

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No: 50-244/90-12 License No. DPR-18  
Licensee: Rochester Gas and Electric Corporation (RG&E)  
Facility: R. E. Ginna Nuclear Power Plant  
Dates: July 17 through August 27, 1990  
Inspectors: T. A. Moslak, Senior Resident Inspector, Ginna  
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Approved by: *E. C. McCabe* 9-5-90  
E. C. McCabe, Chief, Reactor Projects Section 3B Date

OVERVIEW

PLANT OPERATIONS: The plant operated stably at approximately full power. Operations were conducted in a professional manner, with appropriate management attention and involvement. Overall, plant housekeeping was very good.

RADIOLOGICAL CONTROLS: Routine observations of radiological controls were made throughout the inspection period. No significant weaknesses were noted.

MAINTENANCE/SURVEILLANCE: Review of licensee actions concerning the failure of the Service Water Pump 1D Motor indicated timely management response in performing a comprehensive engineering evaluation to identify the root cause of the failure. Additionally, prudent actions were taken by licensee management to upgrade the materials used for the motor rewind and perform additional testing to assure increased motor reliability.

SECURITY: Observations of the implementation of site security procedures for entry of motor vehicles into the protected area identified no weaknesses.

EMERGENCY PREPAREDNESS: The licensee's Emergency Operations Facility and Media Center were found to be suitably equipped and well maintained.

SAFETY ASSESSMENT/QUALITY VERIFICATION: An assessment of independent verification of maintenance by the Nuclear Assurance group provided useful information to plant management. However, no specific follow-up was requested and no formal mechanism was used to follow-up the concerns identified.

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## DETAILS

### 1. Plant Operations

#### 1.1 Control Room Observations

The inspectors found the R. E. Ginna Nuclear Power Plant to be operated safely and in conformance with license and regulatory requirements. Control room staffing was adequate and operators exercised control over access to the control room. Operators adhered to approved procedures and understood the reasons for lighted annunciators. The inspectors reviewed control room log books to obtain information concerning trends and activities, and observed recorder traces for abnormalities. During normal work hours and on backshifts, accessible areas of the plant were toured and plant conditions and activities were observed with no inadequacies identified. The inspectors verified compliance with plant technical specifications and audited selected safety-related tagouts.

Among the documents reviewed included Ginna Station Event Reports (A-25.1) Nos. 90-74 through 90-83.

Each Ginna Station Event Report was reviewed to ensure plant personnel took appropriate corrective action and observed the appropriate Limiting Conditions for Operation. No inadequacies were identified.

### 2. Radiological Controls

The resident inspectors periodically confirmed that radiation work permits were effectively implemented, dosimetry was correctly worn in controlled areas and dosimeter readings were accurately recorded, access to high radiation areas was adequately controlled, and postings and labeling were in compliance with procedures and regulations. Through observations of ongoing activities and discussions with plant personnel, the inspectors concluded that radiological controls were conscientiously implemented.

### 3. Maintenance/Surveillance

#### 3.1 Maintenance Observations

The inspectors observed portions of various safety-related maintenance activities to assess whether redundant components were operable, activities did not violate limiting conditions for operation, personnel obtained required administrative approvals and tagouts before initiating work, personnel used approved procedures or the activity was within the "skills of the trade," workers implemented appropriate radiological controls and ignition/fire prevention controls, and equipment was tested properly prior to returning it to service. Portions of the following activity were observed:

- Maintenance Procedure (M)-11.10, Major Inspection of Service Water Pump, Pump: "D" Service Water, Revision 20, effective January 5, 1990, observed August 24, 1990.

No unacceptable conditions were identified.

### 3.2 Corrective Maintenance Observations

#### 3.2.1 Service Water Pump 1D Motor Failure

Following the failure of the Service Water Pump 1D Motor on August 4, 1990, the inspector followed licensee's actions to diagnose the cause of the failure, oversee repairs, and return the pump to full service in a timely manner.

Upon determining that the motor required rewinding due to a phase-to-phase short in the stator windings, engineers and quality assurance personnel from the corporate and site staffs were dispatched to the repair facility (Reliance Electric Company, Cleveland, Ohio) to evaluate material modifications to the motor stator and recommend additional testing to assure greater motor reliability. Based on their engineering evaluation and through discussions with vendor representatives, the licensee's staff upgraded the winding insulation from Class F to Class H to enhance the motor's thermal endurance.

To provide assurance that the changes in materials did not affect the motor's operating characteristics, additional dynamic testing to augment static bench tests was performed at RG&E's request. Dynamic testing included a dynamometer performance test, a heat run test, and several tests at full load. Upon satisfactory completion of testing, the motor was returned to the site, installed, tested in-place and returned to full service on August 24, 1990.

Based upon observation of the licensee's actions, discussions with cognizant licensee representatives, and review of supporting documentation, the inspector concluded that the licensee acted expeditiously to repair the motor and took prudent measures to improve motor reliability.

### 3.3 Surveillance Observations

Inspectors observed portions of surveillances to verify proper calibration of test instrumentation, use of approved procedures, performance of work by qualified personnel, conformance to limiting conditions for operation, and correct system restoration following testing. Portions of the following surveillances were observed:



- Periodic Test (PT)-2.10, Safety Injection System Quarterly Test, Revision 2, effective June 29, 1990, observed August 1, 1990.
- PT-32A, Reactor Trip Breaker Testing - "A" Train, Revision 8, effective June 8, 1990, observed August 3, 1990.

No unacceptable conditions were identified.

### 3.4 Inservice Inspection Summary Report

The inspector reviewed the licensee's inservice inspection summary report for the first refueling outage of the third inspection interval. The ASME Code, Section XI, 1986 Edition, is the applicable code for the interval and the report was submitted to the NRC within the time frame mandated by Article 6000 of Section XI.

Examination methods included visual, liquid penetrant, magnetic particle, ultrasonic, radiographic, eddy current, functional, and system hydrostatic pressure and leakage tests. Inservice inspection (ISI) activities during the 1990 refueling outage were performed on Code Class 1, 2, & 3 components, high energy piping, steam generator tubes and snubbers.

Examinations performed on Class 1, 2 and 3 components and on high energy piping were as follows.

- Ninety-three (93) examinations were performed on 63 Class 1 components.
- One hundred nineteen (119) examinations were performed on 75 Class 2 components.
- Twenty-one (21) Class 3 components were examined by the VT-3 visual examination technique.
- Seventy-four (74) examinations were performed on 23 high energy components.

Steam generator tubes in the "A" and "B" steam generators were examined with the eddy current method. The status of the Steam Generator (S/G) tubes before and after the examinations follows:

<u>Steam Generator "A"</u>	<u>Pre-outage</u>	<u>Post-outage</u>	<u>Change</u>
Total Tubes	3260	3260	-
Out of Service Tubes (plugged)	173	197	+24
Sleeved Tubes	172	223	+51
Open Unsleeved Tubes	2915	2840	-75



Steam Generator "B"

Total Tubes	3260	3260	-
Out of Service Tubes (plugged)	340	332	-8*
Sleeved Tubes	642	832	+190
Open Unsleeved Tubes	2278	2096	-182

\*Tubes recovered by removing the plugs and sleeving the tubes.

S/G "A" - Work Scope

	<u>Minimum Required</u>	<u>Number Inspected</u>
Hot Leg to #1 Tube Support Plate	2915	2915
Full Length (20% Random Sample)	583	585
Previous Indications $\geq$ 20%	9	9
Sleeves	35	35

S/G "B" - Work Scope

Hot Leg to #1 Tube Support Plate	2278	2278
Full Length (20% Random Sample)	456	460
Previous Indications $\geq$ 20%	19	19
Sleeves	129	129
Replugged Tubes (Full Length)	28	28

Four hydrostatic tests and associated VT-2 visual examinations were performed on the following:

- Charging System through Regenerative Heat Exchanger
- CVCS Holdup Tank "A"
- CVCS Holdup Tank "B"
- CVCS Holdup Tank "C"

A total of 147 snubber components were inspected requiring 148 VT-3 examinations. The examinations were performed to comply with the licensee's Technical Specification requirements. Fifteen (15) snubbers were functionally tested, of which 12 were mechanical snubbers and 3 were hydraulic snubbers.

The summary report identified three items (one (1) Class 1 and two (2) Class 2 items) which contained unsatisfactory conditions and which resulted in an expanded inspection sample in each case. Additionally, the originally rejected components were put into an acceptable condition.

A number of Class 1, 2 and 3 items (40) were identified as containing Code Rejectable Indications which did not result in expanded examination samples. The components were either repaired and made acceptable

or evaluated and dispositioned use-as-is. The inspector agreed with each disposition but questioned why the rejectable findings did not result in an expanded inspection sample.

RG&E's repair program covers both "Service Induced" and "Code Rejectable" repairs. A "Service Induced Reject" occurs when an item in the ISI program contains an indication that exceeds applicable acceptance standards and was caused during the service life of the item. A service induced reject results in an expanded inspection sample. A "Code Reject" occurs when an item contains indications or other rejectable conditions that were not service induced. That type of reject does not result in an expanded inspection sample. For each of the code rejectable items the licensee had identified the nature of the rejectable condition and had documentation which confirmed that the condition was present prior to placing the item in service and was not service induced. The inspector had no further questions regarding this matter.

The licensee's summary report was found to be complete, and information that is not included in the report is readily available from the licensee. No unacceptable conditions were identified.

#### 4. Security

During this inspection, the resident inspectors verified x-ray machines and metal and explosive detectors were operable, protected area and vital area barriers were well maintained, personnel were properly badged for unescorted or escorted access, and compensatory measures were implemented when necessary.

##### 4.1 Vehicle Access Control

The inspector witnessed, on three separate occasions, site security processing privately owned vehicles into the protected area. Through these observations, the inspector determined that site security properly interrogated the vehicle's owner, thoroughly inspected the vehicles, and closely escorted the owner while in the protected area. Security personnel meticulously inspected materials off-loaded from the vehicles and closely monitored escorted personnel activities.

Overall, the licensee's security staff rigorously implemented site security procedures.

#### 5. Engineering/Technical Support

##### 5.1 Unresolved Item 50-244/90-09-02, AOV-745 Isolation Signal (Closed)

RG&E modified the Emergency Procedures to direct operators to verify the valve closed, or manually close it, and committed to install a containment isolation signal to the valve by the end of the 1992 refueling outage. The valve was returned to operable status and will



be kept normally closed; alignment procedures have been changed. NRC review concluded that the actions taken and planned were conservative and adequate.

#### 5.2 Unresolved Item 50-244/89-04-02, Major Modification Backlog (Closed)

The inspector reviewed the current list of modifications which are planned to be performed at the site and discussed it with cognizant licensee representatives. The list has been prioritized based on the system which became effective on January 17, 1989. Guideline No. OMG-2, Revision 0, entitled "Integrated Prioritization of Modifications and Activities" is the controlling document and identifies the actions necessary to implement the plan. Based on the assigned priority, projects have been scheduled for the next five refueling outages from 1991 through 1995. Additionally, the list has been broken down to pre-outage and outage activities for each of the five years. Activities which can be performed when the plant is operating are listed under pre-outage activities, and those which cannot be accomplished until the plant is shut down are listed as outage activities. The published five year schedule is periodically updated and revised based on work activity progress and changing plant conditions which affect the established priorities.

Planning and scheduling of modifications appeared to be adequately controlled to assure that work activities are properly performed and that sufficient resources are allocated to the scheduled activities.

### 6. Safety Assessment/Quality Verification

#### 6.1 Self-Assessment Effectiveness

The inspector reviewed the status of findings identified in a self-assessment performed by the Nuclear Assurance group. In April 1990, the Nuclear Assurance group performed an assessment of the use of independent verification when performing certain maintenance activities. The assessment credited the maintenance planners with satisfactorily implementing the program, but was critical of the lack of formal, integrated training for all Maintenance Department personnel to assure a common understanding of independent verification methods. It concluded that procedural guidance on independent verification and the procedures that utilize it need clarification. Comprehensive formal training was recommended. Though the assessment provided useful information to plant management, no follow-up was requested and no formal mechanism was used to follow-up these concerns.

Although a standard corrective action tracking system exists for regulatory and licensee-identified findings, this system was not used for follow-up on the self-assessment findings. Not using the formal



mechanism to address these findings provides an inconsistent approach to problem resolution and was assessed as a weakness in administrative control.

## 6.2 Personnel Safety

On July 17, 1990, for the second time since 1967, the Ginna Nuclear Power Plant achieved one million work conservative hours without an accident. Senior corporate and plant management were outside the guard house that morning at 5:30 to greet and congratulate all plant workers. Plant management attributes this good record to the awareness of management and workers of the importance of safety. NRC review assessed this achievement and its recognition by management as indicators of good performance.

## 6.3 Periodic and Special Reports

Periodic and special reports submitted by the licensee pursuant to Technical Specifications 6.9.1 and 6.9.3 were reviewed. Inspectors verified that the reports contained information required by the NRC, that test results and/or supporting information were consistent with design predictions and performance specifications, and that reported information was accurate. The following report was reviewed:

-- Monthly Operating Report for July 1990.

No unacceptable conditions were identified.

## 6.4 Written Reports of Nonroutine Events

Written reports submitted to the NRC were reviewed to determine whether details were clearly reported, causes properly identified and corrective actions were appropriate. The inspectors also assessed whether potential safety consequences had been properly evaluated, generic implications were indicated, events warranted onsite follow-up, reporting requirements of 10 CFR 50.72 were applicable, and requirements of 10 CFR 73 had been properly met.

The following LERs were reviewed (Note: date indicated is event date):

-- 90-008 (Revision 01), Safeguards Buses Degraded Voltage Relays Miscalibrated Due To Procedure Inadequacy Causes a Condition Prohibited By Plant Technical Specifications, May 24, 1990.

This LER is closed out in Detail 6.5 of this report.

-- 90-010, Inadvertent Closure of "A" Steam Generator Main Feedwater Regulating Valve Due to Controller Malfunction Causes a Reactor Trip on Low Steam Generator Water Level, June 9, 1990.

This event was reviewed in NRC Inspection Report 50-244/90-09.

- 90-011, Fire Damper Found Missing During Surveillance Test PT-13.26, Due to Not Being Installed, Causes a Condition Prohibited By Technical Specification, June 19, 1990.

This event was reviewed in NRC Inspection Report 50-244/90-11.

The inspectors concluded that the reports were accurate and met regulatory requirements. No unacceptable conditions were identified.

6.5 Unresolved Item 50-244/90-11-02 Unclear LER 90-008 (Closed)

RG&E submitted a revision to the LER to address applicable Technical Specification action statements and to clarify recalibration methodology. NRC review of this LER revision concluded that the additional information was adequate to address the concerns. Licensee corrective actions were acceptable.

7. TMI Action Item Follow-up

7.1 I.D.2.2 and I.D.2.3, Safety Parameter Display System (SPDS)

The NRC staff concluded that RG&E has satisfactorily met all requirements for an SPDS specified in NUREG-0737, Supplement 1, as documented in June 29, 1990 letter from Allen Johnson, NRC Project Manager to Dr. Robert C. Mecredy, RG&E. This item is closed.

7.2 II.K.3.5:B, Reactor Coolant Pump (RCP) Trip

As stated in an April 24, 1989 letter from Mr. Patrick Sears, NRC Project Manager, to Dr. Robert C. Mecredy, the NRC staff found RG&E's plant-specific RCP trip setpoint development acceptable. This item is closed.

7.3 II.E.4.1, Dedicated Hydrogen Penetration

As stated in NRC Inspection Report 50-244/81-13, the hydrogen recombiners are located inside containment, therefore this requirement is not applicable. This item is closed.

7.4 III.D.3.4.3, Control Room Habitability

NRC Inspection Report 5-244/84-22 initially reviewed this requirement and left two concerns open. One concern was closed in NRC Inspection Report 50-244/85-10 and the other in 86-07. This item is closed.

7.5 II.B.3.4, Post-accident Sampling

NRC Inspection Report 50-244/85-08 initially reviewed this requirement and left four concerns open. Two concerns were closed in NRC Inspection Report 50-244/87-05, one in 87-20, and one in 88-20. This item is closed.



#### 7.6 II.F.1.2.C, Containment High Range Monitor

NRC Inspection Report 50-244/85-08 initially reviewed this requirement and left two concerns open. One concern was closed in NRC Inspection Report 50-244/87-05 and the other in 87-20. This item is closed.

### 8. Administrative

#### 8.1 Licensee Activities

The plant operated at approximately full power throughout the inspection period. On August 4, 1990 the "D" service water pump breaker tripped due to a short in the motor's windings. The pump motor was rewound and more extensive testing was conducted before the pump was returned to service on August 25, 1990. No further problems were encountered during this inspection period.

#### 8.2 Emergency Preparedness

On August 14, 1990, the inspector toured the RG&E Emergency Operations Facility at 49 East Avenue, Rochester, with the RG&E Emergency Preparedness staff. The facility was found to be fully equipped and well maintained. The most current revisions of controlled copies of procedures and drawings were on file. Communication systems were in working order. No problem areas were identified.

#### 8.3 Inspection Hours

This inspection involved 145 inspection hours, including 5 backshift and 3.5 deep backshift hours.

#### 8.4 Exit meetings

At periodic intervals and at the conclusion of the inspection, meetings were held with senior station management to discuss the scope and findings of this inspection. In addition, NRC exit meetings were held for the following inspections during this inspection period: 50-244/90-15 on August 17, 1990, 50-244/90-16 on August 10, 1990, and 50-244/90-17 on August 18, 1990.