

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-244/86-21

Docket No. 50-244

Licensee No. DPR-18

Priority --

Category C

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

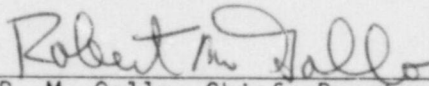
Facility Name: R. E. Ginna Nuclear Power Plant

Inspection at: Ontario, New York

Inspection Conducted: November 9, 1986 through January 3, 1987

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

Approved by:

  
R. M. Gallo, Chief, Reactor  
Project Section No. 2A, DRP

1/12/87  
Date

Inspection Summary:

Inspection on November 9, 1986 through January 3, 1987 (Report No. 50-244/86-21).

Areas Inspected: Routine, onsite, regular, and backshift inspection by the resident inspector (178 hours). Areas inspected included: licensee action on previous findings; review of plant operations; operational safety verification; surveillance testing; plant maintenance; Licensee Event Reports; On-site Review Committee Meeting; and review of periodic and special reports.

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

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## DETAILS

### 1. Persons Contacted

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

- \*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

\*Denotes persons present at Exit Meeting on January 7, 1987.

### 2. Licensee Action on Previous Inspection Findings

- a. (Closed) Inspector Follow-up Item (86-18-01) Details in paragraph 7.b.
- b. (Closed) Inspector Follow-up Item (86-18-02) DC Ground Indication During 'A' Diesel Generator Test SM-4136.7. Prior to NRC inspection 50-244/86-17, the licensee identified a deficiency in the 125 VDC control circuit of Diesel Generator 'A'. The licensee initiated Engineering Work Request (EWR) 4136 to correct this deficiency. During inspection 50-244/86-17, the licensee committed to complete the modification within two weeks of that inspection. Physical work on the wiring of the control panel began the day before the committed due date.

A DC ground was identified during the performance of SM-4136.7, "Testing of the 'A' Diesel Generator Local Control Panel Enhancements". The licensee determined that the ground did not affect operability of the diesel, but the cause of the ground was not determined at the close of a subsequent inspection, IR 50-244/86-18. This DC ground problem was followed as open item 86-18-02.

During this inspection report the licensee determined the cause of the DC ground to be an inadvertent tie between the 'A' battery (+) and the 'B' battery (-). This occurred due to an oversight in the initial EWR planning. The additional wiring change required to correct this ground was subsequently made and testing was completed. This item is considered closed.

### 3. Review of Plant Operations

On November 28, 1986 at 11:16 A.M. the plant experienced a reactor trip from 100% power due to high pressurizer pressure. The initiating event of the reactor trip was a control room operator closing of both Main Steam Isolation Valves (MSIVs). The operator, while attempting to close the containment depressurization valves, lifted the plastic covers over the MSIV switches and turned them to the closed direction. The containment depressurization valve switches located just above the MSIV switches on the control board, do not have plastic covers and turn, to close, in the opposite direction of the MSIV switches.

Within five seconds following the MSIVs closure, the reactor coolant system pressure increased rapidly and an automatic reactor trip occurred when the pressure reached the trip set point of 2377 psig. The post trip review of recorded data indicated that pressurizer spray and both pressurizer PORVs had functioned properly. In the secondary system, the main steam lines reached a peak pressure of 1065 psig where upon the atmospheric relief valves lifted and relieved the pressure. The atmospheric relief valve actuation in conjunction with quick primary system response to the transient prevented main steam code safety valves from lifting.

All safety systems responded as designed 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 shift supervisor declared an Unusual Event at 11:27 A.M. in accordance with Site Contingency (SC)-100, "Ginna Station Event Evaluation and Classification", for reactor coolant pressure greater than 2335 psig. No radiological release and no injuries occurred. The licensee terminated the event at 12:20 P.M. The state of New York had been notified.

The licensee commenced reactor start-up at 6:28 P.M. on November 28, reaching criticality at 6:58 P.M.. The unit was synchronized with the grid at 11:18 P.M. on November 28, 1986.

As an interim corrective action, the licensee removed the operator who erred from his control board duties pending an evaluation of his actions. The licensee operations management interviewed the operator following the plant trip and determined that the individual was fit for duty. The inspector will review the Licensee Event Report (LER) and long term corrective actions in a subsequent report. (86-21-01)



#### 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. Control Room Lighting

A portion of the Ginna Station control room design review involved a study of the normal and emergency lighting systems. The licensee's lighting survey test data revealed that the existing lighting system did not meet the guidelines of NUREG 0700, Section 6. Therefore, both the normal and emergency lighting systems as well as the control room suspended ceiling were scheduled to be upgraded in accordance with current industry standards.

The control room lighting upgrade was completed during this inspection period. Construction activities included erecting scaffolding over the entire control room and rigging temporary lighting while workers removed the overhead lights and installed new lights to reduce control board glare. The installation and removal of the scaffolding was closely monitored by liaison engineers.

The control operators aggressively maintained the control room environment in a professional manner during the construction activities. While scaffolding was installed in the control room, the inspector noted increased operator attention to the control board indications. Access to the control board area of the control room was maintained normally and noise levels were maintained as low as possible.

The new lighting has resulted in "pulsating light" and low light levels in some areas of the control room. These problems are currently being addressed by the licensee. Many of the new lights have been moved to increase the lighting of the control board and operator desk areas. Also, a different type of florescent light bulb is currently being investigated. The inspector will continue to monitor the resolution of the control board lighting situation.

c. Auxiliary Building Subbasement

The licensee investigated the source of the water dripping from the ceiling of the Auxiliary Building subbasement addressed in the update of open item 82-21-02 in inspection report 50-244/86-18. The water was found to be dripping from an abandoned electrical conduit that was cut during the drilling of a bore hole from the basement to the subbasement. The hole was drilled to install a reach rod (currently disconnected) for an RHR valve.

The cut conduit was of no concern when the bore hole was drilled as the conduit had been abandoned in place prior to pouring subbasement structure. The other end of the conduit is believed to be under what is now the service building. It is assumed by the licensee that this water is ground water. Samples of this water have been analyzed and it contains no activity or boron.

The licensee has attempted to plug the conduit twice. The first attempt failed in less than a day and the latest attempt has been in place for over two weeks. The latest plug consists of RTV, a PCV pipe cap, and wooden blocks and wedges and has reduced the inflow so that the standing water has evaporated or drained and only a small moist spot on the floor of the subbasement remains.

d. Security Event Reports

The inspector received two Ginna Station Security Event Reports during this inspection period. While neither of these reports or events were required to be reported to the NRC both were considered to contain safeguards information and were reviewed by the inspector.

Report 86-14 was received without indications of the report itself being safeguards information. It was a photocopy of the original report and the "Safeguards Information" stamp on the original did not reproduce visibly. The envelope that contained the report was stamped and handled appropriately. The Nuclear Safety Supervisor was advised of this occurrence and has directed all future reports be stamped after reproduction to prevent reoccurrence.

Report 86-15 contained a typographical error which was immediately corrected when the inspector questioned the discrepancy.

The actions taken by security during each event were appropriate and in compliance with the Ginna Security Plan.

e. Temporary Cables

During a plant tour the inspector noted temporary cable tags dated December 30, 1980. These tags were for a temporary cable for a High Range Radiation Monitor in the Intermediate Building. The licensee's current administrative procedure requires temporary cables to be reevaluated annually to determine if the cables are required. This particular cable is scheduled to be removed during the spring 1987 Outage however, other such "temporary" cables have been installed for two to five years. The inspector will review the disposition of these cables in a future inspection report.

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 (PT)-2.3, "Safeguard Valve Operation", effective April 25, 1986.

PT-2.7, "Service Water System", effective November 25, 1986.

PT-3.0, "Containment Spray System", effective August 1, 1986.

PT-9.0, "Undervoltage and Underfrequency Protection for 4160 Volt", effective January 1, 1986.



PT-13.0, "Fire Pump Operations and Alignment", effective September 26, 1986.

PT-13.4.11, "Multimatic Valve Testing-Suppression System #505 Cable Tunnel Auto Deluge", effective October 24, 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; qualifications; and reportability as required by Technical Specifications.

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

EWB 4374, "Control Room Lighting".

Calibration Procedure (CP)-214, "Calibration and/or Maintenance of RMS Channel R-14".

No violations were identified.

#### 7. Licensee Event Reports (LERs)

The inspector reviewed the following LERs to verify that the details of the events were clearly reported, the description of the cause was accurate, and adequate corrective action was taken. The inspector also determined whether further information was required, and whether generic implications were involved. The inspector further verified that the reporting requirements of Technical Specifications and station administrative and operating procedures had been met; that the events were reviewed by the Plant Operations Review Committee and that continued operation of the facility was conducted within the Technical Specification limits.

The inspectors noted an improvement in the narratives of LERs 86-08, 86-09 and 86-10. The content of the Cause, Safety Assessment and Corrective Action sections of the LERs provide a clearer presentation of the event and the licensee's response.

a. 86-07: Fire Detection Surveillance Interval Exceeded Due to Scheduling Error. On September 22, 1986, the licensee's review of the 1986 Surveillance Testing Schedule identified four zones of fire detection instrumentation that had exceeded the maximum surveillance intervals specified in TS. One of these zones (S29-Control Room/Turbine Building Wall) was in violation of the TS surveillance intervals in March 1986 and

had been retested satisfactorily such that they were not exceeding the interval at the time of the licensee's review.

LER 86-07 states the cause of the missed surveillance to be personnel error made by transposing information while generating the 1986 Master Surveillance Schedule.

The licensee's immediate corrective action was to retest zone S29 and verify operability of the instruments. This was accomplished on September 22, 1986. A comprehensive review of the entire 1986 testing schedule was subsequently conducted with no other errors identified. The licensee plans to conduct an independent review of all future schedules. This review was still in progress at the close of this inspection period. The licensee also plans to revise procedure A-1106, "Ginna Station Surveillance Schedule", Revision 1, dated August 19, 1986.

b. 86-08: Automatic Reactor Trip. 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. All safety systems responded properly to the reactor trip and the plant was stabilized in the hot standby condition. The inspector reviewed this event in the previous inspection period as documented in Inspection Report 50-244/86-18, section 3.a, item 86-18-01 is closed.

The cause of the event was attributed to a personnel error in that an I&C technician, working on a steam generator level transmitter, inadvertently grounded a power supply lead to an instrument bus. The following events occurred as a result of the voltage transient on the instrument bus: the turbine generator experienced a runback to approximately 70% power due to dropped rod and overtemperature protection runbacks; the steam dump system failed to actuate because the controlling Tave channel failed low; failed the pressurizer spray valve and one of the two pressurizer PORVs failed to function properly.

The inspector reviewed and verified the following corrective actions taken by the licensee:

- Replacement and testing of the steam generator level transmitter power supply.
- Calibration of all control and protective devices associated with the low voltage transient.
- Implementation of a new Maintenance procedure (M)-71.4, "Removal and/or Installation of Foxboro Control Modules with Exposed AC Line Feeds". This procedure was written to provide precautions and step by step guidance on above mentioned maintenance activities.

c. 86-09: Technical Specification Violation Due to Four "D" Bank Control Rod Position Indications Inoperable. On October 26, 1986 at 4:03 A.M. while at 100% power the control operator noticed the control rod position differed from the demand position by an amount greater than allowed by



TS. The licensee's review of the rod position indication revealed all four bank "D" rod position indications had actually deviated from the TS limit at 8:00 P.M. on October 25, 1986.

The licensee determined the cause of this event to be a procedural inadequacy of System Procedure (S)-26.2, "Computer Out-of-Service", which required rod positions to be hand logged every four hours and did not in fact spell out that the operator was to compare the individual rod position indications in inches with the bank step counter indications in steps (1 step = 5/8 inches). The Plant Process Computer System (PPCS) has been out-of-service since January 17, 1986 due to upgrading of the system. Also, the licensee has experienced inaccuracies with the rod position indication system due to reactor coolant temperature changes in the past.

The inspector verified the following corrective actions were accomplished. All four bank "D" control rod position indicators were aligned to the verified rod position by 8:00 A.M. on October 26, 1986. The Operations Manager sent correspondence to all control operators providing guidance with respect to taking the rod position indication readings, what the readings mean and the TS limits involved with these readings. Procedure S-26.2 was revised on December 4, 1986 to provide more guidance to the operators with respect to rod position indication readings and TS.

Additionally, during the spring 1987 Outage the analog rod position indication system is scheduled for replacement with a microprocessor rod position indication system.

During the review of this LER the inspector reviewed the rod position indication logs from October 22 to October 27, 1986. The inspector determined two bank "D" rods, G-11 and G-3, exceeded the TS limit at 1600 on October 25, 1986. The licensee plans to submit a supplement to this LER.

d. 86-10: Technical Specification Violation Due to not Sampling Active Gas Decay Tanks Oxygen Content Within 4 Hours after Waste Gas Oxygen Monitor Became Inoperable. On November 8, 1986, at 12:30 A.M., at 100% power licensee personnel discovered the Waste Gas System Analyzer bypassing all sample points. The Waste Gas Analyzer had not sampled the active gas decay tank oxygen content for approximately 12 hours, which exceeds the TS requirement to sample oxygen content every four hours.

The licensee identified the cause of the event to be personnel error resulting from the oxygen analyzer strip chart recorder being turned off. However, the licensee did not find why the recorder was turned off or who turned it off.

The oxygen analyzer strip chart recorder was immediately turned on. The licensee issued orders to the auxiliary operators to initial charts and record oxygen readings twice per shift. An "Operator Aid Tag" was placed on the chart recorder reminding the operator that turning off the recorder terminates sampling.

8. On-site Review Committee Meeting

The inspector observed the conduct of the Plant Operations Review Committee (PORC) meeting No. 138 held on November 28, 1986.

The inspector attended the meeting to observe the general conduct of the meetings to verify the provisions of TS, 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.

9. Review of Periodic and Special Reports

Upon receipt, periodic and special reports submitted by the licensee pursuant to Technical Specifications 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 reported information was valid. Within this scope, the following report was reviewed by the inspector:

-- Monthly Operating Reports for October and November 1986.

10. Exit Meeting

At periodic intervals during the inspection, meetings were held with senior facility management to discuss the inspection scope and findings. On January 7, 1987, an exit meeting was held to review the details of this inspection report with licensee management.

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