



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
601 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

March 26, 1999

Mr. Oliver D. Kingsley
President, Nuclear Generation Group
Commonwealth Edison Company
ATTN: Regulatory Services
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: PLANT PERFORMANCE REVIEW - QUAD CITIES

Dear Mr. Kingsley:

On February 1, 1999, the NRC staff completed a Plant Performance Review (PPR) of Quad Cities Nuclear Power Station. The staff conducts these reviews for all operating nuclear power plants to develop an integrated understanding of safety performance. The results are used by NRC management to facilitate planning and allocation of inspection resources. Plant Performance Reviews provide NRC management with a current summary of licensee performance and serve as inputs to the NRC's senior management meeting (SMM) reviews. Plant Performance Reviews examine information since the last assessment of licensee performance to evaluate long term trends, but emphasize the last 6 months to ensure that assessments reflect current performance. The PPR for Quad Cities involved the participation of all technical divisions in evaluating inspection results and safety performance information for the period of April 1, 1998, through January 31, 1999. The NRC's most recent summary of licensee performance was provided in a letter of January 30, 1998, and was discussed in a public meeting with you on February 17, 1998.

As discussed in the NRC's Administrative Letter 98-07 of October 2, 1998, the PPR provides an assessment of licensee performance during an interim period that the NRC has suspended its Systematic Assessment of Licensee Performance (SALP) program. The NRC suspended its SALP program to complete a review of its processes for assessing performance at nuclear power plants. At the end of the review period, the NRC will decide whether to resume the SALP program or terminate it in favor of an improved process. Your facility was selected to be a pilot plant for the new reactor oversight process. We will notify you of any associated changes to planned inspections by separate correspondence in the near future.

During this period, both units were in cold shutdown from 1997 until May 23, 1998, due to concerns with the ability to meet 10 CFR Part 50, Appendix R, safe shutdown requirements. Following implementation of Appendix R compensatory and corrective actions, operators commenced startup of the Unit 2 reactor on May 23, 1998, and synchronized the unit to the electrical grid on May 26, 1998. Operators synchronized Unit 1 to the grid on June 2, 1998.

The Unit 1 turbine generator was removed from operation on June 4, 1998, to repair pipe supports and several welds on the 1A moisture separator drain tank. The unit was

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synchronized back to the grid on June 5, 1998. The unit was operated at full power until June 27, 1998, when a reactor trip from full power occurred due to a failed scram discharge volume level transmitter coincident with a surveillance test. The unit was restarted and synchronized to the grid on June 30, 1998. Operations at or near full power continued with short downpower maneuvers until September 30, 1998, when an automatic reactor trip occurred during feedwater system maintenance. The reactor was restarted on October 1, 1998, and maintained at full power until it was shut down on November 7, 1998, for refueling. The refueling outage was completed in a ComEd record 28 days and the Unit was restarted on December 5, 1998. Unit 1 was operated near full power for the remainder of the period, with a restriction on recirculation flow due to a crack identified on a jet pump riser during the refuel outage.

On June 5, 1998, the Unit 2 turbine generator was removed from service to repair a combined intercept valve and again on June 14 to repair a turbine electrohydraulic control system leak. On June 28, Unit 2 tripped from full power due to a main generator trip. Operators returned Unit 2 to service on July 1. Operations at or near full power continued with short downpower maneuvers until October 1, when the Unit experienced erratic operation of the 2B feedwater regulating valve. The licensee reduced power and returned Unit 2 to full power with only the 2A feedwater regulating valve in service until October 8, when a short maintenance outage was conducted to repair a degrading 2B recirculation pump seal and the 2B feedwater regulating valve. The Unit returned to full power operations on October 12. Operators maintained Unit 2 at full power operation until November 8, 1998, when operators removed the Unit 2 main turbine from operation to repair a turbine control system hydraulic oil leak. The Unit was returned to operation and remained at power through the remainder of the period.

Overall, performance at Quad Cities was acceptable. Reactor operations, following restart of both units in May 1998, were conducted well, with an adequate safety focus. Subsequently, both units incurred scrams within 10 hours of each other on June 27 and 28, 1998. The related Unit restarts and all subsequent Unit startups were performed well with good communications and attention to operator activities. Response to plant transients resulting from equipment problems was also good. Areas of weakness continued to be configuration control problems, equipment failures, and out-of-service problems. A refueling outage for Unit 1 was completed December 5, 1998, in 28 days. This was the shortest refueling outage in ComEd history, and subsequent good operating performance by Unit 1 indicates the outage work was performed successfully.

Performance in operations was improving. There were a large number of challenges, including the startup of both units after extended outages, three automatic reactor scrams, several operational transients, numerous equipment problems, and a Unit 1 refueling outage. Operators, plant equipment, and plant personnel performed well in response to these challenges. However, operator errors, particularly related to configuration control problems, continued to occur at a relatively high rate and remained a station concern. Operator knowledge was generally high, although a deficiency in understanding the feedwater flow transmitter contribution to the reactor level control system resulted in a reactor scram. Improvement in execution of the surveillance test program was noted with no missed surveillance since February 1998. The station improved in the coordination of major evolutions,

as evidenced by the recent 28 day refueling outage on Unit 1. By assigning key people to a revamped outage organization and emphasizing teamwork and communications, the outage was completed 2 days under the goal. Self-imposed safety and radiological goals were also met for the outage. Weak areas in the conduct of operations included the continued high number of operational challenges as a result of deficient equipment and personnel errors. The region will perform the core inspection program in operations with regional initiative inspection focused on out-of-service errors, operator errors, configuration control concerns, and evaluations and actions for equipment problems. A specific operations assessment inspection to focus on configuration control problems, which was postponed from the previous PPR, is planned for June or July.

Performance in maintenance was improving. The licensee experienced numerous equipment problems which resulted in challenges to operators and affected system operations. Problem equipment included an erratic feedwater regulation valve, erratic intermediate range monitors, a degraded recirculation pump seal, and various turbine equipment problems. Problems also surfaced with failure to apply vendor manual information for the scram discharge volume level transmitters and the feedwater regulating valve hydraulic controller. A loss of an offsite power source and various turbine generator equipment problems were the result of poor quality of maintenance activities. The quality of maintenance activities also caused an increase in radiation dose to workers, and added to a low work completion rate. In contrast, licensee efforts to reduce the maintenance backlog were successful and resulted in a decrease from over 1000 work items in June 1998 to less than 500 at year end. The licensee restructured the outage organization, and emphasized teamwork and communications during the Unit 1 outage which resulted in completing the refueling outage in 28 days. Other positive findings included effective corrective actions to address missed surveillance and improvements in implementation of the Maintenance Rule. Implementation of corrective actions to address past problems had improved, but some longstanding problems continued. Augmented core inspection is planned to include a breaker maintenance inspection due to issues that occurred during the previous period. Regional initiative inspections will focus on maintenance errors, repetitive equipment problems, and material condition issues.

Performance in engineering was consistent. A lack of licensee understanding regarding the Appendix R safe shutdown methodology was identified in late 1997. As of May 1998, engineering efforts to address the issues resulted in a minimally acceptable analysis, with substantial NRC involvement required. Subsequent licensee efforts to better understand plant capabilities and cable routing have resulted in substantial improvement and a significant decrease in the plant risk associated with fire. Implementation of the modification process and the 10 CFR 50.59 process, since re-start of the units after the extended shutdown, had shown improvement. Since restart, the program at Quad Cities for identifying, resolving, and preventing problems had become much more effective than during the previous period.

Numerous problems with the original plant design were identified by the Architect/Engineer (A/E) inspection during the last PPR period and addressed by the follow up inspection during this period. The follow up inspection identified three no-response violations in the areas of: test control and the ability to demonstrate that the involved systems would perform satisfactorily in service, inadequate corrective action for a nonconforming condition on the residual heat

removal heat exchangers that had been identified in 1993, but not corrected until 1998, and inadequate design control, including work recently completed. Instances were identified where engineering did not properly address emergency diesel generator start failures and qualification of commercial grade relays. The Region will perform the core inspection program in engineering and work to schedule an Appendix R follow up inspection to evaluate licensee actions. Regional initiative inspection is planned to focus on licensee identification and treatment of design problems and engineering support to operations and maintenance. A specific initiative in inspection is planned for follow up on Generic Letter 96-01, "Testing of Safety-Related Logic Circuits."

Performance in plant support was consistent. Overall, plant support performance remained effective, although radiation protection and security performance issues were identified. Radiation protection and chemistry programs were effectively implemented; however, some performance and housekeeping deficiencies were noted. As-low-as-reasonably-achievable planning and radiological work controls were good for outage and non-outage activities. The emergency preparedness program had been effectively maintained in a state of operational readiness. Overall performance during the 1998 biennial emergency preparedness exercise was effective. Post-exercise critiques were self-critical, and identified appropriate strengths and weaknesses. Security force performance and equipment were generally effective and fundamentally sound, although vulnerabilities in vital area barrier and response capabilities were identified. Management controls, while generally effective in identifying and resolving problems, were not totally effective in resolving previous problems involving vehicle control and maintenance support, barrier integrity, and response requirements. No fire protection core inspections were performed during the assessment period. Minor documentation deficiencies were noted for fire watches. The region will perform the core inspection program in the area of plant support and regional initiative efforts will focus on dose reduction, radiological controls, and implementation of fire protection compensatory measures.

Enclosure 1 contains a historical listing of plant issues, referred to as the Plant Issues Matrix (PIM), that were considered during this PPR process to arrive at an integrated view of licensee performance trends. The PIM includes items summarized from inspection reports or other docketed correspondence between the NRC and ComEd. The NRC does not attempt to document all aspects of licensee programs and performance that may be functioning appropriately. Rather, the NRC only documents issues that the NRC believes warrant management attention or represent noteworthy aspects of performance. In addition, the PPR may also have considered some predecisional and draft material that does not appear in the attached PIM, including observations from events and inspections that had occurred since the last NRC inspection report was issued, but had not yet received full review and consideration. This material will be placed in the Public Document Room as part of the normal issuance of NRC inspection reports and other correspondence.

This letter advises you of our planned inspection effort resulting from the Quad Cities PPR review. It is provided to minimize the resource impact on your staff and to allow for scheduling conflicts and personnel availability to be resolved in advance of inspector arrival onsite. Enclosure 2 details our inspection plan for the next 6 months. The rationale or basis for each inspection outside the core inspection program is provided so that you are aware of the reason

for emphasis in these program areas. Resident inspections are not listed due to their ongoing and continuous nature.

The inspection schedule is subject to revision because of anticipated changes to the NRC's inspection program. We will promptly notify you of any changes to the inspection plan. If you have any questions, please contact Mark Ring at (630) 829-9703.

Sincerely,

Original signed by

Geoffrey E. Grant, Director
Division of Reactor Projects

Docket Nos. 50-254, 50-265
License Nos. NPF-29, NPF-30

- Enclosures: 1. Plant Issues Matrix
- 2. Inspection Plan

See Attached Distribution

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Region III
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PLANT ISSUE MATRIX

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
01/20/1999	1998023	Pri: OPS Sec:	NRC	MISC	Pri: 2A Sec: Ter:	Feedwater flow control problems continued on both units and have caused significant reactor water level transients. Problems with feedwater regulating valve control were similar to October 1998 failures. Licensee root cause investigations into problems with feedwater flow circuitry failures were continuing (Section O2.1).
01/20/1999	1998023	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: Ter:	The failure to recognize the increased risk condition and implement the required compensatory measures for the Unit 2 station blackout diesel generator maintenance was a notable weakness in risk management of on-line maintenance (Section O1.2).
01/20/1999	1998023	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: Ter:	Poor risk management of the Unit 2 station blackout diesel generator maintenance was not adequately addressed initially by the corrective action process (Section O1.2).
01/20/1999	1998023	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: Ter:	Unit 2 licensed core thermal power was exceeded by approximately 0.4 percent when power was increased, while a computer problem caused the core thermal power display to be inaccurate. Operators did not detect the computer problem for 3-1/2 hours. Identification and corrective actions for the problem centered on the computer program problems and did not address control room licensed operator panel monitoring deficiencies (Section O4.1).
01/20/1999	1998023	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: Ter:	Operator log deficiencies regarding the traversing in-core probe surveillance and local power range monitor adjustment were noted (Section M2.1).
01/20/1999	1998023	Pri: OPS Sec:	NRC	NEG	Pri: 1C Sec: Ter:	Scheduling changes to put the main generator on-line prior to high pressure coolant injection system operability testing required by Technical Specifications extended the time spent in the 12-hour limiting condition for operation (Section O1.3).
01/20/1999	1998023	Pri: OPS Sec:	NRC	NEG	Pri: 1C Sec: Ter:	During start-up from refueling outage Q1R15, senior management oversight in the control room became involved in turbine generator procedures and did not function in the independent oversight role as intended (Section O1.3).
01/20/1999	1998023	Pri: OPS Sec:	NRC	NEG	Pri: 5A Sec: Ter:	Nuclear Oversight, although present at the time, did not identify certain inspector concerns with high pressure coolant injection system limiting condition for operation management and senior management oversight in the Nuclear Oversight startup assessment from refueling outage Q1R15 (Section O1.3).
01/20/1999	1998023	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: Ter:	Generally, Unit 1 startup activities after refueling outage Q1R15 went well. (O1.3)

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01/20/1999	1998023-01	Pri: OPS Sec:	NRC	VIO IV	Pri: Sec: Ter:	On January 4, 1999, workers performed work specified by Nuclear Work Request 980123898 on the Unit 1 emergency diesel generator cooling water heat exchanger prior to the out-of-service tagout being hung.
12/01/1998	1998020	Pri: OPS Sec:	NRC	POS	Pri: 2A Sec: Ter:	Operators detected and responded appropriately to a leak in the Unit 2 electrohydraulic control system. The leak resulted in operators removing the turbine from service for a short time and reducing reactor power to approximately 30 percent of rated power, which was an unnecessary challenge to the operations staff. Licensee review indicated a maintenance error during a previous reassembly of the manifold may have caused the leak. Maintenance personnel repaired the leak.
12/01/1998	1998020-02	Pri: OPS Sec:	NRC	NCV	Pri: 2B Sec: 5A Ter:	Operators continued to identify equipment configuration errors, such as a stand by gas treatment switch in the wrong position and a diesel generator valve not in the proper configuration. In one instance, the licensee did not establish the necessary administrative controls to address the Technical Specification surveillance requirement for equipment inoperability. This resulted in a non-cited violation. The other configuration control events did not result in equipment inoperability.
12/01/1998	1998020-03	Pri: OPS Sec:	NRC	NCV	Pri: 3A Sec: Ter:	Operators on the refuel bridge generally adhered to established practices for moving fuel. However, problems with operator control of system configuration occurred. In two instances, the same refuel bridge crew failed to place a fuel bundle in the proper coordinates in the spent fuel pool. This was an indication that corrective actions were not properly implemented by the crew. The licensee's subsequent corrective actions for these events were appropriate.
10/14/1998	1998017	Pri: OPS Sec:	NRC	NEG	Pri: 1B Sec: Ter:	The inspectors concluded that poor practices in maintenance and out-of-service activities were the primary causes of the Unit 1 reactor trip. Poor review of the consequences of the maintenance activity, poor review of the out-of-service for the feedwater flow transmitter, use of operators vice instrument technicians for transmitter out-of-service activities, and limited understanding of feedwater flow control logic were contributors to the event.
10/14/1998	1998017	Pri: OPS Sec:	NRC	NEG	Pri: 5C Sec: Ter:	Peer group initiatives had been distributed to the sites and loaded into site wide planning databases. However, the departments generally did not use the Site Wide Integrated Operational Plan as a tool to accomplish and track specific peer group initiatives. While much progress had been made, several departments had failed to meet the site deadlines to ensure the department specific plans were in place. One initiative involving implementation of a new temporary modifications procedure was implemented without sufficient planning.
10/14/1998	1998017	Pri: OPS Sec:	NRC	WK	Pri: 3A Sec: Ter:	Operators performed well at the controls during a number of operational transients. However, operator sensitivity to equipment problems and poor performance in taking a flow transmitter out-of-service were considered weaknesses.
01/20/1999	1998023	Pri: MAINT Sec:	NRC	MISC	Pri: 2A Sec: Ter:	The licensee determined that the root cause for the "2A" control rod drive pump bearing failure was random, even though the "2A" pump had experienced higher than average failure rates. Some potential reliability concerns remained (Section M2.2).

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01/20/1999	1998023	Pri: MAINT Sec:	NRC	MISC	Pri: 2B Sec: Ter:	The licensee shifted many normal outage maintenance and surveillance activities to periods with the reactor operating. The licensee restructured the outage organization, and emphasized teamwork and communications during the outage. This resulted in the licensee completing the Unit 1 refueling outage in 28 days. This time was 2 days less than the station goal. A successful start-up was followed by sustained reactor operation (Section M1.3).
01/20/1999	1998023	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: Ter:	An unusually large number of pump performance issues developed during the period. Plant performance was not adversely affected by these problems. In the case of the "1B" condensate pump, foreign material intrusion into the system was likely a result of not properly implementing the station policy for foreign material exclusion (Section M4.1).
01/20/1999	1998023	Pri: MAINT Sec:	NRC	NEG	Pri: 3A Sec: Ter:	Several iterations of repair and re-identification occurred before the licensee corrected the ground on the 250 Volt direct current cabling. In addition, the licensee did not initially consider the additional repair efforts as a rework issue (Section M1.2).
01/20/1999	1998023	Pri: MAINT Sec:	NRC	NEG	Pri: 3A Sec: Ter:	Both the workers and the job supervisor on the 480 VAC Bus 18 breaker replacement failed to recognize the requirement to use the prescribed administrative controls during two procedure steps that were re-performed (Section M3.1).
01/20/1999	1998023	Pri: MAINT Sec:	NRC	NEG	Pri: 3B Sec: Ter:	The initial improper alignment of the "2A" control rod drive pump seal mechanism required rework and indicated that some technicians did not have adequate skills necessary to successfully execute the more complex tasks required on some plant equipment (Section M2.2).
01/20/1999	1998023	Pri: MAINT Sec:	NRC	POS	Pri: 2A Sec: Ter:	The station was taking appropriate actions to identify the cause of recent local power range monitor failures at both Quad Cities and Dresden. The overall material condition of the local power range monitor and traversing in-core probe systems was acceptable, with all identified deficiencies properly entered into the corrective action process (Section M2.1).
01/20/1999	1998023	Pri: MAINT Sec:	NRC	POS	Pri: 2B Sec: Ter:	Efforts to reduce the maintenance backlog were successful. The 1998 year-end goal for the number of non-outage corrective work requests was 499, and the station ended the year at 461; a significant decrease from over 1000 in June 1998 (Section M1.1).
01/20/1999	1998023	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: Ter:	Workers replaced the breaker on 480 VAC Bus 18 safely and in accordance with procedures. Coordination between electrical maintenance workers and operators was effective. The job supervisor provided good oversight of most work activities.
01/20/1999	1998023-02	Pri: MAINT Sec:	NRC	NCV	Pri: Sec: Ter:	Instrument maintenance technicians failed to ensure an isolation valve to a pressure detector was properly repositioned. This resulted in the Unit 1 high pressure coolant injection system being in a half-tripped condition for 17 days. A questioning attitude by an operator resulted in discovering the deficient condition (Section M4.2).

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12/18/1998	1998021	Pri: MAINT Sec:	NRC	NEG	Pri: 2B Sec: Ter:	Aggressive self-assessments of the ISI function effectively identified a number of issues. Implementation of corrective actions were slow, resulting in a significant amount of work yet to be accomplished. (Section M6.1)
12/18/1998	1998021	Pri: MAINT Sec:	NRC	POS	Pri: 3B Sec: Ter:	The personnel performing the NDE during RFO15 inspections were found to have proper qualifications, which had been reviewed by the licensee staff and the ANII. (Section M5.1)
12/18/1998	1998021-01	Pri: MAINT Sec:	NRC	VIO IV	Pri: 5C Sec: Ter:	A violation pertaining to the failure to request Code relief for multiple Unit 1 and Unit 2 weld examinations with limited coverage was identified. Timeliness of corrective actions for this issue, originally identified in 1997, was considered poor. In general, the informal and poorly controlled relief request process contributed to several ISI Program related problems. (Section M4.1)
12/01/1998	1998020	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: 2B Ter:	Licensee review of a forced turbine generator shutdown identified that a maintenance error during previous maintenance may have caused the leak on the electrohydraulic control system manifold to Number 4 control valve to occur
12/01/1998	1998020	Pri: MAINT Sec:	NRC	POS	Pri: 2B Sec: Ter:	The work activities observed were being performed in accordance with procedures. The workers were usually knowledgeable and applied proper measures to prevent foreign materials from entering equipment. Outage work control was effective in ensuring timely completion of work requests. Poor understanding and coordination of reactor recirculation pump seal work by maintenance workers resulted in a spread of contamination and personnel contamination
12/01/1998	1998020	Pri: MAINT Sec:	NRC	POS	Pri: 2B Sec: Ter:	The inspectors concluded that three different isolation and injection logic test procedures were appropriately reviewed, and the tests were executed without noticeable errors
12/01/1998	1998020	Pri: MAINT Sec:	NRC	POS	Pri: 5C Sec: Ter:	The licensee addressed four snubber test failures appropriately. The licensee's long term corrective actions to address snubbers exhibiting a shortened service life were planned for the next Unit 1 refueling outage. The plans included the performance of a modification to replace mechanical snubbers with hydraulic snubbers
12/01/1998	1998020-04	Pri: MAINT Sec:	NRC	NCV	Pri: 2B Sec: Ter:	The weekly Technical Specification surveillance test to verify the position of the reactor building to suppression chamber vacuum breakers was not adequate because only one of the two valves in each line was checked. Once the station identified the discrepancy, the valve positions were immediately verified, and the verification was added to the surveillance test program.
10/14/1998	1998017	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: Ter:	Equipment problems resulted in challenges to operators and/or affected system operations. Problems included a degraded recirculation pump seal, an erratic feedwater regulating valve, problematic intermediate range monitors and others. The licensee had not completed corrective actions for some recurring equipment problems including hydrogen water chemistry system tripping during condenser flow reversal and offgas system combustion outside of the recombiner on Unit 2

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10/14/1998	1998017	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: Ter:	Feedwater regulating valve problems caused significant operational transients on Unit 2 and were a contributor to the need for a unit shutdown to repair the system. Some problems discovered included failure to perform preventive maintenance on the frequency recommended by the vendor, failure to update the vendor manuals for the valves, use of oil other than that specified by the vendor, and presence of foreign material in the system. Investigative techniques were shallow at first, then improved after the fifth failure of the "2B" feedwater regulating valve to respond
10/14/1998	1998017	Pri: MAINT Sec:	NRC	NEG	Pri: 2B Sec: Ter:	Emergency light packs, installed to meet 10 CFR Part 50, Appendix R, requirements under the licensee's temporary alterations program, were not added to reference documents. This resulted in inadvertent battery pack discharge and failure to include the emergency light packs in the electrical maintenance quarterly inspection
10/14/1998	1998017	Pri: MAINT Sec:	NRC	NEG	Pri: 3B Sec: Ter:	Maintenance errors, due in part to personnel not familiar with the assigned task, adversely affected plant operations. An improperly revised procedure, identified during testing, required operators to enter into a 12-hour hot shutdown limiting condition for operation. Data obtained by instrument maintenance technicians during a control room ventilation surveillance test was incorrect. Mechanics disassembled the incorrect gauge glasses on the spent fuel pool demineralizers
01/20/1999	1998023	Pri: ENG Sec:	NRC	MISC	Pri: 4A Sec: Ter:	The licensee determined that a design change to the "1C" reactor feed pump flow transmitter resulted in a more accurate indication of feedwater flow and subsequently, more accurate indication of core thermal power. As a result, Unit 1 reactor power level was raised higher following the refueling outage, but could not reach full-rated power due to turbine-generator limitations. Planning for the design change did not anticipate the full effects on the turbine generator (Section E1.1).
01/20/1999	1998023	Pri: ENG Sec:	NRC	NEG	Pri: 5A Sec: Ter:	The licensee identified an undocumented jumper installed on a radwaste system relay. Initial corrective action was inadequate because a problem identification form was not promptly initiated. The licensee was unable to determine how the undocumented jumper was installed (Section E2.1).
12/18/1998	1998021	Pri: ENG Sec:	NRC	MISC	Pri: 4C Sec: Ter:	The ISI NDE procedures reviewed by the inspectors, were found to be in accordance with the ASME Code requirements. The inspectors observed three examples where ancillary plant procedural guidance did not fully support ISI Program activities. (Section M3.1)
12/18/1998	1998021	Pri: ENG Sec:	NRC	NEG	Pri: 4C Sec: Ter:	Lack of uniformity and sufficient detail in the documentation of previous examinations hampered efforts to determine crack growth. Examination efforts from RF014 failed to characterize the full extent of flaws in two recirculation system welds. (Section M1)
12/18/1998	1998021	Pri: ENG Sec:	NRC	POS	Pri: 4B Sec: Ter:	The inspectors concluded that the Unit 1 RF015 activities reviewed for the main steam and reactor vessel internal inservice inspections were implemented in an effective manner and that contract NDE activities were properly performed in accordance with the applicable ASME or industry standard requirements. The inspectors also concluded that the licensee had implemented the appropriate actions to mitigate the consequences of a cracked jet pump riser brace by training control room operators and implementing additional surveillances. The licensee demonstrated a good safety focus by limiting core flow during operation to minimize the growth rate of existing jet pump cracks. (Section M1.2 and M1.3)

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Date	Source	Functional Area	ID	Type	Template Codes	Item Description
12/18/1998	1998021	Pri: ENG Sec:	NRC	POS	Pri: 4C Sec: Ter:	Inservice inspection activities for Unit 1's refueling outage 15 were adequately implemented and properly performed. However, the identification of additional intergranular stress corrosion cracking in recirculation system piping provided further evidence that previous induction heat stress improvement efforts were ineffective. (Section M1.1)
12/18/1998	1998021	Pri: ENG Sec:	NRC	WK	Pri: 4C Sec: Ter:	The self-assessment for the "inservice inspection restoration effort" was considered an aggressive attempt to identify additional program problems, in response to problems previously identified by the NRC. However, corrective actions to address these inservice inspection program deficiencies have been delayed. The slow progress in resolving both NRC and self-identified problems indicated a lack of focus by licensee management.
11/06/1998	1998019	Pri: ENG Sec:	NRC	MISC	Pri: 4C Sec: Ter:	Service battery procedures allowed tightening of intercell connectors prior to testing, which potentially constituted pre-conditioning of the test; however, the team found no evidence that it had been done previously
11/06/1998	1998019	Pri: ENG Sec:	NRC	MISC	Pri: 5C Sec: Ter:	In response to the team's concern with respect to potential pre-conditioning of reactor core isolation cooling prior to surveillance testing, the licensee took thorough corrective actions to ensure no pre-conditioning due to venting would take place
11/06/1998	1998019	Pri: ENG Sec:	NRC	NEG	Pri: 3C Sec: Ter:	Several individuals were concerned with punitive actions that resulted from PIFs and did not support the process; however, this did not appear to impact the overall effectiveness of the corrective action process. The licensee corrective actions for this issue were prompt and comprehensive.
11/06/1998	1998019	Pri: ENG Sec:	NRC	NEG	Pri: 5A Sec: Ter:	Management expectation for Problem Identification Form (PIF) initiation was not being met by some staff members. The use of computers to initiate PIFs contributed to some individuals not generating PIFs. Other individuals did not have a clear understanding of management expectations of when a PIF should be written
11/06/1998	1998019	Pri: ENG Sec:	NRC	NEG	Pri: 5C Sec: Ter:	The ½ Emergency Diesel Generator (EDG) crankcase over pressure indication issue and elevated water and sediment concentrations in the Unit 1 EDG fuel oil tank both posed potential problems for the EDGs. Tracking and prioritizing of these issues until some level of resolution was verified appeared weak
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 4C Sec: Ter:	The 24 modifications reviewed by the team were adequately designed, installed, and tested. Justifications for delaying and canceling modifications were acceptable
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 4C Sec: Ter:	The 10 temporary modifications reviewed were well controlled, of good technical quality, and demonstrated engineering's responsiveness to plant issues; however, some temporary modifications were installed abnormally long (for four years or longer with one temporary alteration originally installed in 1992).

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Region III

PLANT ISSUE MATRIX

QUAD CITIES

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 4C Sec: Ter:	The 50.59 screenings and evaluations were determined to be complete and comprehensive.
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 4C Sec: Ter:	Recent 10 CFR 50.59 screenings (26) and safety evaluations (23) were reviewed and found to be of good quality except for some minor errors. The program for ensuring that trained and qualified personnel prepared and reviewed 50.59 screenings and safety evaluations was acceptable.
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 5A Sec: Ter:	For personnel involved in writing PIFs, specific feedback provided to individuals encouraged the corrective action process. In addition, the general feedback of PIFs and industry events to work groups appeared to heighten the groups awareness of potential problems and how to avoid them.
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 5A Sec: Ter:	The audit and assessment program was acceptable. The audit and assessments conducted by Nuclear Oversight appeared to be effective in identifying and correcting significant issues.
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 5A Sec: Ter:	The System Health Indicator Program was an excellent assessment process for evaluating system status and identifying problem areas to management. The reports were informative and provided good information to management on the status and availability of plant systems and components.
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 5B Sec: Ter:	The PORC was functioning well. PORC comments contributed to the technical quality of temporary modification, TA 98-2-028 - Leaking Reactor Recirculation Sample Line Relief Valve. Reviews of items were thorough and additional corrective actions were required prior to committee approval for rejected packages.
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 5B Sec: Ter:	The team concluded that previous reviews, as evidenced in the off-site review committee quarterly trend reports and monthly committee review reports, indicated good performance by off-site review in the identification of problems, weaknesses and trends. However, since the quarterly trend reports and the monthly committee review reports had been discontinued since April, 1998, the team was unable to assess current performance.
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 5C Sec: Ter:	The team concluded that the licensee had made adequate progress in the implementation of selected strategic reform initiatives.
11/06/1998	1998019	Pri: ENG Sec:	NRC	POS	Pri: 5C Sec: Ter:	The corrective action methods in place were good and, in most cases, were effective in addressing corrective action issues. The Events Screening Committee and the Corrective Action Review Board functioned well and actions were thorough and effective.

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By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
11/06/1998	1998019	Pri: ENG Sec:	NRC	STR	Pri: 5B Sec: Ter:	The team considered the licensee's systematic approach to locating DC grounds to be a strength
11/06/1998	1998019	Pri: ENG Sec:	NRC	WK	Pri: 4C Sec: Ter:	The 10 calculations reviewed were acceptable; however, the team considered changing the installed position of thermal overloads without a design review a weakness
11/06/1998	1998019-01	Pri: ENG Sec:	NRC	VIO IV	Pri: 4C Sec: Ter:	The Unit 2B reactor building floor drain sump pump was installed as a TA 92-2-140 issued on October 23, 1992, in accordance with procedure No. QAP 0300-12, "System Temporary Alterations," Revision 33. The TA required verification that the sump pump start on high sump level and trip on low level, which were specified in UFSAR, Section 9.3.3.4; however, no testing was performed to verify these functions.
11/06/1998	1998019-02	Pri: ENG Sec:	NRC	NCV	Pri: 5C Sec: Ter:	Further examples of an earlier escalated violation related to inadequate design control resulted in a violation being identified. However, for this violation, the NRC exercised discretion in accordance with the Enforcement Policy and refrained from issuing a citation.
11/06/1998	1998019-03	Pri: ENG Sec:	NRC	NCV	Pri: 5C Sec: Ter:	A non-cited violation was identified for three cases of licensee identified, non-repetitive, and corrected errors in the loss of coolant accident analysis
11/06/1998	1998019-04	Pri: ENG Sec:	NRC	VIO IV	Pri: 4B Sec: Ter:	A no response violation was identified for failure to promptly evaluate a previously identified concern with the heat removal rate of the RHR heat exchangers and to take corrective actions in a timely manner
11/06/1998	1998019-05	Pri: ENG Sec:	NRC	VIO IV	Pri: 4A Sec: Ter:	A no response violation was identified for failure to adequately translate or verify design information into design documents in that, documentation of design bases information was inconsistent with actual plant design, and failure to verify and check the adequacy of design
11/06/1998	1998019-06	Pri: ENG Sec:	NRC	NCV	Pri: 5A Sec: 5C Ter:	A non-cited violation was identified for licensee identified, non-repetitive, and corrected errors in the EDG loading analysis
11/06/1998	1998019-07	Pri: ENG Sec:	NRC	VIO IV	Pri: 4A Sec: Ter:	Discrepancies between plant as-found conditions and the plant licensing basis resulted in a violation being identified. However, for this violation, the NRC exercised discretion in accordance with the Enforcement Policy and refrained from issuing a citation

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By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
10/14/1998	1998017	Pri: ENG Sec:	NRC	NEG	Pri: 5C Sec: Ter:	The inspectors found that certain deficiencies with Appendix R procedures were temporarily corrected by the licensee in a manner that could adversely affect operation of safety equipment
10/14/1998	1998017	Pri: ENG Sec:	NRC	POS	Pri: 4C Sec: Ter:	The modification to the reactor vessel level instrumentation system to provide continuous backfill was installed in accordance with design documents and met the requirements of NRC Bulletin 93-03. Procedures for the operation and testing of the system were properly implemented
10/14/1998	1998017	Pri: ENG Sec:	NRC	WK	Pri: 4C Sec: Ter:	Implementation of the new temporary modifications procedure to replace the old temporary alterations procedure was weak. There was inadequate review to ensure that supporting procedures were screened and revised to coordinate with the requirements of the new procedure. Insufficient time and attention was given to train operators prior to the implementation of the new procedure
02/05/1999	1999004	Pri: PLTSUP Sec:	NRC	MISC	Pri: 1C Sec: Ter:	The licensee's 1997 and 1998 EP program audits satisfied the requirements of 10 CFR 50.54(f). (Section P7)
02/05/1999	1999004	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Reviewed sections of the emergency plan and implementing procedures were adequately detailed. (Section P3)
02/05/1999	1999004	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The EP training program was effective. Selected key emergency response organization (ERO) personnel demonstrated competent knowledge of emergency responsibilities and procedures. The site training matrix differed from the corporate matrix, adding a requirement for training of nuclear engineers. This training had inadvertently been missed in 1998. Procedure changes rectified the discrepancy. All other personnel reviewed were qualified for their emergency response positions. Significant efforts had been expended in proceduralizing and providing the Severe Accident Management (SAM) training modules. (Section P5)
02/05/1999	1999004	Pri: PLTSUP Sec:	NRC	POS	Pri: 2A Sec: Ter:	The inspected emergency response facilities, equipment, and supplies were well-maintained. Equipment performed very well when demonstrated. (Section P2.1)
02/05/1999	1999004	Pri: PLTSUP Sec:	NRC	STR	Pri: 1C Sec: Ter:	Overall, the EP program had been effectively maintained in a state of operational readiness. Interviews of key emergency response personnel demonstrated competent knowledge of responsibilities and emergency procedures. (X1)
01/29/1999	1999002	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The radiological environmental monitoring program was well implemented. Environmental sample results did not indicate any discernable environmental effects from plant operations (Section R1.2).

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Date	Source	Functional Area	ID	Type	Template Codes	Item Description
01/29/1999	1999002	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Surveillance and calibrations of the meteorological tower were properly performed. The meteorological equipment was maintained in good condition (Section R2.1).
01/29/1999	1999002	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The instrument quality control program was well implemented, with evaluations and corrective actions performed when warranted. The station performance was good regarding the inter-laboratory cross check programs and effective evaluations were performed for analysis discrepancies (Section R7.1).
01/29/1999	1999002	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The audits and self-assessments were of sufficient depth to identify deficiencies and areas where improvements could be made, and that corrective actions were appropriate (Section R7.2).
01/29/1999	1999002	Pri: PLTSUP Sec:	NRC	POS	Pri: 3B Sec: Ter:	Chemistry technicians were knowledgeable regarding sampling and analysis procedures and demonstrated good sampling techniques. The chemistry technician training program was well implemented (Section R4.1 and Section R5.1).
01/29/1999	1999002	Pri: PLTSUP Sec:	NRC	STR	Pri: 1C Sec: Ter:	The staff's control of plant water chemistry continued to be good and was effective in reducing corrosive impurities in reactor water. In addition, the licensee was planning to implement soluble metal injection to enhance corrosion control and lower station dose rates (Section R1.1).
12/18/1998	1998024	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The inspector determined that two security plan changes that were implemented by the licensee since December 1997 did not decrease the effectiveness of the security plan.
12/18/1998	1998024	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Security training activities were accurately documented and conducted in an appropriate and sound manner.
12/18/1998	1998024	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Licensee audit and self-assessment activities regarding the security program were properly implemented. The licensee's plant wide problem identification and corrective action tracking program was generally effective. However, discrepancies were identified in the security area regarding the documentation of security equipment failures. Licensee action was initiated to address this issue. The licensee's security department's internal corrective action tracking system was effective.
12/18/1998	1998024-02	Pri: PLTSUP Sec:	NRC	VIO IV	Pri: 1C Sec: Ter:	The inspector identified a violation in which armed response force personnel were routinely assigned fire watch duties that prevented them from immediately responding to security events. Licensee security management's effectiveness and controls were not effective in this case because they did not recognize that response capabilities had been reduced. Effective and timely corrective action was implemented.

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By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
12/04/1998	1998022	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The radiation protection staff effectively evaluated planned work activities, successfully integrated past performance to prepare dose estimates and goals for the Unit 1 refueling outage, and effectively monitored outage dose. ALARA plans were detailed and included lessons learned from previous evolutions
12/04/1998	1998022	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The inspector concluded that the station was effectively planning and coordinating work to reduce the source term and overall station dose
12/04/1998	1998022	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Radiation protection staff provided effective oversight and control of the drywell insulation activities. Radiation worker practices were good
12/04/1998	1998022	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The qualifications of the new health physics superintendent exceeded the requirements of Technical Specification 6.3 for education and work experience
12/04/1998	1998022-01	Pri: PLTSUP Sec:	NRC	NCV	Pri: 1C Sec: Ter:	The radiation protection staff improperly removed the postings for two high radiation areas in the Unit 1 Reactor Building basement which resulted in a Non-Cited Violation. Specifically, the staff failed to barricade and post the basement entrances to the residual heat removal rooms as high radiation areas in accordance with Technical Specifications
12/04/1998	1998022-02	Pri: PLTSUP Sec:	NRC	NCV	Pri: 1C Sec: Ter:	A Non-Cited Violation was identified for an individual exceeding the accumulated daily dose limit of the reactor head disassembly/assembly radiation work permit. The failure of radiation protection technicians to provide effective oversight of work activities and ineffective communications between involved parties contributed to this incident
12/01/1998	1998020	Pri: PLTSUP Sec:	NRC	NEG	Pri: 1C Sec: 3B Ter:	One event involving poor maintenance worker knowledge that a line being cut contained reactor coolant water resulted in the spread of contamination and a personnel contamination
10/14/1998	1998017	Pri: PLTSUP Sec:	NRC	NEG	Pri: 1C Sec: Ter:	The inspectors identified several instances where hoses that crossed contaminated boundaries were not taped at the boundary. The inspectors also identified an instance where the calibration date displayed on a Geiger-Muller detector in use, had expired
09/18/1998	1998018	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Security equipment was maintained in an effective manner and performed its designed function (Sections S1 and S2). Security force personnel demonstrated proper knowledge of security responsibilities and performed their duties in an effective manner. (Section S4.1)

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By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
09/18/1998	1998018-01	Pri: PLTSUP Sec:	NRC	NCV	Pri: 1C Sec: Ter:	The licensee demonstrated aggressive action concerning problem identification and timely implementation of corrective actions related to three different types of licensee-identified errors committed by plant personnel that involved the failure to deactivate security badges in timely manner. Each failure was determined to be a non-cited violation. (Section S4.2)
09/18/1998	1998018-02	Pri: PLTSUP Sec:	NRC	NCV	Pri: 1C Sec: Ter:	The licensee demonstrated aggressive action concerning problem identification and timely implementation of corrective actions related to three different types of licensee-identified errors committed by plant personnel that involved the failure to deactivate security badges in timely manner. Each failure was determined to be a non-cited violation. (Section S4.2)
09/18/1998	1998018-03	Pri: PLTSUP Sec:	NRC	NCV	Pri: 1C Sec: Ter:	The licensee demonstrated aggressive action concerning problem identification and timely implementation of corrective actions related to three different types of licensee-identified errors committed by plant personnel that involved the failure to deactivate security badges in timely manner. Each failure was determined to be a non-cited violation. (Section S4.2)
09/18/1998	1998018-04	Pri: PLTSUP Sec:	NRC	VIO IV	Pri: 1C Sec: Ter:	Inadequate vital area barrier. NRC'S review of an issue identified in February 1997, resulted in a violation that a barrier, at the point of penetration to a vital area does not meet licensee security plan commitments concerning barrier integrity and bullet-resistance. Compensatory measures were implemented but the licensee contended that security plan commitments regarding barrier effectiveness were properly implemented. (Section S8.1)
08/14/1998	1998016	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Overall, the external exposure control program was being effectively implemented in accordance with station procedures and regulatory requirements. Radiation Protection (RP) staff were knowledgeable of procedures and processes. However, several minor deficiencies regarding procedure adherence and record keeping were identified. These deficiencies were being evaluated and corrected by RP management
08/14/1998	1998016	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	In-vitro and In-vivo analyses were being performed properly and were consistent with industry standards. However, the inspectors questioned whether a decrease in the frequency of quality control checks for the whole body counter would provide sufficient QC data to obtain an accurate indication of detector performance. This was being evaluated by the licensee
08/14/1998	1998016	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Air sampling was conducted consistent with NRC regulations and industry practice. Air samplers were well maintained and workers were observed correctly performing air sampling activities. However, there were several minor examples identified where procedural guidance needed additional clarification and where mistakes in air sampling records had not been identified through licensee supervisory reviews
08/14/1998	1998016	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The routine contamination and dose rate survey program was effectively implemented. Surveys were performed as required and appropriately documented. A technician observed during the inspection was knowledgeable of the procedure and the area to be surveyed, and demonstrated good survey techniques
08/14/1998	1998016	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	High and locked high radiation areas were well controlled and were maintained in good condition with only minor housekeeping problems observed. Workers were familiar with access control requirements and RP staff was observed reinforcing these expectations in work areas

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By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
08/14/1998	1998016	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Radiological postings and container labeling were well maintained, and appropriately informed workers of current plant radiological conditions. Overall, housekeeping was good, except for the laundry-tool decon building maintenance decontamination air 2. In addition, drain hoses from heat exchangers in the Unit 2 reactor building were not properly secured and were inconsistently labeled.
08/14/1998	1998016	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Radiological controls for the Units 1 and 2 spent fuel pool work were effective. The As-Low-As-Reasonably-Achievable (ALARA) plan appropriately addressed past lessons-learned, potentially high radiological conditions and included reasonable contingency plans. The subsequent shipping of the material removed from the pool was also well conducted
08/14/1998	1998016	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Radiological controls implemented for the demineralizer filter element replacement were effective. The radiation work permit appropriately addressed radiological concerns and included ALARA pre-job briefing notes. Radiation protection technicians and workers demonstrated good communication and radiation worker practices
08/14/1998	1998016	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	The licensee implemented good ALARA controls for the movement of highly activated components in the spent fuel pool and took prompt and effective actions after higher than expected dose rates were encountered during the job

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 By Primary Functional Area

Legend

Type Codes:

BU	Bulletin
CDR	Construction
DEV	Deviation
EEI	Escalated Enforcement Item
IFI	Inspector follow-up item
LER	Licensee Event Report
LIC	Licensing Issue
MISC	Miscellaneous
MV	Minor Violation
NCV	NonCited Violation
NEG	Negative
NOED	Notice of Enforcement Discretion
NON	Notice of Non-Conformance
P21	Part 21
POS	Positive
SGI	Safeguard Event Report
STR	Strength
URI	Unresolved Item
VIO	Violation
WK	Weakness

Template Codes:

1A	Normal Operations
1B	Operations During Transients
1C	Programs and Processes
2A	Equipment Condition
2B	Programs and Processes
3A	Work Performance
3B	KSA
3C	Work Environment
4A	Design
4B	Engineering Support
4C	Programs and Processes
5A	Identification
5B	Analysis
5C	Resolution

ID Codes:

NRC	NRC
Self	Self-Revealed
Licensee	Licensee

Functional Areas:

OPS	Operations
MAINT	Maintenance
ENG	Engineering
PLTSUP	Plant Support
OTHER	Other

EEIs are apparent violations of NRC Requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EEIs and the PIM entries may be modified when the final decisions are made.

URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. A URI may also be a potential violation that is not likely to be considered for escalated enforcement action. However, the NRC has not reached its final conclusions on the issues, and the PIM entries may be modified when the final conclusions are made.

PLANT ISSUES MATRIX

Quad Cities

3/24/1999

Search Sorted by Date (Descending) and SMM Codes (Ascending): Search Column = "SALP" ; SALP Area = "All/Multiple" ; Beginning Date = "12/21/1997" ; Ending Date = "10/1/1998"

#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
1	9/30/1998	*****	morning report	Self- Revealed	All/Multiple	1B	Unit 1 scrambled at 2:06 a.m. CDT on September 30, 1998 due to low reactor water level. Previously, equipment operators were in the process of removing the "A" reactor feed pump from service, ("B" and "C" reactor feed pumps were providing feedwater). While performing the out-of-service tagout, the equipment operators valved out the "A" reactor feedwater flow transmitter. The transmitter apparently generated a full flow indication signal for the "A" feedwater pump which was provided to the feedwater control system, causing an indicated feedwater flow much higher than steam flow. With the reactor feed system in three-element control, the feedwater control system began reducing actual flow. A computer alarm alerted control room operators to the decrease in feedwater flow. The reactor scrambled automatically on low reactor water level. The reactor feed system was taken to single element control and feedwater regulating valves opened in response. Reactor water level decreased as low as -20 inches (108 inches above top of active fuel, normal level is 30 inches) before rebounding. A reactor feedwater pump trip occurred at on high reactor water level (about 48 inches). Reactor water level increased above 60 inches before returning to normal.
2	1/30/1998	Misc	IR 97001.SLP IR 97001.SLP	NRC	All/Multiple	** **	The functional areas of Operations and Plant Support were rated as Category 2. The areas of Maintenance and Engineering were rated as Category 3. Although the ratings were the same as in SALP 13, it is my view that conduct of nuclear activities in connection with the Quad Cities facility declined from the previous assessment period.

GENERAL DESCRIPTION OF P/M TABLE LABELS

#	A counter number used for NRC internal editing.
DATE	The date of the event or significant issue. For those items that have a clear date of occurrence use the actual date. If the actual date is not known, use the date the issue was identified. For issues that do not have an actual date or a date of identification, use the LER or inspection report date.
TYPE	The categorization of the issue - see the TYPE ITEM CODE table.
SOURCE	The document that contains the issue information: IR for NRC Inspection Report or LER for Licensee Event Report.
ID BY	Identification of who discovered the issue - see table.
SALP	SALP Functional Area Codes - Engineering, Maintenance, Operations, Plant Support and All/Multiple (i.e., more than one SALP area affected).
SMM CODES	Senior Manager Meeting Codes - see table.
DESCRIPTION	Details of the issue from the LER text or from the IR Executive Summaries.

TYPE ITEM CODE

DEV	Deviation from NRC Requirements
ED	Escalated Discretion - No Civil Penalty
EEI*	Escalated Enforcement Issue - Waiting Final NRC Action
LER	License Event Report to the NRC
Licensing	Licensing Issue from NRR
Misc	Miscellaneous (Emergency Preparedness Finding, etc.)
NCV	Non-Cited Violation
Negative	Individual Poor Licensee Performance
Positive	Individual Good Licensee Performance
Strength	Overall Strong Licensee Performance
URI**	Unresolved Inspection Item
VIO/SL-I	Notice of Violation - Severity Level I
VIO/SL-II	Notice of Violation - Severity Level II
VIO/SL-III	Notice of Violation - Severity Level III
VIO/SL-IV	Notice of Violation - Severity Level IV
Weakness	Overall Weak Licensee Performance

ID BY

Licensee	The licensed utility
NRC	The Nuclear Regulatory Commission
Self-Revealed	Identification by an event (e.g., equipment breakdown)
Other	Identification unknown

NOTES

* EEIs are apparent violations of NRC requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EEIs and the PIM entries may be modified when the final decisions are made. Before the NRC makes its enforcement decision, the licensee will be provided with an opportunity to either (1) respond to the apparent violation or (2) request a predecisional enforcement conference.

** URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. However, the NRC has not reached its final conclusions on the issues, and the PIM entries may be modified when the final conclusions are made.

SENIOR MANAGEMENT MEETING CODES

1	Operational Performance: A - Normal B - During Transients C - Programs and Processes
2	Material Condition: A - Equipment Condition B - Programs and Processes
3	Human Performance: A - Work Performance B - Knowledge, Skills, and Abilities C - Work Environment
4	Engineering/Design: A - Design B - Engineering Support C - Programs and Processes
5	Problem Identification and Resolution: A - Identification B - Analysis C - Resolution

PLANT ISSUES MATRIX

Quad Cities

3/24/1999

Search Sorted by Date (Descending) and SMM Codes (Ascending): Search Column = "SALP" ; SALP Area = "Operations" ; Beginning Date = "12/21/1997" ; Ending Date = "10/1/1998"

#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
1	9/1/1998	NCV	IR 98013	Licensee	Operations	1A	An event involving miscommunication between operators caused the control room emergency ventilation system to trip and become inoperable. A non-cited violation was issued for the improperly implemented surveillance procedure (Section O8.2).
2	8/16/1998	NCV	IR 98013	Licensee	Operations	3A	Operators discovered four high pressure coolant injection system and reactor core isolation cooling system vent valves in the wrong position. Procedure usage by the operator and independent verification problems were contributors to the error. This was considered a non-cited violation (Section O2.1).
3	7/16/1998	*****	IR98012	NRC	Operations	1A	Due to recurrent maintenance problems and an inability to determine a cause of valve failure, operators were required to increase the frequency of cycling with the Unit 2 recirculation system sample valves. A failure on the recirculation system sample line resulted in operators needing to vent primary containment to atmosphere to avoid an engineered safety features actuation. However, the inspectors concluded the licensee met Technical Specification requirements (Section O2.4).
4	7/16/1998	Negative	IR 98012	NRC	Operations	1A	Poor communication led to an operator error which resulted in the trip of the control room ventilation system. A confusing procedure and inappropriate procedure usage also contributed to the error (Section O1.3).
5	7/16/1998	Positive	IR 98012	NRC	Operations	1B	During Unit 1 startup, the inspectors observed good heightened level of awareness briefings and overall good operator performance (Section O1.2).
6	7/16/1998	Positive	IR 98012	NRC	Operations	1B	Three events during the period, caused by turbine generator equipment problems, required operators to remove the turbine generator from operation. The inspectors concluded that the operators responded to the events appropriately. However, the operators continued to be challenged by equipment problems (Section M2.1).

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
7	7/16/1998	*****	IR 98012	NRC	Operations	1B	Concurrent startups of Unit 1 and Unit 2 were completed without any significant problems. However, several equipment failures occurred and required reactor protection system or containment isolation system channels to be tripped and Unit 1 to be in a Technical Specification shutdown action statement. Additionally, control rods were extremely difficult to withdraw which became a significant distraction to normal operator performance and resulted in rods being moved past the intended positions several times (Section O2.3).
8	7/16/1998	VIO/SL-IV	IR 98012	NRC	Operations	1C	The inspectors identified errors associated with operations surveillance tests that involved different and diverse operations subdisciplines including staff, supervisory, and management positions. One of these resulted in a violation. The inspectors were concerned that attributes of quality established and supported by management were not being implemented by the operations organization (Section O4.1).
9	6/27/1998	*****	IR 98012	Self-Revealed	Operations	1B	The Unit 1 reactor tripped on June 27 from full power due to a failed scram discharge volume level transmitter coincident with a surveillance test of the average power range monitor. All systems functioned properly and operator response to the transient was good. The licensee's investigation failed to accurately determine the cause of the scram discharge volume transmitter failure, and several weeks later another spurious signal occurred shortly before a scheduled reactor protection system test (Section O2.1).
10	6/14/1998	Negative	IR 98012	NRC	Operations	1C	Equipment problems resulting from electrical storms affected various plant systems. Operations management decisions on degraded control rod drive accumulators did not use formal operability determination mechanisms, did not fully take into account Updated Final Safety Analysis Report requirements, and did not use engineering assistance to determine operability when design criteria were not met (Section O2.5).
11	5/29/1998	VIO/SL-IV	IR 98009	NRC	Operations	1A	The inspectors and licensee both identified a negative trend in out-of-service performance. The licensee's evaluation of a failure to protect divers during a pump start was downgraded to an apparent cause evaluation, and the quality of the apparent cause evaluation and subsequent corrective action was poor. Operations management did not initially consider the event significant even though personnel safety and system performance could have been adversely affected (Section O4.1).

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
12	5/29/1998	Positive	IR 98009	NRC	Operations	1B	The control rod hydraulic and air systems were in good material condition, and were in the appropriate configuration for the current plant conditions (Section O2.2).
13	5/29/1998	Positive	IR 98009	NRC	Operations	1B	Operators carefully controlled Unit 2 startup activities. Operator performance was good although the different operating crews exhibited different standards with respect to communications. A number of equipment problems occurred and operators responded appropriately (Section O2.1).
14	5/29/1998	Positive	IR 93009	NRC	Operations	1B	Control room operator actions in response to the loss of an offsite power supply were in accordance with procedures and were accomplished using both self-check and peer-check techniques (Section M1.1).
15	5/29/1998	VIO/SL-IV	IR 98009	NRC	Operations	3B	An individual operated out-of-service equipment in violation of plant procedures and Technical Specifications (TS). The out-of-service hung on the refuel bridge was insufficient to ensure the refuel bridge would not move when operation was attempted from the bridge control pendant. This event was also significant because the out-of-service was being used as an equivalent method of reactivity controls for interlocks that did not meet Updated Final Safety Analysis Report (UFSAR) requirements (Section O4.2).
16	4/1/1998	Negative	IR 98303 OL IR 98303 OL	NRC	Operations	1C	Administration of the examination revealed one applicant performance issue needing additional review by the Quad Cities Nuclear Power Station Training and Operations Departments. On two occasions during simulator transients, license applicants reached setpoints, imposed by an administrative procedure, that required a specified action such as a reactor scram or emergency depressurization. The applicants executed those actions even though they had been informed that the action was unnecessary and the plant was being adequately controlled by crew members. Although the simulated reactor was placed in a safe condition in each of the two cases, the transient initiated on the plant was unnecessary and could have been avoided. (Section O5.5.b)

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
17	4/1/1998	**	IR 98303 OL	NRC	Operations	1C	An NRC developed initial operator licensing examination was administered to three license applicants [two Senior Reactor Operator (SRO) applicants, and one Senior Reactor Operator Limited to Fuel Handling (LSRO) applicant]. All three applicants passed all portions of their respective examinations. The LSRO was issued a license. The two SRO applicants were not issued operating licenses as they have not completed all requirements to be issued a license. Licenses will be issued upon completion of all Quad Cities Nuclear Power Station training program requirements; ie, one additional month of responsible power plant experience at Quad Cities Nuclear Power Station. (Section O5.1)
18	3/31/1998	VIO/SL-IV	IR 98004	Licensee	Operations	1A	Non-licensed operators improperly returned a safety-related breaker to service and logged the equipment as being available for five days before detecting the deficient condition. The failure to properly return the component to service was considered a violation of procedures (Section O1.2).
19	3/31/1998	Negative	IR 98004	Licensee	Operations	3A **	Non-licensed operators injected incorrect grease into the station blackout diesel generator fuel oil transfer pump, which could have made the pump inoperable due to grease incompatibility. Initial corrective actions did not address extended operation of the pumps with incompatible grease and were considered weak (Section O1.2).
20	3/20/1998	Positive	IR 98303 OL	NRC	Operations	1C	The training and operations departments staff provided significant assistance in preparing the examination for administration to the applicants. (Sections O5.1, O5.2, O5.3 and O5.4)
21	3/20/1998	Positive	IR 98303 OL	NRC	Operations	3B	The applicants appeared well prepared to take the examination. (Sections O5.2, O5.3 and O5.4)
22	2/13/1998	Positive	IR 97022	NRC	Operations	1C 3B	The level of knowledge of two operators interviewed concerning the HPCI system was good.
23	2/13/1998	VIO/SL-IV	IR 97022	NRC	Operations	1C 5A	Some problems with HPCI system procedures were identified. One procedure, concerned with local operation of the HPCI system, was inadequate. This was considered a violation of NRC requirements.
24	2/6/1998	VIO/SL-IV	IR 97028	NRC	Operations	1A 4C	The licensee did not complete a 10 CFF 0.59 evaluation for the change in the status of the normal ventilation fan to the shared EDG room. This was considered a failure to maintain the plant configuration in accordance with the Updated Final Safety Analysis Report (UFSAR)

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
25	2/6/1998	Negative	IR 97028	NRC	Operations	1C	The licensee did not proactively prepare for the effects of cold weather on equipment deemed important to safety.
26	2/6/1998	Negative	IR 97028	NRC	Operations	1C 3A **	Two operators, using the licensee's independent verification methods, failed to establish correct cooling water valve position for the Unit 2 EDG, rendering it inoperable during some of the time that the Unit 1 EDG was also inoperable (Section O1.3). In addition, two individuals preparing a return to service package caused a Unit 2 EDG air start valve to be out of the required position. These events were indicative of a weakness in independent verification.
27	2/6/1998	Negative	IR 97028	NRC	Operations	3A 1A	Technician error, inadequate communication and the misinterpretation of a procedure led to the unexpected start of the Unit 1 emergency diesel generator (EDG). Licensee investigation of operator performance during the event was insightful.
28	1/13/1998	Positive	IR 97024.OL	NRC	Operations	1C	The examination materials used to examine the operators provided an effective evaluation tool for evaluating operator skills; however, the Category B (classroom written examination) examination was considered weak.
29	1/13/1998	Positive	IR 97024.OL	NRC	Operations	3A 1C	Control room operators were found to be professional and businesslike in the execution of their operator responsibilities.
30	1/13/1998	Positive	IR 97024.OL	NRC	Operations	3B 1C	The licensed operator requalification program was providing operators with the skills necessary to properly fulfill their job functions.
31	1/5/1998	LER	LER 254/98001	Self-Revealed	Operations	1A	Unit 1 EDG received an inadvertent start signal when a relay was bumped during testing, the EDG failed to start as would be expected on receipt of this signal, and the EDG was inadvertently started 15 minutes later due to an error by an operator who was responding to the failure to start.

GENERAL DESCRIPTION OF PIM TABLE LABELS

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TYPE	The categorization of the issue - see the TYPE ITEM CODE table.
SOURCE	The document that contains the issue information: IR for NRC Inspection Report or LER for Licensee Event Report.
ID BY	Identification of who discovered the issue - see table.
SALP	SALP Functional Area Codes - Engineering, Maintenance, Operations, Plant Support and All/Multiple (i.e., more than one SALP area affected).
SMM CODES	Senior Manager Meeting Codes - see table.
DESCRIPTION	Details of the issue from the LER text or from the IR Executive Summaries.

TYPE ITEM CODE

DEV	Deviation from NRC Requirements
ED	Escalated Discretion - No Civil Penalty
EEI*	Escalated Enforcement Issue - Waiting Final NRC Action
LER	License Event Report to the NRC
Licensing	Licensing Issue from NRR
Misc	Miscellaneous (Emergency Preparedness Finding, etc.)
NCV	Non-Cited Violation
Negative	Individual Poor Licensee Performance
Positive	Individual Good Licensee Performance
Strength	Overall Strong Licensee Performance
URI**	Unresolved Inspection Item
VIO/SL-I	Notice of Violation - Severity Level I
VIO/SL-II	Notice of Violation - Severity Level II
VIO/SL-III	Notice of Violation - Severity Level III
VIO/SL-IV	Notice of Violation - Severity Level IV
Weakness	Overall Weak Licensee Performance

ID BY

Licensee	The licensed utility
NRC	The Nuclear Regulatory Commission
Self-Revealed	Identification by an event (e.g., equipment breakdown)
Other	Identification unknown

NOTES

* EEIs are apparent violations of NRC requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EEIs and the PIM entries may be modified when the final decisions are made. Before the NRC makes its enforcement decision, the licensee will be provided with an opportunity to either (1) respond to the apparent violation or (2) request a predecisional enforcement conference.

** URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. However, the NRC has not reached its final conclusions on the issues, and the PIM entries may be modified when the final conclusions are made.

SENIOR MANAGEMENT MEETING CODES

1	Operational Performance: A - Normal B - During Transients C - Programs and Processes
2	Material Condition: A - Equipment Condition B - Programs and Processes
3	Human Performance: A - Work Performance B - Knowledge, Skills, and Abilities C - Work Environment
4	Engineering/Design: A - Design B - Engineering Support C - Programs and Processes
5	Problem Identification and Resolution: A - Identification B - Analysis C - Resolution

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
1	9/1/1998	NCV	IR 98013	Licensee	Maintenance	2B	The licensee's identification of additional missed surveillance tests in response to a previous notice of violation was noteworthy. Corrective actions have been effective and no missed surveillance tests have been identified in over 6 months. The additional missed surveillance tests were considered to be a non-cited violation (Section M8.2).
2	9/1/1998	NCV	IR 98013	Licensee	Maintenance	2B	The licensee ultimately determined the root cause of the scram discharge instrument volume transmitter failure after incorrectly identifying two other causes. Maintenance personnel failed to correctly reference the vendor manual when interchanging electronic boards between transmitters. The parts evaluation process also missed this error which resulted in the scram discharge instrument volume transmitter being inoperable for 18 days. This condition resulted in a non-cited violation (Section M2.4).
3	9/1/1998	NCV	IR 98013	NRC	Maintenance	2B	Three separate maintenance errors delayed work or affected plant conditions, but did not jeopardize operability of safety systems. Configuration control problems occurred which were not prevented by second checks. One non-cited violation was issued for the failure to properly implement a maintenance work package (Section M2.1).
4	9/1/1998	Negative	IR 98013	NRC	Maintenance	2B	One of the observed priority maintenance activities was completed successfully, but completed 5 days later than originally scheduled, with no major scope changes to the work. Weaknesses in work package preparation and coordination, communication between departments, knowledge of environmentally qualified splice techniques, parts qualification, and engineering and operations department support were evident. These types of problems were partial contributors to a 50 percent completion rate of corrective maintenance (Section M1.4).
5	9/1/1998	Positive	IR 98013	NRC	Maintenance	2B	The licensee continued to reduce the corrective maintenance non-outage backlog. Although some of the reported reduction was due to cancellation of work requests, the inspectors did not identify any inappropriate cancellations (Section M1.3).
6	9/1/1998	Negative	IR 98013	Licensee	Maintenance	3A	Poor maintenance package records resulted in an additional entry of maintenance workers into a locked high radiation area to plan corrective maintenance (Section M1.4).
7	9/1/1998	Positive	IR 98013	NRC	Maintenance	3A	Condensate pump maintenance activities observed were performed correctly and in accordance with procedures. For most of the activities observed, supervisors visited the work site on a limited basis.

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
8	9/1/1998	NCV	LER 254/97013-00, IR 98013	Self-Revealed	Maintenance	3A	Reactor Core Isolation Cooling Area High Temperature Switch Would not Actuate Due to Excess Sealing Varnish Applied by Technician. During channel functional testing, instrument technicians found that the 1-1360-14D temperature switch would not actuate due to a previous technician error. Excess sealing varnish had been applied after the previous calibration.
9	9/1/1998	Negative	IR 98913	NRC	Maintenance	5A	The 2A 125 Vdc battery charger failed a 4-hour load test when the feed breaker to the charger tripped. This was a repetitive problem, and no root cause was determined. The test was rerun satisfactorily and further actions were planned to determine the root cause. The test procedure initially allowed for preconditioning of the equipment prior to the test (Section M2.2).
10	9/1/1998	Positive	IR 98013	Licensee	Maintenance	5C	The licensee successfully resolved a repetitive problem with control rod drive hydraulic control unit annunciators. Operator response to the most recent occurrence was improved over the response to a previous event (Section M2.3).
11	7/16/1998	*****	IR98012	NRC	Maintenance	2A	Three events during the period, caused by turbine generator equipment problems, required operators to remove the turbine generator from operation to repair the defective conditions. The inspectors concluded that the maintenance activities and prompt investigation reports were timely and appropriate. However, the operators continued to be challenged by equipment problems (Section M2.1).
12	7/16/1998	Negative	IR 98012	Licensee	Maintenance	2B	Four average power range monitors were declared inoperable due to the failure to complete the required surveillance tests within 24 hours of entering Mode 3. Technical Specification 3.1.A.1 was entered and required the channels to be in the trip condition within one hour. The surveillance tests were completed shortly after and the average power range monitors were again operable (Section M1.1).
13	7/16/1998	Negative	IR 98012	Self-Revealed	Maintenance	5C	The licensee's investigation failed to accurately determine the cause of the scram discharge volume transmitter failure and later another scram discharge volume spurious trip signal occurred (Section M1.1).

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
14	5/29/1998	VIO/SL-IV	IR 98009	Licensee	Maintenance	1C	During work on traversing incore probe components in April 1998, Instrument Maintenance personnel did not comply with the out-of-service program and personnel protection controls. The failure to conduct work on this system in a safe and controlled manner was a violation of out-of-service procedures and TS requirements. Due to certain radiation protection requirements, and due to the low dose rate of the detector at the time of the evolution, there was no substantial potential for a radiological overexposure (Section M1.4).
15	5/29/1998	Positive	IR 98009	NRC	Maintenance	2B	The licensee was effectively tracking the numerous problems encountered with electrical circuit breakers, and was repairing these problems in a timely manner (Section M2.1).
16	5/29/1998	Negative	IR 98009	NRC	Maintenance	2B	Poor quality maintenance resulted in the loss of one of two sources of offsite power. The investigation of this event was both timely and thorough. The inspectors also identified that the rework aspects of this event had not been identified by the licensee (Section M1.1).
17	5/29/1998	VIO/SL-IV	IR 98009	NRC	Maintenance	3B	Maintenance workers failed to perform steps in an approved procedure and failed to change the procedure prior to continuing the maintenance actions. Maintenance supervision guidance contributed to the conclusion that this violation of TS requirements was acceptable (Section M1.3).
18	4/17/1998	Positive	IR 98008	NRC	Maintenance	2B	Performance criteria established to demonstrate the effectiveness of preventive maintenance of (a)(2) systems and functions had been extensively revised, were appropriate, and were properly justified.
19	4/17/1998	Strength	IR98008	NRC	Maintenance	2B	Scoping of structures, systems, and components (SSCs) was considered acceptable. A complete rescoping effort properly identified structures, systems, and components, and functions required to be in the maintenance rule program scope; no omissions were identified.
20	4/17/1998	Strength	IR 98008	NRC	Maintenance	2B	Based on reviews of the licensee's risk ranking methodology and results, the inspectors concluded that the licensee's approach to establishing the risk ranking for SSCs within the scope of the maintenance rule was good. Two functions, identified during the baseline inspection as improperly classified as low safety significance, were now correctly classified.

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
21	4/17/1998	Positive	IF 98008	NRC	Maintenance	2B	The process for evaluating events and problems for functional failures and maintenance preventable functional failures had been revised and strengthened. Guidance for assessing events and problems was strengthened and a monthly requirement to evaluate maintenance rule system performance was instituted.
22	4/17/1998	Positive	IR 98008	NRC	Maintenance	2B	Implementation of goals and monitoring for systems and functions classified (a)(1) was improved. Inappropriate goals, identified during the September 1997 baseline inspection, had been corrected. Adequate goals had been developed for those functions noted in the baseline report as having goals and corrective action plans under development. Goals and corrective action plans for all SSCs and functions classified as (a)(1) were considered acceptable.
23	4/17/1998	Negative	IR 98008	NRC	Maintenance	2B	The inspectors noted many SSCs and functions were classified as (a)(1) and observed that a significant portion of SSCs and functions modeled in the Individual Plant Examination had exceeded performance criteria. This led the inspectors to question whether the current baseline core damage frequency estimate was valid and whether the licensee understood the underlying cause for so many systems not performing up to station expectations.
24	4/17/1998	Positive	IR 98008	NRC	Maintenance	5A 5C	Two 1998 corporate self-assessments of the Quad Cities maintenance rule program implementation were thorough and provided good information for the station's maintenance rule staff. In turn, the maintenance rule staff adequately responded to the issues raised in a timely manner.
25	3/31/1998	Positive	IR 98004	Self-Revealed	Maintenance	2A	Reactor bottom head drain piping failed an in-service pressure test. The licensee conservatively used a reactor drain plug and a freeze seal to isolate the piping for repair (Section M1.2).
26	3/31/1998	VIO/SL-IV	IR 98004	Licensee	Maintenance	2B	Quad Cities was overdue on completion of a number of surveillance and preventive maintenance items. The licensee was scheduling surveillances and preventive maintenance items to be performed past the due date for the items. A violation was issued for failure to perform snubber surveillances in the appropriate periodicity Section M1.5).

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27	3/31/1998	VIO/SL-IV	IR 98004	Licensee	Maintenance	2B	All source range nuclear instruments on both units were rendered inoperable because of failure to perform Technical Specification required functional testing. Previous corrective actions were not sufficient to ensure surveillances were performed in a timely manner. This was considered a violation of surveillance testing (Section M1.4).
28	3/31/1998	VIO/SL-IV	IR 98004	Licensee	Maintenance	2B	The licensee identified standby liquid control system temperature switches, used to satisfy a Technical Specification surveillance requirement, were set below the required minimum temperature. There were prior opportunities to identify this missed surveillance violation (Section M1.3).
29	3/31/1998	Positive	IR 98004	Licensee	Maintenance	3A	An instrument technician found electronic controller modules which were improperly assembled by a contracted repair company. This condition was properly reported to alert other facilities of a potential nonconforming condition (Section M1.2).
30	3/31/1998	VIO/SL-IV	IR 98004	Licensee	Maintenance	3B	A maintenance contractor operated valves with out-of-service (danger) tags attached. This issue was considered a violation of the licensee's administrative procedures, and demonstrated poor safety practices and ineffective control of contractor activities (Section M1.2).
31	3/31/1998	Negative	IR 98004	Licensee	Maintenance	5C	The licensee's corrective actions for previously identified testing deficiencies with the emergency diesel generator air start system were not technically adequate, and procedure reviews failed to identify the problems (Section M3.1).
32	2/13/1998	Strength	IR 97022	NRC	Maintenance	2B	The maintenance training program was adequate to assure qualified maintenance technicians. The training facilities were very good and were considered a strength.
33	2/13/1998	Strength	IR 97022	NRC	Maintenance	2B **	Maintenance activities were well controlled. The assignment of work week managers to coordinate activities was considered a strength.
34	2/13/1998	Positive	IR 97022	NRC	Maintenance	2B 5A	Licensee maintenance procedures were technically adequate, sufficient to perform the required maintenance and inspection tasks and had the necessary provisions to identify and evaluate deficiencies.

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
35	2/13/1998	Weakness	IR 97022	NRC	Maintenance	2B 5A	During walkdowns on the Unit 1 and 2 High Pressure Coolant Injection (HPCI) systems, minor problems with material condition were identified. These minor problems did not affect the operability of either units' HPCI systems. Minor procedure errors were also identified with both the Unit 1 and 2 HPCI system checklists used to locally verify valve positions.
36	2/13/1998	LER	LER 254/98010	Licensee	Maintenance	3A	TS surveillance interval for snubber visual inspections was exceeded due to personnel error when an incorrect surveillance credit date was entered into the electronic work control system predefine schedule as a result of a change in frequency codes for conversion to the upgraded TSs.
37	2/13/1998	Positive	IR 97022	NRC	Maintenance	3A 3B	The performance by an instrument technician during an observed surveillance was good. The technician precisely followed the procedure and demonstrated a good level of skill in the use of the test equipment involved.
38	2/6/1998	Weakness	IR 97028	NRC	Maintenance	2A 2B	The licensee discovered that all three EDGs had out-of-tolerance time delay relay settings. The maintenance work history showed that preventive maintenance to calibrate the relays was not performed per the established schedule, and relays in the past had exhibited a high failure rate.
39	2/6/1998	Negative	IR 97028	NRC	Maintenance	2B 3A	The inspectors identified that weaknesses existed in documenting work history information previously provided by a vendor. In addition, wiring errors resulted in a safety-related system being inoperable longer than scheduled.
40	2/6/1998	Negative	IR 97028	NRC	Maintenance	3A 2B	During a surveillance test, the inspectors noted the procedure adherence policy was not followed. The inspectors also found problems with the use of independent verification methods.
41	2/6/1998	Negative	IR 97028	NRC	Maintenance	3A 5C	Lack of control of foreign material (electrical tape) resulted in a condition which could have adversely affected EDG performance and may have contributed to the failure of the EDG to start. The licensee's investigation of this particular aspect of the event was initially inconclusive and did not include recommended corrective actions to prevent recurrence.

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42	2/6/1998	Weakness	IR 97028	NRC	Maintenance	5A 5C	The quality control (QC) organization implemented overview inspections to replace non-mandatory hold points in maintenance activities. The Quad Cities Maintenance staff did not substitute the verification of hold point activities with maintenance supervisor verifications as initially intended by management.
43	1/27/1998	LER	LER 254/98008	Licensee	Maintenance	2A	Residual heat removal shutdown cooling common suction header was inoperable due to inadequate installation instructions resulting in mechanical failure of a mechanical shock arrestor (snubber).
44	1/3/1998	LER	LER 254/98002	Licensee	Maintenance	2B	A required drywell high pressure instrument channel relay monthly surveillance interval was exceeded due to an inadequate test procedure that was caused by an inadequate procedure verification and revision during implementation of the TS upgrade program.

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ID BY	Identification of who discovered the issue - see table.
SALP	SALP Functional Area Codes - Engineering, Maintenance, Operations, Plant Support and All/Multiple (i.e., more than one SALP area affected).
SMM CODES	Senior Manager Meeting Codes - see table.
DESCRIPTION	Details of the issue from the LER text or from the IR Executive Summaries.

TYPE ITEM CODE

DEV	Deviation from NRC Requirements
ED	Escalated Discretion - No Civil Penalty
EEI*	Escalated Enforcement Issue - Waiting Final NRC Action
LER	License Event Report to the NRC
Licensing	Licensing Issue from NRR
Misc	Miscellaneous (Emergency Preparedness Finding, etc.)
NCV	Non-Cited Violation
Negative	Individual Poor Licensee Performance
Positive	Individual Good Licensee Performance
Strength	Overall Strong Licensee Performance
URI**	Unresolved Inspection Item
VIO/SL-I	Notice of Violation - Severity Level I
VIO/SL-II	Notice of Violation - Severity Level II
VIO/SL-III	Notice of Violation - Severity Level III
VIO/SL-IV	Notice of Violation - Severity Level IV
Weakness	Overall Weak Licensee Performance

ID BY

Licensee	The licensed utility
NRC	The Nuclear Regulatory Commission
Self-Revealed	Identification by an event (e.g., equipment breakdown)
Other	Identification unknown

NOTES

* EEIs are apparent violations of NRC requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EEIs and the PIM entries may be modified when the final decisions are made. Before the NRC makes its enforcement decision, the licensee will be provided with an opportunity to either (1) respond to the apparent violation or (2) request a predecisional enforcement conference.
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SENIOR MANAGEMENT MEETING CODES

1	Operational Performance: A - Normal B - During Transients C - Programs and Processes
2	Material Condition: A - Equipment Condition B - Programs and Processes
3	Human Performance: A - Work Performance B - Knowledge, Skills, and Abilities C - Work Environment
4	Engineering/Design: A - Design B - Engineering Support C - Programs and Processes
5	Problem Identification and Resolution: A - Identification B - Analysis C - Resolution

PLANT ISSUES MATRIX

Quad Cities

3/24/1999

Search Sorted by Date (Descending) and SMM Codes (Ascending): Search Column = "SALP" ; SALP Area = "Engineering" ; Beginning Date = "12/21/1997" ; Ending Date = "10/1/1998"

#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
1	9/1/1998	Positive	IR 98013	NRC	Engineering	4B	The inspectors concluded that the licensee's troubleshooting efforts were thorough in determining the root cause of the Unit 2 high pressure coolant injection turning gear failure (Section E1.3).
2	9/1/1998	Negative	IR 98013	NRC	Engineering	4C	The inspectors determined that the licensee, in applying Regulatory Guide 1.9, "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used as Class 1E Onsite Electric Power Systems at Nuclear Power Plants," in determining emergency diesel generator reliability, did not properly address emergency diesel generator start failures. Two additional examples of incorrectly classified starts were identified (Section E1.2).
3	7/24/1998	NCV	LER 94013	NRC	Engineering	4A	The licensee identified that the relays that control the heating, ventilation, and air conditioning (HVAC) for the emergency diesel generators (EDGs) could be impacted by a single fire in a single zone of the turbine building. This was an unanalyzed condition for safe shutdown during a fire. However, this design problem had limited safety significance because the licensee had adequate time to take compensatory measures to cool the diesel generator rooms. The failure to assure that applicable design requirements were met is a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III.
4	7/24/1998	Positive	IR 98015	NRC	Engineering	4B	System engineering involvement in the corrective action process was good for the eleven specific items.
5	7/24/1998	Positive	IR 98015	NRC	Engineering	4C	For the eleven issues reviewed, the corrective actions and root cause analyses were acceptable.
6	7/16/1998	NCV	IR 98012	Licensee	Engineering	4C	The licensee identified that during a shutdown of Unit 2 in February 1997, the primary containment function of pressure suppression would have been bypassed for a short period during deinerting of the containment. The procedures that allowed this alignment were subsequently changed. This was a non-cited violation of Technical Specification 3.7.K.3 (Section E8.20).
7	7/16/1998	VIO/SL-IV	IR 98012	NRC	Engineering	4C	Qualification of commercial grade relays for use in a safety function as emergency diesel generator time delay relays failed to account for environmental concerns such as vibration. This was considered a violation of 10 CFR Part 50, Appendix B, Criterion II (Section E 8.18).

PLANT ISSUES MATRIX

Quad Cities

3/24/1999

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
8	7/16/1998	VIO/SL-IV	IR 98012	NRC	Engineering	4C	Engineers did not follow the process for changing safety-related setpoints in 1996 when the second-level undervoltage setpoint was revised. As a result, no 10 CFR 50.59 review was conducted and the Updated Final Safety Analysis Report was not updated. This was considered to be a violation of 10 CFR Part 50, Appendix B, Criterion V (Section E8.19).
9	7/16/1998	Negative	IR 98012	NRC	Engineering	4C	The inspectors found that the level of review to justify important changes to the reactor protection system testing was insufficient. Later review and improved administrative controls were added to ensure that reactor protection system jumpers were not left in place after system testing (Section E1.2).
10	5/29/1998	Negative	IR 98009	NRC	Engineering	2A	Equipment problems with emergency diesel generators continued this period. The Unit 1 emergency diesel generator failed to start on demand during surveillance testing. The cause of the failure was a malfunctioning autostart logic relay. Other problems were identified by the licensee and corrected prior to their affecting diesel operability. The causes of these failures were still under review by the licensee (Section E1.3).
11	5/29/1998	VIO/SL-IV	IR 98009	NRC	Engineering	4B	A design change to replace the defective humidifier for the computer room was canceled in May 1995. No safety evaluation for this non-conformance with the UFSAR was performed, in violation of 10 CFR 50.59 requirements (Section E8.6).
12	5/29/1998	VIO/SL-IV	IR 98009	NRC	Engineering	4B	Issues involving the need to revise instrument calculations identified in 1991 and 1992 were not resolved prior to 1998. Some TS related setpoints were determined to have a non-conservative margin of error. The Vulnerability Assessment Team report tracking item for this issue was closed without apparent justification. This was a violation of 10 CFR Part 50, Appendix B requirements. Five instances of exceeding TS required setpoints for the scram discharge volume were identified by the licensee (Section E1.2).

PLANT ISSUES MATRIX

Quad Cities

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
13	5/22/1998	VIO/SL-II	Letter dated 9/11/98	NRC	Engineering	4A	In response to the safe shutdown issue, ComEd changed its safe shutdown procedures to permit the use of the station blackout diesel generator in lieu of the emergency diesel generators without first performing a safety evaluation to confirm that the departure from the Updated Final Safety Analysis Report (UFSAR) did not constitute an unreviewed safety question. The required safety evaluation was performed after substantial intervention by the NRC staff. When performed, the NRC staff identified that the safety evaluation was deficient because it did not consider all necessary manual actions required to operate the station blackout diesel generator. EA 98-175
14	5/22/1998	Licensing	IR 98011	NRC	Engineering	4B	Although the technical weaknesses associated with the post-fire safe shutdown methodology showed that the licensee had not strictly met all the conditions specified in the CAL, the inspection team concluded that the licensee's SSA and post-fire safe shutdown operating procedures did provide a minimally acceptable interim methodology which, when augmented with the compensatory measures, provided sufficient confidence to permit the restart of both units. The inspection team considered such compensatory measures to be acceptable only as short-term corrective actions with an objective of the licensee achieving full compliance with Appendix R to 10 CFR Part 50.
15	5/22/1998	VIO/SL-II	Letter dated 9/11/98	NRC	Engineering	4C	The violations in the Notice represent inadequacies in ComEd's capability to shutdown the Quad Cities facility following a postulated design basis fire. These violations indicated a broad lack of understanding on the part of the Quad Cities' staff for the importance of having analyzed, proceduralized, and validated means for achieving and maintaining safe shutdown following a design basis fire. EA 98-175
16	5/22/1998	Licensing	Letter dated 5/22/98	NRC	Engineering	5C	Based on the NRC inspection activities identified above, the compensatory actions you have committed to put in place before startup of Unit 2, discussions between your staff and the NRC during the bi-weekly public meetings, and our review of your docketed correspondence, I have determined that your actions pursuant to CAL RIII-98-001 are adequate to close the CAL.

PLANT ISSUES MATRIX

Quad Cities

3/24/1999

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
17	5/18/1998	Negative	IR 98011	NRC	Engineering	4B	On May 18, 1998, the inspection team returned to the site and reviewed the results of the licensee's reassessment of the TB-II fire area. The inspection team identified a number of deficiencies which appeared to confirm the team's earlier assessment that the licensee had not identified all areas where it was not in compliance with 10 CFR Part 50, Appendix R. When the team identified these deficiencies to the licensee, the licensee committed to implement compensatory measures and maintain them until an adequate resolution to the technical issues could be attained.
18	5/8/1998	Negative	IR 98011	NRC	Engineering	4B	During the week of May 4 - 8, 1998, NRC conducted a special startup inspection to review the licensee's revised SSA and procedures. However, after three days onsite, the inspection team leaders and Region III management had identified sufficient weaknesses to conclude that the conditions of the CAL were not entirely satisfied. Specifically, the analysis methodology and post-fire safe shutdown capability were found to not satisfy the technical requirements of 10 CFR Part 50, Appendix R, Sections III.G.1 and III.G.3. Specific weaknesses included: (1) inadequate evaluation of, and level of protection provided for, 125Vdc control power to 4 kV Switchgear; (2) inadequate and non-conservative assumptions regarding the number of spurious equipment operations that could occur during a fire; and (3) deficiencies in operating procedures developed to implement the post-fire safe shutdown capability. Because of these deficiencies, the inspection team was unable to conclude that the SSA was adequately validated.
19	4/29/1998	Licensing	IR 98011	Licensee	Engineering	4B	On April 29, 1998, the licensee formally docketed its response to the Appendix R confirmatory action letter and concluded that all conditions necessary to restart the plant had been met.
20	4/17/1998	Positive	IR 98008	NRC	Engineering	2B	System engineers were experienced and displayed a good knowledge of their assigned systems. The inspectors determined that the maintenance rule staff's efforts to improve system engineers' knowledge and opinion of the maintenance rule program were effective.
21	4/15/1998	Negative	IR 97023	NRC	Engineering	1C	The licensee did not take adequate actions to evaluate multiple precursors identified since 1987 that indicated potential deficiencies in the safe shutdown analysis and its implementing procedures (Section F3.1).

PLANT ISSUES MATRIX

Quad Cities

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
22	4/15/1998	VIO/SL-IV	IR 97023	NRC	Engineering	5C	Inadequacies were identified in the licensee's corrective actions to resolve post-fire safe shutdown issues (Section F3.3): A violation of 10 CFR 50, Appendix B, Criterion II, was identified for failure to properly train or qualify personnel to implement manual manipulation of safety related breakers as compensatory actions.
23	4/15/1998	Negative	IR 97023	NRC	Engineering	5C	Inadequacies were identified in the licensee's corrective actions to resolve post-fire safe shutdown issues (Section F3.3): The operability review performed for exiting the 67-day administrative limiting condition of operation (LCO) was not according to any approved procedure or process. Several calculations referenced in the operability review contained assumptions or conclusions not applicable to plant-specific conditions.
24	4/15/1998	Weakness	IR 97023	NRC	Engineering	5C	Inadequacies were identified in the licensee's corrective actions to resolve post-fire safe shutdown issues (Section F3.3): The review and approval process for the safe shutdown procedure was weak since the procedures did not receive the cross discipline review to ascertain the ability to achieve and maintain safe shutdown condition.
25	4/15/1998	EEI	IR 97023	NRC	Engineering	5C	Inadequacies were identified in the licensee's corrective actions to resolve post-fire safe shutdown issues (Section F3.3): An apparent violation was identified for the failure to perform a safety evaluation for the use of the station blackout diesel generators (SBO DG) in lieu of the FSAR described emergency diesel generators (EDG) until prompted by the NRC. In addition, the initial safety evaluation for this change was inadequate since the licensee subsequently identified that this change involved an unreviewed safety question.
26	4/15/1998	EEI	IR 97023	NRC	Engineering	5C	An apparent violation of 10 CFR 50.48 was identified for certain fire areas containing safe shutdown related equipment. The equipment would be so damaged that safe shutdown conditions would not be achieved and maintained if a postulated fire occurred in these fire areas (Section F3.2).

PLANT ISSUES MATRIX

Quad Cities

3/24/1999

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
27	3/31/1998	Negative	IR 98004	NRC	Engineering	4B	Although licensee efforts to investigate emergency diesel generator time delay relay failures were good, significant reliability problems still existed. Engineering justification for dedicating the relays as safety-related parts did not address vulnerabilities of the relays to vibration. Engineering justification for exceeding Updated Final Safety Analysis Report limits for the relay settings was not thorough (Section E3.1).
28	3/31/1998	Positive	IR 98004	NRC	Engineering	4B	There were more preparations (meetings, drawing reviews and subsequent walkdowns) by the examiners for the Unit 1 pressure test than other similar pressure tests. The examiners identified leakage which required repair prior to unit startup (Section E5.1).
29	3/31/1998	Negative	IR 19004	NRC	Engineering	5C	The licensee was not successful in determining the root cause of the Unit 1 emergency diesel generator failure to start in January 1998. Nonetheless, operations declared the Unit 1 emergency diesel generator operable. No specific actions were recommended to improve airstart system performance which was a suspected contributor to the start failure. Similar failures had occurred in the past (Section E1.1).
30	3/31/1998	Positive	IR 98004	NRC	Engineering	5C	The prompt investigation team identified the cause of the Unit 1 emergency diesel generator failure to run on March 17, 1998, to be a fuse block failure. The licensee took proper corrective actions to address the problem (Section E1.3).
31	3/26/1998	VIO/SL-IV	IR 98005	NRC	Engineering	4C	Adequate controls were in place to ensure that at-risk work packages developed in parallel with the design package would assure components would not be declared operable until completion of all design documentation. Use of the at-risk process was not routine and work completed appeared well-coordinated between the work analyst, design and construction staff. While generation of at-risk work packages was allowed by the Work Request Initiation procedure, at-risk work was contrary to the Plant Design Change Process procedure. This was considered a procedural adherence violation.

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
32	3/26/1998	Positive	IR 98005	NRC	Engineering	4C	Allowances, with precautions, for development of emergency and immediate modifications were adequately accounted for in the Quad Cities QA Program and in corporate and station procedures. Use of these types of modifications was not common and, when used, adequate controls existed to ensure minimum prerequisites, limitations, and operational restrictions were considered, including completion of 10 CFR 50.59 screenings or safety evaluations.
33	3/4/1998	Licensing	Letter dtd 4/1/98	NRC	Engineering	4C	At Quad Cities the submittals from ComEd have been generally good. They usually provided sufficient information for the staff to provide an evaluation. Several Requests for Additional Information (RAI) were required on complex issues such as seismic qualification of electrical and mechanical equipment (unresolved safety issue A-46), IPEEE, and pressure locking and pressure binding of power operated gate valves (GL 95-07). Two issues needing closer attention by ComEd include a response needed for a RAI issued 05/28/97 for GL 95-07 and closure of R.G. 1.97 issues. Inadequate review of two submittals was also noted where the "Summary Report of Changes, Tests and Experiments Completed" dated October 31, 1997, included two safety evaluation descriptions that incorrectly stated there was a reduction in the margin of safety and "Q2C15 Core Operating Limits Report, Revision 1" dated November 4, 1997, included proprietary information that was not requested to be held in confidence.
34	2/13/1998	Negative	IR 97022	NRC	Engineering	4A 3A	The HPCI system electrical calculations reviewed were generally acceptable, but numerous examples of inattention to detail and weaknesses in the design verification review process affected the quality of the analyses. Also, for some of the calculations reviewed, the tracking of assumptions and of results which may impact other calculations or procedures was weak.
35	2/13/1998	VIO/SL-IV	IR 97022	NRC	Engineering	4A 3A	The sample of HPCI system modifications reviewed was acceptable; however, a violation of design control was identified. Other minor issues raised by the inspectors were satisfactorily addressed by the licensee.
36	2/13/1998	*****	IR 97022	NRC	Engineering	4B	The inspectors reviewed commitments from ComEd's March 28, 1997, response to the NRC's request for information pursuant to 10 CFR 50.54(f). The inspectors concluded that eighteen 10 CFR 50.54(f) commitments were closed.

PLANT ISSUES MATRIX

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
37	2/13/1998	Misc	IR 97022	NRC	Engineering	4B	Overall, the inservice testing and Technical Specification (TS) surveillance testing specifically related to the HPCI system were satisfactory. Based on a recent trend of TS surveillance noncompliance and potential programmatic testing inadequacies, the licensee had undertaken a root cause investigation to evaluate the trend and recommend corrective actions to prevent recurrence. The effectiveness of these actions could not yet be determined.
38	2/13/1998	VIO/SL-IV	IR 97022	NRC	Engineering	4B 3A	Contrary to procedural requirements, the 50.59 screenings for two temporary alterations failed to evaluate the physical installation of all instrumentation installed by the alteration.
39	2/13/1998	Negative	IR 97022	NRC	Engineering	4C	While overall, the HPCI system mechanical calculations reviewed were found to be acceptable, weaknesses were noted with nonconservative assumptions in an initial "white paper" analysis and with not consistently accounting for instrument inaccuracies.
40	2/13/1998	Positive	IR 97022	NRC	Engineering	4C	The inspectors concluded that the HPCI room cooler was being adequately cleaned and inspected pursuant to GL 89-13 commitments. Flow and differential pressure were trended and monitored for degradation and cleaning was scheduled on a regular basis.
41	2/13/1998	VIO/SL-IV	IR 97022	NRC	Engineering	4C	While the 50.59 safety evaluations reviewed were adequate with supportable conclusions, weaknesses were identified with the overall 50.59 program. These weaknesses included poorly written safety evaluations, incomplete summary report submittals to the NRC, difficult to retrieve screenings, and incomplete corrective actions to identified deficiencies. The incomplete summary report submittals were considered a violation of procedural requirements. The Off-Site review group, however, was providing good assessments and comments.
42	2/13/1998	Positive	IR 97022	NRC	Engineering	4C	Inaccurate figures and text in the UFSAR were identified but the inspectors also noted ongoing licensee efforts to improve UFSAR accuracy such as line by line reviews of the UFSAR design information and an initiative to ensure all facility changes had been incorporated into the UFSAR.
43	2/13/1998	*****	IR 97022	NRC	Engineering	4C	The inspectors reviewed the actions taken by Quad Cities staff for eight Systematic Evaluation Program (SEP) topics and concluded that the actions taken were sufficient for closure of these items. NRC review of nine remaining SEP items was ongoing.

PLANT ISSUES MATRIX

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44	2/13/1998	Weakness	IR 97022	NRC	Engineering	4C	The inspectors noted that important calculations that form part of the Quad Cities HPCI design basis were not easily retrievable, or did not exist. For example, at the inspection onset, the licensee lacked a calculation to ensure that the HPCI design basis flow of 5000 gpm could be delivered against reactor pressure to support the acceptance criteria in the Technical Specification surveillance procedure. The inspectors also noted that the design basis for various safety related systems was not clearly established. However, the licensee had initiated actions such as the Design Basis Initiative UFSAR review and was planning generation of approximately 15 missing analyses.
45	2/13/1998	Weakness	IR 97022	NRC	Engineering	4C	Quad Cities design basis information weaknesses were also exhibited with numerous errors identified with the HPCI system design basis document (DBD). However, the licensee was aware of the DBD shortcomings and had designated the DBDs as "information only" pending completion of a validation process.
46	2/10/1998	LER	LER 254/98009	Licensee	Engineering	4A	Method of daily temperature verification of standby liquid control system pump suction heat tracing operability using installed temperature switches did not account for calibration tolerance which allowed use of temperature switch settings that did not support the TS requirement resulting in inability to ensure suction line temperature was above the minimum allowed value.
47	2/6/1998	Negative	IR 97028	NRC	Engineering	4B	The inspectors concluded there were instances where engineering evaluations were not completed or were not of sufficient quality in areas such as snubber requirements, EDG ventilation, and electromatic relief valve vibration issues.
48	2/6/1998	Positive	IR 97028	NRC	Engineering	4B	However, the inspectors noted instances where engineering support of maintenance activities for the radwaste system was good and some aspects of troubleshooting for an electromatic relief valve failure were good.
49	2/6/1998	Negative	IR 97028	NRC	Engineering	4B 3A	The inspectors were concerned with the quality of system engineering walkdowns which could result in conditions adverse to quality not being identified.
50	2/6/1998	Negative	IR 97028	NRC	Engineering	4B 4C	The lack of follow-through on long-term EDG improvement plans was a weakness made more significant by recent EDG failures.

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51	1/28/1998	LER	LER 254/98006	Licensee	Engineering	4A	Reactor building post loss of coolant accident temperatures are higher than values used for the environmental qualification of electrical equipment due to unvalidated engineering judgment, the cause of which cannot be determined.
52	1/16/1998	Weakness	IR 989011	NRC	Engineering	4B	To confirm the actions to be taken by the licensee to resolve Appendix F issues at Quad Cities, NRC issued a confirmatory action letter (CAL) to ComEd on January 16, 1998. As described in the CAL, the licensee committed to take several actions prior to restarting the plant, including: 1. Revision and Validation of the Safe Shutdown Analysis, 2. Development of Safe Shutdown Procedures, and 3. Identification and Resolution of Appendix R Discrepancies
53	1/15/1998	LER	LER 254/98007	Licensee	Engineering	4A	The design basis of the Quad Cities station reactor building superstructure is not in literal conformance with UFSAR description of class loading combinations. This is due to the fact that the FSAR, when originally written, lacked sufficient detail in description of class I loading combinations for addressing infrequent loading conditions (such as the crane) concurrent with a seismic event.
54	12/30/1997	LER	LER 254/98005	Licensee	Engineering	3B 3C	Failure to complete periodic visual inspections for reactor coolant sources outside primary containment, as required by TS were due to a programmatic breakdown in scheduling and tracking of system inspections and ineffective program oversight.

GENERAL DESCRIPTION OF PIM TABLE LABELS

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DATE	The date of the event or significant issue. For those items that have a clear date of occurrence use the actual date. If the actual date is not known, use the date the issue was identified. For issues that do not have an actual date or a date of identification, use the LER or inspection report date.
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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
1	8/28/1998	Strength	IR 98014	NRC	Plant Support	1C	Overall performance during the 1998 Emergency Preparedness exercise was effective and demonstrated that your emergency plan implementation activities met regulatory requirements. The performance of the staffs in the Control Room Simulator, Technical Support Center, Operations Support Center and Emergency Operations Facility contributed to safety by taking appropriate actions to mitigate the simulated accident and protect the public. They met the exercise objectives in an acceptable manner while complying with emergency plan and regulatory requirements. Staff and management effectively completed self-critiques.
2	8/14/1998	Positive	IR 98016	NRC	Plant Support	1C	Air sampling was conducted consistent with NRC regulations and industry practice. Air samplers were well maintained and workers were observed correctly performing air sampling activities. However, there were several minor examples identified where procedural guidance needed additional clarification and where mistakes in air sampling records had not been identified through licensee supervisory reviews (Section R1.3).
3	8/14/1998	Positive	IR 98016	NRC	Plant Support	1C	In-vitro and In-vivo analyses were being performed properly and were consistent with industry standards. However, the inspectors questioned whether a decrease in the frequency of quality control checks for the whole body counter would provide sufficient QC data to obtain an accurate indication of detector performance. This was being evaluated by the licensee (Section R1.2).
4	8/14/1998	Positive	IR 98016	NRC	Plant Support	1C	The routine contamination and dose rate survey program was effectively implemented. Surveys were performed as required and appropriately documented. A technician observed during the inspection was knowledgeable of the procedure and the area to be surveyed, and demonstrated good survey techniques (Section R1.4).
5	8/14/1998	Positive	IR 98016	NRC	Plant Support	1C	The inspectors concluded that the station was effectively planning and coordinating work to reduce source term and; therefore, overall station dose (Section R1.5).
6	8/14/1998	Positive	IR 98016	NRC	Plant Support	1C	High and locked high radiation areas were well controlled and were maintained in good condition with only minor housekeeping problems observed. Workers were familiar with access control requirements and RP staff was observed reinforcing these expectations in work areas (Section R2.1).

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Quad Cities

3/24/1999

Search Sorted by Date (Descending) and SMM Codes (Ascending): Search Column = "SALP" ; SALP Area = "Plant Support" ; Beginning Date = "12/21/1997" ; Ending Date = "10/1/1998"

#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
7	8/14/1998	Negative	IR 98016	NRC	Plant Support	1C	Radiological postings and container labeling were well maintained, and appropriately informed workers of current plant radiological conditions. Overall, housekeeping was good, except for the laundry-tool decon building maintenance decontamination area. In addition, drain hoses from heat exchangers in the Unit 2 reactor building were not properly secured and were inconsistently labeled. (Section R2.2).
8	8/14/1998	Positive	IR 98016	NRC	Plant Support	1C	Radiological controls for the Units 1 and 2 spent fuel pool work were effective. The As-Low-As-Is-Reasonably-Achievable (ALARA) plan appropriately addressed past lessons-learned, potentially high radiological conditions and included reasonable contingency plans. The subsequent shipping of the material removed from the pool was also well conducted (Section R4.1).
9	8/14/1998	Positive	IR 98016	NRC	Plant Support	1C	Radiological controls implemented for the demineralizer filter element replacement were effective. The radiation work permit appropriately addressed radiological concerns and included ALARA pre-job briefing notes. Radiation protection technicians and workers demonstrated good communication and radiation worker practices (Section R4.2).
10	8/14/1998	Positive	IR 98016 IR 98016	NRC	Plant Support	1C	The licensee implemented good ALARA controls for the movement of highly activated components in the spent fuel pool and took prompt and effective actions after higher than expected dose rates were encountered during the job (Section R4.3).
11	8/14/1998	Strength	IR 98016	NRC	Plant Support	1C	Overall, the external exposure control program was being effectively implemented in accordance with station procedures and regulatory requirements. Radiation Protection (RP) staff were knowledgeable of procedures and processes. However, several minor deficiencies regarding procedure adherence and record keeping were identified. These deficiencies were being evaluated and corrected by RP management (Section R1.1).
12	7/16/1998	Negative	IR 98012	NRC	Plant Support	1C	The inspectors identified numerous administrative problems associated with the fire protection compensatory actions but concluded that the regulatory commitments were satisfied. The inspectors were concerned with the quality of documentation supporting required fire watch tours and the quality of correspondence in the May 22, 1998, letter to the NRC (Section F2.1).

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
13	5/29/1998	Positive	IR 98009	NRC	Plant Support	1C	Good radiological controls were noted during the performance of traversing incore probe activities. These controls remained in place to provide personnel protection from radiological hazards, even though the out-of-service program protections were not left in place (Section M1.4).
14	5/29/1998	Positive	IR 98009	Licensee	Plant Support	3B	Chemistry and Radiation Protection personnel responded conservatively and quickly to a release of radioactive xenon-133 in the chemistry laboratory. No adverse personnel or environmental hazards resulted from this release (Section R4.1).
15	4/17/1998	Positive	IR 98010	NRC	Plant Support	1C	The 1996 and 1997 effluent reports were generated in accordance with the Offsite Dose Calculation Manual, with the total activity released well below applicable regulatory limits. The reports also appropriately documented any abnormal releases (Section R1.4).
16	4/17/1998	Positive	IR 98010	NRC	Plant Support	1C	The area radiation monitors (ARM) and continuous air monitors (CAM) calibration, testing, and maintenance program was well implemented. However, the ARM trending and component evaluation process, and radiation protection's oversight of changes to the ARM procedures was in need of improvement (Section R2.1).
17	4/17/1998	Strength	IR 98010	NRC	Plant Support	1C	The liquid and gaseous effluent monitoring programs were effectively implemented. Effluent monitor operability was good, with calibrations and checks performed in accordance with procedures and at the required frequencies. Effluent release data indicated that releases were well below regulatory limits (Section R1.3).
18	4/17/1998	Positive	IR98010	NRC	Plant Support	1C	The as-low-as-is-reasonably-achievable (ALARA) plan for the Unit 1 bottom vessel drain line repair was detailed, and included evaluations of the additional dose as work progressed. The radiation work plan requirements incorporated ALARA plan contingencies and special instructions. The total dose for the bottom vessel drain line repair appropriately increased due to an expanded scope of work to include expanding the length of time the freeze seal remained in place, and problems with installing and welding the replacement pipe section (Section R1.2).

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
19	4/17/1998	Positive	IR 98010	NRC	Plant Support	1C	Radiological postings of equipment and facilities, and labeling of containers were in accordance with procedures. Housekeeping was considered good. Minor inspector identified posting and housekeeping discrepancies were promptly corrected by radiation protection personnel (Section R2.3).
20	4/17/1998	Positive	IR 98010	NRC	Plant Support	2B	Required surveillances and tests of the engineered safety feature filtration systems were well implemented and performed in accordance with procedures. The test results indicated that the Technical Specification acceptance criteria were met. The material condition of the filter systems was good (Section R2.2).
21	4/17/1998	NCV	IR 98010	Licensee	Plant Support	3B	Radiation protection's response to an individual who ignored ED alarms was considered good and corrective actions were appropriate. One Non-Cited Violation of NRC requirements was identified (Section R1.1).
22	4/17/1998	Positive	IR 98010	NRC	Plant Support	5A	Audits of the chemistry and RP programs were sufficiently detailed to identify deficiencies and areas where improvements could be made. Corrective actions for the chemistry audit had been effectively implemented. Radiation protection was developing a corrective action plan for the deficiencies identified in the recently completed RP audit (Section R7.1).
23	4/3/1998	Negative	IR 98007	NRC	Plant Support	1C	Management controls were not effective on three occasions to ensure that licensee corrective actions were properly implemented. On two occasions maintenance management failed to recognize that corrective action was not implemented. On one occasion security management's corrective action was not totally effective in preventing a similar problem. (Section S7)
24	4/3/1998	Positive	IR 98007	NRC	Plant Support	1C	Security and plant personnel demonstrated an effective level of awareness and knowledge of security requirements. (Section S4)
25	4/3/1998	Positive	IR 98007	NRC	Plant Support	1C	Security procedures and required documentation were well written and accurately described the required task or event. (Section S3)
26	4/3/1998	Positive	IR 98007	NRC	Plant Support	1C	The vehicle barrier system and protected area detection aids were effective in meeting their designed functions. (Section S2)

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
27	4/3/1998	Positive	IR 98007	NRC	Plant Support	1C	Security alarm station activities were conducted in an effective manner. Access functions related to personnel and package control were conducted in accordance with regulatory requirements. (Section S1)
28	3/31/1998	Positive	IR 98004	NRC	Plant Support	1C	Repair of the Unit 1 reactor water cleanup drain line and disassembly of the Unit 1 "A" residual heat removal pump were two maintenance activities performed in higher radiation areas. The use of as low as reasonably achievable initiatives were effective for the residual heat removal pump repairs (Section M1.2).
29	3/31/1998	Positive	IR 98004	NRC	Plant Support	2B	The Unit 1 scram discharge headers were recently hydroblasted to reduce dose rates for hydraulic control unit work and to reduce dose rates in the general area (Section R1.2).
30	3/31/1998	Negative	IR 98004	NRC	Plant Support	2B	The licensee was not aggressive in ensuring that radiation and contamination levels did not impact examiners and were kept as low as reasonably achievable in the Unit 1 drywell (Section R1.1).
31	2/5/1998	Weakness	IR 98002	NRC	Plant Support	1C	Q1P01 outage ALARA plans and radiation work permits were comprehensive and observed radiation worker practices were good. However, an inconsistency was identified in that ALARA initiatives were not always listed in RWP's.
32	2/5/1998	Positive	IR 98002	NRC	Plant Support	2A	The licensee was taking good corrective actions to bring the radioactive waste systems back to their normal flow paths and to reduce the number of outstanding work requests.
33	2/5/1998	Positive	IR 98002	NRC	Plant Support	3A	The radiological posting of facilities and equipment was good. Radiological housekeeping was good, except in the Laundry-Tool Decon building maintenance shop. Labeling of containers was generally effective, with inspector identified deficiencies promptly corrected by radiation protection personnel.
34	2/5/1998	NCV	IR 98002	NRC	Plant Support	3A	A Non-Cited Violation was identified for allowing materials outside the radiologically posted area (RPA) with direct radiation measurements above background levels. The Licensee initiated prompt and extensive corrective actions once the contaminated material was identified outside the RPA.

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#	DATE	TYPE	SOURCE	ID BY	SALP	SMM CODES	DESCRIPTION
35	2/5/1998	Positive	IR 98002	NRC	Plant Support	3C	Radiological controls for tools and equipment used in RPAs were generally effective. Routine tool crib and storage area surveys performed by the licensee and independent surveys performed by the inspectors during the inspection confirmed the effectiveness of the radiological controls for tools and equipment. A bar coding system was being developed to improve the accountability and tracking of tools.
36	2/5/1998	VIO/SL-IV	IR 98002	NRC	Plant Support	3C **	One violation was identified for face shields in contaminated areas that were not issued by the radiation protection department. In addition, the face shields were left on the floor of contaminated areas, which could lead to the contamination of individuals using those face shields.
37	2/5/1998	Negative	IR 98002	NRC	Plant Support	5A	The calibration and maintenance program for the portable instruments reviewed was sufficiently implemented. Several program weaknesses were identified by the inspectors, including poor response of some instruments at the lower end of their capability and the lack of a dedicated calibration crew.

GENERAL DESCRIPTION OF PIM TABLE LABELS

#	A counter number used for NRC internal editing.
DATE	The date of the event or significant issue. For those items that have a clear date of occurrence use the actual date. If the actual date is not known, use the date the issue was identified. For issues that do not have an actual date or a date of identification, use the LER or inspection report date.
TYPE	The categorization of the issue - see the TYPE ITEM CODE table.
SOURCE	The document that contains the issue information: IR for NRC Inspection Report or LER for Licensee Event Report.
ID BY	Identification of who discovered the issue - see table.
SALP	SALP Functional Area Codes - Engineering, Maintenance, Operations, Plant Support and SM Multiple (i.e., more than one SALP area affected).
SMM CODES	Senior Manager Meeting Codes - see table.
DESCRIPTION	Details of the issue from the LER text or from the IR Executive Summaries.

TYPE ITEM CODE

DEV	Deviation from NRC Requirements
ED	Escalated Discretion - No Civil Penalty
EEI*	Escalated Enforcement Issue - Waiting Final NRC Action
LER	License Event Report to the NRC
Licensing	Licensing Issue from NRR
Misc	Miscellaneous (Emergency Preparedness Finding, etc.)
NCV	Non-Cited Violation
Negative	Individual Poor Licensee Performance
Positive	Individual Good Licensee Performance
Strength	Overall Strong Licensee Performance
URI**	Unresolved Inspection Item
VIO/SL-I	Notice of Violation - Severity Level I
VIO/SL-II	Notice of Violation - Severity Level II
VIO/SL-III	Notice of Violation - Severity Level III
VIO/SL-IV	Notice of Violation - Severity Level IV
Weakness	Overall Weak Licensee Performance

ID BY

Licensee	The licensed utility
NRC	The Nuclear Regulatory Commission
Self-Revealed	Identification by an event (e.g., equipment breakdown)
Other	Identification unknown

NOTES

* EEIs are apparent violations of NRC requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EEIs and the PIM entries may be modified when the final decisions are made. Before the NRC makes its enforcement decision, the licensee will be provided with an opportunity to either (1) respond to the apparent violation or (2) request a predecisional enforcement conference.

** URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. However, the NRC has not reached its final conclusions on the issues, and the PIM entries may be modified when the final conclusions are made.

SENIOR MANAGEMENT MEETING CODES

1	Operational Performance: A - Normal B - During Transients C - Programs and Processes
2	Material Condition: A - Equipment Condition B - Programs and Processes
3	Human Performance: A - Work Performance B - Knowledge, Skills, and Abilities C - Work Environment
4	Engineering/Design: A - Design B - Engineering Support C - Programs and Processes
5	Problem Identification and Resolution: A - Identification B - Analysis C - Resolution

**QUAD CITIES
INSPECTION / ACTIVITY PLAN**

IP - Inspection Procedure

TI - Temporary Instruction

Core - Minimum NRC Inspection Program (mandatory all plants)

Regional Initiative - Discretionary Inspections

INSPECTION / ACTIVITY	TITLE / PROGRAM AREA	NUMBER OF NRC INSPECTORS/ INDIVIDUALS	PLANNED DATES	TYPE OF INSPECTION/ ACTIVITY-COMMENTS
IP62700	Maintenance and Breakers	3	March 8 - 12, 1999	Regional Initiative ①
IP82750 IP86750	Transportation, Radiation Protection, Solid Radwaste	1 - 2	March 8 - 12, 1999	Core
TI2515/139	Testing of Safety Related Logic Circuits	3	April 19 - 23, 1999	Regional Initiative ②
IP84750	Effluents, Radiation Monitors, Control Room Habitability	1 - 2	June 7 - 11, 1999	Core
IP71707	Configuration Management	2	June 28 - July 16, 1999	Regional Initiative ①③
IP81700	Security (SEC1)	1	July 12 - 16, 1999	Core
IP71001	Licensed Operator Requalification	2	July 19 - 23, 1999	Core
IP81110	Security OSRE	1	October, 18 - 22, 1999	Special

Notes:

① Followup on previously identified issues.

② Followup for Generic Letter 96-01.

③ Combined inspection at Quad Cities, Byron, and Braidwood