

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No: 50-244/90-05 License No. DPR-18
Licensee: Rochester Gas and Electric Corporation
Facility: R. E. Ginna Nuclear Power Plant
Dates: March 24 through May 7, 1990
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Approved by: Richard S. Barkley 5/22/90
For E. C. McCabe, Chief, Reactor Projects Section 3B Date

SCOPE

Routine and reactive inspection (207.3 hours including 17 backshift and 10 deep backshift hours) of operations, radiological controls, maintenance/surveillance, security, engineering/technical support, and safety assessment/quality verification.

RESULTS

Safe facility operation was observed. A significant effort by Radiological Controls management was noted in response to higher than normal personnel contaminations, and significant improvement was observed in the control of modifications. (Details 2.2 and 5.3).

One non-cited violation was noted concerning a personnel error which caused an inadvertent Safety Injection actuation. A maintenance foreman, in an effort to expedite activities being conducted in the elevated temperatures within containment, neglected to consult a procedure and thereby directed technicians to close the wrong valve.

Six Temporary Instructions, two violations, and two unresolved items were closed.

Appendix: RG&E Handouts from 4/25/90 Mid-Cycle SALP Meeting

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OVERVIEW

Plant Operations: The plant remained shut down for refueling and maintenance during much of the period. Mid-loop operation was carefully controlled. On May 6, 1990, the reactor was diluted to criticality. Startup proceeded without incident through May 7, 1990, when the generator was placed on the grid.

Radiological Controls: Management response to a higher than projected number of personnel contaminations in March 1990 was analytical, logical and effective. Action to cope with a work slow-down by contract Health Physics technicians showed the ability to continue outage activities with minimal impact.

Maintenance/Surveillance: On May 5, 1990, Safety Injection Actuation occurred when hasty instructions caused the wrong instrument to be isolated. In response to inspector observations concerning notification of annunciator actions, the inspectors were provided copies of the writer's guide and the procedure validation checklist for the new, upgraded calibration procedures. Loose torque switch mounting hardware was documented during MOV (motor-operated valve) inspections and RG&E made an appropriate industry notification. In general, outage maintenance and surveillance were well planned and were accomplished by knowledgeable personnel.

Security: The inspectors reviewed additional information on Fitness-For-Duty training. Corrective actions for weaknesses identified in NRC Inspection Reports 50-244/90-03 and 90-04 were found to be effective. Picketing on two occasions was peaceful and orderly.

Engineering/Technical Support: RG&E's actions on potential refueling cavity water seal failure and boron dilution events were found adequate. Control over modification installation and testing incorporated significant improvements resulting from weaknesses identified during the 1989 refueling outage. Overall, implementation of modifications was well controlled and thoroughly reviewed.

Safety Assessment/Quality Verification: A mid-cycle SALP meeting was held on April 25, 1990; RG&E's presentation was well prepared and demonstrated the ability to be constructively self-critical. RG&E's response to IE Bulletin 87-02 concerning fasteners was appropriate and acceptable. Controls for storage of transient equipment was aggressive and effective, and demonstrated management commitment to safety. RG&E demonstrated responsiveness to a concern regarding the condition of paint on the containment floor by painting the upper level of containment on short notice at the conclusion of the refueling outage. Control over the quality of diesel generator fuel oil was found acceptable. Procedure Adherence Task Force meetings demonstrated a management commitment to resolution of procedure adherence weaknesses.

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DETAILS

1. Plant Operations

1.1 Inspector Observations

Control room activities were reviewed daily. Control room logs were checked to assess activities and trends. Recorder traces were observed to check for abnormalities. Selected safety-related tagouts were audited. Accessible plant areas were toured, and activities in progress were observed.

The inspectors found that the R. E. Ginna Nuclear Power Plant operated safely and in conformance with license and regulatory requirements. Control room staffing was adequate. Operators exercised control over access to the control room, adhered to approved procedures, and understood the reasons for lighted annunciators. During reactor coolant system (RCS) reduced inventory conditions, operators were alert to potential problems which could cause a loss of shutdown cooling. Operators were found to be well informed on plant conditions. During fuel unloading and reloading an updated core map was kept in the control room. No inadequacies were identified. The inspectors verified compliance with the Technical Specifications.

On April 25, 1990, while the plant was in cold shutdown, the "A" Emergency Diesel Generator (EDG-A) automatically started, but did not load onto its bus when operators started the "A" Reactor Coolant Pump (RCP-A). RCP-A was being bumped to facilitate venting and filling of the RCS. A momentary undervoltage occurred on Buses 14 and 18. It recurred during subsequent starts of RCP-A. The EDG was placed in pull-to-stop to prevent starting. Preliminary corporate engineering evaluation indicated that the undervoltage occurred as a result of leaving a voltage regulator on the 35KV supply line in automatic operation. Line voltage had been raised above nominal levels, as was customary. But, use of a different line configuration apparently caused an oversight involving the voltage regulator. The oversight was discovered prior to the final RCP-A start and the regulator was placed in manual. No undervoltage relay actuations were then experienced. However, final licensee review has not yet been completed.

Operators made the reactor critical on May 6, and synchronized the turbine-generator to the grid on May 7. The inspectors observed control room activities prior to rolling of the main turbine, during generator synchronizing, and after synchronization. During this startup, operators were aware of the potential for problems with steam generator level control and reactor coolant average temperature due to a positive moderator temperature coefficient, and communicated

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changing conditions to each other very well. Just prior to generator synchronizing, the shift supervisor verified that the operators each knew their specific tasks and the effect that plant parameters such as steam generator level and average coolant temperature and pressure could have on each other. Overall, the startup was slow, well-controlled, and without incident.

Among the operations documents reviewed were:

- Ginna Station Event Report (A-25.1) Number 90-28, concerning inoperable check valve CV-528.
- Ginna Station Event Report (A-25.1) Number 90-29, concerning loss of input to Bus 15.
- Ginna Station Event Report (A-25.1) Number 90-30, concerning pressure transmitter out of calibration.
- Ginna Station Event Report (A-25.1) Number 90-31, concerning unauthorized use of TSC P&IDs.
- Ginna Station Event Report (A-25.1) Number 90-32, concerning set screw found in fuel assembly.
- Ginna Station Event Report (A-25.1) Number 90-33, concerning flow transmitter out of calibration.
- Ginna Station Event Report (A-25.1) Number 90-34, concerning level transmitter out of calibration.
- Ginna Station Event Report (A-25.1) Number 90-35, concerning pressure transmitter out of calibration.
- Ginna Station Event Report (A-25.1) Number 90-36, concerning unlocked waste gas evaporator room gate.
- Ginna Station Event Report (A-25.1) Number 90-37, concerning results of steam generator eddy current testing.
- Ginna Station Event Report (A-25.1) Number 90-38, concerning pressure instrument out of calibration.
- Ginna Station Event Report (A-25.1) Number 90-39, concerning level switches out of tolerance.
- Ginna Station Event Report (A-25.1) Number 90-40, concerning flow transmitter out of tolerance.

- Ginna Station Event Report (A-25.1) Number 90-41, concerning auto start of an emergency diesel generator while in cold shutdown.
- Ginna Station Event Report (A-25.1) Number 90-42, concerning primary chemistry error.
- Ginna Station Event Report (A-25.1) Number 90-43, LTOP actuation requiring 30 day report.
- Ginna Station Event Report (A-25.1) Number 90-44, concerning flow transmitter out of tolerance.
- Ginna Station Event Report (A-25.1) Number 90-45, concerning leak in "C" charging pump relief valve.
- Ginna Station Event Report (A-25.1) Number 90-46, concerning unanticipated safety injection during plant heatup.
- Ginna Station Event Report (A-25.1) Number 90-47, concerning broken instrumentation wire.

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

1.2 Violation 50-244/89-18-03) (Closed)

This violation documented failure to properly realign radiation monitors R-10A, R-11, and R-12, and failure to properly perform independent verification.

In response, RG&E added steps to Calibration Procedures (CP)-210A, 211 and 212 to insure proper system restoration and independent verification. The inspectors reviewed the changes to the Calibration Procedures and deemed the corrective actions sufficient.

2. Radiological Control

The resident inspectors periodically confirmed that radiation work permits were effectively implemented, dosimetry was correctly worn in controlled areas, dosimeter readings were accurately recorded, access to high radiation areas was adequately controlled, and postings and labeling were in compliance with procedures and regulations.

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2.1 Unresolved Item 50-244/89-15-01 (Closed)

This item concerned a licensee identified discrepancy with the calibration constant used in the calibration procedure for noble gas effluent radiation monitors R-12A, 14A, and 15A. The inspector had a concern regarding the monitors' operability. Through discussions with RG&E and NRC Region I personnel, the inspectors determined that the change of the calibration constant enhanced the procedure and that the radiation monitors were operable at all times.

2.2 Personnel Contamination

During the first week of the refueling outage which began on March 23, 1990, Ginna management noted that 74 personnel contaminations had occurred during March 1990. That was more than twice the 30 projected contaminations. Health physics personnel analyzed the contaminations by work group and obtained an independent review of the contaminations. Results of the analysis and review provided health physics personnel with corrective action objectives. These included specific work groups to be targeted for training, protective clothing recommendations with a significant potential for reducing contaminations, and recommended training based on interviews with workers.

As a result of the corrective actions, contaminations for April 1990 were reduced to 125% of projected. Further licensee review and analysis is planned so that additional measures can be implemented to reduce contaminations in the 1991 refueling outage.

The inspectors reviewed the analysis and corrective actions and concluded that the initiatives to trend and control contaminations aggressively addressed the minimizing of radiation exposures.

2.3 Outage Staffing

From March 26-30, 1990, contractor (General Technical Services) Health Physics (HP) technicians staged a work slow-down to protest non-union hiring practices. The slow-down was organized by the International Brotherhood of Electrical Workers.

The inspectors discussed contingency HP planning with the Manager of Chemistry and Health Physics and concluded that a conservative approach to control of work in the radiologically controlled area was employed. The inspectors noted the presence of an ample number of HP technicians and the availability of several managers for HP coverage. HP coverage was continued without the use of excessive overtime.

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3. Maintenance/Surveillance

3.1 Maintenance Observations

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

- Maintenance Procedure (M)-37.133, Coupling and uncoupling "Swagelok" Tube Fittings, Revision 0, effective April 30, 1989, observed March 29, 1990.
- M-37.130, Disassembly & Reassembly of Pipe Flange Connections B SI Pump, PS101B Outboard Shaft Stuffing Box Outlet Flange, Revision 4, effective February 23, 1990, observed March 29, 1990.
- M-11.8K, 1B Reactor Coolant Pump Motor Minor Inspection and Removal, Revision 12, effective March 10, 1990, observed April 3, 1990.
- Calibration Procedure (CP) I-SI-FLO-924, Calibration of SI Flow Channel 924 Rack Instrument, Revision 00, effective January 12, 1990, observed April 4, 1990.
- ECCSD-T-014, MOV Verification Documentation, effective March 3, 1990, observed for MOV 826B.

In response to inspector observations made in NRC Inspection Report 50-244/90-03 concerning operations notification on annunciator actions during calibrations, information was provided to the inspectors concerning measures included in upgraded calibration procedures. The inspectors reviewed portions of the calibration procedure writer's guide and the procedure validation checklist. The measures reviewed were assessed as an acceptable means of introducing requirements for notification of the control room.

During the inspection of motor-operated valve MOV-826B, plant personnel documented loose torque switch mounting hardware associated with SMA-type torque switches. Plant personnel indicated that 7 MOVs with loose torque switch mounting hardware had been discovered during the 1990 outage inspections and 19 torque switches with loose mounting hardware had also been identified during the 1989 outage. The

licensee determined that the root cause of the loose hardware was age/vibration, informed the industry via the Nuclear Network, and is evaluating the problem for reportability to the NRC.

With the exception of the Safety Injection actuation discussed below, outage maintenance was well planned, accomplished by knowledgeable personnel, and accomplished in a safe and efficient manner.

3.2 Inadvertent Safety Injection (SI) Actuation

On May 5, 1990, with the plant in hot shutdown, a SI actuation occurred. The reactor trip breakers were open at the time. No injection occurred because reactor coolant pressure was greater than pump shutoff head. All systems responded as expected.

The immediate cause of the actuation was determined to be maintenance personnel incorrectly closing a pressurizer instrumentation valve. A team of Instrumentation and Controls (I&C) technicians had repaired a leaking fitting on the reference leg of pressurizer instrumentation. As a result of the elevated temperatures limit on stay time, a second team of I&C technicians was standing by to fill and vent the instrumentation lines.

The first team of technicians repaired the leak more quickly than planned and called the foreman to offer to help with filling the instrumentation lines. These technicians did not have the applicable procedure with them. The foreman, concerned that high containment area temperatures would limit the amount of work done by the second team of technicians, directed the technicians to shut a root valve and described the location of the valve. But, the foreman did not refer to the procedure and did not supply the valve number, which was stated in the applicable maintenance procedure. The valve location given to the technicians was incorrect and they closed an isolation valve for a different instrumentation line, causing a pressure transmitter to sense a low pressure condition. Since another pressure transmitter had been removed from service for the leak repair, the necessary two out of three coincidence was met for an SI actuation on low pressurizer pressure.

Ginna Station Administrative Procedure (A)-503, Plant Procedure Adherence Requirements, Revision 16, effective May 5, 1989, requires a copy of the procedure to be at the work location or at the location of the personnel guiding the activity, and the completed procedural steps to be signed off signifying that the action required to be implemented has been completed as written. Contrary to the above, on May 5, 1990, the procedure for filling and venting the pressurizer instrumentation was not in the possession of, or signed off by the person guiding the activity.

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Plant management determined that the procedure should have been followed exactly, that the procedure was written correctly, and no SI actuation would have occurred if the procedure had been followed. They concluded that the foreman knew he should have followed the procedure, and his failure to do so was due to haste. The foreman was counselled and the event and its causes were discussed with plant personnel. To prevent recurrence, maintenance management has emphasized procedure adherence under all circumstances and plans to re-evaluate and revise the procedure governing procedure adherence through a Task Force recently established by the plant manager (see Detail 6.7)

The inspectors concluded that, although many problems with procedure adherence have been observed in the past, prior corrective actions could not be expected to have prevented this personnel error.

Task Force actions are not complete and, during the last few months, no other problems have been observed with procedure adherence. NRC unresolved item 90-02-02 concerning procedure adherence programmatic weaknesses will remain open to track actions of the Task Force.

A Notice of Violation was not issued for this event. It was licensee identified, of minor safety significance, and properly reported. Immediate corrective measures were appropriate and actions are being taken to prevent recurrence; and no previous violations for which licensee actions should have prevented this occurrence were identified (50-244/90-05-01).

3.3 Surveillance Observations

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

- Refueling Shutdown Surveillance Procedure (RSSP)-20, "B" Emergency Diesel Generator - Auto-Start Undervoltage Logic Test, Revision 0, effective April 30, 1989, observed March 29, 1990.
- RSSP-2.3B, 'B' Emergency Diesel Generator Trip Testing, Revision 1, effective April 21, 1990, observed April 27, 1990.
- RSSP-2.2, Diesel Generator Load and Safeguard Sequence Test, Revision 37, effective April 21, 1990, observed May 2, 1990.

During performance of the surveillances on the emergency diesel generator, the inspectors noted that personnel in the control room and at the diesel generator were prepared and well informed. Proper performance of RSSP-2.2 required careful coordination of the safety

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injection signal and the loss of bus voltage signal. Supervisors maintained close control of activities. When the chart recorder malfunctioned during the first test attempt, the test was immediately repeated to obtain proper documentation. The timeliness of data review minimized the impact on plant workers.

3.4 Unresolved Item 50-244/88-16-01 (Closed)

NRC Inspection Report 50-244/88-16 questioned performance of maintenance activities without the use of PORC approved procedures. In response, RG&E committed to use PORC approved procedures for all safety-related maintenance. Since this concern was identified, inspectors have repeatedly confirmed the use of PORC approved procedures to control safety-related maintenance. Based on the RG&E commitment and inspector observations, this item is closed.

4. Security

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

4.1 Fitness-For-Duty (TI 2515/104)

RG&E's fitness-for-duty training was reviewed in inspection report 50-244/89-17. At that time, the inspectors were unable to conclude that escorts were trained for recognizing drugs and indications of the use, sale, or possession of drugs. During this inspection period, the inspectors reviewed documentation and concluded that training for escorts includes techniques for recognizing drugs and indications of the use, sale, or possession of drugs. The inspectors had no further questions.

4.2 Access Control

During the inspection period the inspectors observed measures to control access to the protected area. In particular, the inspectors monitored corrective actions for the weaknesses identified in inspection reports 50-244/90-03 and 50-244/90-04. The inspectors did not observe any additional instances of those weaknesses; RG&E corrective actions were found to be effective. The inspectors had no further questions on these matters.

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4.3 Picketing at Site Access Road

On two occasions during the inspection, picketing occurred at the entrance to the plant. From March 28-29, 1990, approximately twenty employees picketed. On May 3, 1990, 300-400 members of the Allied Building Trades Council picketed. In both instances picketing was about non-union hiring by contractors used by RG&E. Picketing was peaceful on both occasions, and was monitored by RG&E security.

4.4 Monthly Meeting with RG&E Security Manager

On April 3, 1990, the inspectors met with the RG&E security manager. The security manager updated the status of the security upgrade project and security organizational changes. In addition, meetings of the security upgrade task force, the computer users group, and a Security-Engineering meeting in response to NRC Inspection Report 50-244/90-04 were discussed. No unacceptable conditions were identified.

5. Engineering/Technical Support

5.1 Refueling Cavity Water Seals (TI 2515/66)

The inspectors reviewed whether the licensee has identified the worst credible seal failure and evaluated its consequences. Bulletin 84-03 was closed in NRC Inspection Report 50-244/84-24. At that time, the inspector concluded that the cavity water seal used at Ginna, a Presray PRS 585, is physically different and used in a different configuration than was the seal that failed at Connecticut Yankee. Therefore, the consequences of the worst credible seal failure are different than those at Connecticut Yankee. RG&E demonstrated that, based on testing by the seal manufacturer, Presray Corporation, the potential for seal failure at Ginna is minimal. Leakage rates and final water levels were evaluated with a conclusion that fuel uncover would only occur if an assembly is in the mast. In that case operator action is necessary and is detailed in the Refueling Procedure for LOSS OF WATER FROM THE REFUELING CAVITY. The inspectors reviewed the procedure, found it adequate, and had no further questions. Temporary Instruction 2515/66 is closed.

5.2 PWR Moderator Dilution Requirements (TI 2515/94)

The purpose of the inspection was to verify that all licensee actions with regard to their responses to the NRC Division of Operating Reactors Information Memorandum No. 7, "PWR Moderator Dilution," issued on October 4, 1977, have been completed.

By letter dated September 26, 1977, the NRC informed the licensee of an operating PWR incident involving unanticipated dilution of reactor coolant system (RCS) boron. The September 1977 letter requested that the licensee review existing boron dilution analyses to assure that these bound all potential boron dilution events and assess factors which affect the capability of the operator to take corrective action. The letter further requested the licensee to inform the NRC staff if, based on the results of the analyses, corrective actions are required to preclude the occurrence or mitigate the consequences of postulated boron dilution accidents. The review of responses from operating PWRs was identified as MPA B-03.

The licensee responded to the September 26, 1977 letter (including the concerns of the October 4, 1977 Memorandum) by letter dated January 10, 1978. That January 1978 letter addressed the potential for boron dilution through inadvertent draining of the spray additive tank to the RCS. The licensee concluded that: no single failure could result in reducing boron concentrations in the RCS or RHR system; there is no possibility for any new type of boron dilution accident; and no additional design or procedural corrective actions are required.

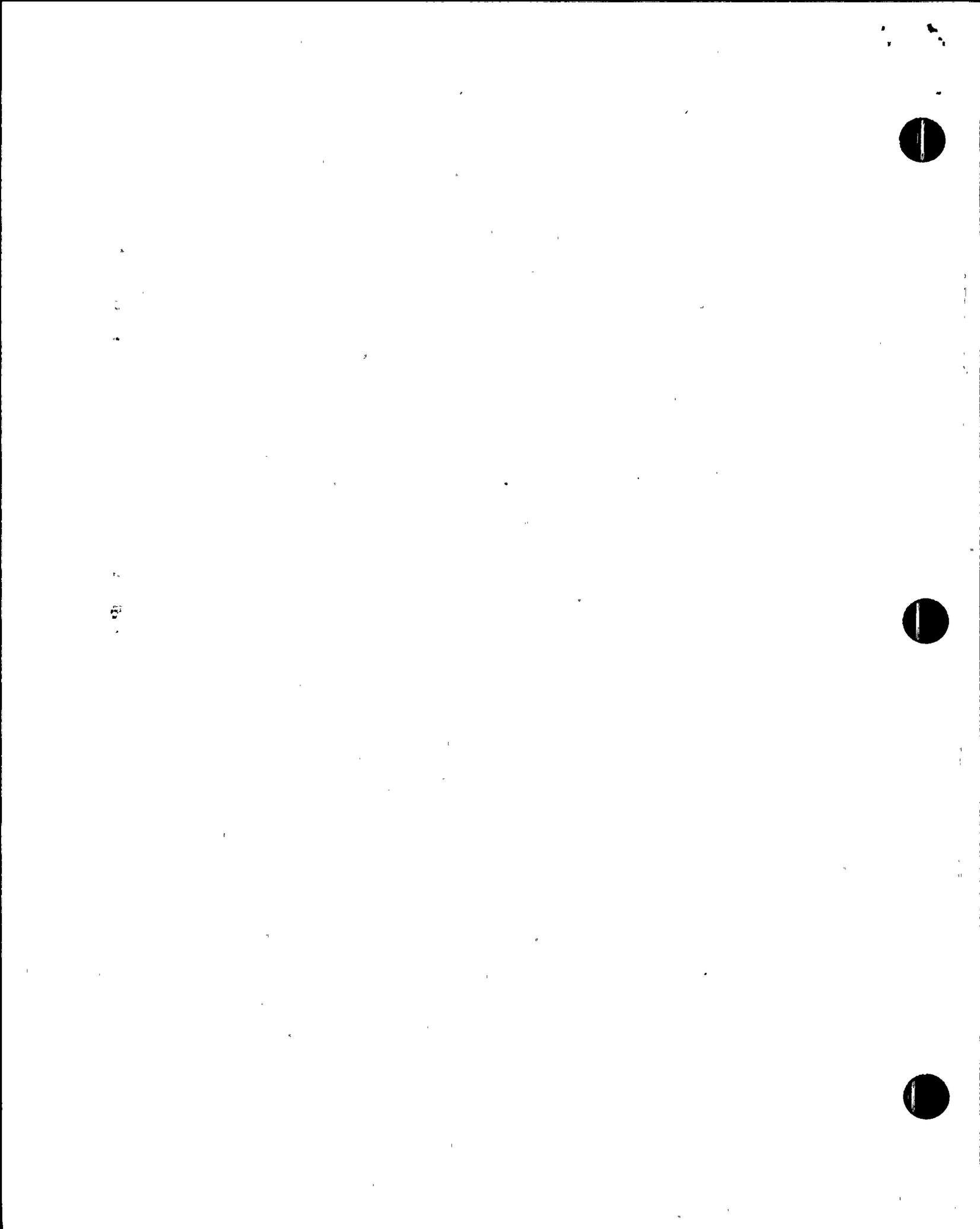
By letter January 25, 1979, the NRC requested additional information to include a complete review of all boron dilution mechanisms that could occur at operating PWRs. RG&E supplemented their analyses in a response letter of April 30, 1979. The licensee additionally considered postulated boron dilution changes due to: (1) boron dilution from the RCS drain tank; and (2) boron dilution due to resin changes in the purification system. The licensee concluded that the operator would have the indication and time to terminate an unidentified boron dilution incident prior to reactor criticality.

On April 3, 1980, the NRC Division of Operating Reactors documented (by memorandum) a review of the licensee's submittals of January 10, 1978 and April 30, 1979, concerning the potential for unidentified boron dilution incidents. The NRC conclusion was that the licensee has adequately analyzed the potential for unidentified boron dilution incidents at Ginna and that RG&E's submittals were acceptable.

The inspector concluded that licensee actions with regard to the PWR moderator dilution issues have been completed. Temporary Instruction 2515/94 is closed.

5.3 Control of Modifications

During the refueling outage, the inspectors reviewed selected modifications to insure conformance with applicable regulations, guides and standards. Work in progress was observed to verify that modifications were installed in accordance with approved designs, that modifications were completed in accordance with Technical Specification



requirements, and that procedures were revised and operator training was conducted consistent with implementation of the modifications. Modification testing was reviewed to insure pre-test training was conducted, test procedures were appropriately reviewed, test results were thoroughly evaluated and reviewed by QA, and testing acceptance criteria were based on design documentation.

The inspectors also audited the modifications against:

- A-301.2, Station Modification Planning Control, Revision 6, effective November 2, 1989, and
- A-301.3, Station Modification Installation and Acceptance, Revision 5, effective November 2, 1989.

Among the modifications reviewed were:

- SM-3596.1, D/G A Pressure Instrument Panel-Mechanical Installation, Revision 0, effective February 22, 1990.
- SM-3596.5, D/G A Pressure Sensing Tubing, Tubing Supports, and Mechanical Removals, Revision 0, effective March 11, 1990, Work Order 9021409.
- SM-3596.9, D/G A Instrumentation Panel-Functional Test, Revision 0, effective April 6, 1990, Work Order 9021415.
- SM-4230.3, Anticipated Transients Without Scram (ATWS) Mitigation System Actuation Circuitry (AMSAC) Trip Status Modification, Revision 0, effective May 9, 1990, Work Order 9021539.
- SM-4218.16, Channel Check of Pressurizer Level Transmitter LT-426, Revision 0, effective April 6, 1990, observed May 4, 1990.
- SM-4534.1, Reactor Coolant Pump Motor Oil Level Indicator System Upgrade, Revision 0, effective March 1, 1990.

The inspectors discussed the modification of LT-426 with the liaison engineer and personnel performing the test. In 1989, LT-426 was indicating higher than the other two level instruments. RG&E's short-term solution was to cross-connect the reference leg of LT-426 to the reference leg of another instrument. The permanent solution was to reconfigure the LT-426 reference leg during the 1990 annual refueling outage. The inspectors reviewed the testing of the level transmitter and the data obtained, and concluded that modification testing performed on LT-426 was adequate to ensure operability of the level transmitter following reconfiguration.

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The inspectors reviewed the tubing modifications on emergency diesel generator EDG-B and observed the initial test run of the diesel. EDG-B tripped on low lube oil pressure shortly after starting. Plant personnel determined that the trip occurred as a result of failure to adequately fill and vent the new tubing. Although a number of tubing modifications had been previously performed at Ginna, none had necessitated filling and venting as required in this instance. In this case, post-modification testing revealed the requirement for filling and venting the tubing, and station personnel plan to insure that the requirement is captured in maintenance and modification administrative controls.

The inspectors noted that, in response to previously identified concerns, the Modification Follow Group and liaison engineer performed a final review of completed modification packages to insure all modification and design changes were incorporated into plant procedures and training programs. In addition, Operations verified readiness to accept modifications, and Non-Conformance Reports were dispositioned prior to turnover.

Overall, implementation of modifications was well-controlled and thoroughly reviewed. The inspectors noted significant improvement in this area since the 1989 refueling outage.

5.4 Violation 50-244/89-18-04 (Closed)

This violation documented configuration control weaknesses which permitted implementation of modifications to the Safety Injection system and the AMSAC system without the necessary corresponding changes in procedures and operator training. As discussed in Detail 5.3 above, the inspectors reviewed implementation of the modification control changes required by revisions to procedures A-301.2 and A-301.3, and concluded that RG&E corrective actions are adequate to prevent recurrence.

6. Safety Assessment/Quality Verification

6.1 Mid-cycle SALP Meeting

On April 25, 1990, RG&E management met with NRC management in the NRC Region I offices to discuss Ginna plant performance at a mid-cycle Systematic Assessment of Licensee Performance meeting. RG&E first presented their self-assessment and status of improvements, followed by questions and comments from NRC personnel. RG&E's presentation was well prepared and demonstrated their ability to be constructively self-critical. The meeting handouts are appended to this inspection report.

6.2 Fastener Testing (TI 2500/27)

The inspector reviewed RG&E's January 15, 1988 response to Bulletin 87-02. RG&E identified that, of the 40 safety-related fasteners tested in response to this Bulletin, five did not meet specifications. In addition, five of the 40 non-safety-related fasteners tested failed to meet specifications. As a result, an evaluation of each of the fastener deviations was performed. The evaluations concluded that there was no effect on the safety functioning of the fasteners.

The inspector reviewed RG&E's response to the Bulletin as well as NCRs G-88-001G and G88-256, which tracked the nonconforming conditions for two of the fasteners. The inspector noted that, for safety-related fastener RGE-36, which showed deviations from specification requirements, RG&E found that the fasteners had not been installed in the plant and decided to discard them. Review of non-safety-related fasteners RGE-52, 53 and 60 revealed that those fasteners were not purchased to QA requirements based on their intended use, but RG&E evaluated the deviations of the fasteners and chose to either discard them or recommend their replacement. None of the deviations noted by the inspector were indicative of fraudulent material being supplied by a vendor. The fastener specification deviations noted appeared to be either minor fabrication process deviations or material misclassifications. No impact on safety-related equipment was evident.

RG&E continues to track the corrective actions taken in response to these fastener deficiencies by Corrective Action Report (CAR) 1830. RG&E is planning, but has not yet implemented, a sampling program for fasteners to confirm that they meet specification requirements. Implementation is scheduled for June 1990.

In summary, RG&E identified several deficiencies with safety-related and non-safety-related bolting materials, none of which impacted the safety-related functioning of plant equipment. Fasteners which were identified as deficient were either disposed of, accepted as-is after engineering evaluation of their application or, for the non-safety-related application of fastener RGE-53, scheduled to be replaced as a precaution. In the future, RG&E plans to implement, in accordance with CAR 1830, a random sampling program for fasteners to aid in identifying any future specification discrepancies. No other actions are planned by RG&E. To date, the fastener discrepancies noted by RG&E have not had safety significance and do not indicate any attempt by vendors to supply falsified bolting materials. The inspector considers RG&E's actions in response to this Bulletin to be appropriate and acceptable. No other actions beyond RG&E's planned sampling program for fasteners appears warranted. Temporary Instruction 2500/27 is closed.

6.3 Storage of Transient Equipment (RI TI 87-03)

The inspectors reviewed licensee controls for storage of transient equipment having the potential to adversely affect safety-related equipment. Among the documents reviewed were:

- Administrative procedure A-3.1, Containment Storage Inspection, Revision 13, effective June 19, 1989.
- A-1406, Control of Temporary Modifications, Revision 4, effective July 14, 1989.

Procedure A-3.1 establishes guidelines for equipment storage requirements inside containment during reactor operation. The procedure incorporates provisions to limit equipment stored in containment, and to insure equipment is restrained with a chain or wire rope capable of supporting the equipment's dead weight. In addition procedure A-3.1 requires that items stored in containment must be positioned so that they are at least one and one half times their maximum height from safety-related equipment or equipment important to safety. The inspectors have consistently noted that the materials stored were very well secured.

Procedure A-1406 provides control over temporary modifications including restraint of temporary equipment within close proximity to safety-related equipment. The requirements for restraint of temporary equipment are equivalent to those contained in procedure A-3.1.

During the outage, the inspectors assessed the effectiveness of procedures A-3.1 and A-1406. In particular, the inspectors inspected containment on May 3, 1990, immediately prior to containment closeout on May 4, 1990. The temporary items observed during the tour were restrained as required by procedure. The inspectors also noted that, in response to a concern about contamination control, the floors in the upper level of containment were painted, on short notice, immediately prior to containment closeout.

The inspectors concluded that the program for control of transient equipment was aggressive, effective, and demonstrated a management commitment to safety. In addition, RG&E was responsive to the concern regarding the condition of the paint on the containment floor, and promptly repainted the floor. Region I Temporary Instruction 87-03 is closed.

6.4 Diesel Generator Fuel Oil Quality Assurance (TI 2515/93)

The purpose of the inspection was to verify that the licensee controls the quality of diesel generator fuel oil for the plant diesel generators in accordance with their Quality Assurance (QA) Program under 10 CFR 50, Appendix B. The inspector's review was sufficient to assure that diesel generator oil is presently included in the RG&E QA Program under 10 CFR 50, Appendix B requirements.



100-100000

The inspector reviewed the licensee's QA documents pertaining to the control of purchased items. In particular, the inspector reviewed RG&E's QA Program for Station Operation, Revision 15, December 28, 1989, Criterion VII; and QA Manual, Revision 19, December 8, 1989, Section 7, entitled Control of Purchased Material, Equipment, and Services. Both RG&E documents establish the requirements, assign the responsibilities, and describe the system for assuring that items purchased directly through subsuppliers conform to procurement documents. The diesel generator fuel oil manufacturers, however, do not appear on the RG&E Commercial Grade Suppliers List (CGSL) as a means of achieving dedication of this commercial grade item. In the case of diesel generator fuel oil, verification of the quality is accomplished by sampling the purchased source and having it analyzed by a certified laboratory. The test results (report) verify conformance to the procurement documents and become the primary method of achieving dedication of this commercial grade commodity used in a safety-related application.

Offsite Storage

All fuel oil tends to degrade during extended storage. The degradation, in general, is of two types. The first, oxidation and polymerization, results in formation of soluble and insoluble gums. The second, bacteria growth at the interface of the fuel and any water in the storage tank, results in clumps of bacteria in the fuel. Both degradation mechanisms lead to fuel filter plugging.

The offsite storage tank facility (receiving storage) is located at Brooks Avenue. The purchase order requires No. 2 diesel oil to meet the ASTM D-975, Standard Specification of Diesel Fuel Oils. Acquisition of the No. 2 diesel fuel oil samples for laboratory testing to meet ASTM standards are controlled by RG&E procedures CGIEE 90-001, Attachment B, Revision 1, and Attachment C, Revision 2, which allow dedication of the entire quantity of diesel fuel oil in the RG&E offsite bulk storage tank farm. When additional deliveries of No. 2 diesel fuel oil are received, either the delivery quantity is sampled in accordance with Attachment B, or the whole tank is resampled in accordance with Attachment C. Currently RG&E uses the Herguth Laboratories of Vallejo, California, under contract, for sample testing services. The following tests are performed by the Herguth Laboratories: (1) Cetane Number per ASTM D-976; (2) Ash, percent weight, ASTM D-482; (3) Distillation, ASTM D-86; (4) Initial Boiling Point, 10 percent, 50 percent, 90 percent, and end point; (5) Recovery, percent; (6) Sulfur, percent weight, ASTM D-2622; (7) Viscosity, ASTM D-445; (8) Carbon Residue, ASTM D-524; and (9) Water and Sediment, ASTM D-1796. For each sample Herguth Laboratories provides a certificate of analysis for the above information. All quality documentation is attested, by the RG&E Nuclear Assurance and Quality Performance Departments, to meet ANSI N45.2-1971. RG&E also performs a commercial grade item engineering evaluation and documents the basis for determination of critical characteristics for acceptance.



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Onsite Storage - Receipt Inspection

The Quality Control (QC) inspection and acceptance of delivery from the Brooks Avenue fuel farm to the onsite fuel oil storage tanks are controlled by RG&E procedure QCIP-6 (original). The procedure requires a review of the delivery ticket supplied by the truck driver with the shipment to ensure that the correct chemical analysis report issued by Herguth Laboratories is referenced. The QC inspection report documents that the analysis meets acceptance criteria outlined in Technical Specification 4.6.1.c (ASTM D-975-1978, Table 1) with regard to viscosity, water and sediment. Also, the report documents that a visual inspection has been performed prior to unloading the truck. The above documents were reviewed by the inspector and found acceptable.

Onsite Storage - Technical Specification Requirements

Technical Specification 4.6.1.c requires verification, at least once every 92 days, that a sample of diesel fuel oil from the onsite fuel oil tank supplying the diesel generators be within limits recommended by ASTM D-975, Table 1; when checked for viscosity, water and sediment. The analysis is performed by the RG&E Chemical/Environmental Laboratory. The inspector reviewed the report for July 19, 1989, which was acceptable. No history of receipt of unacceptable fuel is evident.

Temporary Instruction 2515/93 is closed.

6.5 Periodic and Special Reports

Upon receipt, periodic and special reports submitted by the licensee pursuant to Technical Specifications 6.9.1 and 6.9.3 were reviewed. This review included whether the reports contained information required by the NRC, test results and/or supporting information were consistent with design predictions and performance specifications, and reported information was valid. The following report was reviewed:

-- Monthly Operating Report for March 1990.

No unacceptable conditions were identified.

6.6 Written Reports of Nonroutine Events

Written reports submitted to the NRC were reviewed to determine whether details were clearly reported, causes properly identified and corrective actions appropriate. The inspectors also determined whether assessment of potential safety consequences had been properly



evaluated, generic implications were indicated, events warranted on-site follow-up, reporting requirements of 10 CFR 50.72 were applicable, and requirements of 10 CFR 73 had been properly met.

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

- 90-001, "Technical Specification Fire Watch Patrol Established, But Did Not Perform Tour at Least Once per Hour Due to Personnel Error," February 25, 1990.
- 90-002, "Fire Watch Patrol Performed Technical Specification Hourly Patrol in the Wrong Areas Due to Personnel Error," February 26, 1990.
- 90-003, "Higher Than Normal Count Rate on Source Range NIS, Due to a Faulty Detector, Causes a Reactor Trip During Source Range Reenergization," March 23, 1990.

The reports met regulatory requirements. The events and corrective actions were reviewed in NRC Inspection Report 50-244/90-03 and were found acceptable.

6.7 Procedure Adherence Task Force

In March 1990, the plant manager established a task force to address problems associated with procedure adherence, system alignments, independent verification, and their repetitive nature. During meetings the focus of the task force members, including plant managers and superintendents, has been on programmatic issues. In the several meetings held to date, the task force has discussed training improvements for administrative procedures regarding procedure adherence and independent verification, and feedback from workers concerning the process. Current plans are to have revisions out to the appropriate administrative procedures within the next few months.

The inspectors observed that the task force meeting on March 29, 1990 was well attended by plant management. Discussions were open and candid, with good participation by all members. The inspectors concluded that the Procedure Adherence Task Force meetings demonstrate a management commitment to resolution of procedure adherence weaknesses.

6.8 Submittal of Quality Assurance Program Description

During this period the licensee submitted Revision 15 of the Ginna Quality Assurance Program (QAP) for review, pursuant to 10 CFR 50.54(a)(3). The revision is being reviewed in the Region I office.



7. Administrative

7.1 Licensee Activities

At the start of the inspection period, the plant was shut down for the annual refueling outage; shutdown from full power had been completed on March 23, 1990. Major outage activities accomplished included: annual refueling, 'B' reactor coolant pump replacement, steam generator tube sleeving and plugging, midloop instrumentation upgrade, fuel assembly reconstitution, and a major valve preventive maintenance effort.

During fuel reconstitution on April 6, 1990, a small set screw was found in an assembly. The set screw and four fuel rods damaged by it were removed and the damaged fuel rods were replaced with dummy fuel rods. On April 14, 1990, during core reloading, a 3.5 inch long bolt was found on the lower core plate. The bolt was removed from the vessel, and further inspection was conducted with negative results. These two foreign objects are addressed in NRC Inspection Report 50-244/90-06. Refueling of the core was completed on April 15, 1990.

On May 5, 1990, with the plant in hot shutdown, an inadvertent safety injection occurred due to personnel error; all systems responded as expected. The reactor was brought critical on May 6, 1990, and the turbine generator was synchronized to the grid on May 7, 1990. At the close of the inspection period, operators were slowly raising plant power.

7.2 Licensee Responses to NRC Inspection Reports

The NRC acknowledges receipt of RG&E's responses (3-26-90, 4-5-90) detailing corrective and preventive actions for the violations identified in Inspection Reports 50-244/89-17 and 50-244/90-02. These actions will be examined during future inspections.

7.3 Exit Meetings

At periodic intervals and at the conclusion of the inspection, meetings were held with senior station management to discuss the scope and findings of this inspection. Additionally, the following NRC exit meetings were held during this inspection period: 50-244/90-04 on March 24, 1990; 50-244/90-06, 90-03, 90-08 and 90-80 on April 20, 1990.

NRC Meeting
April 25, 1990
Mid Cycle SALP Assessment

Agenda

- | | |
|---|---------|
| I. Introduction | Smith |
| II. SALP Categories | |
| A. Plant Operations | Spector |
| B. Maintenance/Surveillance | Spector |
| C. Radiological Controls | Mecredy |
| D. Emergency Preparedness | Mecredy |
| E. Engineering/Technical Support | Snow |
| F. Security | Powell |
| G. Safety Assessment/Quality Verification | McCoy |
| III. Summary and Conclusions | Smith |

Operations

Evaluation of July 1989 SALP

Strengths

Morning Priority Action Required - MoPAR daily staff meeting

Support of degreed college program

Well qualified operators exhibit consistent good performance

Human Performance Evaluation System - HPES utilization

Sixth shift utilization

New license training

Label program

Concerns

Inconsistent management oversight and control

Housekeeping

Independent verification - system alignment

Fire protection training

Disposition of EOP change requests

Positive MTC training

Modification training

Commitment tracking

Label verification

Overall

- Rating of "2"

Operations
Current Assessments

Strengths

MoPAR - daily status books

College degree program - other sections participating

EOPs and implementation - dedicated full time SRO

Simulator training - utilization of normal control room grouping

Control room professionalism and control and command

New license training

HPES system being utilized station wide

Developing Strengths

Housekeeping - policy, enforcement and management tours

Labeling program and verification

Modification training

Positive MTC training

Communications - guidelines and training

Fire brigade training

Opportunities for Improvement

Recertification of licensed training programs

System lineups and independent verifications

Maintenance/Surveillance
Evaluation of July 1989 SALP

Strengths

Strengthened management through reorganization
Control of outage related maintenance and surveillance
Staffing levels
Technical competence and pride in performance
Control of physics testing
Responsiveness to identified weaknesses
Operational implementation of IST procedures

Concerns

Component aging program
Formal preventive maintenance for off site power sources
Programmatic control of preventive maintenance
Lack of cooperation with QP organizations
Procedure quality and adherence
Manual tracking system of outstanding work
Q-List
IST program omissions
Lack of supervisory observations

Overall

- Rating of "2"

Maintenance/Surveillance

Current Assessment

Maintenance

Strengths

Positive attitude of workers

- * Long term maintenance strategy
- * Continued organizational optimization

Developing Strengths

- * Preventive/predictive maintenance through RCM program
- * Post maintenance testing
- * Calibration procedures upgrade - in use this outage
- Performance indicators - involvement in NRC and NUMARC programs
- Utilization of independent assessments - cooperation with quality organization

- * Work control system

Material Condition of plant equipment

- * Equipment history maintenance and utilization
- * Staffing implementation - particularly in maintenance planning
- * Computerize work order tracking system

Opportunities for Improvement

- * Maintenance procedure upgrades

Maintenance training program

Maintenance facilities and equipment

Material condition of buildings and structures

Items on independent verification/system alignment covered under operations.

- * Covered in February 1990 maintenance presentation

Maintenance/Surveillance

Current Assessment

Supporting Areas

Strengths

ISI and secondary erosion corrosion

All supporting groups involvement in maintenance strategy development

Spirit of cooperation between Maintenance and all groups (HP, QP, Technical Support)

Developing Strengths

Procurement technical requirements - Commercial Grade Dedication Program

IST program control

Modification control enhancements - continued enhancements expected

Opportunities for Improvement

Shelf Life Program

Material storage control

Check valve position verification

RADIOLOGICAL CONTROLS
EVALUATION OF JULY 1989 SALP

Strengths

- Pretesting to evaluate and screen contract HP technicians
- Training of radiation workers, particularly practical factors
- Control of secondary chemistry
- Implementation of ALARA program in 1988

Weaknesses

- Timeliness of corrective actions
- QC surveillance of chemistry activities
- Management oversight of field activities
- ALARA planning during 1989 outage

Overall

- Rating of "2"



Radiological Controls

Actions to Improve

- Enhanced ALARA pre-planning with revision to Engineering Procedure QE-310 and through additional formality to ALARA pre job briefings and recommendations
- Upgraded training to radiological workers through G.E.T. and to H.P. Technicians
- Established job coverage guidelines for H.P. Technicians
- Upgraded and expanded Radiological Incident Report system including ties to the Corrective Action Report system and Training
- Emphasizing the need for increased supervisory presence in the field
- Established 1990 person-rem and contamination goals, including through Corporate Goals system (Plan 90)
- Adding 8 RG&E H.P. Technicians
- Strengthened and focused activities of corporate support staff
- Utilizing outside technical expertise to provide independent assessments
- Added Chemistry Q.C. position
- Constructing new Training facility, which will house Environmental Laboratory

Radiological Controls

Current Assessment

Strengths

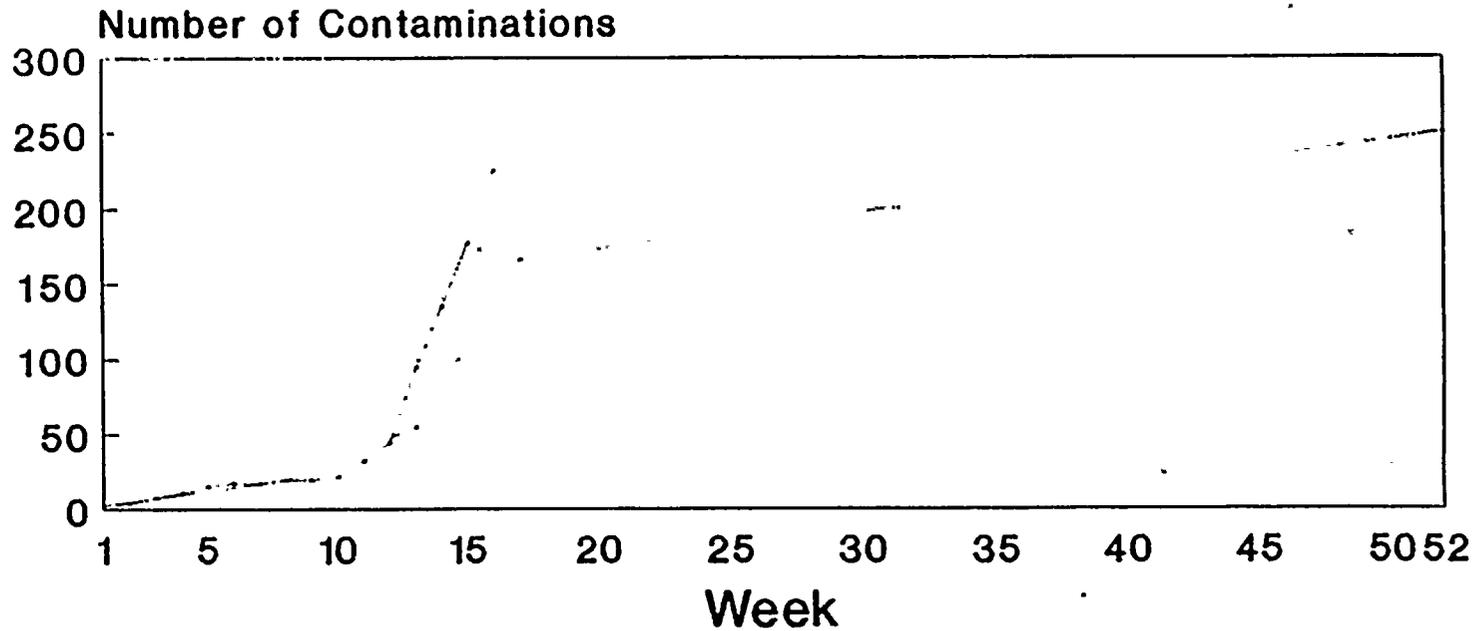
- Continuing strengths from 1989
- Management and staff focus on importance of good radiological controls practices
- Results of ALARA planning, to date, in 1990 outage

Areas for continued improvement

- Need to improve consistency of compliance with upgraded standards of performance
- Need to evaluate improvements in standards of performance
- Need to continue to improve management and supervisory oversight of field activities
- Need to implement corrective actions, e.g. locked hi radiation area gates



R.E. Ginna Nuclear Power Plant 1990 Skin & Clothing Contaminations as of 4/22/90



Actual Estimated

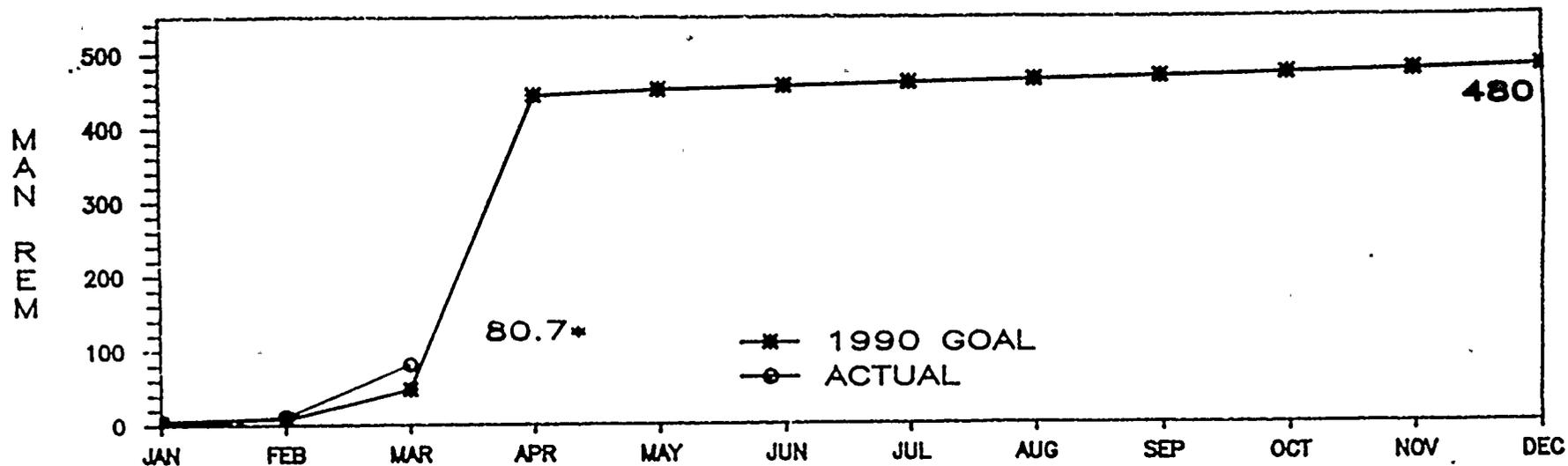
5000 DPM/100cm²



UPDATED WEEKLY

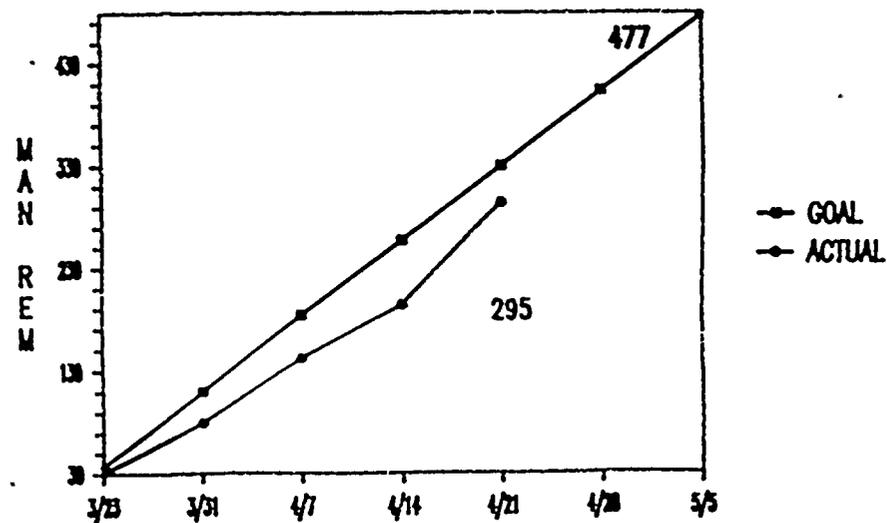
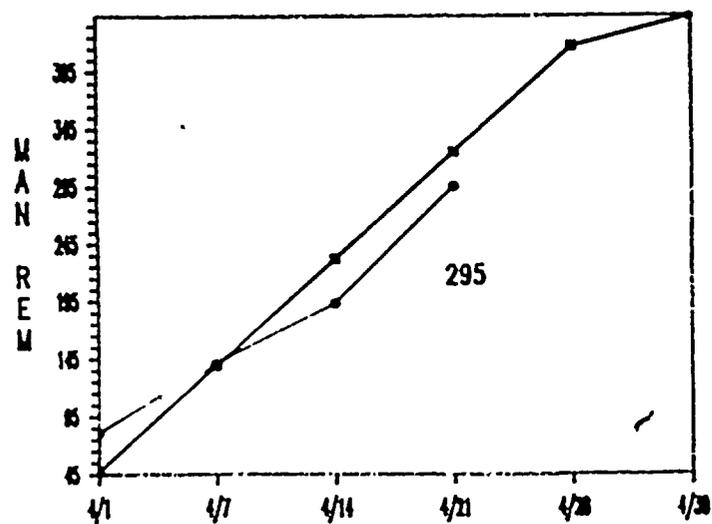
GINNA STATION EXPOSURE FOR 1990

4/23/90

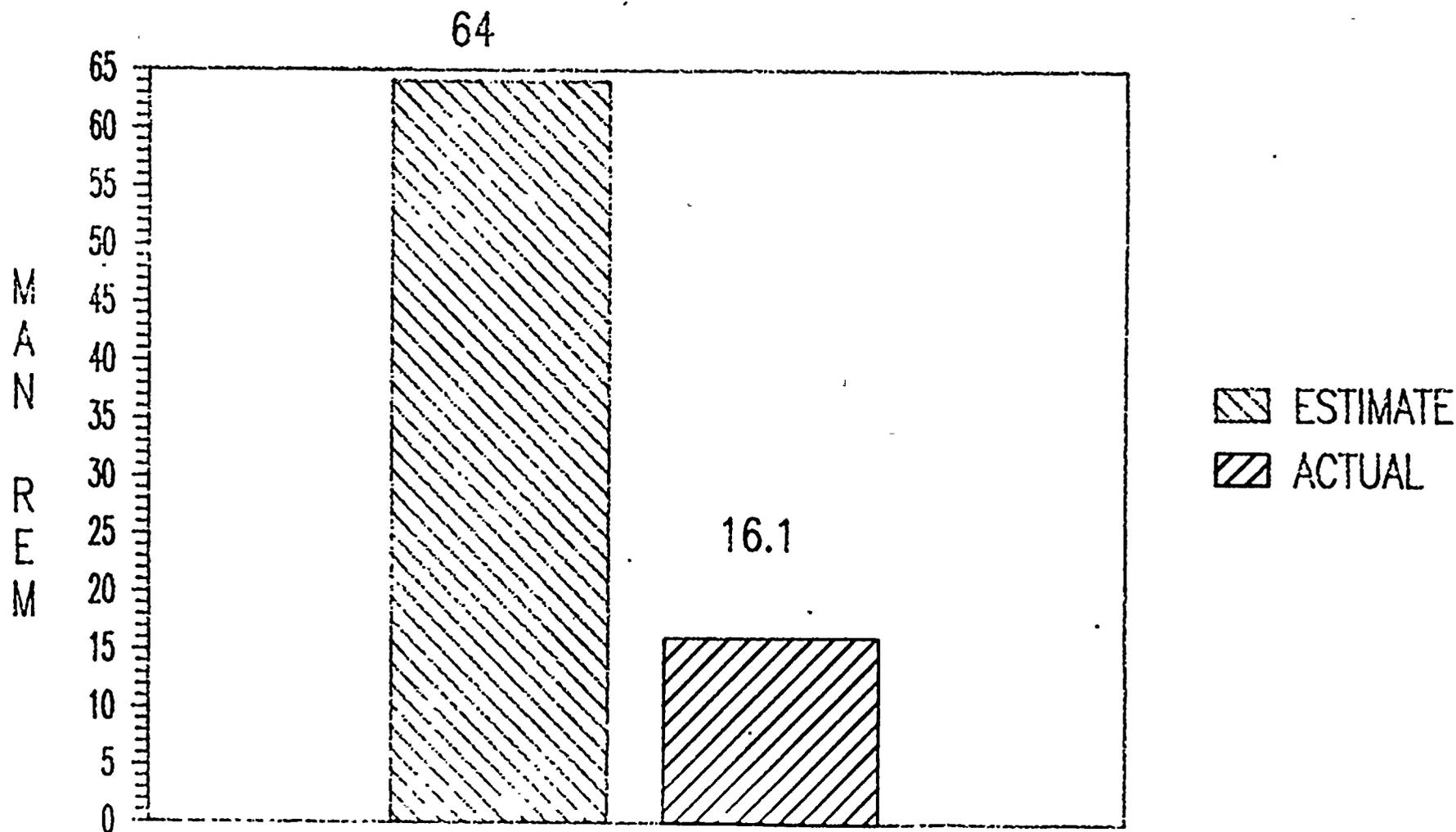


* USING OFFICIAL DOSE FOR JAN - MAR
MONTH OF APRIL

1990 OUTAGE GOAL : 440 man-rem
OUTAGE

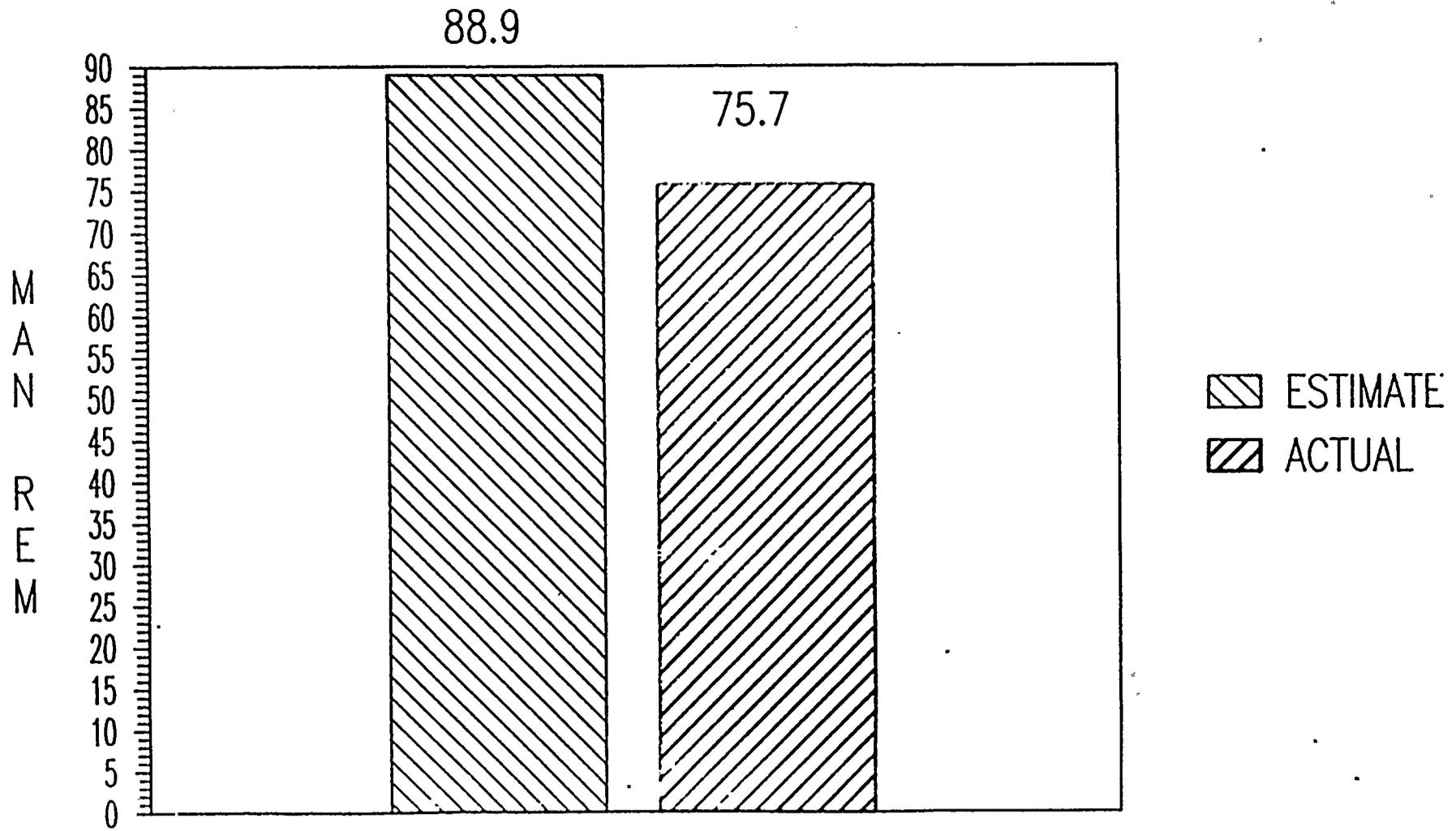


ALARA TRACKING #900060
B RCP INSULATION



AS OF 4/21

ALARA TRACKING #9004XX
A STEAM GENERATOR WORK

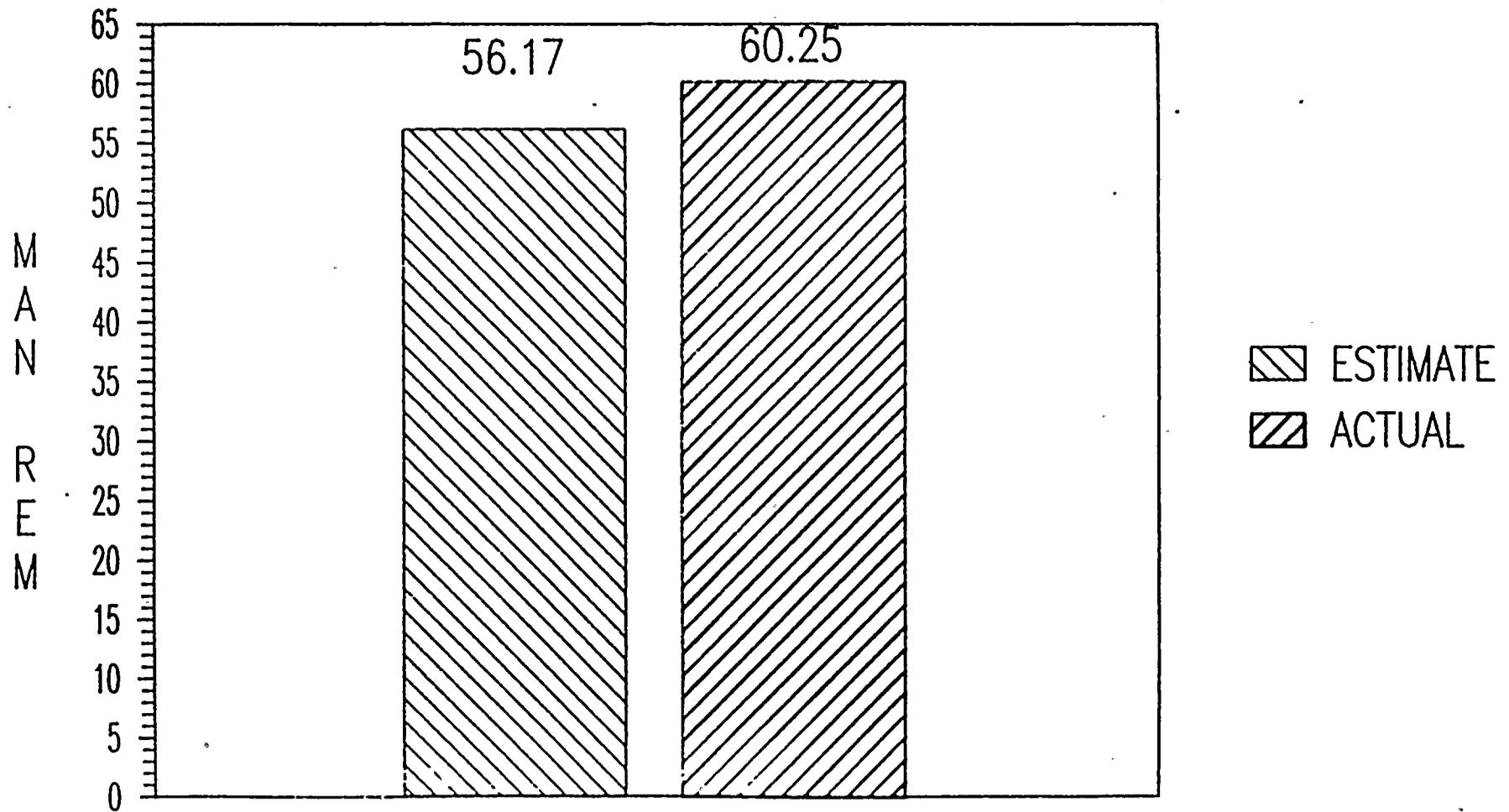


AS OF 4/21

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ALARA TRACKING #9005XX
B STEAM GENERATOR WORK



AS OF 4/21



EMERGENDY PREPAREDNESS
EVALUATION OF JULY 1989 SALP

Strengths

- Excellent EP Program

Concerns

- Procedure for iodine sampling
- Staffing

Overall

- Rating of "1"

Emergency Preparedness

Actions to Improve

- Emergency Preparedness initiatives included in Public Safety Strategy Implementation.
- Advance replacement for Corporate Nuclear Emergency Planner selected and in position. Former Shift Supervisor
- Will be filling Onsite Emergency Planner position shortly.
- Offsite procedures being consolidated into Plant PORC approved Emergency Planning Implementing Procedures (EPIPs) series.
- Event classification procedure (SC-100) being revised.
- Unified designation system for offsite survey team locations being implemented.
- Training of all groups coordinated through Division Training.
- Assessing use of new Training Center as staging area to reduce OSC congestion.
- Developing a Portable Portal Monitor with SAIC for use at Relocation Centers.
- Utilizing outside technical expertise to supplement audits.

Emergency Preparedness

Current Assessment

Strengths

- Dedication of management, EP Staff and all employees in maintaining a high level of emergency preparedness.
- Excellent spirit of cooperation with State and Local Governments in maintaining a high level of Emergency Preparedness.

Projects to be Completed

- Procedure enhancements.
- Onsite Emergency Planner.
- Training and preparations for 1990 Exercise.

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April 25, 1990
Page 1
B.A. Snow

NRC/RGE MEETING
MID-CYCLE SALP
II-E ENGINEERING AND TECHNICAL SUPPORT

RG&E UNDERSTANDING OF JULY 1989 SALP

. STRENGTHS

- FORMATION OF SEPARATE CORPORATE NUCLEAR ENGINEERING DEPARTMENT
- STAFFING ADDITIONS
- INNOVATIVE DESIGNS (S/G BUMPERS)
- S/G INSPECTION AND SLEEVING
- TECHNICALLY CAPABLE ENGINEERING STAFF

. CONCERNS

- ENGINEERING SUPPORT OF IST PROGRAM
- TRANSFER OF INFORMATION REGARDING MODIFICATIONS TO THE OPERATORS
- 10 CFR 50.59 PROCESS
- TIMELY MODIFICATION PACKAGES
- ENGINEERING PROGRAMS AND PROCEDURES

. OVERALL

- RATING "2"

1000

NRC/RGE MEETING
MID-CYCLE SALP
II-ENGINEERING AND TECHNICAL SUPPORT

ACTIONS TO IMPROVE

- ENGINEERING SUPPORT TO IST
 - FORMALLY ASSIGNED TO MECHANICAL ENGINEERING
 - DEDICATED ENGINEER
 - OVERSIGHT COMMITTEE
 - IMPROVED PROGRAMS/PROCEDURES
- IMPROVED TURNOVER PROCESS
 - MOD FOLLOW GROUP CHECK AT TURNOVER
 - OPERATIONS MANAGER SIGNOFF
 - IMPROVED TRAINING INFORMATION CONTROL
- 10 CFR 50.59 PROCESS
 - ORGANIZATIONAL TIES, ENG/GINNA INTEGRATING TECHNICAL REVIEWS
 - MAINTENANCE WORK CONTROL/MODIFICATIONS IDENTIFIED
- TIMELY MODIFICATION PACKAGES
 - IMPROVED ENGINEERING MANLOADED SCHEDULING PROCESS
 - CUT OFF DATES/MGMT APPROVAL
- ENGINEERING PROGRAMS AND PROCEDURES
 - INTERIM PROCEDURE CHANGES
 - NEED PROCEDURE UPGRADE PROGRAM (SCOPE, SCHEDULE, AND PLAN)

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NRC/RGE MEETING
MID-CYCLE SALP
II-E ENGINEERING AND TECHNICAL SUPPORT

. CURRENT ASSESSMENT

. STRENGTHS

- CONTINUATION - STRONG TECHNICAL STAFF/STAFFING
ADDITION PROGRAM PROGRESSING

. CONFIGURATION MANAGEMENT

- WORKING ON INTEGRATED SCHEDULE PER PREVIOUS
PRESENTATIONS
- SIGNIFICANT PROJECTS INCLUDE:
 - Q-LIST
 - P&IDs
 - ELECTRICAL DRAWING UPGRADE
 - VENDOR MANUAL PROJECT
 - CALIBRATION PROCEDURES
 - SETPOINT VERIFICATION
 - MAINTENANCE PROCEDURE UPGRADE
 - STANDARD NOMENCLATURE PROJECT
 - CMIS

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B.A. Snow

NRC/RGE MEETING
MID-CYCLE SALP
II-E ENGINEERING AND TECHNICAL SUPPORT

STRENGTHS

ENGINEERING SERVICES QUALITY PERFORMANCE

- . QUALITY PERFORMANCE INDICATORS (EXAMPLE ATTACHED)
 - AFCARS
 - CARs
 - ECNs
 - FCRs
 - IDRs
 - NCRs

- . ENGINEERING QUALITY REVIEW COMMITTEE
- . ENGINEER SUPPORT TO SECURITY
(TWO ENGINEERS ASSIGNED)
- . ENGINEERING FORMALLY INCLUDED IN PROCUREMENT
PROCESS (COMMERCIAL GRADE DEDICATION)



100

April 25, 1990
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B.A. Snow

NRC/RGE MEETING
MID-CYCLE SALP
II-E ENGINEERING AND TECHNICAL SUPPORT

OPPORTUNITY FOR IMPROVEMENT

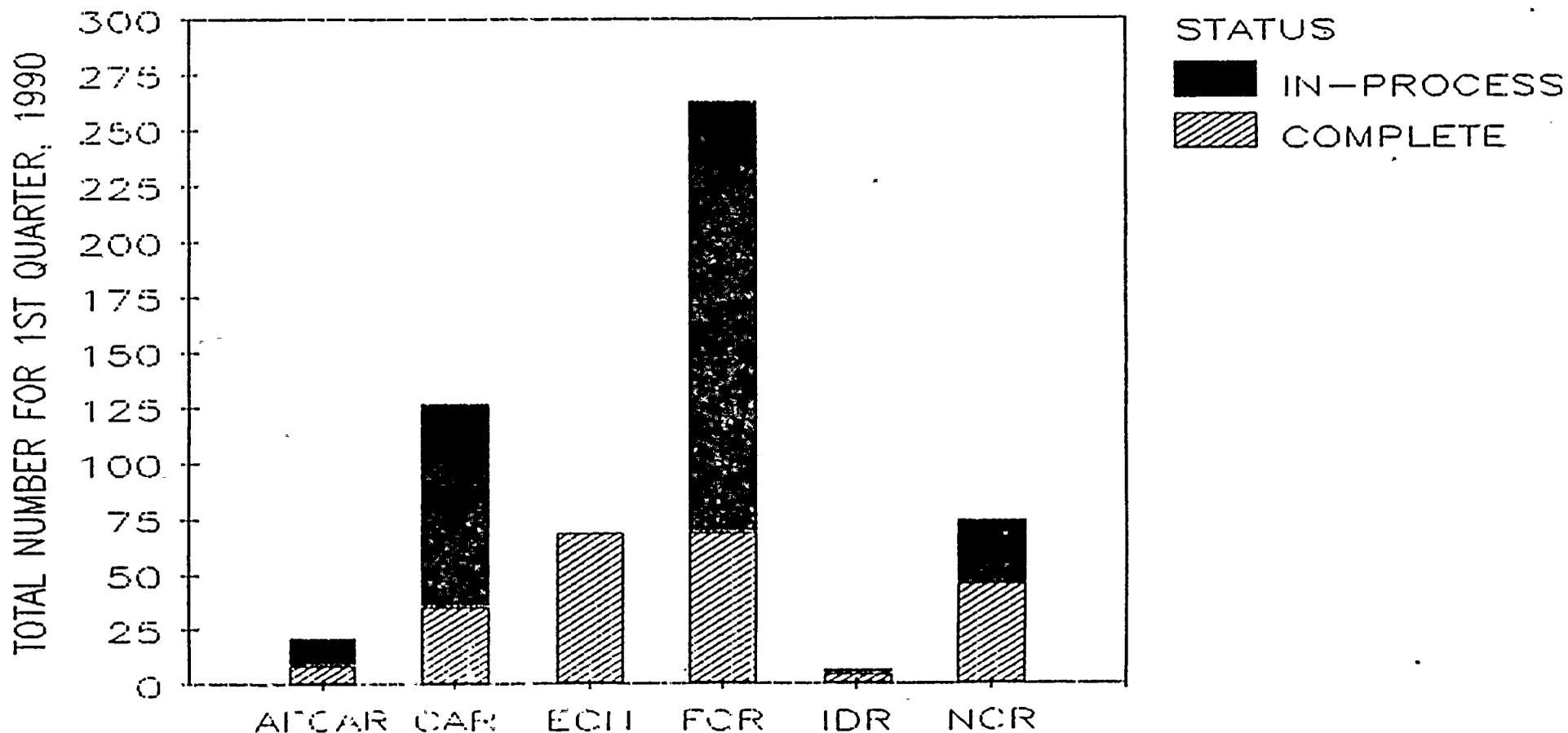
- COMMUNICATIONS - ENGINEERING/GINNA

- . INSPECTION REPORT 89-17
 - PROCEDURE UPGRADE
 - ENHANCES EXISTING SYSTEMS
 - STRESSES TIMELINESS

- . TO IMPROVE COMMUNICATIONS, ON-SITE ENGINEERING PERSONNEL
 - PROCUREMENT SUPPORT

- . PROCEDURES
 - UPGRADE PROGRAM NEEDED
 - OBJECTIVE TO PROVIDE ENGINEERING ASSURANCE
 - DESIGN STANDARDS FOR ENGINEERING DISCIPLINES

ROCHESTER GAS & ELECTRIC CORPORATION NUCLEAR ENGINEERING SERVICES 1st Quarter, 1990 Workload Overview



ENDING 1ST QTR, 1990

NRC/RG&E MEETING

MID-CYCLE SALP

APRIL 25, 1990

SECURITY

SECURITY

SALP FINDINGS - JULY 1989

STRENGTHS

- . EFFECTIVE ONSITE FORCE SUPERVISION OF PERSONNEL-RELATED ASPECTS OF SECURITY PROGRAM
- . STRONG TRAINING PROGRAM
- . GOOD MORALE - LOW TURNOVER
- . POSITIVE ATTITUDE TOWARD SECURITY BY PLANT PERSONNEL

WEAKNESSES

- . POSSIBLE LACK OF MANAGEMENT OVERSIGHT OF NEED FOR SECURITY SYSTEM UPGRADES AND MODERNIZATION
- . CONTRACT SECURITY FORCE STAFFING LEVELS
- . PROPRIETARY NUCLEAR SECURITY STAFF LEVEL
- . SECURITY PLAN OUTDATED
- . PHYSICAL SECURITY SYSTEMS AGING

OVERALL RATING "2"

53

SECURITY

REMEDIAL ACTIONS UNDERTAKEN AND ONGOING

CONTRACT SECURITY FORCE INCREASED

REORGANIZATION AND INCREASE IN PROPRIETARY SECURITY STAFF

SECURITY PLAN REVISION

PHYSICAL SECURITY SYSTEMS UPGRADE

ALL CCTV TUBE TYPE CAMERAS REPLACED

E-FIELD SYSTEM BEING MODIFIED AND ENHANCED

SYSTEM REVIEW AND EQUIPMENT UPGRADE

RISK MANAGEMENT

MANAGER
T.J. Powell

1 SECRETARY

DIRECTOR-SECURITY
W.K. Dillon

DIRECTOR-CLAIMS
D.J. Maher

DIRECTOR-INSURANCE
G.W. VanIngen

**SUPERVISOR
NUCLEAR PLANT SECURITY**
R.E. Wood

**SUPERVISOR
INVESTIGATION**
R.A. Stein

**1 CLERK TYPIST
1 TRAINEE**

**COORDINATOR
NUCLEAR SECURITY TRAINING**
M.J. Fowler
**NUCLEAR ACCESS
AUTHORIZATION ADMINTR.**
S.J. Eckert

**INVESTIGATOR
THEFT OF SERVICE**
J.R. Ehrhart, II
**STAFF INVESTIGATORS
THEFT OF SERVICE**
*S.G. Beechey
L.E. Maring*

CLAIMS REPRESENTATIVE
B.J. Litto

STAFF INVESTIGATOR
*R.W. Brown
P.W. Sullivan*

INSURANCE ANALYST
L.C. Estep

1 TRAINEE

**1 FIELD INVESTIGATOR
2 CLERK TYPISTS**

EXEMPT 15
NON-EXEMPT 7
TOTAL EMPLOYEES 22
10/1/89

SUPERVISOR
NUCLEAR PLANT SECURITY
R.E. Wood

COORDINATOR
NUCLEAR SECURITY TRAINING
M.J. Fowler

NUCLEAR ACCESS
AUTHORIZATION ADMINTR.
S.J. Eckert

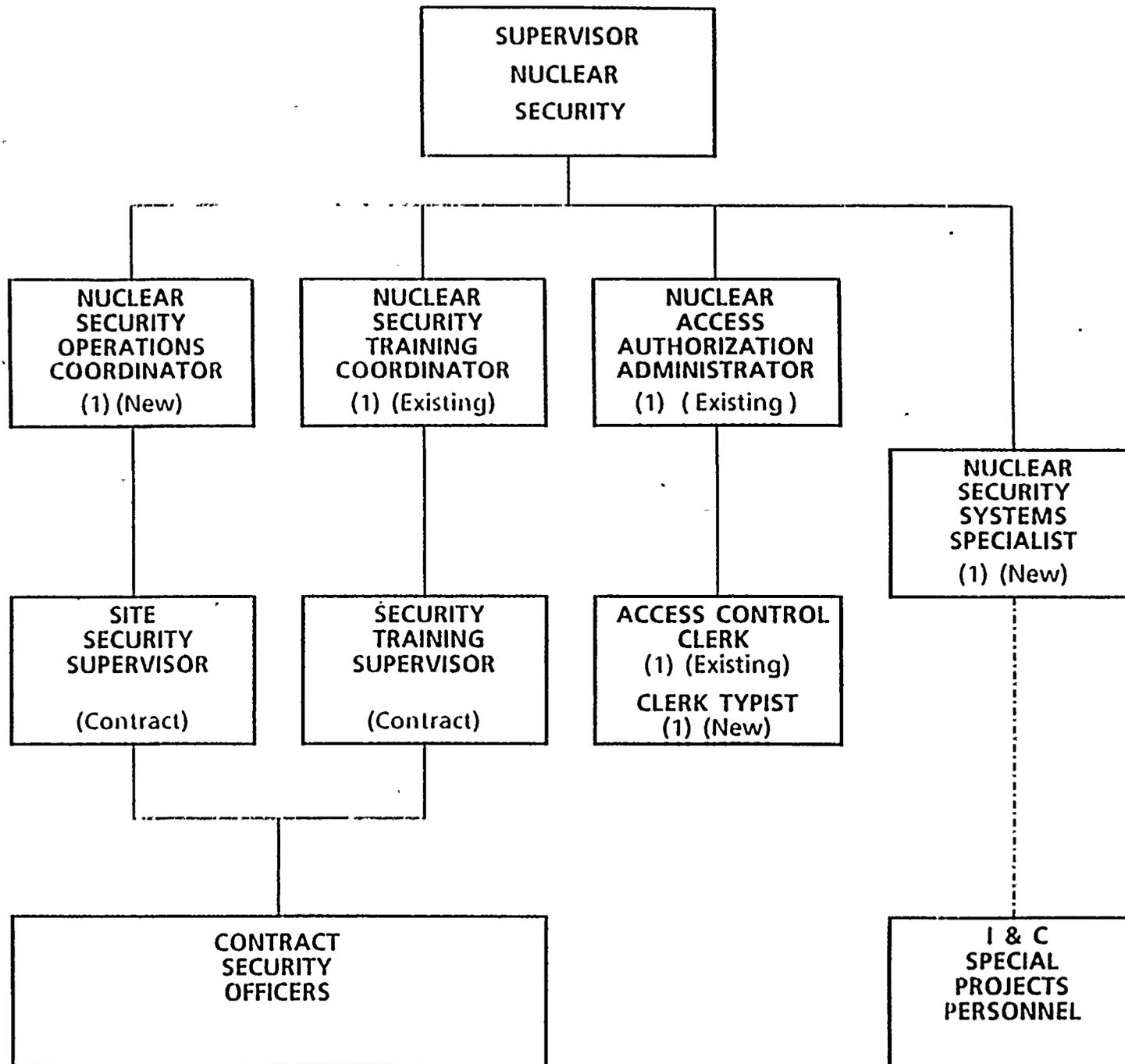
1 TRAINEE
(CLERK
CONTRACT)

CONTRACT
SITE SECURITY
SUPERVISOR

CONTRACT
TRAINING
SUPERVISOR

CONTRACT
SECURITY
OFFICERS

NUCLEAR SECURITY
ORGANIZATION
1/12/90
OLD





Safety Assessment/Quality Verification

RG&E Notes for Mid-Cycle SALP Review

April 25, 1990

RG&E
Quality Performance Department
4/24/90

11
21
31
41
51

July 1989 NRC SALP Evaluation of Safety Assessment/Quality Verification

RG&E understanding of July 1989 NRC SALP evaluation:

Strengths

- Licensing activities are of high quality (generally timely, technically sound, complete).
- Senior management involvement is a strength (for technical issues, promulgation of policy, etc.).
- A change in corporate philosophy resulted in initiation of programs.

Areas for Improvement

- Initiatives to improve quality organization credibility and utilization lost momentum when the QA/QC Director left the company in April 1989.
- QA department ineffectiveness was evidenced by poor corrective actions in some instances and failure of audits to identify problems.
- QA is not an effective tool of management.

Overall

- Rating of "2", with comments of concern expressed at August 1989 meeting.
- NRC recommended a meeting to discuss RG&E's approach to assure that the quality organization will be effectively used as a management tool (completed October 24, 1989).

Comments Concerning Licensing Activities During the SALP Period

- o Continued strength in high-quality and generally timely responses to NRC communications (Rules, Generic Letter, Bulletins, etc.). Some Tech Spec revisions took a long time to process at RG&E.
- o Good communication between Licensing and NRR Project Manager.
- o Timely coordination of ISI/IST submittals and relief requests.
- o Continuation of licensing enhancements for better integration of Plant/Engineering:
 - Q-list
 - Vendor Technical Manuals
 - Integrated Commitment Tracking
 - PRA
- o The addition of 8 engineers in Nuclear Safety and Licensing (2 by July, 6 contingent upon PSC rate case approval), with 2 working on licensing matters, will allow:
 - More timely communication between Engineering and Plant staff on potential problem areas (e.g., Control Room Switch)
 - Accelerated license amendment submittals
 - Comprehensive discrepancy resolution system, addressing CM/DBD findings

Actions to Improve QA Effectiveness Since May 1989

- o New Quality Performance Department formed (July 1989).
 - Combined QA/QC department with Materials Engineering and Inspection Services section.
 - New department manager and site QC manager.
 - Established two new positions: Senior Quality Performance Analyst and QC Inspection Foreman.
- o Staff expansion plan approved (October 1989).
 - QA/QC sections to grow from 22 RG&E employees to 41 employees by 1991, with less dependence on contractors. (Two thirds of the new positions contingent on July 1990 rate case approval.)
 - RG&E employees in QA/QC now total 25, with 4 additional job offers accepted.
- o QA Surveillance program implemented (January 1990).
 - Increase performance-based monitoring capability, supplementing more structured QC inspection/surveillance and QA audits.
 - 5 pilot QA Surveillances completed in 1989, 15 in first quarter 1990, and goal is 25 per quarter by end of 1990.
- o Management/QA communications have improved.
 - Meetings of QA/QC Subcommittee to NSARB have improved, with agendas focusing on big issues, better presentations, and distribution of a meeting notebook a week before the meetings.
 - Department Manager serves on Sr. VP Production and Engineering Staff, vs. direct report to President.

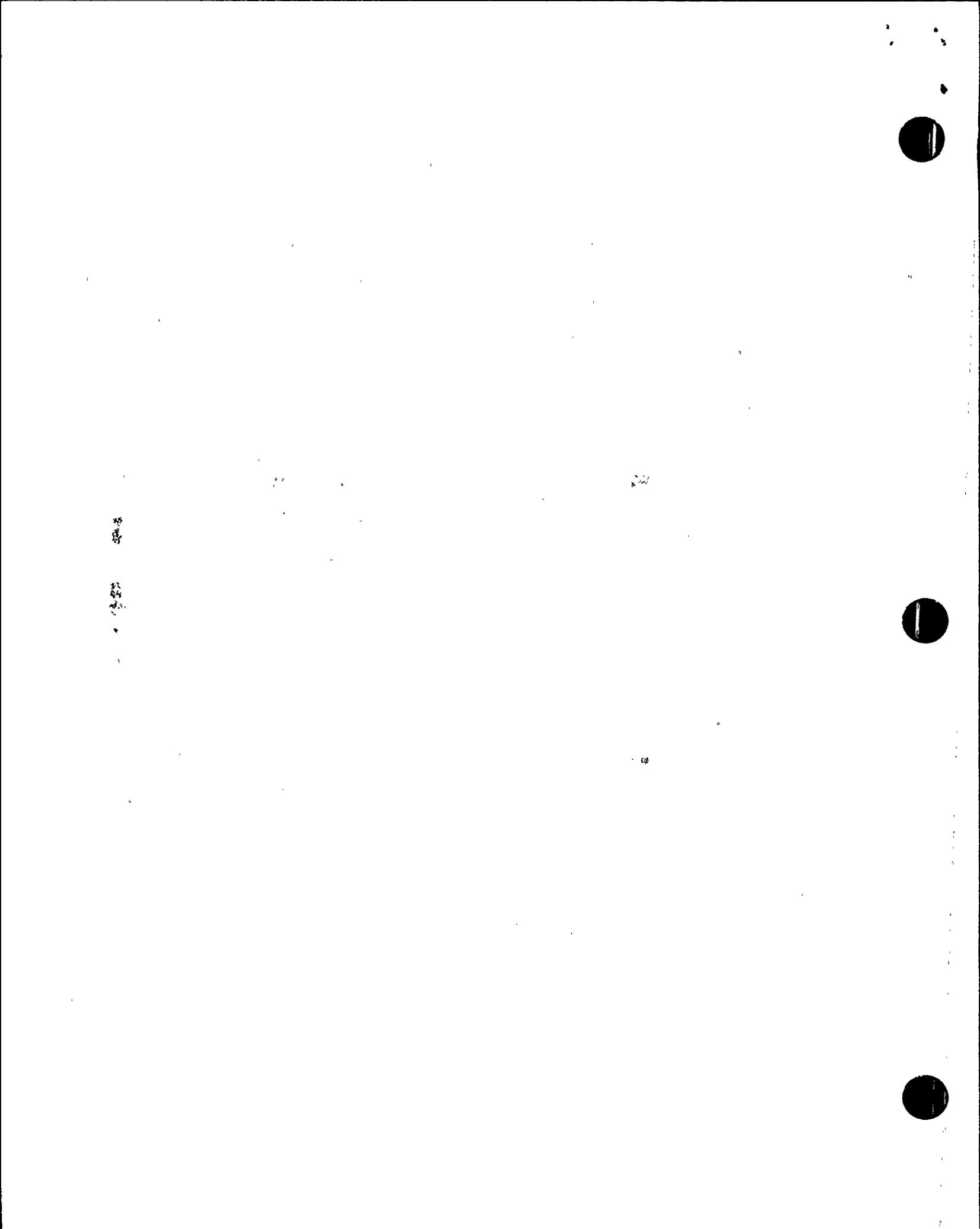
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- Department Manager has initiated joint management assessments with line management (e.g., forced outage critique; management effectiveness of meetings, task forces, and horizon of calendars; and staffing study).
 - Line management is making more requests of the QA group, particularly to review special issues in audits and surveillances.
- o Line organization/QA working relationships are improving, as QA/QC sections work to go beyond problem identification to become "part of the solution".
- Credibility of the organization has increased with new personnel, management endorsement, and the expansion of the organization.
 - Examples of becoming "part of the solution" working with line organizations:
 - i. A QA engineer supported of new site modifications contractor quality program implementation (October 1989).
 - ii. A technical coordinator to aid NSARB improvements and administration was assigned from the QA group (October 1989).
 - iii. The senior quality performance analyst has assisted the line organizations in software development of tracking systems (March 1990).
 - iv. A senior-QA engineer was assigned to the maintenance organization for the annual outage (February 1990).

The improvement in working relationships is greatest in the upper levels of the organization, with less impact at the working level.



Some Successes in Identifying and Initiating Fixes to Problems

The QA/QC sections personnel take considerable pride in their contributions to improved quality at Ginna.

When asked in a recent survey what were their most significant contributions in the past year, many QA/QC employees described programmatic improvements while others cited problem identification, with some examples of problems uncovered listed below:

- Audit by an Associate QA Engineer of ISI program in Fall 1989 uncovered several pressure testing issues needing resolution before the end of the second ten year interval, resulting in retest at this years outage in one instance.
- During QC Surveillance of steam generator tube sleeve ultrasonic testing, contract QC inspector noted that one tube was missed when another was tested twice, resulting in retest and improvements to reduce confusion during shift turnover.
- During QC Surveillance of safety-related service water pump repair, contract QC inspector noted use of non-QA material and no weld procedure, which was immediately corrected.
- During QC surveillance of diesel generator modification during annual outage, a QC inspector discovered an omission of independent verification and incomplete leakage testing before turnover to operations for acceptance testing.
- A QC inspector, focusing on consumables/chemical controls, noted that the adhesive heat tracing fiberglass tape applied in a modification to the stainless steel boric acid piping had not been qualified for chemical compatibility.

Some QA/QC employee responses praised the efforts of individuals in the line organization who made significant improvements to quality during the past year.



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RG&E View of Safety Assessment/Quality Verification Effectiveness
for the Current SALP Period

Strengths

- o Continuing strengths from the previous SALP period are the high quality of licensing activities and the strong involvement of senior management in technical and policy issues.
- o The cultural change to embrace "quality" in a broad sense, including more structured control of activities, has been accepted at the manager level and is now gaining wider acceptance in the balance of the experienced, well-qualified organization which formerly relied too much on informal controls.
- o Significant improvements have been made to the quality program, including a stronger organization, better communication of issues to management, and more extensive utilization of the organization by management.

Areas for Improvements

- o While self-identification of problems has improved, some issues continue to be identified first by outside agencies. Examples are:
 - Control of scaffolding modifications (IR 89-16).
 - Assuring fire brigade staffing commitments are met (IR-89-14).
 - Eating in HP counting room (IR 89-23 and INPO 6/89).
 - Dosimeters worn below waistline (IR 90-01).
- o For identified problems, the time and resources required to remedy the problems are sometimes underestimated. Target completion dates for activities are consequently missed, lowering the credibility of commitments to improvement reflected in the Ginna Strategic Plan and in discussions with outside agencies.
- o The quality organization has developed topical analyses of quality performance indicators, but parameters for periodic trending have yet to be selected and routinely distributed for management oversight.



NRC MEETING
APRIL 25, 1990
MID CYCLE SALP ASSESSMENT

CONCLUSIONS

- GOOD NUCLEAR SAFETY AND OVERALL PLANT PERFORMANCE
- MANAGEMENT COMMITMENT TO PERFORMANCE EXCELLENCE
- POSITIVE CULTURAL CHANGE TOWARD IMPROVEMENT
- PROGRAMMATIC IMPROVEMENT
- EMPHASIS ON FIRST LINE SUPERVISOR
- IMPROVING TREND QUALITY PERFORMANCE
- CORPORATE MANPOWER AND FINANCIAL COMMITMENT
- SENIOR MANAGEMENT INITIATIVES 1990

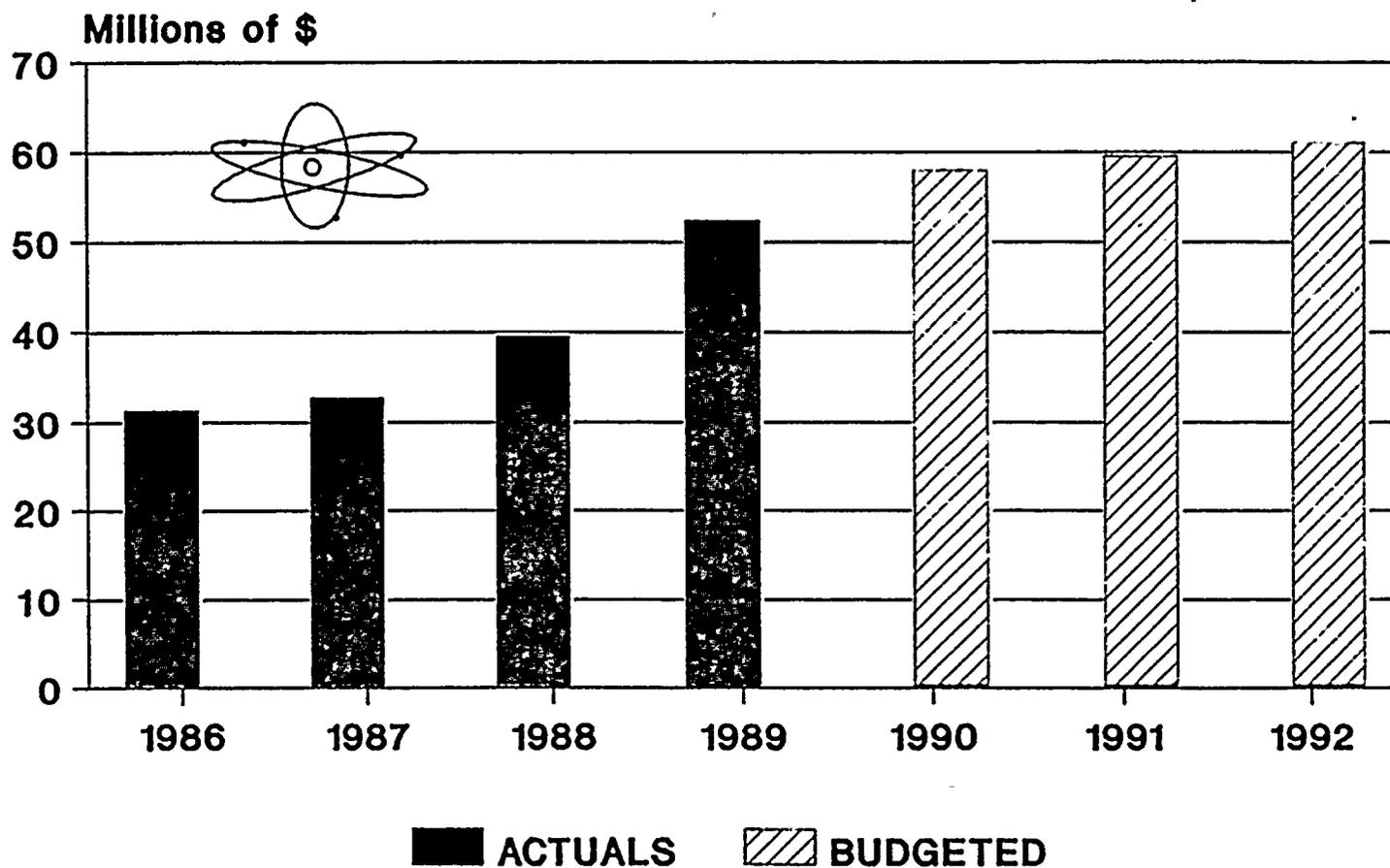
RG&E CORPORATE COMMITMENT
TO NUCLEAR QUALITY IMPROVEMENT

- o IMPLEMENTATION OF STRATEGIC PLAN
 - A SIGNIFICANT COMMITMENT TO IMPROVED GINNA PERFORMANCE
- o PROGRAMS INITIATED INCLUDE:
 - CONFIGURATION MANAGEMENT
 - Q LIST
 - MAINTENANCE PROCEDURE UPGRADE
 - ADMINISTRATIVE PROCEDURE UPGRADE
 - PLANT BETTERMENT
 - 50.59 REVIEW PROCESS
 - COMMITMENT TRACKING
 - PROCUREMENT UPGRADE
 - RELIABILITY CENTERED MAINTENANCE
- o INCREASED O & M AND CAPITAL EXPENDITURE LEVEL
- o INCREASED MANPOWER COMMITMENT TO SUPPORT GINNA



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Ginna O&M Expenditures 1986-1992



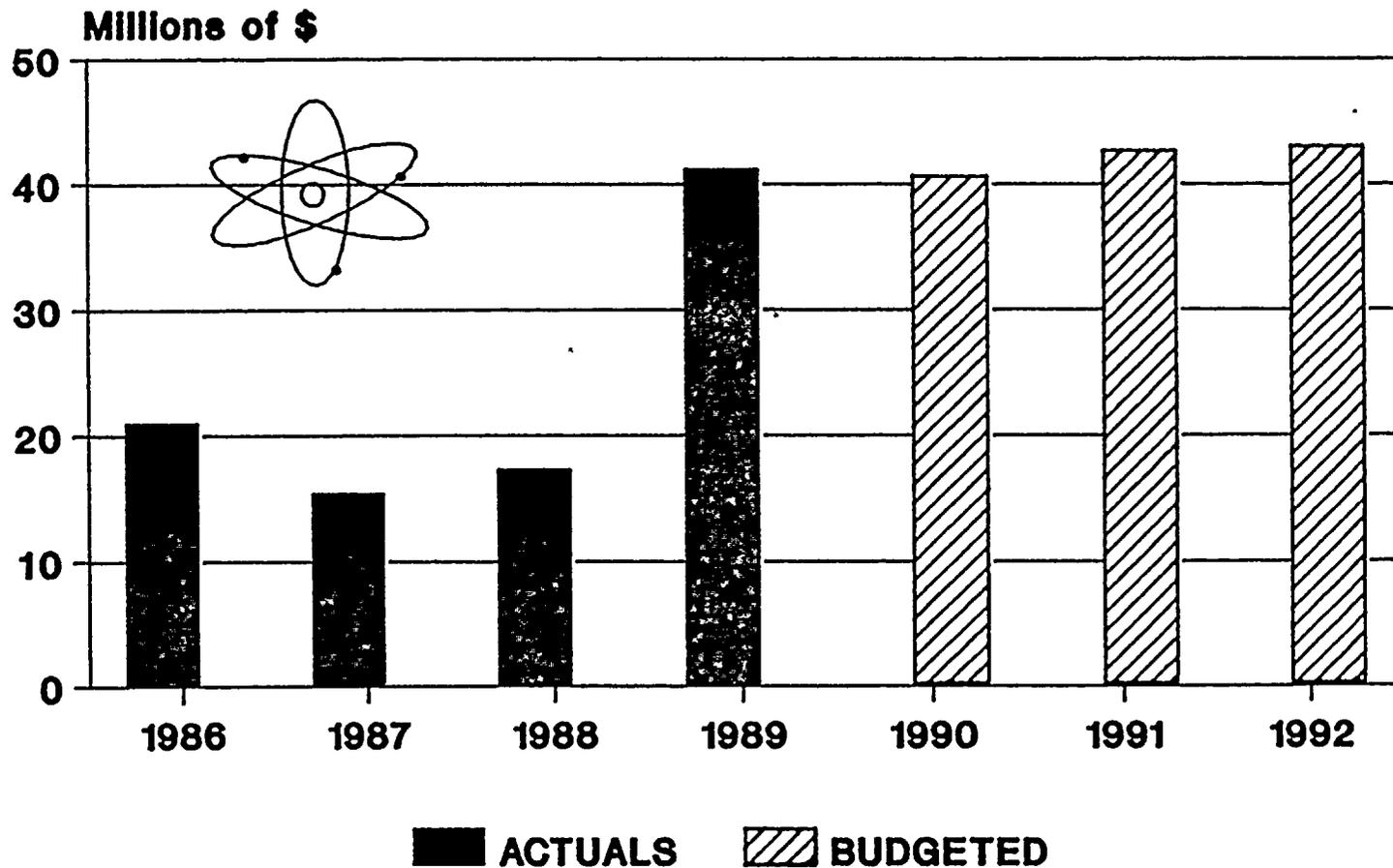
(Includes 42,43,49 & 50)
with benefits

March 14, 1990

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Ginna Station Capital Expenditures 1986-1992



March 9, 1990

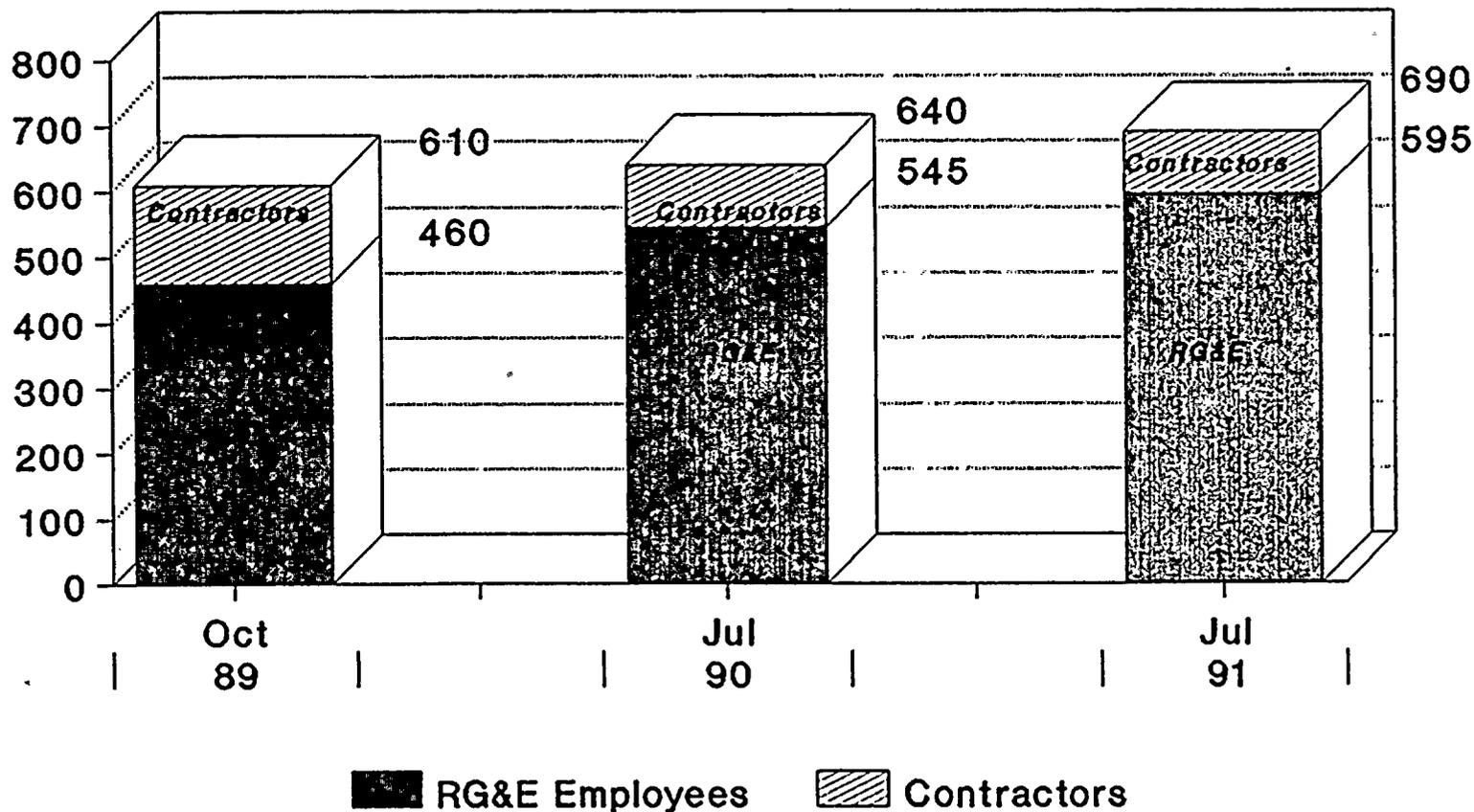
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Nuclear Staff Complement Plan October 1989 - July 1991



March 26, 1990

1990 SENIOR MANAGEMENT INITIATIVES

- o IMPLEMENT NUCLEAR DIVISION MANPOWER RESOURCE PLAN BY DECEMBER 1990
- o IMPLEMENT 1990 STRATEGIC OBJECTIVES
- o ENHANCE CAREER DEVELOPMENT AND SUCCESSION PLANNING WITH NUCLEAR DIVISION
 - SUCCESSION PLANNING
 - EDUCATION AND TRAINING CURRICULUM
 - SUPERVISOR AND PROFESSIONAL SKILLS TRAINING
- o ENHANCE QUALITY PERFORMANCE (QA/QC) EFFECTIVENESS
 - PERFORMANCE BASED SELF ASSESSMENTS
 - NSARB AND QA/QC SUBCOMMITTEE MANAGEMENT EFFECTIVENESS
 - QUALITY PERFORMANCE OPERATION PLAN FOR 1990

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