listed in the ODCM, including when these parameters were measured and comparisons against 1999 data.
d. The most recent calibration results of the meteorological monitoring instruments for wind direction, wind speed, and air temperature at the 33-ft, 150-ft, and 250-ft levels.
e. The most recent calibration results for air samplers.
f. The measurement laboratory quality control program, including interlaboratory comparisons.
g. QA audit findings and responses (AINT-1999-002-TJD, ODCM & REMP; and CG-00-02-JB, James A. Fitzpatrick Nuclear Power Plant Environmental Laboratory).
h. The land use census procedure and results.

The inspector also walked down various offsite equipment locations to assess material condition and to determine if the equipment was located as described in the ODCM. These tours included examinations of air samplers, milk farms, composite water samplers, vegetable gardens, and thermoluminescent dosimeters.

b. Issues and Findings

There were no findings identified.

2PS2 Radioactive Material Processing and Transportation

a. Inspection Scope

The inspector reviewed the following documents to ensure that RG&E met the applicable requirements involving the unrestricted release of material from the radiologically controlled area (RCA):

a. Procedures for control, survey, and release from the RCA.
b. The most recent calibration results for the radiation monitoring instrumentation, including alarm settings, alarm response and sensitivity.
c. RG&E's criteria for survey and release of potentially contaminated material.
d. Applicable procedures and records to verify the lower limits of detection.

b. Issues and Findings

There were no findings identified.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed RG&E's performance indicator (PI) data for the below listed cornerstones to verify its accuracy and completeness. This inspection examined data and plant records from 1999 through the second quarter of 2000, including review of drill and exercise performance data, corrective action program documentation, and periodic projected dose assessment and personnel exposure reports.

a. Emergency preparedness: drill and exercise performance, emergency response organization drill participation, alert and notification system reliability
b. Occupational radiation safety: occupational exposure control effectiveness
c. Public radiation safety: radiological effluent occurrences

b. Issues and Findings

There were no findings identified.

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 NEI 99-02, Revision 0, "Regulatory Assessment Performance Indicator Guideline," issued by the Nuclear Energy Institute. This inspection verified the dat collection and reporting process for the following PIs:

a. Emergency response organization drill participation
b. Occupational exposure control effectiveness

b. Issues and Findings

There were no findings identified.

.2 External Audit Report Review

a. Inspection Scope

The inspectors reviewed the final report from Ginna's February 1999 evaluation by the Institute of Nuclear Power Operations. This review was performed to identify any safety issues contained in the report.

b. Issues and Findings

There were no findings identified.

4OA6 Meetings

a. Exit Meeting Summary

On August 16, 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
R. Popp	Production Superintendent
P. Polfleit	Corporate Emergency Planner
J. Smith	Maintenance Superintendent
R. Teed	Nuclear Security Supervisor
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

None

LIST OF ACRONYMS USED

ANS	Alert and Notification System
AR	Action Report
CDF	Core Damage Frequency
CFR	Code of Federal Regulations
EP	Emergency Preparedness
ERO	Emergency Response Organization
ITS	Improved Technical Specifications
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PCR	Plant Change Record
PI	Performance Indicator
PM	Preventative Maintenance
PRNI	Power Range Nuclear Instrument
PSA	Probabilistic Safety Assessment
QA	Quality Assurance
RCA	Radiologically Controlled Area
REMP	Radiological Effluents Monitoring Program
RG&E	Rochester Gas and Electric Corporation
RWST	Refueling Water Storage Tank
SA	Self Assessment
SDP	Significance Determination Process
SW	Service Water
WO	Work Order

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.