U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Docket/Report No.: 50-443/92-25 **License No.**: NPF-86

Licensee: North Atlantic Energy Service Company

Facility: Seabrook Station, Seabrook, New Hampshire

Dates: October 13 - November 16, 1992

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Approved By: William J. Lazarus, Chief, Reactor Projects Section 3B 12/1/92 Date

OVERVIEW

Following completion of the second refueling outage, the reactor was taken critical, the generator placed on the electrical grid, and power increased to 30% in a safe and controlled manner. Operators received quality training prior to complex operations and received direct support from senior line managers.

Operators failed to complete several required surveillance tests during mode changes which resulted in violations of Technical Specification requirements. The missed surveillance tests were of low safety significance but indicated a weakness in the implementation of the surveillance testing program during plant mode changes.

The plant staff responded properly to an inadvertent actuation of the emergency alerting sirens in a local town. The Massachusetts Emergency Management Agency Task Force identified the root cause of the actuation.

Technical support and management oversight of the emergency diesel generator service water system wall thinning and the cooling tower fan shaft failure were effective and demonstrated a good safety perspective.

The nuclear quality group inspection, tracking, and evaluation of findings during the outage directly contributed to the safe conduct of the outage. North Atlantic's response to NRC Information Notice 92-88, identified and verified acceptability of several potentially substandard "China" flanges.

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DETAILS

1.0 SUMMARY OF ACTIVITIES [94702]

1.1 NRC Activities

Two resident inspectors were assigned throughout the period. The inspectors conducted backshift inspections on October 22 and November 10, and deep backshift inspections on October 18, 24, 25, 31, November 7 and 11.

1.2 Plant Activities

The plant was in operational mode 6, refueling, at the beginning of the period. Operators completed refueling the reactor and entered mode 5, cold shutdown, on September 17. The operators formed a bubble in the pressurizer on November 3 and entered operational mode 4, hot shutdown, on November 6. The operators brought the reactor critical on November 11 and ended the outage on November 13, when they connected the turbine generator to the electrical grid. At the end of the period, the reactor was at 30% power.

2.0 PLANT OPERATIONS [42700, 71707, 92702]

The inspector conducted daily control room tours, observed shift turnovers, and attended plan-of-the-day meetings. The inspector reviewed plant staffing, safety system valve lineups, and compliance with Technical Specification requirements. The inspector conducted tours of safety related equipment, the turbine building, the waste handling building, and the circulating water pumphouse. Operators immediately resolved minor discrepancies noted by the inspector.

The inspector reviewed operations procedure OS1001.06, "Pressurizer Bubble Formation," observed operators perform the procedure, and discussed the procedure with the operators. The operators reduced reactor coolant pump seal injection flow when the inspector noted that the flow was greater than the flow required by the procedures. The operators displayed trends of six different parameters, which were indicative of bubble formation, and were cognizant of expected interrelationship between the parameters. The unit shift supervisor effectively controlled the conduct of the procedure and continually informed control room personnel of plant status.

The inspector reviewed the tagging control log, the system lineup log, and the mode change checklist prior to the plant entering mode 2, reactor startup. The system lineup log was up to date and valves on exemption sheets were accurately cross referenced to open tagout sheets. Open tagout sheets had attached reminders to update the exemption sheets. The index of the tagout log was not up to date. Many open tagout sheets shown in the index had been closed out but had not been signed off in the index. The inspector discussed the inaccurate index with the operations support staff. The operations support staff noted that the index should be accurately maintained, however, inoperable equipment required for mode changes would have been identified by other reviews such as, computer printouts of tagged equipment, computer printouts of outstanding work requests, and the mode change checklists. The inspector concluded the

inaccurate tagging log index indicated an administrative weakness but did not affect plant safety. However, other program weaknesses contributed to missed surveillances during plant mode changes. (see section 4.2)

The inspector reviewed procedure RS1737, "Post Refueling Low Power Physics Testing," and observed simulator training, pre-shift briefings, boron sampling activities, reactor startup, and portions of the low power physics testing. The reactor engineering supervisor provided training in the simulator on procedure RS1737 including instructions for reactor startup and test termination criteria. The operators used the simulator to practice the approach to criticality and startup testing evolutions. The reactor engineering supervisor led pre-shift briefings that established responsibilities for conducting the procedure and resolved coordination questions.

The boron sampling process used during the approach to criticality was highly automated. The chemist obtained a pressurizer and reactor coolant sample every fifteen minutes and analyzed the samples for boron. One of the four analyses that the inspector observed was repeated when the chemist failed to start the sample stirrer during the titration. The chemist observed proper radiological control techniques and was knowledgeable of the analysis process and the operation of the titration equipment.

The unit shift supervisor directed the reactor startup and physics testing activities. The unit shift supervisor maintained good communications with the reactor engineers and control room operators. The test coordinator effectively managed the activities of the reactor engineers and chemists. The inspector concluded that the operators received significant high quality training prior to the startup, that the chemist accurately analyzed boron samples, and that the reactor engineers effectively collected and evaluated startup data.

The inspector reviewed the three extended work hour authorization forms for the month of September and two weeks of time cards for mechanics, electricians, health physics technicians, and operators. The station manager had approved the extended work hours for specific work tasks. The number and types of extended work hour authorizations indicated aggressive management of overtime during the refueling outage.

The inspector concluded that the operators were well trained and conducted startup activities in a safe and controlled manner. The interface and cooperation between departments was excellent and resulted in an uneventful completion of the refueling outage.

3.0 RADIATION CONTROLS [71707]

The inspectors toured the containment, the primary auxiliary building, and the turbine building. The radiation protection staff effectively minimized the spread of contamination and amount of personnel radiation exposure by maintaining positive involvement and oversight of work activities. The inspector verified that hand held friskers were properly calibrated and source checked. After completing confirmatory surveys, the health physics technicians decreased the

size of the radiological controlled area in the turbine building. A total of approximately 150 manrem was expended during the second refueling outage which was less than the aggressive targeted goal of 157 manrem. Overall, the radiation protection staff performed well.

4.0 MAINTENANCE AND SURVEILLANCE [61700, 61726, 62703]

4.1 Valve Maintenance

The inspector held discussions with the independent review team (IRT) manager and concerns resolution program manager concerning valve repairs and any related release of contamination. The IRT manager had evaluated the qualification process for station, local union, and Newport News Industrial (NNI) contract mechanics as effective in preparing workers to repair valves. The IRT manager verified that all valve repairs conducted during the second refueling outage were performed by qualified mechanics and that the percentage of rework required on valve repairs was normal.

Throughout the outage, inspectors observed valve maintenance, post maintenance testing, and contamination control practices. Contractors repaired or refurbished over 500 valves, half of which were in contaminated systems. Health physics (HP) technicians required appropriate precautions, such as donning anti-contamination clothing and wearing a respirator, whenever a worker began work on a potentially contaminated system. As a result, the number of personnel contamination events during the second refueling outage was significantly less than during the first refueling outage. After workers breached the system, HP technicians evaluated the contamination levels and modified the required radiological controls.

The inspector reviewed the North Atlantic maintenance training program lesson plan objectives for valve mechanics and the North Atlantic training requirements for mechanics employed by contractors. The lesson plans included tasks necessary to repair or maintain valves. The training requirements referenced ANSI 3.1-1987, "Selection and Training of Nuclear Power Plant Personnel." The inspector concluded that the lesson plans and training qualifications were thorough.

The inspector observed mechanics repairing the steam supply valve MS-V-394 to the emergency feedwater (EFW) pump turbine and held discussions with the workers. The inspector reviewed the completed work packages for ventilation system valve CAH-V-12, reactor coolant system valve RC-V-23, and steam supply valve to the EFW pump MS-V-393. The mechanics were knowledgeable, skilled, and utilized the approved procedures contained in the work packages. In one procedure, the mechanics completed the required steps, but missed one quality control hold point associated with the verification of the as-found valve position and initial leak rate. Quality assurance surveillance report 92-00365 identified the missed hold point and will track the adequacy of corrective actions. The inspector concluded that mechanics were properly performing repairs on safety related valves.

NRC Inspection Report 50-443/91-33 documented a review of North Atlantic's programs for identifying, tracking, and repairing valve leakage. NRC Inspection Report 50-443/92-19 noted that HP technicians reduced the size of contaminated areas so that most plant areas could be accessed in street clothes.

The concerns resolution program manager issued a memorandum to all North Atlantic managers and supervisors concerning employees who raised safety issues. The memorandum discussed NRC enforcement actions taken against another utility for discriminating against employees who raised safety concerns and stressed North Atlantic's highest regard for employee rights.

The inspector concluded that qualified mechanics performed the valve maintenance, operators identified and tracked leaking valves, and HP technicians effectively contained and controlled contamination.

4.2 Missed Surveillance Test

On November 5, one day prior to entering mode 4, hot shutdown, operators performed the surveillance test for verifying the ability of the containment personnel air lock seals to perform their sealing function. On November 10, North Atlantic identified that the operators had not tested the seals for over four days after entering mode 4, which was in violation of Technical Specification 3.6.1.3, "Containment Air Locks." The specification requires that when the air lock is used for multiple entries in mode 4, seal leakage must be verified at least once per every 72 hours. Upon discovery of the missed surveillance test, the operators immediately tested the containment air lock seals and obtained satisfactory results. The inspector considered the failure to perform the required technical specification surveillance within the required time to be a violation. (NOV 92-25-01).

During trending of inservice testing data program, support personnel identified two missed Technical Specifications surveillance tests required per Technical Specification 4.0.5.a. On November 12, North Atlantic identified that check valves IA-V8031, 8032, 8033, 8034, which supply instrument air to the component cooling water system temperature control valves, had not been tested prior to entering mode 4. Upon discovery, the operators immediately stroke tested the check valves and obtained satisfactory results. The licensee determined the surveillance test was missed due to an inadequate partial retest.

On November 16, North Atlantic identified that 'A' accumulation isolation valve, SI-V-3, was not tested prior to entering mode 4. Upon discovery, operators immediately stroke tested the motor operated valve and obtained satisfactory results. The licensee determined the surveillance test was missed due to incorrect surveillance tracking system coding. The inspector considered the failure to complete all required inservice testing prior to entering mode 4 to be a violation. (NOV 92-25-02)

Due to the number of examples of missed surveillance tests after entering mode 4 and the licensee's ongoing review of tracking event driven surveillance tests in response to the violation issued in NRC inspection report number 50-443/92-13, two notices of violation were issued. North Atlantic identified the missed Technical Specification surveillance tests, verified equipment operability, and determined an apparent cause for each missed surveillance. The inspector considered North Atlantic's identification and response to the missed surveillance tests to be positive, and that each missed surveillance test had minimal safety significance. However, the inspector concluded that the missed surveillance tests were indicative of a weakness in the implementation of the surveillance test program during plant mode changes.

4.3 Reactor Trip Breaker Surveillance

The inspector observed portions of the performance of surveillance procedure OX 1410.04, "Post Refueling Pre-Startup Reactor Trip Breaker Surveillance". A senior reactor operator conducted the surveillance by maintaining constant communication with an auxiliary operator and electrician in the switchgear room, and an instrument and control technician at the solid state protection panels in the main control room.

The inspector verified that the operators removed the control board indicating lamps while testing the manual reactor trip switch as specified by the revised procedure. The operators successfully completed the test which verified the operability of the manual reactor trip switch and eliminated the need for the temporary waiver of compliance dated August 17, 1992. The inspector assessed that the surveillance test was conducted in a safe and controlled manner.

4.4 Emergency Diesel Generator 18-Month Surveillance

Following the eighteen month overhaul of emergency diesel generators 'A' and 'B', operators performed complex test procedures EX 1804.001, "Diesel Generator 1A 18-Month Operability and Engineered Safeguards Pump and Valve Response Time Testing Surveillance," and EX 1804.015, "Diesel Generator 1B 18-Month Operability and Engineered Safeguards Pump and Valve Response Time Testing Surveillance." The inspector reviewed procedure EX 1804.001, held discussions with technical support and operations personnel, and observed a pretest briefing. The inspector verified that the energized safety injection pump was isolated from the reactor coolant system as required by Technical Specifications.

The inspector verified that the operators adequately tested the unit auxiliary transformer and reserve auxiliary transformer undervoltage relays during the initiation of event 4 and event 5 of the 18-month operability procedures. The successful testing of the relays eliminated the need for the temporary waiver of compliance submitted on June 26, 1992.

The complex test procedures had been revised to incorporate lessons learned from industry experiences and Technical Specification Amendment No.13, which decoupled the loss of offsite power/safety injection test from the 24-hour diesel generator surveillance run. The revised procedures resulted in more extensive and comprehensive data acquisition than the previous procedures.

The training department provided classroom and simulator training to each operating crew on the new procedures as part of the requalification program. The test coordinator provided a pretest briefing to each oncoming shift prior to the conduct of any portion of the surveillances. The pretest briefing observed by the inspector was attended by technical support engineers, electricians, quality assurance inspectors, operators, supervisors, department managers, and a senior line manager. Following a detailed technical briefing and resolution of coordination questions, the senior line manager stressed the need to follow the reporting chain.

The inspector reviewed the completed data sheets for EX 1804.001 and the engineering basis for accepting data that did not meet acceptance criteria. Several of the problems identified by the surveillance procedures and North Atlantic's corrective actions are discussed below.

Several loads including ventilation fans, support equipment for the main feedwater pump, and the main steam supply valves to the emergency feed pump turbine were not operating as required by pre-lineup checklists. Engineers completed reviews of loading requirements and the test coordinator revised the surveillance procedure to modify the pre-lineup checklists. The test coordinator issued a work request to correct equipment deficiencies.

The fuel storage building cooling unit fan, FAH-11A, started at sequencer step one instead of the desired step four. Engineers developed a minor modification, 92MMOD0575, which corrected an error in the sequencer logic circuit. Due to a deenergized open contact on the emergency diesel generator sequencing interlock, the start permissive signal for FAH-11A was present at step one. The minor modification changed the contact to a deenergized closed condition which provided a start permissive signal at step four. The licensing department initiated a station information report to determine whether the nonconforming condition for the starting sequence of fan FAH-11A and B was reportable.

The minor modification corrected the step at which fan FAH-11A received the start signal. However, the fan did not start until after sequencer step five due to the time required for the outlet damper to open and complete the starting circuit for the fan. The test engineers revised the fan start acceptance criteria to reflect the time delay for the fan associated with the opening of the damper.

Main steam isolation valve, MS-V-86, exceeded the 5 second acceptance criteria for closing by 0.12 of a second. The engineering department evaluated the overall actuation response time using procedure EX 1806.001, "RPS and ESFAS Response Time Summation Procedure." The engineers determined the overall steam line isolation time to be 5.38 seconds which met the Technical Specifications limit of 6.0 seconds.

Due to corrective maintenance on the turbine driven emergency feedwater (EFW) pump steam supply valves, MS-V-393 and 394, a test procedure change authorization removed the valves from the procedure and included steps for monitoring the presence of the actuation signal. The sequencer generated the start signal at the proper step. A subsequent post maintenance test on the EFW pump verified the proper operation of the valves.

The switchyard auxiliary emergency feeder breaker exceeded the required 72 second opening time by 0.28 seconds. The electricians calibrated the Agastat timing relay for EDE-US-53 which controlled the sequence interval of the feeder breaker. The calibration reduced the time delay setting by 1.82 seconds. Engineers verified that the resulting sequence interval was acceptable by reviewing work request 92W4854 and the response to request for engineering services, 91RES196 Revision 2.

The inspector noted that North Atlantic repaired the identified equipment problems or clearly provided an engineering basis for acceptance of the existing equipment conditions. The inspector concluded that the test coordinator provided excellent guidance during the performance of the surveillance and clearly documented the basis for test exceptions.

5.0 SECURITY [71707]

The inspector toured the protected area, observed security guards on patrol, evaluated protected area lighting, and monitored activities in the central and secondary alarm stations. The inspector noted that a security guard standing watch in the fuel storage building was alert, knowledgeable of the purpose of the watch, and followed the posting instructions. The protected area lighting properly illuminated equipment and lay down areas adjacent to buildings. The security personnel in the central and secondary alarm stations were alert and professional and occasionally viewed the security monitors while conducting routine and administrative activities. The inspector concluded security activities were performed well.

6.0 EMERGENCY PREPAREDNESS [71707]

On October 13, 1992, the emergency notification sirens in Salisbury, Massachusetts inadvertently actuated for a duration of three to five minutes. North Atlantic followed Support Services Procedure 91413 which provided instructions for responding to inadvertent actuations of public sirens. Additionally, the licensee properly made a 4-hour non-emergency 10 CFR 50.72(b)(2)(vi) NRC notification due to the issuance of a press release.

An interdisciplinary North Atlantic evaluation team reviewed the station response to the event. The team concluded that the plant staff appropriately implemented site procedures. The team identified opportunities for improvement and recommended corrective actions. The inspector concluded that the North Atlantic evaluation team performed a thorough review of the event.

The Massachusetts Emergency Management Agency (MEMA) established a task force to determine the cause and origin of the activation. The sirens can be actuated from any of four offsite locations in the surrounding communities. By letter dated October 18, 1992, the Chief of Police in Salisbury, Massachusetts identified that a police communications dispatcher inadvertently activated the sirens.

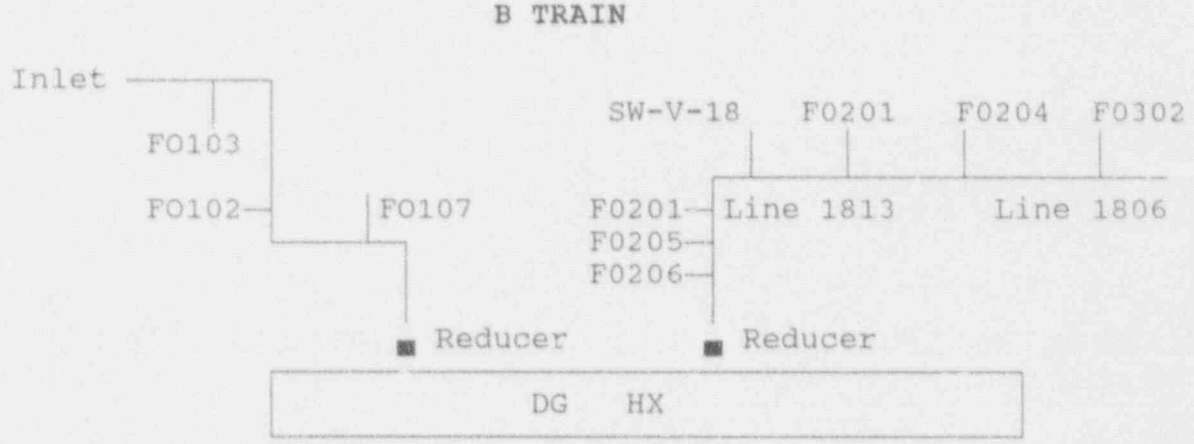
The inspector assessed that North Atlantic responded properly to the inadvertent siren actuation and that the MEMA task force was effective in identifying the cause and origin of the activation.

7.0 ENGINEERING/TECHNICAL SUPPORT [37828]

7.1 Diesel Generator Service Water Piping

An auxiliary operator noted a small leak on the 16 inch to 10 inch cement lined pipe reducer on the service water inlet line to the 'B' train emergency diesel generator heat exchanger. Emergency diesel generator 'B' was inoperable due to an 18-month overhaul. North Atlantic initiated actions to repair the leak. The inspector held discussions with technical support engineers and observed portions of the subsequent troubleshooting and repair activities.

After removal of the reducer, the chemists determined that accelerated general corrosion caused the through wall crack in the carbon steel pipe. A one inch round crater in the cement lining allowed service water to reach and corrode the metal. Non-destructive examination (NDE) qualified inspectors performed ultrasonic tests (UT) on the welds in the service water inlet and outlet piping. The tested welds are shown below.



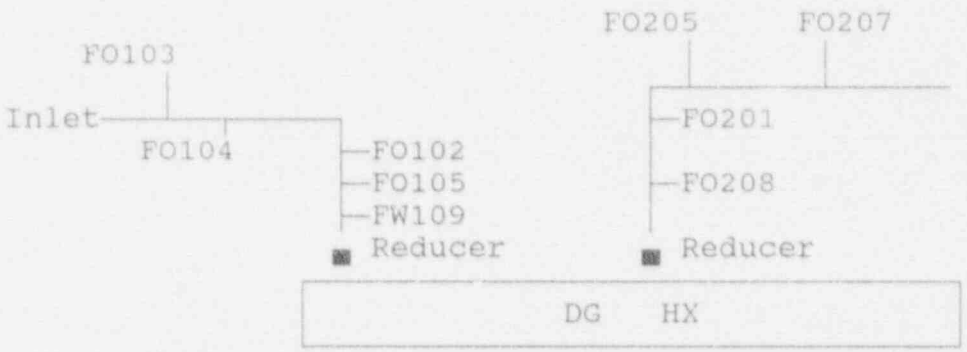
Preparation of the welds for ultrasonic testing identified a significant area of generalized corrosion in field weld 1806-F0102. Engineering developed and site utilities installed minor modification, MMOD-92-568, that attached a 4 inch weldolet with a blank flange to the pipe which completely enveloped the area of corrosion.

The ultrasonic tests identified areas of pipe wall thicknesses of 0.200 inches and 0.180 inches around field welds 1806-F0107 and 1813-F0205. The response to the request for engineering services, RES 92-480, determined that the wall thicknesses were acceptable for the next operating cycle based on a minimum code wall thickness of 0.120 inches. A detailed review of the acceptability of the pipe wall thinning is contained in NRC Inspection Report 50-443/92-20.

The inspector reviewed the UT results, MMOD-92-568, the associated 10 CFR 50.59 evaluation, and RES-92-480. The UT thickness grid for the other welds indicated wall thickness above the commercial minimum wall thickness of 0.295 inches with the exception of small areas on field welds 1813-F0206 and 1806-F0201 which were 0.280 inches and 0.270 inches thick respectively. The inspector used a Nortec, NDT 1240, ultrasonic test instrument to independently verify a sample of the wall thicknesses. The inspector determined that the pipe was above commercial minimum wall thickness except at the isolated locations identified by the licensee.

Subsequent North Atlantic NDE inspector UT examinations of the welds on the inlet and outlet service water piping to the 'A' train emergency diesel generator heat exchanger identified additional areas of pipe wall thinning. The welds examined are shown below.

A TRAIN



Several corrosion related piping flaws, including a through-wall pinhole leak were identified. North Atlantic maintained the 'A' train service water system in operation to support the 'A' emergency diesel generator operability. The inspector reviewed the rationale utilized by North Atlantic in deciding to leave the service water system in service.

The inspector reviewed NRC Generic Letter 90-05, which provides guidance on evaluating flaws in ASME Code Class 3 piping during plant operation, and Part 9900 of the NRC Inspection Manual on the operability of systems with piping flaws. Technical Specification 3.7.4, "Service Water System," does not require the service water system to be operable when in operational mode 5, refueling. However, Technical Specification 3.8.1.2, "AC Sources, Shutdown," requires an emergency diesel generator to be operable when in mode 5. Service water is required in mode 5 as a support system to the emergency diesel generator cooling water heat exchanger.

North Atlantic treated the 'A' service water train as capable of functioning as a support system. The inspector noted that North Atlantic had not written a flaw evaluation to support this position. Subsequently, North Atlantic performed a written safety evaluation and concluded the 'A' service water train was functional. Because Technical Specifications are silent on service water operability requirements when in mode 5, the inspector determined North Atlantic's continued operation of the system to be acceptable. The inspector reviewed the safety evaluation and determined it to be acceptable.

The inspector observed portions of the ultrasonic testing and independently verified the thickness of some areas on the piping which were below minimum code wall thickness. After reviewing the test data, engineering issued work request 92W4641 which provided instructions for conducting three weld repairs on the inlet piping and for replacing a portion of the outlet piping. The weld repairs were in the vicinity of field welds 1808-F0102, 1808-F0104 and 1808-F0105. The pipe replacement replaced field weld 1811-F0201, eliminated field weld 1811-F0208, and created a new field weld 1811-F0209 closer to the reducer. After operators removed service water train 'A' and emergency diesel generator 'A' from service, site utility workers performed the repairs.

The inspector reviewed the weld travelers, magnetic particle examination sheets, and the liquid penetrant examination sheets for the welds associated with the piping repairs. The inspector conducted an independent ultrasonic examination of the weld repairs and confirmed pipe wall thicknesses were above the commercial minimum wall thickness. No discrepancies were noted.

The inspector concluded North Atlantic performed in a competent manner by identifying and resolving the flaws in the service water system piping. Specifically, the auxiliary operator, who initially identified the small leak in the 'B' train of the service water system, exhibited a questioning attitude and strong problem identification capability. The decision to inspect the 'A' train service water piping to determine the scope of the problem demonstrated a proper safety perspective. The piping repairs and post maintenance hydrostatic tests were performed in a competent manner and in accordance with ASME Code Class 3 requirements. The inspector considered that the initial lack of a written safety evaluation to analyze the continued operation of the 'A' train service water piping was a minor weakness.

7.2 Service Water Cooling Tower Fan Shaft Failure

The shaft of service water (SW) cooling tower fan 51A failed during an attempted start. This safety-related fan has a shaft that is made of composite material. The shaft connects a 400 hp electric motor to a gearbox which turns the fan blade. The flanges located at each end of the shaft were also made of composite material. The shaft failure occurred at the gearbox end of the shaft between the composite flange and a flex element.

A root cause evaluation performed by the shaft vendor, Addax, and North Atlantic determined that the sheer modulus of the shaft flange was inadequate. The shaft assembly was replaced with a newer design which provided greater strength at the composite flange by the utilization of a

stainless steel plate bound to the flange and by use of close tolerance bolting material. An alignment check, vibration test, and operability run verified the corrective maintenance was effective.

Two other cooling tower fans, 1-SW-FN1B and 2-SW-FN1B, are located in the common bay section of the cooling tower and are of similar design to fan 51A, except that they have smaller blade size, motor horsepower, and voltage. North Atlantic planned to replace the shafts in the smaller fans with shafts of the newer design. The inspector concluded that North Atlantic performed well by identifying the root cause of the shaft failure and implementing corrective actions to prevent recurrence.

8.0 SAFETY ASSESSMENT/QUALITY VERIFICATION [40500, 92702]

8.1 Nuclear Quality Outage Assessment Meetings

During the refueling outage, the nuclear quality group (NQG) developed an integrated inspection, surveillance, and audit schedule. The NQG conducted bi-weekly progress meetings and weekly finding review board meetings. Throughout the outage, the audit and evaluation supervisor issued audit findings, observation updates, minutes of findings of the review board meetings, and weekly trend analysis.

The inspector reviewed the reports and attended finding review board meetings. Managers or representatives from most departments attended the meetings. The review board discussed findings, assigned priorities for dispositioning findings, and investigated potential program weaknesses. The trend analysis presented data of findings in relationship to department, activity, and areas of concern.

The inspector assessed that the NQG conducted effective inspections, appropriately dispositioned findings, and analyzed the significance of the findings. The inspector noted cooperation between NQG personnel and station managers to identify and correct the root causes of problems. The inspector concluded that the quality program for the refueling outage directly contributed to the safe conduct of the outage.

8.2 Operational Information Reports

The inspector reviewed operational information reports (OIR) generated by the licensee during the refueling outage. Several OIRs involved errors by I&C technicians, electricians, mechanics, and operators. The errors resulted in installation of temporary electrical jumpers during inappropriate plant conditions, incomplete equipment tagouts, calibrating incorrect instruments, and a spill of 10 to 15 gallons of oil. North Atlantic identified the errors and initiated immediate steps to minimize the effects of the errors. Each OIR determined a root cause of the event and assigned responsibility for implementing long term corrective actions. Corrective actions included discussions with personnel, procedural changes, labeling enhancements, and design

changes. The inspector concluded that North Atlantic effectively identified, reviewed, and developed corrective actions to prevent recurrence of errors that could result in safety significant events.

8.3 Control Room Ventilation Isolation: LER 92-06 (Closed)

The inspector reviewed North Atlantic's Licensee Event Report (LER) on the manual isolation of the control room ventilation system. The operators initiated the manual actions in response to a spurious actuation of the east air intake smoke detector. The LER identified the root cause as adverse environmental conditions and contained a commitment to evaluate implementing design changes to stabilize the environment where the smoke detector is located.

The inspector reviewed the Station Information Report (SIR) of the same event. The SIR contained additional recommendations for revising the alarm response procedure and abnormal operating procedure OS1223.01, "Loss of Control Room Ventilation on Air Conditioning," to require verifying a high smoke condition prior to manually isolating the control room ventilation system. The LER contained the minimum information required by 10 CFR 50.73(b), however, the inspector noted that the SIR contained a more detailed and thorough disposition of the event than the LER. This LER is closed.

8.4 Reactor Protection System Actuation: LER 91-13-01 (Closed)

On October 7, 1991, during performance of an eighteen month surveillance procedure for the rod position indication system, the operators manually tripped the reactor when control rod N5 became misaligned from its shutdown bank. The root cause of rod misalignment was not determined. The inspector documented a review of the original Licensee Event Report (LER) and the initial troubleshooting activities associated with the misaligned rod in NRC Inspection Report 50-443/91-32. North Atlantic issued a supplement to LER 91-13 on August 17, 1992. The supplement detailed additional troubleshooting efforts and concluded that the potential causes of the improper control rod drive mechanism (CRDM) performance were boron precipitation and CRDM wear particulates deposited on the control rod.

The inspector observed portions of the additional troubleshooting activities and reviewed the LER supplement. The inspector concluded that the LER supplement provided complete information of troubleshooting activities and reached well supported conclusions. This LER is closed.

8.5 China Flanges: Information Notice 92-88 (Closed)

The NRC issued Information Notice 92-68, "Potentially Substandard Slip-on, Weld Neck, and Blind Flanges," on September 10, 1992. The information notice alerted the industry to potential problems with substandard flanges. The inspector held discussions with the nuclear quality manager, and the purchasing and contract manager.

North Atlantic reviewed purchase orders and inspected flanges held in inventory or installed in the plant to identify potentially substandard flanges. The licensee identified six four inch flanges in the control building air ventilation system that were potentially substandard since they were stamped "China". Following discussions with the National Board of Boiler Pressure Vessel inspectors, the nuclear quality group inspected the flanges, determined the hardness of the flanges, and concluded they were acceptable. The nuclear quality group planned to inspect approximately 20 additional suspect flanges located in non-safety related systems. Also, the procurement department modified the standard procurement clause to indicate that "China" stamped flanges are unacceptable.

The inspector determined that North Atlantic's actions to address information contained in the information notice were timely and extensive. Information Notice 92-88 is closed.

9.0 MEETINGS

The inspector discussed the scope and findings of the inspection with licensee staff periodically throughout the inspection period. The inspector provided a summary of the inspection findings to the station manager and his staff at the conclusion of the inspection period on November 17, 1992.

Region-based inspectors conducted the following exit meetings during this time period.

DATE	SUBJECT	REPORT NO.	INSPECTOR
October 9	Radiological Controls	92-22	D. Chawaga
October 16	Security	92-23	R. Albert
October 16	ISI	92-20	R. McBrearty
October 29	Operator Licensing Requal	92-21	R. Temps
October 30	ILRT	92-26	M. Buckley