

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-244/79-16

Docket No. 50-244

License No. DPR-18 Priority -- Category C

Licensee: Rochester Gas and Electric Corporation

89 East Avenue

Rochester, New York 14649

Facility Name: R. E. Ginna Nuclear Power Plant, Unit 1

Inspection at: Ontario, New York

Inspection conducted: October 23-26, 1979

Inspectors: *P. S. Kolitay*
P. S. Kolitay, Reactor Inspector

11/19/79
date signed

R. S. Markowski
R. S. Markowski, Reactor Inspector

11/20/79
date signed

Approved by: *A. E. Ebner*
S. D. Ebner, Chief, Engineering Support
Section No. 2, RC&ES Branch

date signed

11-21-79
date signed

Inspection Summary:

Inspection on October 23-26, 1979 (Report No. 50-244/79-16)

Areas Inspected: Routine, unannounced inspection of the Fire Prevention/Protection Program including: assignment of functional responsibilities; implementation of administrative controls; fire brigade training; observation of the required completion of plant modifications; observation of ignition source control; observation of fire protection systems and components; and, review of surveillance test records associated with the fire control system. The inspection also included the review of actions taken in response to IE Bulletins and Circulars, administrative controls associated with containment purging; and, observation of a site radiation emergency drill. The inspection involved 60 hours on site by two NRC regional based inspectors.

Results: Of the 10 areas inspected no items of noncompliance were identified in 8 areas; two items of noncompliance were identified in two areas (Infraction - failure to follow ignition source control procedure, Paragraph 2.d; Infraction - failure to complete required modifications, Paragraph 3.d.(2)).

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DETAILS

1. Persons Contacted

C. Edgar, I&C Foreman
*B. Hunn, Mechanical Engineer
*M. P. Lilley, Mechanical Engineer
R. Morill, Training Coordinator
*J. T. St. Martin, Project Liaison Engineer
*T. R. Schuler, QC Engineer
*E. R. Smith, Fire Protection Engineer
*B. A. Snow, Plant Superintendent
*J. E. Straight, Fire Protection and Safety Coordinator
*R. W. Vanderweel, Project Manager

* denotes those personnel who were present at the exit interview.

2. Fire Protection/Prevention Program Review

a. Functional Responsibilities

The inspector reviewed the following licensee procedures,

- SC-3.3.1, "Immediate Fire Notification," Revision 3, dated 12/4/78; and,
- SC-3.3.2, "Offsite Notification of Fire," Revision 3, dated 8/21/79;

and verified that the licensee has developed lines of communication for onsite and offsite organizations and assigned responsibilities for fire protection/prevention activities.

No items of noncompliance were identified.

b. Administrative Controls

The inspector reviewed the following licensee documents and procedures;

- Technical Specifications Section 6.5.2.8;
- A102.1, "Administrative/Security Indoctrination," dated 5/1/79;
- A102.11, "Emergency Plan Training Program;" dated 7/18/78;
- SC-3, "Fire Emergency Plan," Revision 10, dated 6/21/78;



and verified that the licensee has developed administrative controls which include:

- (1) Periodic audits;
- (2) Indoctrination of contractor personnel and offsite licensee personnel to facility procedures which implement the fire protection/prevention program;
- (3) Actions to be taken by individuals discovering a fire and subsequent actions by control room personnel; and,
- (4) Qualification of fire brigade members.

The inspector reviewed Audit No. 78-41:GS, dated 11/27-28/78, "Audit of Ginna Station Fire Protection." The audit was conducted in accordance with requirements of Technical Specifications 6.5.2.8.G.

No items of noncompliance were identified.

c. Control of Combustibles

The inspector reviewed the following licensee procedures:

- A-54.5, "Bulk Storage of Combustible Materials and Their Use," Revision 2, dated 9/25/78;
- A-54.4, "Duty Engineers Responsibilities," Revision 10, dated 7/5/79;

and verified that the licensee has developed administrative controls which require:

- (1) Special authorization for use of combustibles, flammable or explosive materials in safety related areas;
- (2) A prohibition of storage of combustibles, flammable materials or explosives in safety related areas;
- (3) The removal of all waste, debris, rags, oil and other combustible materials resulting from work activity upon completion of that activity or at the end of each work shift, whichever is sooner;
- (4) Requirement that all wood used in safety related areas be treated with flame retardant material; and,
- (5) Periodic facility inspection for accumulation of combustibles.

No items of noncompliance were identified.



d. Control of Ignition Sources

The inspector reviewed the following administrative procedures:

- A-54.3, "Open Flame Welding and Grinding Permit," Revision 12, dated 6/27/79;
- A-54.5, "Bulk Storage of Combustible Materials and Their Use," Revision 2, dated 9/25/78;

and verified that the licensee has developed administrative procedures which include:

- (1) Requirements for special authorization for activities involving open flame, welding or other ignition sources and evaluation of nearby flammable materials, cable trays or critical process equipment; and,
- (2) Prohibition of smoking in safety related areas except in specific areas designated by management.

During a tour of the facility, the inspector observed a welding operation at elevation 253'3" of the Intermediate Building in the auxiliary feed water pump area. The inspector noted combustible materials in the form of polystyrene foam used as a seismic gap sealant within five feet of the welding activity and an uncovered drum containing approximately ten gallons of lubricating oil located within twenty (20) feet of the welding operation.

Procedure A-54.3, Open Flame, Welding and Grinding Permit, Revision 12, dated 6/27/79, paragraph 3.4, states in part: "The work area will be inspected by a foreman or supervisor...he will insure that...all movable combustible material...within a thirty-five (35) foot radius of the...welding...work has been removed. All immovable combustible material...within a thirty-five (35) foot radius has been...protected by flame proof covers."

The inspector notified the licensee that the welding operation was conducted contrary to station procedure A-54.3.

This is an infraction level item of noncompliance (79-16-01).

e. Fire Fighting Procedures

The inspector reviewed the following licensee procedures:



- SC-3, "Fire Emergency Plan," Revision 10, dated 6/21/78;
- SC-3.3.1, "Immediate Fire Notification," Revision 3, dated 12/4/78;

and verified that the licensee has developed administrative procedures which include:

- (1) Actions to be taken by the fire brigade;
- (2) Coordination of fire fighting activities with offsite fire department;
- (3) Actions taken by plant superintendent; and,
- (4) Instructions for plant operators and general plant personnel during a fire.

No items of noncompliance were identified.

f. Fire Brigade Training

The inspector reviewed the following licensee procedures;

- SC-3, "Fire Emergency Plan," Revision 10, dated 6/21/78;
- A-102.11, "Emergency Plan Training Program," dated 7/18/79;

and verified that the licensee has developed administrative procedures which include:

- (1) Requirements for announced and unannounced drills;
- (2) A requirement that at least one drill per year be performed on a "back shift" for each fire brigade; and,
- (3) A requirement that local offsite fire department participate in at least one annual drill.

No items of noncompliance were identified.

3. Review of Fire Program Implementation

a. Fire Inspections

The inspector reviewed the Loss Prevention Report dated May 18, 1979, prepared by the licensee's insurer, American Nuclear Insurers (ANI).



The licensee stated that the recommendations contained in the report are being evaluated and corrective action will be taken as necessary. The recommendations did not involve safety related areas.

No items of noncompliance were identified.

b. Emergency Drills

The licensee has conducted nine emergency fire drills during 1979. The inspector reviewed the Fire Emergency Drill Critique Sheets SC-3.17.1, for each drill.

A fire drill involving the offsite Ontario Volunteer Fire Department is scheduled for October 28, 1979.

No items of noncompliance were identified.

c. Facility Tours

The inspectors examined the yard fire protection equipment including: indicator valves; protection of valves and hydrants against vehicular damage; and, the contents of hose houses. The inspectors also examined fire alarm and fire suppression systems and fire barrier penetration seals in the control room complex, relay room, computer room, cable tunnel, battery rooms, diesel generator rooms, turbine building and the screen house. The inspectors randomly checked tags of portable hand extinguishers for evidence of periodic inspections. No deterioration of equipment was noted and the inspection tags attached to extinguishers indicated that monthly inspections were performed.

The inspectors verified that an adequate number of charged air bottles for use in emergency breathing apparatus were located in various strategic areas of the facility.

Utilizing system operating procedure SC-3.15.8, Fire System Locked Valve Cycling, the inspectors verified that fire water suppression system valves required to be locked were locked and in the positions required.

No items of noncompliance were identified.

d. Modifications Required by Amendment 24 to DPR-18

By observation and examination of records, the inspectors verified, on a sampling basis, that required modifications were completed as identified and scheduled in Tables 3.1 and 3.2 of the Fire Protection Safety Evaluation Report (SER), issued as Amendment 24, to the Provisional Operating License and paragraphs 3.1.1 through 3.1.49 and paragraphs 3.2.1 through 3.2.9.



(1) The following required modifications were verified to have been completed:

- SER 3.1.4, "Curbs"- completed as per EWR 1834.
- SER 3.1.6, "Computer Room Ceiling"- completed as per installation procedure SM-79-1837.1, Revision 0.
- SER 3.1.13, "Relocation of Gas Meter"- completed as per EWR 1834.
- SER 3.1.17, "Turbine Oil Reservoir"- completed as per EWR 2423.
- SER 3.1.23, "Emergency Lights"- observed installation in strategic areas.
- SER 3.1.26, "Exterior Hose Houses." Four hose houses, containing the equipment specified in paragraph 3.1.26 of the SER, have been installed.
- SER 3.1.27, "Special Purpose Fire Fighting Equipment"- equipment listed in paragraph 3.1.27 of the SER was observed to have been installed.
- SER 3.1.28, "Fire Fighting Equipment Storage"- suitable fire fighting storage areas have been provided in the Turbine Building and the warehouse.
- Ser 3.1.32, "Control of Combustibles"- implemented through administrative procedures: A-54.5, "Bulk Storage of Combustible Materials and Their Use," Revision 0, dated 6/25/78; A-54.4, "Duty Engineer Responsibilities," Revision 10, dated 7/5/79; A-202, "Ginna Staff Responsibilities for Fire Protection," Revision 0, dated 6/1/79.
- SER 3.1.33, "Control of Ignition Sources"- implemented through administrative procedure A-54.3, "Open Flame, Welding and Grinding Permit," Revision 12, dated 6/27/79.
- SER 3.1.38, "Fire Barriers"- implemented through the reduction of combustible materials in the computer room to a level where the hazards can be contained by the proposed fire barriers.



- SER 3.1.44, "Exterior Hydrant Freeze Protection" - implemented through administrative procedure SC-3.15.9, "Exterior Hydrant Freeze Protection," dated 10/19/79.
- SER 3.2.7, "Fire Pumps Performance" - completed. Fire pumps performance test results of May 16, 1979 indicate that both pumps meet the performance requirements established in the Plant Technical Specifications. However, the licensee also identified that both pumps performed below the manufacturer's rated capacities. The licensee stated that the pump manufacturer recommends the replacement/repair of the bowl assemblies of both fire pumps.

An NRC inspector will review records of fire pump tests subsequent to the planned maintenance activity (79-16-02).

(2) The following modifications have not been completed as scheduled:

- SER 3.1.20 - "Service Water Piping in Diesel Room," required to be completed by September 1979; and,
- SER 3.1.22 - "Exterior Hydrants," required to be completed by June 1979.

The inspector reviewed Amendment No. 24 to License No. DPR-18 Section 2.(5) which states in part: "...the licensee...is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.49 of the NRC's Fire Protection Safety Evaluation (SE) dated February 14, 1979....These modifications will be completed in accordance with Table 3.1 of the SE...." Section 2.(5) of Amendment No. 24 also states in part: "...in the event these dates... cannot be met, the licensee shall submit...a revised schedule...."

By direct observation, the inspector verified that, contrary to the above, the service water piping of the "B" diesel located in the "A" diesel room has not been protected against the fire hazards in the room, item 3.1.20 "Service Water Piping in Diesel Room;" and, the ground area surrounding hydrant No. 12, located in the southeast corner of the yard loop has not been graded to provide a 12 inch clearance between the ground and the center of the hydrant outlet port. Present clearance is 6 inches. Item No. 3.1.22 "Exterior Hydrants."

By review of records the inspector found that the licensee has not submitted a report explaining circumstances, together with a revised schedule for implementation.

This is an infraction level item of noncompliance (79-16-03).



4. Followup on IE Circulars

The inspector interviewed licensee personnel and observed facility equipment and components to verify that an adequate review was conducted by the licensee to determine the applicability of the circular's subject matter to the facility.

The Circulars reviewed were:

- IEC 79-12, Potential Diesel Generator Turbocharger Problem; and,
- IEC 79-13, Replacement of Diesel Driven Fire Pump Starting Contactors.

The licensee had determined that no corrective action was required. The inspector observed that the diesel generators installed are Westinghouse Models HG-5 and the diesel driven fire pump utilized a Cummins Industrial Fire Pump Engine, series NH56-1F.

The inspector had no further questions regarding the circulars.

5. Followup on IE Bulletins

a. Introduction

The inspector reviewed facility records and interviewed licensee personnel to verify that:

- licensee management received and reviewed the bulletins in accordance with administrative procedures;
- information discussed in the licensee's bulletin response was accurate;
- corrective action was taken as discussed in the reply; and,
- the licensee's response was within the time period required.

No items of noncompliance were identified. The following subparagraphs detail the bases of the inspector's findings and any further actions which may be required.

b. IEB 79-15, Deep Draft Pump Deficiencies

In a letter dated September 7, 1979, to NRC:RI, the licensee identified the service water pumps and the fire service pumps as "deep draft" and provided the requested historical data.



The inspector reviewed, on a sampling basis, the Equipment Maintenance Record of A through D Service Water Pumps, data sheets of the monthly surveillance procedure; PT-2.7, Service Water System, covering the period November 1977 - September 1979, maintenance procedure M-11.10, Major Inspection of Service Water Pump, Revision 8 and the vendor manuals.

Based on the above review, the inspector determined that sand erosion was the major contributor to pump internals wear, that the present maintenance procedures and practices were consistent with the manufacturer's recommendations and that no evidence of a high incidence of excessive vibration or loss of flow capacity was observed.

Paragraph 3.d.(1) discusses the review associated with the fire service water pumps. This bulletin is closed.

c. IEB 79-14, Seismic Analysis for As Built Safety Related Piping Systems

In letters dated July 31, 1979 and August 31, 1979, to NRC:RI, the licensee stated that the required inspection and evaluation program would be completed within 120 days of the original issuance of the bulletin (i.e. July 2, 1979).

During this inspection, the inspector was informed that the inspection of sections of the Chemical and Volume Control System would not be completed within 120 days as previously reported. The sections of piping involved are the relief line between the outlet of relief valve 209 and the volume control tank, and the outlet line of the volume control tank between the volume control tank and check valve 266. Approximately 10 supports and 60 feet of piping are involved.

The aforementioned piping sections are routed through the spent resin storage vault. Presently, spent resin is stored in the vault and cannot be removed because an appropriately certified shipping cask could not be secured. A survey has been performed in the vault and it has been calculated that 10-40 man-rem of exposure would be experienced if the inspection was performed prior to removing the spent resins.

The inspector requested that an evaluation be performed based on the "failure" rate experienced to date. On October 29, 1979, the inspector was informed by telephone that:

- approximately 1365 supports had been inspected;
- of these 1365 supports, approximately 15% had required further review to disposition nonconformances;



- of these 1365 support, approximately 3.7% had been repaired to disposition identified nonconformances;
- analysis conducted under the purview of the Systematic Evaluation Program indicates that a failure of the piping sections involved would not prevent a safe shutdown of the plant.

By letter dated October 30, 1979, the licensee submitted the required 120 day report. Pending further review of this report by the NRC, this item is unresolved (79-BU-14).

6. Administrative Controls on Defeat of Safety Actuation Signals During Containment Purging

a. References

- Letter, D. Ziemann to L. White, Jr., Containment Purging During Normal Plant Operation, November 29, 1978;
- Letters, L. White, Jr. to D. Ziemann, Containment Purging During Normal Plant Operation, January 2, and July 2, 1979;
- Letters, L. White, Jr. to D. Ziemann, Review of Safety Actuation Circuits with Overrides, February 16 and March 30, 1979;
- S-23.2.2, Containment Purge Procedure, Revision 13;
- RD-2, Containment Purge Releases, Revision 5; and,
- Electrical Drawing 110E059, Safeguard System, Sheet 5, Revision 8.

b. Review

By letter dated November 29, 1978, the NRC:NRR requested that the following information be provided:

- a justification for limited containment purging during operation;
- a commitment to limit purging to 90 hours/year pending completion of NRC review of the justification; and,
- the results of the review of the design of all safety actuation signal circuits which incorporate a manual override feature.

During this inspection, the inspector reviewed the procedures and drawing referenced above and held discussions with licensee personnel and determined the following:



- the use of the reset feature would prevent automatic closure of the containment purge valves on receipt of a safety actuation signal or high containment activity;
- the use of the reset feature would prevent group closure of the valves utilizing the manual pushbuttons on the control panel; however, individual control switches are provided for each valve;
- administrative controls have been incorporated into the plant procedures referenced above to limit purging of the containment to 90 hours/year while the reactor is critical or "operating" as defined in Technical Specification Section 1.2;
- the reset feature is not used for normal containment purging as performed by the procedures referenced above; and,
- during normal purging, subsequent to containment atmospheric sampling, the high radiation setpoints are lowered prior to the purge valve being opened and the automatic closure safety feature and manual closure feature is not defeated.

Pending further review and inspection by the NRC, this item is unresolved (79-SP-03).

7. Observation of Emergency Drill

The inspectors observed the following activities associated with a radiation emergency drill conducted on October 26, 1979:

- Control room actions concerning detection and response to the simulated emergency conditions;
- Notification of plant personnel and offsite agencies;
- Dose assessment;
- Communications; and,
- Coordination and control of response activities.

The inspector determined that:

- The licensee's response was generally in accordance with existing procedures;
- The response was coordinated and orderly;



- The licensee used qualified persons to evaluate the organizational response;
- A critique was held shortly following the drill; and,
- The drill results and observer comments were documented for evaluation and the initiation of appropriate corrective actions.

The following summarizes specific items independently observed by the inspector and the licensee's drill observer in the control room which require further evaluation and improvement:

- The role of the shift foreman during an emergency;
- The time necessary, during the drill, to assess and transmit plant status information to the Emergency Center; and,
- The use of operational emergency procedures during the drill.

The resolution of items identified as requiring improvement will be evaluated during subsequent NRC inspections.

No items of noncompliance were identified.

8. Review of Surveillance Test Records Associated with Technical Specification Requirement 4.15

The inspectors selected and reviewed the following records to verify that the associated required Fire Protection Program surveillances had been performed and that the acceptance criteria had been met.

- PT-13, Fire Pump Operation and System Alignment, September 28, 1979;
- PT-13.3, Fire Pump Electrical Equipment Surveillance, September 24, 1979;
- PT-13.1.10, Smoke Detector Test, July 10, 1979;
- PT-13.1.12, Containment Post Accident (Recirc) and/or Auxiliary Filter RTD Testing, September 28, 1979;
- PT-13.1.13, Star Corporation Heat Detector System Test, July 2, 1979;
- PT-13.1.14, Fire Barrier Penetration Seals, December 19, 1978;
- PT-13.4.4, 1A Diesel Generator Flood Valve System Testing, Fire System #4, June 4, 1979;



- PT-13.4.5, 1B Diesel Generator Flood Valve System Testing, Fire System #5, June 6, 1979;
- PT-13.4.6, Auxiliary Pump Lube Oil Reservoir Flood Valve System Testing, Fire System #6, June 1, 1979; and,
- PT-13.4.11, Cable Tunnel, June 26, 1979.

During this reivew, the inspector requested the procedure and results associated with the chemical analysis of the diesel driven fire pump's fuel supply required by Technical Specification 4.15.2.e which became effective June 1, 1979.

The inspector reviewed test reports dated July 17 and October 25, 1979 which provided documentary evidence that fuel oil samples were collected and analyzed.

The sample collection was scheduled by ES-1:11, Schedule, Environmental Samples and Parameters Analysis, Revision 0. However, this schedule had not been formally revised. The change was made by a pencil change to ES-1:11.

The licensee stated that the schedule would be formally revised.

Pending completion and review by RI, of the above action, this item is unresolved (79-16-04)

9. Review of Valve Alignment Procedures and System Flow Diagrams Associated with the Fire Suppression Water System

The inspector performed a comparison of valve alignment procedures and system flow diagram to verify the adequacy of the procedures to specify the required position of fire suppression water system valves.

The following flow diagram and procedures were utilized:

- T-32, Fire Service Water System, Revision 4;
- SC-3.15.8, Fire System Locked Valve Cycling, Revision 2; and,
- Drawing No. 33013-526, Fire Service Water Flow Diagram, Revision 3.

During this review, the inspector noted that the required position of manual valve 5131 which is the fuel supply valve to the diesel driven fire pump was not specified in the above referenced procedures. The inspector inquired whether another procedure specified the required position. No other procedure was provided prior to the end of the inspection.



The licensee verified that the valve was opened as is required.

The licensee stated that the appropriate procedure would be revised to specify the required position of the valve.

Pending completion and review of the above action and review by RI this item is unresolved (79-16-05).

10. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable, items of noncompliance or deviations. Unresolved items are discussed in paragraphs 5.c, 8 and 9.

11. Exit Interview

The inspectors met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on October 25, 1979. Subsequent to the inspection, on October 29, 1979, a telephone call was conducted between Mr. R. Markowski of this office and Mr. M. Lilley. The scope and findings of this inspection as documented in this report were presented during this meeting and subsequent telephone call.

