U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-244/86-18

Docket No. 50-244

Licensee No. DPR-18 Priority -- Category C

Licensee: Rochester Gas and Electric Corporation
49 East Avenue
Rochester, New York 14649

Facility Name: R. E. Ginna Nuclear Power Plant

Inspection at: Ontario, New York

Inspection Conducted: October 5, 1986 through November 8, 1986

Inspectors: T. J. Polich, Senior Resident Inspector, Ginna
T. K. Kim, Resident Inspector, Ginna

Approved by: Robert M. Gallo 11/25/86
R. M. Gallo, Chief, Reactor Date
Project Section No. 2A, DRP

Inspection Summary:
Inspection on October 5, 1986 through November 8, 1986 (Report No. 50-244/86-18)
Areas Inspected: Routine, on-site, regular, and backshift inspection by the resident inspectors (195 hours). Areas inspected included: licensee action on previous findings; review of plant operations; operational safety verification; surveillance testing; plant maintenance; On-site Review Committee Meeting; and review of periodic and special reports.

Results: In the seven areas inspected, no violations were observed.

DETAILS

1. Persons Contacted

*J. C. Bodine, Nuclear Assurance Manager
*D. L. Filkins, Chemistry & Health Physics Manager
R. A. Marchionda, Training Manager
*T. A. Marlow, Maintenance Manager
T. A. Meyer, Superintendent Ginna Support Services
*T. R. Schuler, Operations Manager
M. T. Shaw, Administrative Services Manager
B. A. Snow, Superintendent Nuclear Production
*S. M. Spector, Superintendent Ginna Production
*R. W. Vanderweel, Ginna Modifications Project Manager
*J. A. Widay, Technical Manager
*R. E. Wood, Supervisor Nuclear Security

During this inspection period the inspectors also held discussions with and interviewed operators, technicians, engineers, and supervisory level personnel.

*Denotes persons present at Exit Interview

2. Licensee Action on Previous Inspection Findings

a. (Open) Inspector Follow-up Item (82-21-02) Residual Heat Removal Subbasement Flood Protection. During a previous inspection it was noted that when the drain line to the Auxiliary Building sump became clogged, water in the line would backup and spill into the RHR subbasement. This leakage path potentially reduces the overall flood protection for the RHR pumps. At that time, the inspector also noted water 1" to 2" deep on the floor in the northeast corner of the room.

During the past two months the inspectors toured the RHR subbasement several times and noted the following conditions:

- Standing water on the floor in the northeast corner of the room.
- Standing water on the floor between the RHR pumps.
- Water dripping from the ceiling in the northeast corner of the room.

The licensee's Quality Control (QC) inspectors have also identified water on the floor and wall of the subbasement in QC Surveillance Report 85-1179 dated 14 November 1985 and QC Report 86-1111 dated 19 August 1986. The licensee has not closed either of these reports since the conditions still exist. This item will remain open pending licensee action to correct this problem and address the deterioration of equipment and supports due to the standing water.

b. (Open) Inspector Follow-up Item (79-BU-17) Inspection of Stagnated Boric Acid System Piping. IE Bulletin 79-17, issued July 26, 1979, informed all Pressurized Water Reactor (PWR) licensees and PWR construction permit holders about pipe cracking experienced in safety-related stainless steel piping systems. The Rochester Gas & Electric Corporation responded to the Bulletin with the 90 day report dated October 24, 1979. The report included identification of all piping systems which contain stagnated boric acid. A schedule and records of non-destructive examinations performed on these piping systems was included. The report concluded that there was no indication of stress corrosion cracking.

On October 29, 1979, the NRC issued Revision 1 of the IE Bulletin 79-17, which required further examinations in piping systems with recirculated boric acid. The licensee provided the results of these tests in the report dated April 25, 1980. The non-destructive testing conducted on the piping of concern provided no indication of stress corrosion cracking due to boric acid. However, some indications have been identified apparently associated with the heat tracing material on these piping systems. The cement originally used is a suspected source of chloride contamination.

To address this concern, the licensee has planned to upgrade portions of the heat traced piping system by replacing schedule 10 piping with schedule 40 piping. In addition, new heat tracing is planned to be installed using a different material. The planned piping and heat tracing upgrading are scheduled to be performed over the next three refueling outages (reference: Engineering Work Request (EWR) No. 3092). The first phase, to be performed during the 1987 refueling outage, is for the larger size schedule 10 piping (8" and 4" diameter) associated with Safety Injection pump suction. The licensee has committed to perform non-destructive examinations on piping planned for later replacement for any further indications. The inspectors will follow the licensee's actions. This item remains open.

c. (Closed) Inspector Follow-up Item (81-15-02) Stress Corrosion Cracking Indications in Heat Traced Boric Acid Piping. This item addresses the same concern documented in open item (79-BU-17).

This item is cancelled. The open item of concern will continue to be tracked under the item No. 79-BU-17.

d. (Open) Inspector Follow-up Item (83-17-04) Inservice Testing of Safety Injection (SI) Pump Bearing Temperatures. On June 20, 1983, the licensee submitted the Ginna Station Quality Assurance Manual, Appendix C, Revision 3A to the NRC for approval. The proposed change included deletion of the ASME Boiler and Pressure Vessel Code, Section XI, IWP-3000 requirement for annual pump bearing temperature measurements. The submittal provided the licensee's justification

why the measurement of bearing temperatures are either inconclusive or undesirable.

During a previous inspection period, the inspector reviewed data from previously performed bearing temperature measurements of safety-related pumps and noted relatively high bearing stabilization temperatures, between 150-170 degrees F for the SI pumps. The temperature measurements were recorded while at test flow conditions generally between 50-85 gallons per minute (gpm). However, actual SI pump recirculation flow at pump shut-off head conditions is about 35 gpm, which may tend to increase the axial loading on the bearings. The majority of tests were also noted to have been run during months when service water cooling to the bearing was between 35-40 degrees F. The inspector expressed concern to licensee mangement regarding SI pump operability during extended periods of pump operation at shut-off head conditions during the months when service water cooling to the pump bearings can exceed 70 degrees F. The licensee has agreed to review the circumstances surrounding the bearing temperature results from previous inservice tests of the SI pumps, and take appropriate actions, if necessary, to assure the SI pumps can function properly when required.

During this inspection period, the inspector noted that the licensee has initiated an EWR No. 3881 to upgrade the SI pump recirculation line from 3/4" to 1". The licensee management had tentatively scheduled the work during the 1987 refueling outage, however, it was recently delayed until the 1989 refueling outage. The inspector will follow the licensee's actions. This item remains open.

e. (Closed) Inspector Follow-up Item (85-26-02) Long-term Corrective Actions per LER 85-19. On November 25, 1985, the licensee experienced a secondary system transient at 100% power due to a condenser circulating water pump trip, which led to a reactor trip on low steam generator water level. It was concluded that the condensate and feedwater systems should provide for sufficient means to mitigate this type of transient with some operator action required. In January 1981, a similar event, a condenser circulating water pump trip occurred with the plant operating at 100% power. Quick operator response, by dropping the turbine load to less than 50% power, allowed the plant to continue operating and recover from the transient.

Recognizing the required operator actions during such transient, the licensee has written and validated a new procedure (AP-CW.1), "Loss of A Circulating Water Pump", which details actions and expected responses for a trip of a condenser circulating water pump at power. The licensee also verified the adequacy of this procedure on the simulator. The inspector determined that the implementation and training on the new procedure (AP-CW.1) were consistent with the

licensee's long-term corrective action as documented in LER 85-19. This item is closed.

3. Review of Plant Operations

a. Throughout the reporting period, the inspector reviewed routine plant operations. The reactor operated at full power with the following exception:

On October 23, 1986, at 8:52 A.M., the reactor automatically tripped from 100% power due to high pressurizer pressure following a turbine runback. The plant transient which led to the reactor trip was initiated by an I&C technician, working on a steam generator level transmitter, inadvertently grounding a power supply lead to instrument bus 1C. Grounding of instrument bus 1C resulted in a voltage transient on the instrument bus which caused the following: a dropped rod runback on failed power range nuclear instrumentation followed by overpower protection turbine runback to about 60% power; failure of the steam dump to actuate because the controlling Tave channel failed low; failure of the pressurizer spray valve and one of the two pressurizer PORVs to function properly.

Subsequently, the reactor coolant system pressure increased rapidly and an automatic reactor trip occurred when the pressure reached the trip setpoint of 2377 psig.

All safety systems responded properly to the reactor trip and the plant was stabilized in the hot standby condition. The inspector entered the control room immediately following the reactor trip and observed operator reaction to the trip.

The inspector attended Plant Operations Review Committee (PORC) meetings following the reactor trip to observe the conduct of Post-trip Review. (see section 7)

The site simulator was used to verify the cause of, and system responses to, the reactor trip. Prior to the reactor start-up, the licensee performed the following corrective actions:

- Replacement of steam generator level trasmitter (LT-460)
- Calibration of steam dump control system
- Calibration of pressurizer pressure transmitter (431K)
- Testing of Process Instrumentation Reactor Protection Channel trip set points (PT-5.3)

The licensee commenced reactor start-up at 9:45 P.M. on October 23, 1986 achieving criticality at 10:00 P.M.. The unit was synchronized

with the grid at 1:30 A.M. on October 24, 1986. The inspector will review the Licensee Event Report (LER) on the reactor trip and long-term corrective actions in a subsequent inspection. (86-18-01)

4. Operational Safety Verification

a. General

During the inspection period, the inspectors observed and examined activities to verify the operational safety of the licensee's facility. The observations and examinations of those activities were conducted on a daily, weekly or monthly basis.

On a daily basis, the inspectors observed control room activities to verify compliance with selected Limiting Condition for Operations (LCOs) as prescribed in the facility Technical Specifications (TS). Logs, instrumentation, recorder traces, plant conditions, and trends were reviewed for compliance with regulatory requirements. Shift turnovers were observed on a sample basis to verify that all pertinent information of plant status was relayed. During each week, the inspectors toured the accessible areas of the facility to observe the following:

- General plant and equipment conditions
- Fire hazards and fire fighting equipment
- Radiation protection controls
- Conduct of selected activities for compliance with licensee's administrative controls and approved procedures
- Interiors of electrical and control panels
- Implementation of selected portions of the licensee's physical security plan
- Plant housekeeping and cleanliness
- Essential safety feature equipment alignment and conditions

The inspectors talked with operators in the control room, and other personnel. The discussions centered on pertinent topics of general plant conditions, procedures, security, training, and other aspects of the involved work activities.

b. Safety Injection (SI) System

During a walkdown of the SI system on October 29, 1986, the inspector noted discrepancies on Piping and Instrumentation Drawing (P&ID) 33013-1262 (SI and Accumulators System). The P&ID indicated all four SI pump suction valves (826A, 826B, 826C, and 826D) from the Boric Acid Storage Tanks in a closed position while the as-found condition indicated two valves 826C and 826D in an open position.

The inspector verified that the as-found condition of the valve positions are in accordance with the Operating Procedure (O)-6.13,

"Daily Surveillance Log". The current revision of P&ID 33013-1262 is dated December, 1985 and is designated "As-built".

c. Auxiliary Feedwater (AFW) System -

During a walkdown of the AFW system the inspector noted discrepancies in P&ID 33013-1237, Revision 5, dated 14 May 1986.

- Valve 4299E, turbine driven AFW pump drain, was shown on the P&ID as open. This valve was closed and is required to be closed by AFW system line-up procedure T-41.A.

- Valves 4305 and 4299 suction pressure gage isolations for the two motor driven AFW pumps were shown open on the P&ID. These valves were closed and have tags on them which state, "Do not open unless pump is running". The valves are only opened during the monthly surveillance test of the AFW system.

- Valves 3999, 4000, 4001, 4002, and 4085 were not designated as locked open on the P&ID. However, these valves have been included in the locked valve procedure A52.2 since Revision 45, dated 14 January 1983.

The licensee has initiated drawing changes to reflect normal system alignment for the AFW system and the SI system discussed in section c and b above. The licensee also plans to initiate an additional change to update locked open and locked closed valves on other P&ID's.

d. Security

The inspector observed security search training procedures and alarm response during this inspection. The inspector also toured the central and secondary alarm stations, security training facilities, and discussed watchstation responsibilities and security training with the licensee's security personnel.

No violations were identified.

5. Surveillance Testing

a. The inspector witnessed the performance of surveillance testing of selected components to verify that: the test procedure was properly approved and adequately detailed to assure performance of a satisfactory surveillance test; test instrumentation required by the procedure was calibrated and in use; the test was performed by qualified personnel; and the test results satisfied Technical Specifications and procedural acceptance criteria, or were properly resolved.

b. During this inspection period, the inspectors witnessed the performance of selected portions of the following tests:

Periodic Test Procedure (PT)-2.7, "Service Water System", Revision 32, performed on October 28, 1986.

PT-5.3, "Process Instrumentation Reactor Protection Channel Trip Test", Revision 36, performed on October 15, 1986.

PT-16, "Auxiliary Feedwater System", Revision 44, performed on October 16, 1986.

PT-36, "Standby Auxiliary Feedwater System" Revision 23, performed on October 16, 1986.

No violations were identified.

6. Plant Maintenance

a. During the inspection period, the inspector observed maintenance and problem investigation activities to verify: compliance with regulatory requirements, including those stated in the Technical Specifications; compliance with administrative and maintenance procedures; required QA/QC involvement; proper use of safety tags; proper equipment alignment and use of jumpers; personnel qualifications; and reportability as required by Technical Specifications.

b. The inspector witnessed selected portions of the following maintenance activities:

CP-2022A, "Calibration and/or Maintenance of Condensate Storage Tank Level Channel 2022A".

SM-4136.8, "'A' Diesel Generator Local Control Panel Enhancements".

SM-4136.7, "Testing of the 'A' Diesel Generator Local Control Panel Enchancements".

SM-3319.38, "MCC-1G Breaker Replacement".

SM-3319.39, "Phase Rotation Check of Breakers Replaced on MCC-1G".

SM-3319.40, "Functional Testing of Replaced Breakers on MCC-1G".

c. Diesel Generator

The licensee committed to making changes to the "A" diesel generator circuit during NRC Inspection No. 50-244/86-17. The changes were to be made within two weeks. The actual work to change wiring began the day before the committed due date. The "last minute rush" was attributed to delays in Engineering Specifications required for the work to begin.

A test of the system after the work was completed identified a DC ground. This ground did not affect the ability of the diesel to receive a start signal. However, the exact cause of the ground has yet to be identified. This item will remain open pending resolution of the DC ground. (86-18-02)

No violations were identified.

7. On-site Review Committee Meeting

The inspector observed the conduct of the Plant Operations Review Committee (PORC) meetings Nos. 86-119, 86-120, 86-121, and 86-122 held on October 23, 1986.

The inspector attended the meetings to observe the general conduct of the meetings to verify the provisions of Technical Specifications, regarding the PORC, were satisfied and to determine the depth of the licensee's post trip review process. A subsequent review of the meeting minutes was conducted to confirm that the decisions and recommendations of the Committee were properly documented and acted upon.

No discrepancies were noted.

8. Review of Periodic and Special Reports

Upon receipt, periodic and special reports submitted by the licensee pursuant to Technical Specification 6.9.1 and 6.9.3 were reviewed by the inspector. This review included the following considerations: the reports contained the information required to be reported by NRC requirements; test results and/or supporting information were consistent with design predictions and performance specifications; and the validity of the reported information. Within this scope, the following report were reviewed by the inspectors:

- Monthly Operating Report for September 1986.

No discrepancies were noted.

9. Exit Interview

On November 10, 1986 a meeting was held with senior facility management to discuss the inspection scope and findings.

The inspector discussed the need for licensee management to take appropriate action in the areas drawing control (see sections 4.b and 4.c) and material condition (see section 2.a). Both of these areas have been

previously identified in NRC inspection reports and/or by the licensee's QC organization.

Based on the NRC Region I review of this report and discussions held with licensee representatives, it was determined that this report does not contain information subject to 10 CFR 2.790 restrictions.