U. S. NUCLEAR REGULATORY COMMISSION

REGION I

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

50-244/85-99
Inspection Report

Rochester Gas and Electric Corporation
Name of Licensee

R. E. Ginna Nuclear Power Plant
Name of Facility

January 1, 1985 - May 31, 1986
Assessment Period

August 4, 1986
Board Meeting

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I. INTRODUCTION

A. Purpose and Overview

The Systematic Assessment of Licensee Performance (SALP) is an integrated NRC staff effort to collect the available observations and data on a periodic basis and to evaluate licensee performance based upon this information. SALP is supplemental to normal regulatory processes used to ensure compliance to NRC rules and regulations. SALP is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful guidance to the licensee's management to promote quality and safety of plant operations.

A NRC SALP Board, composed of the staff members listed below, met on August 4, 1986 to review the collection of performance observations and data to assess the licensee performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance". A summary of the guidance and evaluation criteria is provided in Section II of this report.

This report is the SALP Board's assessment of the licensee's safety performance at R. E. Ginna Nuclear Power Plant for the period January 1, 1985 to May 31, 1986.

B. SALP Board Members

Chairman:

W. F. Kane, Director, Division of Reactor Projects (DRP)

Members:

L. H. Bettenhausen, Chief, Operations Branch, Division of Reactor Safety
S. J. Collins, Chief, Projects Branch No. 2, DRP
W. A. Cook, Senior Resident Inspector, NMP 1&2
S. D. Ebneter, Director, Division of Reactor Safety
M. B. Fairtile, Project Manager, Project Directorate #1, NRR
R. M. Gallo, Chief, Reactor Project Section 2A, DRP
W. V. Johnston, Deputy Director, DRS
J. H. Joyner, Chief, Nuclear Materials Safety and Safeguards Branch, DRSS

C. Background

1. Licensee Activities

The facility operated at full power from January 1, 1985 until February 12, 1985 when a unit coastdown was commenced for the annual refueling and maintenance outage. The unit was taken off line on March 2, 1985 to commence the Cycle 15 outage. This reactor shutdown completed the station's longest continuous power run (273 days) in its operating history.

Upon completion of the Cycle 15 outage, the reactor was returned to criticality for low power physics testing on April 5, 1985. Twice on April 6, and again on April 7, 1985, the reactor was automatically tripped due to loss of steam generator water level. (These three trips are discussed in Section IV. A of this report.) On April 8, 1985, the reactor tripped from 18% power due to low-low steam generator water level caused by a trip of the one operating main feedwater pump and subsequent turbine trip. On April 11, 1985, the reactor tripped from eight percent power due to low condenser vacuum caused by gross condenser tube inleakage. The reactor was returned to criticality later on April 11, 1985 and synchronized with the grid on April 13, 1985.

The unit operated at full power until it was automatically tripped on June 6, 1985. The trip occurred when an instrumentation and controls technician inadvertently grounded the 1D Instrument Bus while replacing the N-41 power range nuclear instrumentation channel operate-selector switch. The unit was immediately returned to power and operated at full power until September 16, 1985 when reactor power was reduced to satisfy a Technical Specification limiting condition for operation due to inoperable control rods. The power reduction was stopped at 86% power upon identification and replacement of a faulty rod control power firing circuit card.

Unit power was again reduced on September 22, 1985 to perform major tie line insulator replacements and in-plant maintenance. During the load reduction, additional rod control system problems were identified in connection with the September 16 firing circuit card replacement. The replacement firing circuit card was also determined to be faulted and was replaced.

Full power operation was resumed on September 23, 1985 and continued until the reactor was manually tripped on September 28, 1985, due to erratic turbine electro-hydraulic control (EHC) system response. An inspection of the EHC system

revealed a rupture in the EHC fluid service water cooler which allowed service water to be introduced into the control system. The EHC fluid cooler was repaired by station personnel and the unit returned to power operations on September 30, 1985.

On November 25, 1985, the reactor tripped due to a condensate and feedwater perturbation resulting from a trip of the B circulating water pump. The unit was returned to power operations on November 26, 1985 and remained on line until February 7, 1986, at which time the unit was shutdown to commence the Cycle 16 refueling and maintenance outage. The unit returned to service on March 22, 1986 and operated at full power through the end of this assessment period.

Table 6 provides a description, including, our understanding of the cause of all reactor trips and plant shutdowns during this assessment period.

2. Inspection Activities

One NRC resident inspector was assigned to the R. E. Ginna Nuclear Power Plant for the entire assessment period and a second resident inspector has been assigned since September, 1985. The total NRC inspection effort for the assessment period was 3330 hours (resident and region based) with a distribution in the appraisal functional areas as shown in Table 2. This represents 2351 hours on an annualized basis.

During the assessment period, NRC team inspections were conducted to examine the following areas:

a. Operational assessment of the conduct of maintenance and surveillance activities.

b. Evaluation of the annual emergency preparedness exercise conducted on September 26, 1985.

c. Assessment of the effectiveness of the quality assurance and quality control activities.

Tabulations of violations and inspection activities are presented in Tables 3 and 4, respectively.

This report also discusses "Training and Qualification Effectiveness" and "Assurance of Quality" as separate functional areas. Although these topics are used in the other functional areas as evaluation criteria, they are being addressed separately to provide an overall assessment of their effectiveness. For example, quality assurance effectiveness is assessed on a day-to-day basis by resident inspectors and as an integral aspect of each specialist inspection. Although

quality work is the responsibility of every employee, one of the management tools to measure this effectiveness is reliance on inspections and audits. Other major factors that influence quality, such as involvement of first line supervision, safety committees, and worker attitudes, are discussed in each area, as appropriate. Fire Protection was not evaluated as a separate functional area since extensive new information on performance, such as when an Appendix R team inspection has occurred, was not generated during this assessment period. fire protection observations by the resident inspectors are included in the Operations area.

II. CRITERIA

Licensee performance is assessed in selected functional areas, depending on whether the facility is in a construction, preoperational, or operating phase. Each functional area normally represents areas significant to nuclear safety and the environment, and are normal programmatic areas. Special areas may be added to highlight significant observations.

The following evaluation criteria, where appropriate, were used to assess each functional area:

1. Management involvement and control in assuring quality
2. Approach to resolution of technical issues from a safety standpoint
3. Responsiveness to NRC initiatives
4. Enforcement history
5. Reporting and analysis of reportable events
6. Staffing (including management)
7. Training and qualification effectiveness

Based upon the SALP Board assessment, each functional area evaluated is classified into one of three performance categories. The definitions of these performance categories are:

Category 1. Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used so that a high level of performance with respect to operational safety or construction is being achieved.

Category 2. NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and reasonably effective so that satisfactory performance with respect to operational safety or construction is being achieved.

Category 3. Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used so that minimally satisfactory performance with respect to operational safety or construction is being achieved.

The SALP Board also assessed each functional area to compare the licensee's performance during the last quarter of the assessment period to that during the entire period in order to determine the recent trend for each functional area. The trend categories used by the SALP Board are as follows:

Improving: Licensee performance has generally improved over the last quarter of the current SALP assessment period.

Consistent: Licensee performance has remained essentially constant over the last quarter of the current SALP assessment period.

Declining: Licensee performance has generally declined over the last quarter of the current SALP assessment period.

III. SUMMARY OF RESULTS

A. Facility Performance

FUNCTIONAL AREA	CATEGORY LAST PERIOD	CATEGORY THIS PERIOD	RECENT TREND
1. Plant Operations	2	2	Improving
2. Radiological Controls	2	1	Consistent
3. Maintenance	1	2	Consistent
4. Surveillance	1	1	Consistent
5. Emergency Preparedness	2	2	Consistent
6. Security and Safeguards	1	1	Consistent
7. Refueling and Outage Management	1	1	Consistent
8. Licensing Activities	1	1	Consistent
9. Training and Qualification Effectiveness	*	2	Improving
10. Assurance of Quality	3	2	**

* Not previously addressed as a separate category.

** Not appropriate; management attention has been high throughout the SALP period, but working level implementation has been slow.

B. Overall Facility Evaluation

During this assessment period, there was a significant reorganization of the licensee's staff. The station reorganization was formulated to permit assignment of personnel to oversee Niagara Mohawk Power Corporation, Nine Mile Point Unit 2 interests and to address needed improvements in the Quality Assurance Program implementation as identified in the previous SALP. The licensee has made substantial progress in strengthening the Quality Assurance Program; however, worker level initiatives have only recently been instituted and we urge the accelerated completion of these initiatives.

Licensee performance in all functional areas demonstrates a strong commitment to safe and efficient plant operations. The licensee continues to be cooperative and responsive to NRC concerns. An experienced, motivated and well-qualified staff, with little turnover, has been instrumental in the achievement of this consistently good performance.

Notwithstanding the good performance in this SALP period, we observed a certain attitude of informality with regard to station activities. This attitude of informality is reflected in problems experienced in several areas including troubleshooting, special radiation work permit instructions, removal of Technical Specifications equipment from service, calibration of laboratory and meteorological equipment, and control of maintenance activities concurrent with refueling operations. Management attention is needed to assure that this weakness is corrected before it affects performance.

IV. PERFORMANCE ANALYSIS

A. PLANT OPERATIONS (946 hours, 28.4%)

1. Analysis

During the previous assessment period, Operations personnel experienced some difficulty in maintaining adequate administrative control of station fire protection systems. Increased supervisory attention and review measures appear to have resolved these problems. Also during the previous assessment period, weaknesses were identified in the licensed operator requalification program. Management involvement and a strong commitment to provide licensed operators with the best available training is exemplified by a completely revised requalification program which incorporates the recently completed site-specific simulator.

At the conclusion of the 1985 refueling and maintenance outage, three successive reactor trips were attributed to operator error. Primarily, the inexperience of the licensed operators controlling steam generator water level, via manual control of the feedwater regulating valve bypasses during low reactor power conditions, caused the reactor trips. Insensitive steam and feedwater flow instrumentation and steam dump control system performance at low reactor power conditions also contributed to the operators' difficulty in maintaining proper steam generator water level. Start-up from the 1986 outage was conducted without event and was attributed, in part, to operator training and experience gained from site simulator usage. Calibration of the steam and feedwater flow detectors improved sensitivity at low flow conditions. The steam dump control system was recalibrated during the 1986 outage which enhanced system response.

The Emergency Operating Procedures (EOPs) were implemented in December 1985 after licensed operators received classroom training and limited practical application on the Zion simulator. Commencing in March 1986, plant start-up training was conducted on the newly installed station simulator. Since then, the operator requalification program has included extensive simulator training with emphasis on the new symptom-based EOPs.

On separate occasions during this assessment period, incidents of informal review and control of station activities have occurred. On April 5, 1985, a reactor trip occurred while all rods were inserted with the reactor in the hot shutdown mode. The proximate cause of the trip was the concurrent performance of a calibration procedure on one channel of reactor protection system temperature instrumentation and failure analysis

troubleshooting being conducted on another channel. The failure analysis troubleshooting was authorized by the Operations Shift Supervisor without fully evaluating the impact on other control room activities in progress. On December 3, 1985, the installation of a State Pollutant Discharge Elimination System chlorine monitor resulted in the Technical Specifications required effluent (discharge canal) composite sampler being removed from service. This station work activity circumvented routine administrative maintenance and work request controls because the station personnel involved were not aware of and did not consider the impact on interface systems. On February 16, 1986, containment integrity requirements were violated due to maintenance being performed on vital electrical bus 14 concurrently with refueling activities. The activity planners did not review all bus 14 electrical loads for potential impact on refueling requirements. Shift operators subsequently identified the containment integrity deficiency during a periodic check of refueling requirements and halted refueling operations.

Although these three activities all have relatively low safety significance, they indicate a need for more formal management coordination and control and an increased Operations involvement in station activities review and planning. During the 1986 refueling outage, the licensee assigned Operations shift personnel to the station Maintenance and Results & Test organizations. Their roles were to assist these groups in coordinating their work items with the other ongoing outage activities. In addition, Operations personnel on the training shift were used to augment the day shift crew during the 1986 startup. This helped significantly to reduce the amount of time to prepare plant systems for startup and to improve the control and accuracy of systems line-ups.

The plant Morning Priority Action Required (MOPAR) meetings continue to be an effective management tool in identifying, communicating and initiating resolution of station safety issues. The meetings are well attended by the various disciplines on site and frequently visited by corporate management.

Two separate operator license candidate examinations were administered during this assessment period. On June 24, 1985, two senior reactor operator (SRO) and one Instructor Certification examinations were given and all candidates passed. During the week of November 12, 1985, written and oral examinations were administered to four reactor operators and five SROs and all candidates passed. The licensee continues to have a high licensing success rate, which is indicative of a strong training program.

Housekeeping practices on-site tend to be cyclic. Licensee representatives periodically inspect all station areas to identify potential housekeeping problems, however, the licensee does not have an effective program to consistently maintain station cleanliness and order.

During this assessment period the licensee instituted a temporary modification control program. Temporary equipment such as scaffolding or shielding placed in the vicinity of safety-related equipment must be reviewed for potential safety impact. This program was initiated in response to earlier identified inspector concerns and is based on an INPO good practice.

Early in the assessment period, Licensee Event Reports (LERs) submitted in accordance with 10 CFR 50.73 requirements tended to be shallow in the area of root cause determination and licensee corrective actions to prevent recurrence. The licensee was, in the majority of cases, involved with much more corrective action than they were taking credit for in the reports. LERs submitted towards the end of the assessment period reflect more insight of the root causes and a more appropriate description of corrective measures.

Licensee fire brigade responses to spurious fire alarms and actual fires was good. The fire brigade is composed of both Operations and Security force personnel. On January 20, 1986, a trailer fire occurred inside the protected area. The station fire brigade responded and had the fire under control in eight minutes. There were no personnel injuries and no threat to safety-related systems or structures. By the end of the 1986 outage, the licensee completed all 10 CFR 50, Appendix R modifications, including installation of alternate shutdown equipment and instrumentation. NRC review of the licensee's Appendix R modifications has not yet been conducted.

In summary, plant operators continue to be a licensee strength as indicated by the high unit availability. The emergence of an active and aggressive Operations Supervisor has improved communications and continuity between Operations shift crews although at times informal operations activities contribute to program shortfalls.

2. Conclusion

Rating: 2

Trend: Improving

3. Board Recommendation

Licensee: Establish and implement a formal program for routine housekeeping.

NRC: None

B. RADIOLOGICAL CONTROLS (690 hours, 20.7%)

1. Analysis

During the previous assessment period, the licensee provided competent supervisory control and an efficient staff who contributed to a general improvement in the Radiological Controls area, in spite of limited corporate staff involvement. There were six routine inspections which covered radiation protection, radioactive waste management, transportation, and effluent control and monitoring. Two additional special inspections were performed. One was an Operations Assessment Team Inspection which included a radiation protection segment. The other special inspection reviewed systems and procedures for post-accident sampling and monitoring as specified in NUREG-0737. In addition, the resident inspectors periodically reviewed this area.

a. Radiation Protection

The manager and his department staff are experienced and highly qualified. All key positions are filled. Turnover of personnel has been low at all levels. The Manager of Health Physics and Chemistry is kept well aware of on-going and planned work through his participation in station planning meetings and in Plant Operations Review Committee (PORC) meetings.

Radiological controls training was found to be generally adequate, but required a technical review and updating of some of the training materials. In addition, replacement training for inexperienced instructors had not been developed. These areas are being addressed in the INPO accreditation process.

The control of external and internal occupational exposure was adequate. These areas and associated procedures receive frequent attention to identify areas for improvement. All repetitive maintenance is controlled by procedures which contain hold points to ensure that the necessary radiological precautions are taken, allowing ALARA review resources to focus on new maintenance and non-recurring work activities. The special radiation work permit (SWP) program lacked sufficient guidance for the generation of SWPs and for compliance with SWPs by radiation protection technicians. The licensee has committed to review and revise the instructions for SWPs to provide more formal direction.

Strong management commitment to the ALARA program is exhibited at all levels at the site. Channels of communications and cooperation to effect changes between the health physics group and other departments are very good. The annual collective occupational radiation exposure for 1985 was slightly below the average for PWRs. Outage radiation exposure planning is competent and thorough, although much is accomplished on an informal basis. For example, corporate "ALARA policy" was not in place until early 1986 and "ALARA design review" procedures had not been finalized and approved. Although the position of Corporate Health Physicist has been filled, a position description of his responsibilities and duties was not available.

Plant systems and procedures for post-accident sampling and monitoring (as specified in NUREG-0737) need improvement to ensure reliability of system operation and credibility of the information generated. For example, site testing of the post-accident sampling systems had not been completed to ensure the accuracy range and sensitivity of the coolant analysis data.

b. Radioactive Waste Management and Transportation

Procedures for control of activities related to solid radwaste classification and shipping were generally well stated and defined. Sources of radwaste were identified and sampled, and appropriate scaling factors were developed. Requirements of 10 CFR 61 for waste form and stability have been met. Conservatism has been exhibited with regard to availability of on-site storage space for solid radwaste. A contingency plan has been developed in case burial facilities are unavailable. The licensee demonstrated a technically sound approach to waste classification.

Records related to the transportation and burial of radwaste were generally complete, well maintained and available, including Certificates of Compliance and related support documentation for high integrity containers, as well as radwaste shipment records. Manifests accompanying shipments to Washington state lacked some identification data for the carrier. There was insufficient documentation to verify that incoming radioactive materials packages are surveyed within prescribed time limits. As a result a need for improvements in shipping procedures was identified.

Quality control inspections of radwaste shipments are generally complete and thorough. All radwaste packages are inspected by QC personnel to ensure that no detectable free-standing liquid is present.

c. Effluent Control and Monitoring

The licensee maintains defined procedures for its Radiological Environmental Monitoring Program (REMP), although certain procedures were informal or non-existent with regard to calibration of laboratory and meteorological equipment. Examples of this concern were lack of a procedure for calibration of the low activity beta counter as well as the lack of specified calibration frequency for other equipment.

Procedures and policies are generally adhered to. Meteorological equipment and data are monitored on a daily basis. The laboratory quality program for radiological chemistry and effluents was implemented per procedure. Liquid and gaseous effluents were handled in accordance with procedures and were in compliance with Technical Specifications. The licensee's handling of technical issues was generally timely and exhibited viable approaches to their resolution. An interlaboratory comparison program is utilized to verify the accuracy of radiological environmental measurements; identified discrepancies were investigated and corrective actions taken. A performance test of environmental TLDs was conducted, however, final determination of a correction factor has not been made.

NRC review resulted in two concerns which indicated a lack of conservatism with respect to radiological environmental sampling and analysis. The required lower limit of detection (LLD) was not achieved for I-131 in water, and an incorrect method was employed for surface water sampling. In addition, calibration of the gamma spectrometer was not performed frequently enough. However, the licensee demonstrated its ability to accurately measure radioactivity in liquid and gaseous effluent samples.

Training of the environmental technician was not documented, and no formal job description has been completed.

Audits of Health Physics and Chemistry were generally complete with respect to Technical Specification compliance, but did not provide a technical review of chemistry procedures or performance. Audits of the radiological environmental monitoring program were limited in scope. Improvements in audit scope and depth were made in the latter portion of the assessment period.

2. Conclusion

Rating: 1

Trend: Consistent

3. Board Recommendation

Licensee: None

NRC: None

C. MAINTENANCE (490 hours, 14.7%)

1. Analysis

During the previous assessment period, the station Maintenance Department exhibited good communication and coordination with the other departments of the station. The station maintenance group was and continues to be guided by dedicated experienced maintenance supervisors and foremen.

Two NRC team inspections conducted during this assessment period reviewed, in part, maintenance activities on site. The team inspection, conducted at the beginning of this assessment period, concluded that maintenance was performed expeditiously and conscientiously by well-qualified personnel. Minor deficiencies in maintenance activities identified by the assessment team included incomplete and untimely recordkeeping for maintenance work requests and machinery history files and review and scheduling of preventive maintenance on valves. A deficiency, noted in the latter inspection, was the lack of formality in specifying and recording dimensions and tolerances for maintenance activities.

Another problem area identified, common to maintenance and surveillance, has been control of measuring and test equipment, timely calibration, and tracking of its use. Problems were originally identified by the licensee Quality Assurance audits in 1984. Program revisions and strengthening were underway in early 1985 when an assessment inspection noted discrepancies in procedures and problems with the use of measuring and test equipment although no safety-related work was affected. Additional problems were noted early in 1986 with procurement of calibration services and use of an instrument with out-of-date calibration. These continuing problems warrant continued licensee attention to control of measuring and test equipment.

During this assessment period, the maintenance group was partially reorganized and a new department manager assigned. The purpose of the reorganization was to improve the coordination and planning of preventive and corrective maintenance. Progress in improving communications and control of maintenance activities was observed towards the end of the assessment period. The valve maintenance program has been revised by the licensee and made more manageable. During the assessment period, a concern was identified regarding improper control of the discharge canal chlorine monitor installation by maintenance personnel on December 3, 1985, (also see Operations Functional Area). Routine maintenance work control methods were bypassed. The licensee has, for the long term, initiated

the development of a computerized maintenance information system. This program is intended to replace the manual tracking and scheduling of routine and corrective maintenance activities and to improve the station maintenance review and control process. In the interim, the licensee has stressed compliance with existing administrative control methods and conducted retraining of station maintenance and operations personnel on the applicable procedures and their responsibilities.

Another concern in this area was identified in May 1985 involving the lack of controls to ensure the containment temperature monitoring system is periodically calibrated. Technical Specifications allow the containment temperature monitor to be used as a compensatory measure for the containment fire protection systems being disabled; however, the temperature monitor system was not included in the licensee's instrument calibration program. On two separate occasions, balance of plant instrumentation not included in a formal station calibration program have caused reactor protection system (RPS) challenges. A main condenser vacuum switch setpoint drift resulted in only one train of the RPS actuating on April 11, 1985. On November 11, 1985, the setpoint drift on the B circulating water pump power factor trip relay resulted in the pump prematurely tripping and causing an eventual reactor trip. At the time, no formal program for continuing secondary plant instrumentation calibrations was in place. In response, the licensee augmented their maintenance staff to ensure that all balance-of-plant instrumentation requiring periodic adjustments were checked and calibrated, if necessary. Continuation of this program was under management review at the conclusion of this assessment period.

Two reactor trips and two ESF actuations were directly attributed to maintenance activities during this assessment period, and the reactor trip of November 25, 1985, caused by the circulating water pump trip, was associated with maintenance or lack thereof. The June 6, 1985 reactor trip, from 100% power, was the result of inadequate electrical isolation for the replacement of a power range nuclear instrument operation/selector switch. The April 5, 1985 reactor trip, while shut down, was the result of inadequate review and control of two concurrent instrumentation calibration and troubleshooting activities. The two inadvertent safety injection actuations on March 25, 1985, while the reactor was shut down and cooled down, were the result of inadequate procedures and maintenance activity control. These events indicated a lack of sufficient attention to detail and a need for more management attention.

NRC Generic Letter 83-28 solicited a commitment to institute a system of control and timely update for vendor manuals describing station equipment. While there is evidence of control and availability of vendor information, a commitment to develop a computer data base has not been fully implemented nor controlled in accordance with the licensee's QA program requirements. Complete establishment and maintenance of a vendor manual data base is an unfilled licensee commitment.

Overall, the licensee's maintenance program continues to be a strength, however, the trend in insufficient review, control and planning of station maintenance activities, including the informality of secondary plant maintenance, indicates a need for increased management involvement. The maintenance group is responsive to the station's needs and is actively pursuing measures for improvement.

2. Conclusion

Rating: 2

Trend: Consistent

3. Board Recommendation

Licensee: None

NRC: None

[illegible]

[illegible]

[illegible]

D. Surveillance (512 hours, 15.4%)

1. Analysis

During the previous assessment period, no significant problems were identified. Events involving surveillance activities were considered isolated.

Technical Specification surveillance testing is performed by three different groups on station: Results and Test; Maintenance; and Operations. Surveillance test scheduling is coordinated through the Results and Test group and is performed manually. Computerized scheduling has been initiated, but not fully implemented. No tests have been missed this assessment period. It was noted that, although QC is cognizant of most surveillance activities, there is no QC coverage of routine backshift surveillance testing.

Surveillance tests are typically performed by experienced technicians with clearly written surveillance procedures. Operations personnel are routinely briefed at the start of surveillance tests and kept appraised of testing anomalies as they occur. No inadvertent reactor trips or ESF actuations resulted from surveillance testing during this assessment period. The performance of inservice valve stroking of the containment pressure transmitters manual isolation valves, on January 18, 1986, did result in violating Technical Specification minimum degree of redundancy requirements. The error was discovered by the licensee while performing the final completed procedure review. The transmitters were momentarily removed from service while stroking the isolation valves open to close and then open again. This was considered an isolated event and not indicative of a generic problem.

During the 1986 refueling and maintenance outage, the licensee conducted a containment integrated leakage rate test. Data collection and processing were performed by a contractor using primary and backup mini-computer systems. Real-time data processing greatly enhanced the performance monitoring of the test. Overall, the test was well planned and executed.

Early in the assessment period, a NRC team inspection was conducted to review, in part, the surveillance activities on site. No deficiencies were noted in this area. The team concluded that surveillance testing was performed by knowledgeable, experienced and qualified personnel. Test results and trending were appropriately reviewed and analyzed by the station staff.

The bulk of the non-destructive examinations performed per the licensee's inservice inspection (ISI) program is conducted by the Material Handling Equipment (MHE) Group, an off-site RG&E maintenance and engineering support organization. A portion of the 1986 refueling outage ISI program was reviewed. The program was well-defined and managed by competent and knowledgeable personnel.

In contrast to NRC position, the licensee continues to perform reactor trip breaker testing only during refueling outages. Surveillance test results, to date, demonstrate breaker performance at or better than vendor specifications, therefore, the licensee does not intend to perform on-line testing until results trending indicates performance degradation. The NRC staff has not concluded the review of this Generic Letter 83-28 item.

Startup physics testing was conducted after both the 1985 and 1986 outages. The physics testing was performed by knowledgeable staff members. Disagreement between Westinghouse predicted core performance values and actual values have been observed for the past three refueling cycles. The licensee has sought resolution of this difference with Westinghouse, but has been unable to identify the apparent computer modeling anomaly.

Good licensee trending and data reviews were apparent. A problem identified by the licensee's operational assurance group and noted by the NRC inspectors was the large number of leakage investigations triggered by indirect indication of RCS leakage. A licensee evaluation for improvement of this investigation process was observed to be in progress.

In summary, the licensee's surveillance testing organization continues to be a noteworthy strength. No unnecessary plant transients or RPS challenges have been caused by surveillance testing this assessment period. The one violation of Technical Specifications on January 18, 1986 is of minor safety significance and considered an isolated event.

2. Conclusion

Rating: 1

Trend: Consistent

3. Board Recommendation

Licensee: None

NRC: None

E. EMERGENCY PREPAREDNESS (170 hours, 5.1%)

1. Analysis

During the previous assessment period, the licensee was rated as Category 2 in emergency preparedness, with no strong positive or negative characteristics identified. It was noted at that time that the Corporate Emergency Preparedness Coordinator was retiring shortly, and that a new coordinator was to be appointed.

During the current assessment period, the direct inspection effort in this area has been limited to observation of the September, 1985 exercise. During that exercise the licensee performed well, except in the area of dose assessment. The dose assessment personnel in the Emergency Operations Facility (EOF) did not react aggressively in projecting possible off-site doses based on information available concerning plant status, until a simulated release actually started. There was also some evidence of lack of training of the computer dose assessment (MIDAS) operator which required the intervention of the Assistant Dose Assessment Manager, who then did not properly control his off-site dose assessment teams. In general, there was weakness in the coordination of the dose assessment function.

A new corporate emergency preparedness coordinator has been appointed. During a meeting with Region I management to discuss the problems of the 1985 exercise, the new coordinator demonstrated responsiveness to correct the weaknesses identified and to include specific objectives into the 1986 exercise to demonstrate improvement in these areas. Additional training and drills have been held in the dose assessment area to correct the weaknesses noted.

2. Conclusion

Rating: 2

Trend: Consistent

3. Board Recommendation

Licensee:

NRC:

F. SECURITY AND SAFEGUARDS (127 hours, 3.8%)

1. Analysis

Three routine unannounced inspections were conducted by region-based inspectors during this rating period. Routine resident inspection continued throughout the assessment period. No violations of NRC requirements have been identified during two consecutive rating periods covering a total of 35 months. This lack of enforcement action is noteworthy and is credited to both corporate and on-site management's commitment to an effective security program.

Licensee site and corporate management, are involved in the security program and continue to be supportive. Examples of this involvement include: (1) management support of general employee security training and enforcement of adherence to security procedures, which resulted in a positive attitude on the part of plant personnel with respect to security that was observed during NRC inspections, and in the resulting relatively low incidence of security related alarms requiring response by the security force; (2) installation of four new computer terminals to replace older models, which improved security information processing efficiency; (3) conduct of a major Safeguards Contingency Plan exercise involving a number of off-site organizations; and (4) establishment of a Security Emergency Support Center on-site to serve as the Command Post during safeguards events. The latter item, in particular, is an innovation among Region I licensees. The center is equipped with remote communications equipment and provides space and supplies for use by responding members of the FBI, state police, local law, etc. The need for such a Center was identified following the Safeguards Contingency Plan exercise conducted by the licensee during July 1985. The law enforcement agencies cited above, as well as, state and county emergency management and radiological preparedness agencies participated in the exercise. The exercise was filmed and a documentary prepared that will be made available to other licensees. The licensee's support for such a drill is commendable.

The licensee continues to utilize a self-audit program that allows management to identify potential problems early and to take action to prevent their occurrence. This program, combined with the licensee's annual program audit, which was found to be comprehensive and well executed, is a positive factor in the success of the program and reflects management's commitment to a quality program.

One security event required reporting to the NRC in accordance with 10 CFR 73.71. The report was timely, clear and indicated that appropriate compensatory measures had been implemented. Records and other reports were clear, concise, current and well maintained.

Management of the contract security force continues to be effective, as evidenced by a low turnover rate, high morale and a professional attitude toward job performance by members of the security force. Staffing of the contract force is adequate. The security force training and requalification program is also effective. This is apparent from the excellent job knowledge demonstrated by members of the security force during interviews by NRC personnel and by the absence of any NRC enforcement actions or other events during the assessment period that resulted from personnel error. The effectiveness of the training program is continually ensured, and reinforced as necessary, by the unannounced audits and surveillances of program activities during all shifts. In addition to the major drill discussed above, the licensee conducts other security drills on a frequent basis, followed by thorough critiques, to enhance the performance capability of the security organization.

During the period, the licensee submitted one revision to the security plan in accordance with 10 CFR 50.54(p). The changes were adequately summarized, clear and appropriately marked for clarity. The revision was acceptable as submitted to Region I and was indicative of a thorough knowledge of NRC program objectives.

During the assessment period, the licensee received 78 shipments of spent reactor fuel from West Valley, New York. The licensee was responsible for these shipments, including security, safety (both radiological and mechanical), escorts, N.Y. State inspection, and proposal of shipment routes. This activity was accomplished efficiently and all shipments were made without incident.

2. Conclusion

Rating: 1

Trend: Consistent

3. Board Recommendation

Licensee: None

NRC: None

G. REFUELING AND OUTAGE MANAGEMENT (395 hours, 11.9%)

1. Analysis

The resident inspectors reviewed the 1985 and 1986 refueling outage preparations and activities. In addition, region based inspections were conducted to review radiological controls and startup physics testing.

For both the 1985 and 1986 scheduled refueling and maintenance outages, the licensee exhibited generally good planning and control of major work activities including both advanced planning meetings and the daily outage meetings. Corporate management, engineering and station staff participated in the advanced outage planning meetings. The daily meetings were well-attended and focused on the communication and coordination of activities scheduled for the day. Good communications between the outage management staff and the responsible outage work groups was evident. Both the 1985 and 1986 outages progressed smoothly, with only minor schedule slippage due to unforeseen problems.

Major activities accomplished during the 1985 outage included: steam generator tube eddy current examination and tube plugging and sleeving; A and B reactor coolant pump major maintenance; main steam isolation and check valves shaft replacements; incore thermocouple upgrade; and reactor trip breaker modifications. As a result of the Haddam Neck refueling cavity water seal failure, the licensee went beyond the expected engineering review and conducted a comprehensive analysis of their refueling cavity seal design, including mock-up testing. The analysis and mock-up tests concluded that the Ginna water seal has adequate safety margin.

Major activities accomplished during the 1986 outage included: 100% steam generator tube eddy current inspection; steam generator tube plugging and sleeving; control rod guide tube split pin replacement by the French firm FRAMATOME; reactor vessel level monitoring system installation; containment integrated leakage rate testing; and completion of the Appendix R fire protection and alternate shutdown modifications. The split pin replacement, by FRAMATOME, was exceptionally well planned and executed. Licensee oversight in the areas of quality control, radiological controls and liaison engineering were appropriate.

During a team inspection in this assessment period, it was noted that a licensee commitment to perform annual inspections of special lifting devices was not being adhered to. The specific weld inspection requirements for the reactor vessel head and internals lifting devices were not properly performed for the 1983, 1984 and 1985 inspection programs. Separate licensee Audit Reports identified these deficiencies, but proper corrective action was not taken. The licensee's response to this concern was considered prompt and comprehensive.

Although no major problems have been encountered, modification work packages typically have arrived on site from corporate engineering only shortly before the commencement of the outages. The licensee has made recent strides to provide modification packages far enough in advance of the outages to ensure adequate plant staff review and planning. The licensee's Modification Follow Group, consisting of responsible plant staff engineers and technicians involved with a specific modification, appears to provide appropriate oversight to modification design, installation and testing.

Fuel handling typically is performed by a Westinghouse refueling team. The licensee usually provided more than the minimum of one experienced senior reactor operator on the refueling floor for control and review of core alterations. Continuous quality control coverage was also provided. Both the 1985 and 1986 outages have been free of fuel handling personnel errors.

A review of the Cycle 15 startup physics testing program verified that the program had been conducted in accordance with approved test procedures. Test results were properly evaluated. The reactor engineering staff at Ginna Station is small, but highly qualified. The reactor engineering activities were performed in a professional manner, the records were available and up to date, however, minor clarification was required by the resident inspector to follow and properly interpret the physics test data.

During this assessment period, one inspection of the activities associated with modifications to the spent fuel storage racks was conducted by a region based inspector. Review of the storage rack modification identified the failure of the licensee to properly calibrate the measuring equipment used in the acceptance test of the modified spent fuel racks. Station QC personnel identified the calibration problem and the responsible engineer recommended that the instrument's accuracy be verified by a one point calibration vice calibration over its useful or full working range. The licensee's approach to the resolution

of this technical issue was weak. The one point verification was not considered adequate to calibrate the instrument for range, linearity or deviation.

In summary, the licensee continues to demonstrate good planning and control of annual refueling outages including the coordination and oversight of major maintenance and modification work by contractors. As a result, the outages have been free of problems.

2. Conclusion

Rating: 1

Trend: Consistent

3. Board Recommendation

Licensee: None

NRC: None

H. LICENSING ACTIVITIES

1. Analysis

During the assessment period, RG&E continued to show good management overview in the area of licensing activities, by consistently balancing the desire to maintain or improve productivity with the need to protect the health and safety of the public. In the few matters that needed upper management attention, the individuals involved were knowledgeable on the subject and helpful in resolving the staff's questions and concerns. The licensee was usually available to the staff on short notice and on several occasions traveled to NRC headquarters to discuss issues that the staff felt warranted management attention.

The one exception was the fuel consolidation issue. This activity took an extensive amount of staff time and resources due to the schedular demands requested by the licensee and the complexity of the issue. The issue was not well planned and properly focused on by licensee management. The state of development of the hardware required to complete the project was not compatible with the schedular demands requested by the licensee and the safety concerns of DOE and NRC. Even with a low probability for success, the licensee continued to push hard for completion of the review. This issue required that the licensee coordinate with two Federal Agencies, NRC and DOE. Control and coordination of this activity was an exception to performance on other licensing issues.

The licensee continues to maintain a strong technical capability in engineering and scientific disciplines necessary to resolve items of concern to both NRC and RG&E. The licensing staff has a strong technical background and has used excellent judgement in resolving technical issues. For example, the license amendments relative to the containment purge systems and the amendment regarding heatup and cooldown curves were difficult technical issues yet were managed smoothly and professionally. The licensee has cooperated fully with the project manager and NRC staff to reach resolution on technical issues that ensure the continued safe operation of Ginna. Many of the licensee's solutions to NRC and utility-generated issues have involved a unique and innovative approach to solve the problem beyond that required, for example, the steam generator tube sleeving safety analysis performed in February 1986.

The licensee continues to respond promptly to NRC staff initiatives. For example, during this period, the licensee worked with the NRC to resolve a number of multi-plant and TMI items. The licensee provided the resources and manpower to

work with the staff in a detailed control room design review in-progress audit. The licensee cooperated fully. As a result of the audit, the licensee responded to staff recommendations and made a timely submittal of the required summary report. The licensee demonstrates a willingness to resolve areas of disagreement with NRC in an orderly fashion.

The licensing group consists of a manager with a staff of about seven professionals. This group experienced no turnover during the period, with the exception of the licensing manager who was promoted in the organization and the subsequent promotion of one of his staff to licensing manager. The staff was assigned responsibility by topical area and was allowed direct interface with the project manager and technical reviewers. This system provided excellent coordination of most issues. Submittals were generally timely and usually complete. When more information was requested, it was received in a timely manner and was of high quality. The licensing group showed a high degree of cooperation with the NRC staff.

2. Conclusion

Rating: 1

Trend: Consistent

3. Board Recommendation

Licensee: None

NRC: None

I. TRAINING AND QUALIFICATION EFFECTIVENESS (NA)

1. Analysis

During this assessment period, Training and Qualification Effectiveness is being considered as a separate functional area for the first time. Training and qualification effectiveness continues to be an evaluation criterion for each functional area.

The various aspects of this functional area have been considered and discussed as an integral part of other functional areas and the respective inspection hours have been included in each one. Consequently, this discussion is a synopsis of the assessments related to training conducted in the other functional areas. Training effectiveness has been measured primarily by the observed performance of licensee personnel. The discussion below addresses three principal areas: licensed operator training; non-licensed staff training; and the status of INPO training accreditation.

The licensee continues to demonstrate a strong commitment to licensed operator training programs. Reactor operator and senior reactor operator (SRO) candidates experienced a 100 percent license examination success rate in this assessment period. A site specific simulator was placed in operation in the Spring of 1986, after an extensive licensee acceptance testing program. Experienced licensed operators were taken from the operations shifts and detailed to review and critique the acceptance program at the Westinghouse simulator testing facility. As a result, the simulator was placed in operation at the station with relatively few functional problems. Licensed operator requalification training conducted on the simulator has proven effective as evidenced by the smooth start-up from the 1986 outage and the continuous full power run lasting through the end of this assessment period.

The licensee continues to support their Operations personnel college level education program started in 1979. Licensed operators were eligible to enroll in a special college engineering degree program contracted by the licensee with the Rochester Institute of Technology. To date, five operators have received Bachelors degrees in Mechanical Engineering Technology. The twelve operators still enrolled in the program have all completed Associates degrees and are pursuing Bachelor degrees.

The training of non-licensed staff personnel has been less structured and informal. The training of maintenance technicians has been directed more towards one or a few individuals attending various vendor sponsored programs. All instrumentation and control technicians were provided with generic control systems training during this assessment period. Five scrams occurred during this assessment period that were attributed, by the NRC, to personnel error. Quality control inspectors have attended various training courses including: systems orientation; codes and standards; technical writing; non-destructive examinations; procedures writing and review, and specific vendor sponsored training sessions. These courses have helped to enhance the role of the quality control inspectors on-site as perceived by the station workers. Training programs for the security force and fire brigade also continue to be effective.

The licensee is pursuing training programs accreditation with the Institute of Nuclear Power Operations. At the conclusion of this assessment period, the licensee was preparing the Self Evaluation Reports (SERs) for non-licensed operators, electricians, and Health Physics technicians for submittal to INPO at the end of June 1986. The balance of the SERs are scheduled to be submitted between August and November 1986. No programs have been accredited by INPO, to date.

2. Conclusion

Rating: 2

Trend: Improving

3. Board Recommendation

Licensee: None

NRC: None

J. ASSURANCE OF QUALITY (NA)

1. Analysis

During this assessment period Assurance of Quality is being considered as a separate functional area. Management involvement and control in assuring quality continues to be one evaluation criterion for each functional area. The various aspects of programs to assure quality have been considered and discussed as an integral part of some functional areas and the respective inspection hours are included in those areas. Consequently, this section is a synopsis of the assessments relating to the quality of work conducted in all areas. This section provides a brief outline of past NRC concerns in this area and licensee actions to resolve these concerns. Additionally, the effectiveness of working staff, first line supervisors, management, QA/QC and the independent review organizations (PORC and NSARB) in assuring quality is assessed.

Quality assurance (QA) and quality control (QC) were addressed for the first time in the previous assessment period, in order to highlight indications of significant shortcomings in this area. The Region I staff had evidence to conclude that QA and QC did not receive aggressive management support. This lack of support manifested itself in the development of a station attitude that QA and QC were not considered important to safety by corporate and station management.

In response to the previous assessment, the licensee established a task force to review this area and provide recommendations to improve and ensure continued effectiveness of QA and QC activities. The task force completed an in-depth study and made nine recommendations in November 1985. Subsequently, a NRC team inspection was conducted in January 1986 to assess the overall effectiveness of the licensee's QA and QC activities with special emphasis on the status and impact of the implementation of the task force recommendations.

The team inspection concluded that the efforts to enhance quality and safety awareness at the station working level continues to be a slow process, and that the activities which were scheduled for the 1986 outage did not appear to be affected by the task force recommendations. The cause of the delay in-effecting improvements was the licensee's decision to implement the task force recommendations, in a top-down manner beginning with senior staff. As a result, in January 1986, the task force recommendations were implemented at the Vice President and management level while the working level was left largely unaffected by the task force recommendations. No interim measures were developed to enhance the effectiveness of

working level activities. The team noted several deficiencies related to inadequate control of safety related activities. The team findings resulted in an April 1986 enforcement conference with senior licensee management to discuss NRC concerns.

Well experienced, knowledgeable and dedicated working level personnel have been and continue to be an asset and strength of the licensee. As stated in other assessment areas such as, operations, maintenance, radiological controls and physical security, the facility is operated by a knowledgeable staff in a competent manner. Key positions in each area are staffed with personnel who have ten or more years of experience. The workers in all groups were well aware of their job and task requirements and conducted work activities without having to refer to the procedures. However, this confidence, at times, resulted in a lack of strict procedure adherence as evidenced in the case of the visual examinations for the reactor vessel head and internals lifting rigs and the sign off on radwaste shipment check lists. Discussions with working level personnel indicated that the procedures and QA/AC activities, at times, obstructed the efficient completion of work items. The workers did not fully understand the role of procedures and QA/QC independent review. Subsequent to the January 1986 team inspection the licensee recognized the working level concern and initiated several measures. These measures included "back-to-basics" training programs for working level staff. The "back-to-basics" training program was developed to provide the basics for the procedures and QA/QC overview. The licensee has experienced minimal attrition in the past. Methods are needed to transfer the good, but informal practices of experienced and well qualified personnel to new personnel in order to maintain high quality performance at the working level.

Like the working level personnel, the first line supervisors were also observed to be technically competent and well experienced. The first line supervisors assured that the work is conducted in a safe manner. As discussed in 1985 SALP report, these first line supervisors occasionally exhibited a complacent attitude towards control of station activities. As discussed in the Plant Operations Area, more formal management coordination and control and an increased operations involvement in the review and planning of station activities is required.

In light of the task force recommendations, the licensee instituted several measures to enhance the effectiveness of the QA and QC organizations. On the corporate level, the Manager of Quality Assurance now reports to the Chief Engineer but also receives direction from the Chairman of the Nuclear Safety

Audit and Review Board, the Executive Vice President. A new station Nuclear Assurance Manager was selected who now reports to the corporate level Superintendent of Nuclear Production instead of the site Superintendent of Operations. In addition, steps were taken to prioritize QA audit findings to more effectively direct management attention to problem areas and the credibility of QA/QC findings was increased by providing additional technical training. As a result, station staff and workers appear to be more receptive to independent review of station activities.

The Plant Operations Review Committee (PORC) review of station modifications for final acceptance, near the end of the 1986 outage, was methodical and comprehensive. The PORC inter-disciplinary review continues to be an effective management tool used by the Superintendent of Ginna Production to assist in overseeing plant activities. The daily morning priority action required (MOPAR) meetings, comprised primarily of PORC members, continue to address and resolve plant operating concerns in a timely manner.

NSARB meetings attended were well-structured and thorough in their review of licensee activities. The QA/QC Task Force, comprised principally of corporate management vice-presidents, remains a NSARB subcommittee and continues in its capacity to recommend quality improvement initiatives and to monitor program implementation.

Licensee management has devoted significant time and effort to improve the effectiveness of the several programs and groups dedicated to assurance of quality. Initiatives to reach the working level personnel have just recently been implemented and have not reached fruition.

2. Conclusion

Rating: 2

Trend: Not appropriate; management attention has been high throughout the SALP period, but working level implementation has been slow.

3. Board Recommendation

Licensee: Accelerate implementation of the measures to enhance quality; and develop feedback and monitoring mechanisms to assure working level understanding of QA and QC requirements and overview so that QA and QC can be effectively used as a management tool in assuming safe operation of the plant.

NRC: None

V. SUPPORTING DATA AND SUMMARIES

A. Investigations and Allegations Reviews

During the assessment period, four allegations were received of which two were unsubstantiated or later withdrawn. One of the substantiated allegations involved the offering of a copy of the 1985 emergency preparedness exercise scenario to a drill player. It was determined that the player was offered a copy of the scenario. The individual offering the scenario information was not aware that the player was participating in the exercise until after the player declined the offer for a copy of the scenario. The other allegation involved the suspected off-site use of illegal drugs and alcohol abuse by licensee employees. The employees identified were screened by the licensee. One individual was tested positive and site access authorization removed.

B. Escalated Enforcement Actions

An Enforcement Conference was held in King of Prussia, PA., on March 27, 1986, to discuss inspection findings related to the January 27-31, 1986 NRC Team Inspection reviewing affectiveness of the Quality Assurance Program implementation.

C. Management Conferences

Date	Subject
March 18, 1985	SALP (7/1/83-12/31/84)

SALP TABLE 1

LISTING OF LERs BY FUNCTIONAL AREA

AREA	CAUSE CODES A	B	C	D	E	X	TOTAL
OPERATIONS	6	2	1	1		1	11
RADIOLOGICAL/CONTROLS							
MAINTENANCE	3	3				1	7
SURVEILLANCE		1		1			2
EMERGENCY PREP.							
SEC/SAFEGUARDS							
REFUELING AND OUTAGE MANAGEMENT				2			2
TRAINING							
LICENSING							
ASSURANCE OF QUALITY							
TOTALS:	9	6	1	4		2	22

CAUSE CODES:
- A - PERSONNEL ERROR
- B - DESIGN, MANUFACTURING, CONSTRUCTION OR INSTALLATION ERROR
- C - EXTERNAL CAUSE
- D - DEFECTIVE PROCEDURES
- E - COMPONENT FAILURE
- X - OTHER

LICENSING EVENT REPORTS REVIEWED

Report Numbers 85-01 thru 85-19 and 86-01 thru 86-03.

CASUAL ANALYSIS

The following set of common mode events was identified:

a. LERs 85-06, 85-07, and 85-08
Reported reactor trips due to personnel error in controlling S/G water level.

SALP TABLE 2

INSPECTION HOUR SUMMARY

AREA	HOURS	% OF TIME
OPERATIONS	946	28.4
RADIOLOGICAL CONTROLS	690	20.7
MAINTENANCE	490	14.7
SURVEILLANCE	512	15.4
EMERGENCY PREP.	170	5.1
SEC/SAFEGUARDS	127	3.8
REFUELING AND OUTAGE MANAGEMENT	395	11.9
TRAINING	**	**
LICENSING	*	*
ASSURANCE OF QUALITY	**	**
TOTALS:	3330	100.0

* Hours expended in facility license activities and operator license activities are not included with direct inspection effort statistics.

**Hours expended in the areas of Training and Assurance of Quality are included in other functional areas, therefore, no direct inspection hours are given for these areas.

SALP TABLE 3

ENFORCEMENT SUMMARY

FUNCTIONAL AREA	SEVERITY LEVEL 1	2	3	4	5	DEV.	TOTAL
OPERATIONS							
RADIOLOGICAL CONTROLS				2	2		4
MAINTENANCE				1	3		4
SURVEILLANCE							
EMERGENCY PREP.							
SEC/SAFEGUARDS							
REFUELING AND OUTAGE MANAGEMENT							
TRAINING							
LICENSING							
ASSURANCE OF QUALITY				4	1		5
TOTALS:				7	6		13

TABLE 3 (Cont.)

ENFORCEMENT SUMMARY

INSPECTION REPORT	REQUIREMENT	VIOL. LEVEL	FUNCTIONAL AREA	VIOLATION
244/85-04 2/05/85- 2/15/85	10 CFR 50 APP. B (V)	5	MAINTENANCE	FAILURE TO PERFORM REVIEWS OF PREVENTIVE MAINTENANCE REQUIRED BY PROCEDURE A-1015.
244/85-05 2/04/85- 2/08/85	RG 1.33 APP. A	5	ASSURANCE OF QUALITY	FAILURE TO CONTROL OR CALIBRATE A DILLON LOAD CELL USED FOR ACCEPTANCE TESTING OF MODIFIED SPENT FUEL RACKS.
244/85-10 5/01/85- 6/15/85	TECH SPEC 6.8	5	MAINTENANCE	FAILURE TO INCORPORATE TEMPERATURE MONITORING SYSTEM IN STATION SURVEILLANCE PROGRAM.
244/85-18 9/03/85- 9/06/85	TECH SPEC 6.8.1	4	RAD CONTROL	FAILURE TO ESTABLISH PROCEDURE FOR BAIRD LOW ACTIVITY COUNTER AND 4 EXAMPLES OF PROCEDURES W/O CALIBRATION FREQUENCY SPECS.
244/85-18 9/03/85- 9/06/85	TECH SPEC 6.9.1.3	5	RAD CONTROL	FAILURE TO REPORT DATA CURRENT FOR 1984 IN ANNUAL RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM REPORT.
244/85-18 9/03/85- 9/06/85	TECH SPEC 4.10.1	4	RAD CONTROL	FAILURE TO MEET LLD I-131 IN WATER OF 1 PICOCURIE PER LITER.
244/85-18 9/03/85- 9/06/85	TECH SPEC 3.16.1.1	5	RAD CONTROL	FAILURE TO OBTAIN SURFACE WATER SAMPLE IN ACCORDANCE WITH TECH SPEC REQUIREMENTS.

TABLE 3 (Cont.)

ENFORCEMENT SUMMARY

INSPECTION REPORT	REQUIREMENT	VIOL. LEVEL	FUNCTIONAL AREA	VIOLATION
244/85-26 12/01/85- 12/31/85	TECH SPEC 6.8	5	MAINTENANCE	IMPROPER CONTROL OF INSTALLATION OF NEW CHLORINE MONITOR IN STATION SPDES.
244/86-02 1/27/86- 1/31/86	10 CFR 50 APP. B (III)	4	ASSURANCE OF QUALITY	FAILURE TO PERFORM DESIGN CONTROL VERIFICATION BY INDIVIDUALS OTHER THAN THOSE RESPONSIBLE FOR THE DESIGN.
244/86-02 1/27/86- 1/31/86	10 CFR 50 APP. B (VII)	4	ASSURANCE OF QUALITY	FAILURE TO OBTAIN MATERIAL DOCUMENTATION AND PROCUREMENT OF SUPPLIES FROM QUALIFIED SOURCES.
244/86-02 1/27/86- 1/31/86	10 CFR 50 APP. B (XVI)	4	ASSURANCE OF QUALITY	FAILURE TO TAKE CORRECTIVE ACTION AFTER PROCEDURAL NONCONFORMANCES WERE IDENTIFIED.
244/86-02 1/27/86- 1/31/86	10 CFR 50 APP. B (V)	4	ASSURANCE OF QUALITY	USE OF AN INADEQUATE MAINTENANCE PROCEDURE AND USE OF UNTRAINED PERSONNEL WHILE PERFORMING CIRCUIT BREAKER MAINTENANCE.
244/09/86 2/09/86- 2/28/86	TECH SPEC 6.8	4	MAINTENANCE	MAINTENANCE PERFORMED CONCURRENT WITH REFUELING OPERATIONS VIOLATED CONTAINMENT INTEGRITY REQUIREMENTS.

TABLE 4

INSPECTION REPORT ACTIVITIES

REPORT/DATES	INSPECTOR	HOURS	AREAS INSPECTED
244/85-01 1/07/85-1/11/85	SPECIALIST	102	ROUTINE, UNANNOUNCED INSPECTION OF THE LICENSEE'S RADIOACTIVE MATERIAL TRANSPORTATION PROGRAM.
244/85-02 1/01/85-2/02/85	RESIDENT	128	ROUTINE RESIDENT INSPECTION.
244/85-03 1/14/85-1/17/85	SPECIALIST	29	UNANNOUNCED, PHYSICAL PROTECTION INSPECTION INCLUDING PROCEDURES, MANAGEMENT, ACCESS CONTROL, AND PHYSICAL BARRIERS.
244/85-04 2/05/85-2/15/85	SPECIALIST	397	SPECIAL OPERATIONS ASSESSMENT TEAM INSPECTION.
244/85-05 2/04/85-2/08-85	SPECIALIST	31	ROUTINE, UNANNOUNCED INSPECTION OF ACTIVITIES ASSOCIATED WITH MODIFICATIONS TO THE SPENT FUEL STORAGE RACKS.
244/85-06 3/01/85-4/30/85	RESIDENT	181	ROUTINE RESIDENT INSPECTION INCLUDING IE BULLETIN FOLLOW-UP, REFUELING ACTIVITIES, ECCS MODEL EVALUATION, AND REACTOR TRIP BREAKER MODIFICATIONS.
244/85-07 3/25/85-3/29/85	SPECIALIST	35	ROUTINE, UNANNOUNCED INSPECTION OF THE RADIATION SAFETY PROGRAM.
244/85-08 6/10/85-6/14/85	SPECIALIST	170	SPECIAL, ANNOUNCED SAFETY INSPECTION OF THE LICENSEE'S IMPLEMENTATION AND STATUS OF NUREG-0737 TASKS.
244/85-09 5/07/85-5/10/85	SPECIALIST	56	ROUTINE, UNANNOUNCED SAFETY INSPECTION OF THE CYCLE 15 START-UP PHYSICS TESTS.
244/85-10 5/01/85-6/15/85	RESIDENT	135	ROUTINE RESIDENT INSPECTION INCLUDING RCS/ECCS ISOLATION VALVE REVIEW.
244/85-11 6/24/85-6/24/85	SPECIALIST	--	OPERATOR EXAMINATION REPORT.

TABLE 4 (Cont.)

INSPECTION HOURS ACTIVITIES

REPORT/DATES	INSPECTOR	HOURS	AREAS INSPECTED
244/85-12 6/16/85-7/31/85	RESIDENT	186	ROUTINE RESIDENT INSPECTION INCLUDING VITAL BATTERY RACK SEISMIC QUALIFICATION, SPENT FUEL POOL DESIGN, AND SAFEGUARDS CONTINGENCY PLAN EXERCISE.
244/85-13	CANCELLED		
244/85-14 8/20/85-8/22/85	SPECIALIST	28	ROUTINE, ANNOUNCED INSPECTION OF THE NONRADIOLOGICAL CHEMISTRY PROGRAM INCLUDING TRAINING, CONTROLS, AND PROCEDURE EVALUATION.
244/85-15 8/01/85-8/31/85	RESIDENT	105	ROUTINE RESIDENT INSPECTION INCLUDING REVIEW OF SERVICE WATER LEAK IN CONTAINMENT AND TMI ACTION PLAN IMPLEMENTATION.
244/85-16	CANCELLED		
244/85-17 8/19/85-8/23/85	SPECIALIST	33	UNANNOUNCED PHYSICAL SECURITY INSPECTION OF THE SECURITY PLAN AND IMPLEMENTING PROCEDURES.
244/85/18 9/03/85-9/06/85	SPECIALIST	28	ROUTINE, UNANNOUNCED INSPECTION OF THE OPERATIONAL RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM.
244/85-19	CANCELLED		
244/85/20 9/25/85-9/27/85	SPECIALIST	147	ROUTINE, ANNOUNCED EMERGENCY PREPAREDNESS INSPECTION AND OBSERVATION OF LICENSEE'S ANNUAL EMERGENCY EXERCISE.
244/85/21 9/01/85-10/19/85	RESIDENT	185	ROUTINE RESIDENT INSPECTION INCLUDING REVIEW OF THE ANNUAL EMERGENCY EXERCISE.
244/85-22 10/07/85-10/11/85	SPECIALIST	80	ROUTINE, UNANNOUNCED INSPECTION OF THE LICENSEE'S RADIO-CHEMICAL MEASUREMENTS PROGRAM.
244/85-23	SPECIALIST	--	OPERATOR LICENSING EXAMINATION.

TABLE 4 (Cont.)

INSPECTION REPORT ACTIVITIES

REPORT/DATES	INSPECTOR	HOURS	AREAS INSPECTED
244/85-24 10/20/85-11/30/85	RESIDENT	118	ROUTINE RESIDENT INSPECTION AND REVIEW OF PART 21 REPORTS, AUXILIARY BUILDING CRANE MODS, AND SPENT FUEL SHIPMENTS.
244/85/25 11/18/85-11/22/85	SPECIALIST	39	ROUTINE, ANNOUNCED INSPECTION OF THE LICENSEE'S RADIATION SAFETY PROGRAM INCLUDING: GENERAL EMPLOYEE TRAINING AND HP TECH. TRAINING.
244/85-26 12/01/85-12/31/85	RESIDENT	89	ROUTINE RESIDENT INSPECTION INCLUDING REVIEW OF IE CIRCULAR NO. 80-15 FOLLOW-UP AND LER REVIEWS.
244/86-01 1/01/86-2/08/86	RESIDENT	129	ROUTINE RESIDENT INSPECTION, REVIEW OF IE BULLETIN FOLLOW-UP, AND ANKER-HOLTH SNUBBER CONCERNS.
244/86-02 1/27/86-1/31/86	SPECIALIST	152	ROUTINE, ANNOUNCED INSPECTION OF THE QA/QA ACTIVITIES IN THE ELECTRICAL, MECHANICAL, I&C, OPERATIONS AND HEALTH PHYSICS AREAS.
244/86-03 2/09/86-2/28/86	RESIDENT	113	ROUTINE RESIDENT INSPECTION INCLUDING REVIEW OF OUTAGE ACTIVITIES AND LER REVIEWS.
244/86-04 2/24/86-2/28/86	SPECIALIST	86	ROUTINE, UNANNOUNCED INSPECTION OF THE RADIATION PROTECTION PROGRAM.
244/86-05	CANCELLED		
244/86-06 3/01/86-3/31/86	RESIDENT	151	ROUTINE RESIDENT INSPECTION INCLUDING START-UP PHYSICS TESTING AND CILRT REVIEW.
244/86-07 4/01/86-4/30/86	RESIDENT	156	ROUTINE RESIDENT INSPECTION INCLUDING REVIEW OF OFF-SITE REVIEW COMMITTEE MEETING AND GENERAL EMPLOYEE TRAINING.

TABLE 4 (Cont.)

INSPECTION REPORT ACTIVITIES

REPORT/DATES	INSPECTOR	HOURS	AREAS INSPECTED
244/86-08 4/21/86-4/25/86	SPECIALIST	27	UNANNOUNCED PHYSICAL SECURITY INSPECTION OF THE SECURITY PLAN AND IMPLEMENTING PROCEDURES.
244/86-09 5/01/86-5/31/86	RESIDENT	214	ROUTINE RESIDENT INSPECTION INCLUDING REVIEW OF TMI ACTION PLAN IMPLEMENTATION.

TABLE 5

LER SYNOPSIS

LER NUMBER	EVENT DATE	CAUSE CODE	DESCRIPTION
85-001	1/16/85	A	INOPERABLE ANALOG ROD POSITION (COMPUTER ROD POSITION ALARM).
85-002	1/21/85	C	MANUAL ACTUATION OF ENGINEERED SAFETY FEATURE.
85-003	3/09/85	A	INOPERABLE FIRE DETECTION SYSTEM.
85-004	3/02/85	D	AUTOMATIC ACTUATION OF ENGINEERED SAFETY FEATURE.
85-005	4/05/85	A	AUTOMATIC ACTUATION OF THE REACTOR TRIP PROTECTION SYSTEM CAUSED BY PERFORMING RTD TESTING WITHOUT PROCEDURES.
85-006	4/06/85	A	AUTOMATIC ACTUATION OF THE REACTOR PROTECTION SYSTEM RESULTING FROM LOW STEAM GENERATOR WATER LEVEL.
85-007	4/06/85	A	AUTOMATIC ACTUATION OF THE REACTOR PROTECTION SYSTEM RESULTING FROM STEAM GENERATOR LOW LEVEL.
85-008	4/07/85	A	AUTOMATIC ACTUATION OF REACTOR PROTECTION SYSTEM RESULTING FROM LOW STEAM GENERATOR LEVEL.
85-009	4/08/85	D	AUTOMATIC ACTUATION OF REACTOR PROTECTION SYSTEM FOLLOWING A TURBINE TRIP CAUSED BY IMPROPER VALVE LINEUP.
85-010	4/08/85	B	AUTOMATIC ACTUATION OF THE REACTOR PROTECTION SYSTEM RESULTING FROM A FAULTY RELAY IN THE B SOURCE RANGE CHANNEL N-31.
85-011	4/11/85	B	AUTOMATIC ACTUATION OF THE REACTOR PROTECTION SYSTEM DUE TO THE COMBINATION OF TURBINE TRIP AND LOW CONDENSER VACUUM.
85-012	5/06/85	B	ENGINEERING EVALUATION OF INOPERABILITY OF CONTAINMENT CHARCOAL FILTERS DURING A LOCA.

TABLE 5 (Cont.)

LER SYNOPSIS

LER NUMBER	EVENT DATE	CAUSE CODE	DESCRIPTION
85-013	5/31/85	X	MANUAL ACTUATION OF EMERGENCY DIESEL GENERATORS DUE TO LOCAL TORNADO WARNINGS.
85-014	6/06/85	A	AUTOMATIC ACTUATION OF REACTOR PROTECTION SYSTEM DUE TO THE GROUNDING OF NI POWER RANGE CHANNEL N-41 OPERATIONAL SELECTOR SWITCH.
85-015	6/20/85	A	INADVERTENT CLOSURE OF BORIC ACID STORAGE TANK FLOW PATH TO REACTOR COOLANT SYSTEM.
85-016	9/15/85	B	INOPERABLE ROD POSITION INDICATING SYSTEM AS A RESULT OF REPLACEMENT OF SYSTEM POWER SUPPLIES.
85-017	9/16/85	B	CONTROL ROD INSERTION AND BANK OVERLAP VIOLATION DUE TO FAILURE OF A ROD CONTROL CIRCUIT CARD IN THE ROD CONTROL POWER CABINET.
85-018	9/28/85	X	MANUAL TURBINE AND REACTOR TRIP DUE TO EH SYSTEM MALFUNCTION.
85-019	11/25/85	B	AUTOMATIC REACTOR TRIP DUE TO TRIP OF THE 1B CONDENSER CIRCULATING WATER PUMP.
86-01	1/18/86	D	FAILURE TO MEET MINIMUM DEGREE OF REDUNDANCY FOR ENGINEERED SAFETY FEATURES ACTUATION SYSTEM.
86-02	2/16/86	D	FAILURE TO MEET THE OPERABILITY REQUIREMENTS OF AUTOMATIC CONTAINMENT ISOLATION VALVES DURING REFUELING.
86-03	3/11/86	A	INOPERABLE RELAY ROOM FIRE SUPPRESSION SYSTEM.

TABLE 6

REACTOR TRIPS AND PLANT SHUTDOWNS

DATE	POWER LEVEL	DESCRIPTION	CAUSE *
3/02/85		SHUTDOWN FOR ANNUAL REFUELING AND MAINTENANCE OUTAGE. (CYCLE XIV-XV)	
4/05/85	SD	REACTOR TRIP DUE TO CONCURRENT ACTIVITIES ON TWO RPS. (LER 85-05)	PERSONNEL ERROR-OPERATIONS: INADEQUATE CONTROL OF CONCURRENT MAINTENANCE AND CALIBRATION ACTIVITIES RESULTED IN THE 2 OF 4 RPS LOGIC BEING SATISFIED.
4/05/85		START-UP	
4/06/85	5%	REACTOR TRIP DURING START-UP ON LOW S/G WATER LEVEL. (LER 85-06)	PERSONNEL ERROR-OPERATIONS: OPERATOR INEXPERIENCE ON CONTROLLING S/G WATER LEVEL VIA MANUAL FEEDWATER REGULATING VALVE BYPASS CONTROL.
4/06/85		START-UP	
4/06/85	12%	REACTOR TRIP DURING START-UP ON LOW S/G WATER LEVEL. (LER 85-07)	PERSONNEL ERROR-OPERATIONS: SAME AS ABOVE.
4/06/85		START-UP	
4/07/85	13%	REACTOR TRIP DURING START-UP ON LOW S/G WATER LEVEL. (LER 85-08)	PERSONNEL ERROR-OPERATIONS: SAME AS ABOVE.
4/07/85		START-UP	
4/08/85	18%	REACTOR TRIP DUE TO A SECONDARY SYSTEM PERTURBATION WHICH RESULTED IN THE MAIN FEEDWATER PUMP TRIP AND SUBSEQUENT LOSS OF S/G WATER LEVEL. (LER 85-09)	PROCEDURAL DEFICIENCY-OPERATIONS: A PROCEDURAL DEFICIENCY RESULTED IN THE MISPOSITION OF THE CONDENSATE BYPASS VALVE WHICH AGGRAVATED NORMAL SECONDARY PLANT RESPONSE TO A LOAD REDUCTION.

* Cause as determined by the SALP Board, may not agree with LER analysis.

TABLE 6 (Cont.)

REACTOR TRIPS AND PLANT SHUTDOWNS

DATE	POWER LEVEL	DESCRIPTION	CAUSE
4/08/85	SD	REACTOR TRIP DURING AN OPERATIONAL TEST OF THE NUCLEAR INSTRUMENTATION COIL FOR A SOURCE RANGE CHANNEL. (LER 85-10)	EQUIPMENT FAILURE-RANDOM: A FAULTY COIL, ALLOWED INTERMITTENT OPENING OF A RELAY CONTACT WHEN THE RELAY WAS VIBRATED THUS SATISFYING 1 OF 2 TRIP LOGIC.
4/10/85		START-UP	
4/11/85	7%	REACTOR TRIP DUE TO THE COMBINATION OF TURBINE TRIP, LOW CONDENSER VACUUM AND REACTOR POWER ABOVE THE P-7 PERMISSIVE. (LER 85-11)	EQUIPMENT FAILURE-DESIGN RELATED: CONDENSER TUBE RUPTURE RESULTED IN A LOSS OF MAIN CONDENSER VACUUM.
4/11/85		START-UP	
6/06/85	100%	REACTOR TRIP DUE TO MAINTENANCE TECHNICIAN GROUNDING INSTRUMENT BUS 1D WHILE PERFORMING CORRECTIVE MAINTENANCE. (LER 85-14)	PERSONNEL ERROR-MAINTENANCE: INADEQUATE ELECTRICAL ISOLATION OF REPLACEMENT POWER RANGE NUCLEAR INSTRUMENT OPERATE/SELECTOR SWITCH.
9/28/85	50%	REACTOR TRIP DUE TO MANUAL TURBINE TRIP. OPERATORS WERE UNABLE TO MAINTAIN TURBINE CONTROL BECAUSE OF ELECTRO-HYDRAULIC CONTROL SYSTEM FAILURE. (LER 85-18)	EQUIPMENT FAILURE-RANDOM: ELECTRO-HYDRAULIC CONTROL (EHC) SYSTEM FAILURE WAS ATTRIBUTED TO A LEAK IN THE EHC FLUID COOLER WHERE SERVICE WATER WAS INTRODUCED TO THE EHC
9/29/85		START-UP	---

TABLE 6 (Cont.)

REACTOR TRIPS AND PLANT SHUTDOWNS

DATE	POWER LEVEL	DESCRIPTION	CAUSE
11/25/85	100%	REACTOR TRIP DUE TO THE SECONDARY SYSTEM TRANSIENT WHICH RESULTED IN LOW FEEDWATER PUMP SUCTION PRESSURE AND SUBSEQUENTLY LOW S/G WATER LEVEL. (LER 85-19)	EQUIPMENT FAILURE-MAINTENANCE: SECONDARY SYSTEM TRAINSENT WAS DUE TO A CONDENSER CIRCULATING WATER PUMP (CWP) TRIP. THE POWER FACTOR RELAY TRIP SET POINT FOR CWP DRIFTED AND CAUSED THE TRIP OF THE PUMP. POWER FACTOR TRIP RELAY HAD NOT BEEN CALIBRATED FOR SEVERAL YEARS.
11/26/85		START-UP	---
2/08/86		SHUTDOWN FOR ANNUAL REFUELING AND MAINTENANCE OUTAGE. (CYCLE XV-XVI)	---
3/21/86		START-UP	---

FIGURE 1

NUMBER OF DAYS SHUTDOWN

GINNA