


U.S. NUCLEAR REGULATORY COMMISSION
REGION I

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Boston, Massachusetts 02199
Facility: Pilgrim Nuclear Power Station
Location: Plymouth, Massachusetts
Dates: July 11 - August 21, 1989
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10-17-89
Date

Inspection Summary

Areas Inspected: Restart staff inspections assessed licensee management controls and conduct of operations at the 50% power plateau of the licensee's Power Ascension Test Program, as well as ascension to 75% power.

Results

Weaknesses: Procedural inadequacy was determined to be the root cause for the July 18, 1989 steam jet air ejector (SJAE) problems that led to a manual reactor scram and procedural noncompliance was attributed as the root cause for the August 2, 1989 condensate system overpressurization event.

Unresolved Items:

1. The issue of recurring spurious Reactor Water Cleanup system isolations is unresolved pending additional licensee investigation (Section 2.3.3).
2. Adequacy of procedural controls for application of Furmanite to the RCIC discharge check valve is unresolved pending further licensee and the NRC review (Section 7.1).

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DETAILS

1.0 Summary of Facility Activities

At the end of the last report period, the plant was at 50% power and the licensee was continuing with planned testing activities at the 50% power plateau.

On July 18, 1989, the licensee manually tripped the reactor from about 50% power due to decreasing vacuum in the main condenser. The degrading condenser vacuum resulted from having two sets of steam jet air ejectors (SJAES) in service during air ejector shifting, exceeding the heat removal capacity of the air ejector condensers. The root cause was an inadequate procedure.

On July 19, 1989, the licensee requested NRC approval to proceed with power ascension from 50% to 75% power. On July 26, 1989, the licensee brought the reactor critical. The turbine generator was synchronized to the grid at 9:35 a.m. on July 26, 1989.

On August 2, 1989, during a filling and venting evolution on the isolated "C" condensate pump, the pump suction strainer box and expansion joint were found to be deformed due to inadvertent overpressurization. The cause of the event was determined to be backfilling of the "C" condensate pump suction piping without ensuring a proper vent path. Repairs were completed on August 14, 1989.

On August 18, 1989, Mr. Thomas T. Martin, Acting Regional Administrator for NRC Region I, approved the NRC Restart Assessment Panel's recommendation to release the licensee from the fourth NRC approval point (50% of rated power) in the licensee's NRC-accepted Power Ascension Test Program.

At the close of this report period, the plant was at 75% power and the licensee was continuing with planned testing activities at the 75% power plateau.

NRC inspection activities during this report period were conducted by the onsite Pilgrim Restart Staff led by the Senior Resident Inspector/Restart Manager. The Pilgrim Restart Staff is composed of the Pilgrim resident inspectors, NRC region-based and headquarters-based inspectors and an NRC contractor.

On August 18, 1989 at 7:00 a.m., the Pilgrim Restart Staff began 24-hour shift coverage prior to reactor operation above 50% power. Around-the-clock shift coverage was continued until 6:30 p.m., August 24, 1989.

2.0 Operations

2.1 Sustained Control Room Observations

Based on extended shift observations of control room activities including shift briefings, turnovers and performance of surveillance tests, NRC inspectors determined that control room activities were conducted in a safety conscious and professional manner. Communications among control room personnel were clear and included the routine use of repeat-backs. The frequent presence of operations line management in the control room was observed. The Nuclear Watch Engineers (NWEs) displayed a high level of awareness of evolutions in progress and plant status. Pre-shift briefings and turnovers were well structured and reasonably thorough. Routine surveillance tests, such as the Average Power Range Monitor Functional test, Procedure 8.M.1-2, were conducted in a deliberate, expeditious and professional manner. The operators maintained a clear understanding of the procedure and fully complied with it as written. Operator communications were very clear.

Good coordination and cooperation was exhibited between operations and other licensee organizations. The relationship between operations and systems engineers was particularly good; operators routinely involved the systems engineers in operational problems and events.

Strict procedural compliance and a safety-conscious, questioning attitude were apparent in the control room. On several occasions late in the inspection period, the operators would not proceed with a task, which had apparently in the past been performed without a specific procedure, until a procedure was written and approved. This attitude is a direct result of station management expectations that were reemphasized in response to the August 2, 1989, condensate pump suction overpressurization event.

Shift staffing levels were satisfactorily maintained throughout this period. The twelve newly licensed Reactor Operators (ROs) and a Senior Reactor Operator (SRO) had obtained unrestricted licenses by successfully completing required on-watch training and reactivity manipulations during a previous inspection period. This brought the total number of Pilgrim SROs to twelve and ROs to seventeen. Operators were maintaining a six-shift rotation with two SROs and two ROs per shift.

2.2 Plant Tour Observations

During the inspection period, accessible portions of the plant were toured to assess plant conditions, adequacy of plant equipment, radiological controls, and security. Housekeeping and equipment labeling were observed to be very good. Radiation areas were clearly

marked and well controlled. Sensitive instrument racks were caged for protection. Fire equipment was well maintained and sources of ignition and flammable material were adequately controlled. Access to the reactor building was controlled by security personnel as a compensatory measure when the latches on the reactor building doors were inoperable for a short duration during the inspection period. Material condition was generally good, and the presence of deficiency tags was indicative of management attention to ensuring equipment operability. There appeared to be a large number of tags in-plant. Therefore, effectiveness of management tools for tracking and trending identified plant deficiencies will be reviewed during routine inspection of licensee safety assessment and quality verification.

2.3 Review of Plant Events

2.3.1 Manual Reactor Scram on July 18, 1989

On July 18, 1989, the operators manually scrambled the reactor from approximately 50% power in anticipation of the automatic reactor scram on low condenser vacuum. Prior to the scram, while the steam jet air ejectors (SJAEs) were being swapped from the "B" train to the "A" train, condenser vacuum began to decay and could not be restored. All plant systems responded as designed following the manual scram and the reactor stabilized at the hot shutdown condition. Operator actions during and immediately following the scram were excellent. Communications, use of the scram procedure, and system parameter monitoring by the operators in the control room were conducted in a professional and expeditious manner.

The licensee determined that the root cause of the loss of condenser vacuum was a less than adequate procedure that allowed the operators to challenge the heat removal capacity of the SJAE condensers. Twice during the SJAE shifting process, all six SJAEs were in service, causing a maximum steam load on the SJAE condensers. This steam load evidently caused SJAE condenser overheating, steam binding and isolation, with a resulting degradation of main condenser vacuum.

A contributing cause identified by the licensee was an unforgiving design that does not provide operators with the ability to override the offgas high temperature trip of the condenser vapor valves. Once the condenser vapor valves tripped shut, the valves could not be re-opened to recover main condenser vacuum until the offgas line cooled through thermal decay.

Review of the licensee's critique and interviews with operators indicated that a pre-evolution briefing was conducted by the onshift Nuclear Operations Supervisor (NOS). The inspector determined that the attendance at the briefing was appropriate and procedure 2.2.93, "Main Condenser Vacuum System," was discussed. However, no one at the briefing recognized the potential consequences of operating all six SJAEs at the same time. During the shifting of SJAEs, the NOS directly supervised the local valve manipulations in accordance with Procedure 2.2.93. The Nuclear Watch Engineer (NWE) provided oversight of the evolution in the control room by communicating with the NOS using the plant page communication system.

The licensee's immediate corrective actions included a revision to Procedure 2.2.93 to require the swapping of individual SJAEs instead of complete trains to minimize the heat load on the SJAE condensers. A night order and required reading material describing this event and the subsequent procedure change were issued to inform the operations staff. The operator training program is planned to be changed to address identification of steam binding in the SJAEs and overheating of the condensers. Also, on-shift training sessions will be conducted for operators to enhance their understanding of circumstances surrounding the event.

The licensee also issued an Engineering Service Request (ESR) for the Engineering Department to determine the feasibility of a plant modification that would allow an operator to bypass the high temperature trip of the condenser vapor valves. This would allow the offgas line to be cooled more rapidly once a determination was made that a high temperature trip is not due to hydrogen recombination in the offgas system.

The inspectors had no further questions at this time; licensee corrective actions are considered adequate.

2.3.2 Local Power Range Monitor (LPRM) Spiking

On July 8, and on two separate occasions on July 31, 1989, three different LPRMs spiked, causing reactor protection system half-scrum actuations from their associated Average Power Range Monitors (APRMs). The observed LPRM spikings were of short duration (less than one second) and the resulting half-scrums were reset immediately.

The three LPRMs that experienced spikes are NA-300 models supplied by the General Electric (GE) Company. Of the 30 LPRM strings in the reactor core, eleven strings had NA-300

models installed during the last refueling outage. The licensee believes the root cause of the LPRM spiking was manufacturing problems of the NA-300 model LPRM detectors. The spiking is attributed to instability of uranium coating of the outer electrode or imperfect titanium substrate material. The licensee also received information from GE that other domestic reactors with the NA-300 model LPRM detectors (Dresden 2, Millstone 1, and Vermont Yankee) have recently experienced similar spiking problems.

Corrective actions taken by the licensee, in accordance with the recommendations from GE, include performance of current versus voltage (I-V) testing on the LPRM detectors. The I-V test is performed as a counter-measure to help alleviate the potential for spiking by periodically applying higher than normal operating voltages to the LPRM detectors. The I-V test is routinely done on LPRM detectors after installation.

The licensee indicated that GE is evaluating the LPRM electronic circuitry for spiking susceptibility at the plants which have experienced spiking of NA-300 LPRM detectors. The licensee sent GE an LPRM circuit card for testing; at the close of the inspection period, the licensee had not received the test results. The licensee plans to work closely with GE to develop additional corrective actions. The licensee also indicated that their Regulatory Affairs Section, with assistance from the Engineering Department, is reviewing the LPRM spiking concern for 10 CFR Part 21 reportability. The inspector considered these actions appropriate.

2.3.3 Reactor Water Cleanup (RWCU) System Isolation

On July 26, 1989, spurious actuation of the outboard RWCU system portion of the primary containment isolation control system occurred during a reactor startup with reactor pressure at about 10 psig. The licensee's immediate response was prompt and appropriate. The operators halted the plant heat-up in progress, manually completed the inboard isolation, walked down the RWCU system and verified that there were no leaks, and notified the NRC via the Emergency Notification System (ENS).

The licensee determined that the isolations were caused by a sensed system high flow condition which cleared shortly after it occurred. The licensee's investigation found air in the instrument lines. The licensee refilled the lines and restored RWCU to service.

Air in these instrument sensing lines has been a recurring problem during the Power Ascension Test Program; similar RWCU isolations occurred on February 10, May 25, and on June 15, 1989. As described in the previous inspection report (50-293/89-07), the licensee had revised Procedure 2.1.1., "Startup From Shutdown," to include steps for purging air that might be trapped in the RWCU system flow sensing lines from dissolved gases. A modification (PDC 89-16) was also implemented on July 23, 1989 to install a time delay to the circuitry for the RWCU system flow sensors. The time delay buffers the circuitry from minor RWCU system flow fluctuations to preclude unnecessary closing of the RWCU system isolation valves while still providing for timely isolation of actual system leaks.

In response to the July 26, 1989 RWCU system isolation, licensee management formed a multi-disciplinary investigation team to determine the root cause. At the end of this inspection period, the investigation had not been completed. This item is unresolved pending completion of the licensee's root cause analysis and satisfactory corrective actions to preclude recurrence (UNR 50-293/89-08-01).

2.3.4 Condensate System Overpressurization Event

On August 2, 1989 at approximately 4:30 a.m. and reactor power at 50%, while performing a filling and venting evolution on the isolated "C" condensate pump, the pump suction strainer box and expansion joint were overpressurized and experienced plastic deformation.

Prior to this event, the "C" condensate pump had been isolated with the pump casing and piping between the suction and discharge valves drained following suction strainer removal. Since the shift was short one non-licensed operator and was overstaffed at the supervisory level, the licensee utilized the supervisors to perform the fill and vent evolution. A spare Nuclear Watch Engineer (NWE) was placed in charge of the evolution.

Although previous suction strainer box and condensate pump refill operations had been performed without the use of a formal procedure, the NWE in charge of this evolution decided to utilize procedure 2.2.96, "Condensate and Feed-water System," as a guide. Section F of this procedure, "Condensate Pump Fill and Start Instructions," applies to returning a condensate pump to service following major maintenance. The procedure connects the running condensate pump discharge sample line to the idle pump discharge sample line using a spool piece and utilizes disconnected

unions and the removed pump packing as vents. The idle pump piping and casing are then filled through the cross-connected sample lines using condensate pump discharge pressure (about 400 psig).

At 4:30 a.m., the on watch NWE discovered water leaking into the condensate pump pit from the area between the strainer box and the damaged strainer box cover. The fill path was secured and later that morning, the licensee discovered that the "C" condensate system suction piping had been overpressurized.

Damage sustained by the overpressurization included: 1) the strainer box coverplate bolts were extended; 2) the sides of the suction strainer box were deformed; 3) the end of the strainer box which bolted to the expansion joint was deformed about 2 to 3 inches in the axial direction of the expansion joint; 4) the expansion joint between the strainer box and the pump casing was expanded two inches and was offset; and 5) two piping supports in the pump area and three in the condensate bay shifted as the suction header apparently pivoted slightly around the "B" pump line.

The licensee determined that the primary causal factors of this event were less than adequate supervision and departure from approved procedures. Direct, hands-on supervisory involvement in the evolution interfered with the supervisor's ability to provide an objective overview. The operators were instructed to not use selected portions of the procedure and no procedure change was initiated. In addition, verbatim compliance per procedure 1.3.34, "Conduct of Operations," was not followed by crew supervision.

The licensee also determined that there were several contributing causal factors. These included a less than adequate hardware design, in that an atmospheric vent path or relief protection did not exist on the pump suction. An additional contributing factor was that the procedure (2.2.96) was inadequate. The procedure purpose was to fill and vent the condensate pump after major pump maintenance (removal and re-installation) and did not address filling and venting after minor maintenance. However, it could have been successfully used to accomplish the fill and vent after the strainer was removed. Since the procedure applied to returning a condensate pump to service following major maintenance and no procedure directly applicable to this particular evolution existed, the supervisor decided to use the procedure for guidance only. The unions on the idle pump suction strainer vent and startup vent were not

disconnected due to radiological concerns and since the pump packing gland is specifically designed to permit controlled runoff, the NWE erroneously reasoned that it would serve as an adequate vent point.

Licensee corrective actions included: 1) revision to procedure 2.2.96 to improve the fill and vent process for the condensate pumps following major maintenance and to provide a section to address vent and fill after suction strainer removal or replacement; 2) revision to the Conduct of Operations procedure (1.3.34) to incorporate guidance regarding the use of management personnel in performing evolutions normally assigned to subordinates; 3) reemphasis to plant personnel on the need for procedural compliance, including balance of plant procedures; 4) revision to procedure 2.1.11.1, "System Fill, Vent and Drain Instruction," to ensure proper supervisory reviews, appropriate controls, and adequate overpressure protection for such evolutions, and 5) licensee reevaluation of those operations previously considered skills of the trade and therefore not requiring step-by-step procedures.

The damaged strainer box was replaced with a newly fabricated spool piece and the expansion joint was replaced. The licensee also performed a detailed engineering evaluation of the condensate suction piping to assess the impact of the overpressurization event. The licensee concluded that the condensate suction piping could remain in service in the as-found displaced condition.

The inspector concluded that the licensee's investigation of this event was adequate. The licensee's engineering evaluation of the condensate suction piping, as well as methods to prevent recurrence, were thorough and appropriate. However, the inspector noted that an inadequate shift turnover may also have been a contributing factor. Two shifts prior to this event, an operator notified the on watch NWE that the strainer box gasket had leaked while filling with an 80 psig system during a fill evolution about a year earlier. The operator also recommended to the NWE that the procedure should be evaluated prior to use since the procedure utilized a condensate pump discharge pressure of about 400 psig, a relatively high pressure source. This information was not turned over to the shift performing the work. Subsequent to this finding, the licensee has re-instructed NWEs to document more detailed entries in the shift turnover log book.

3.0 Startup Testing Activities

During ascension from fifty to seventy-five percent power, the following startup testing activities were observed or reviewed:

3.1 APRM Calibration

Six average power range monitors (APRMs) average the output of 120 local power range monitor (LPRM) amplifiers, provide continuous indication of bulk reactor power level during power operation, and initiate rod blocks and reactor scrams based on reactor power and core flow. The licensee performed procedure 9.1, "APRM Calibration," which applies APRM gain adjustment factors (AGAFs) derived from the process computer core thermal power and actual APRM readings to the APRM channel indications, to ensure that indicated power is proportional to core thermal power. The procedure was correctly followed and communications among crew members were effective. The test results were satisfactory.

3.2 Feedwater Heater Water Level Optimization Test

Temporary Procedure 87-152, "Feedwater Heater Water Level Optimization Test," was performed to demonstrate that water level in the feedwater heaters is being maintained at near optimum level. Based on observations of portions of the test and discussions with cognizant licensee personnel, licensee personnel were knowledgeable of the procedure and the test.

3.3 Jet Pump Calibrations

The purpose of test procedure 9.17, "Core Flow Evaluation and Jet Pump Calibration," is to ensure that the core and jet pump flow indications are accurate. Total reactor core flow is the sum of the flow rates through the twenty jet pumps. The flow rate through each jet pump is monitored by measuring differential pressure between the jet pump diffuser entrance and a common pressure point in the core entrance plenum.

During the performance of the jet pump calibration, not all of the "B" loop flow transmitters were within 5% of the fully instrumented jet pump as required by procedure 9.17. Troubleshooting by the licensee revealed a failed power supply card for one of the jet pump flow transmitters (#5 jet pump); and that the #16 jet pump required recalibration. After the troubleshooting, retest demonstrated that all of the "B" loop flow transmitters were within the acceptance criteria.

NRC review of the completed test and procedure revealed that although the surveillance test met the acceptance criteria specified in the procedure, the procedure acceptance criteria are ambiguous. For

example, the procedure allows that if several of the test data points are out of tolerance and the cause cannot be rationalized, a second set of data shall be obtained. The licensee is revising the procedure to provide more definitive acceptance criteria for evaluating the data and determining whether further action is required as a result of the evaluation.

3.4 RHR System Interleakage Test

This test is part of the licensee's actions in response to inter-system leakage concerns discussed in NRC Confirmatory Action Letter 86-10 issued on April 12, 1986. In test procedure 8.5.2.10, local RHR system temperature and pressure readings are taken and compared to saturation conditions to determine if the potential for void formation exists. The inspector reviewed test results obtained during this inspection period; no deficiencies were identified.

4.0 Radiological Controls

4.1 Review of Health Physics Technician Training

A review of requalification training was conducted to determine whether minimum knowledge necessary to work with radioactive materials, and knowledge of plant activities and radiological conditions necessary to provide adequate plant coverage was imparted to health physics (HP) technicians.

The HP requalification program meets regulatory requirements; it provides effective training in a dedicated facility utilizing an adequate staff consisting of a supervisor, two senior instructors, a training specialist and two apprentice instructors. The program makes effective use of mockups, lesson plans and quizzes to incorporate HP fundamentals and relevant plant experience. Technicians receive one week of training in each six week shift rotation.

4.2 Personnel Out-Processing

Previously identified problems with termination reports and missed Whole Body Counts for terminated employees were reviewed to assess the effectiveness of licensee corrective actions.

The licensee determined the root cause of the problems to be a fragmented approach to processing terminated employees. Corrective action contained in draft procedure 1.3.77 includes notifications to various departments, a checklist to be completed by the employee, and verification of the checklist by the employee's supervisor and the personnel department.

Review of licensee corrective actions revealed draft procedure 1.3.77 did not address time limitations for reporting personnel exposures stated in 10 CFR 20. The licensee committed to incorporate the time

limitations in the final draft of the procedure. Effectiveness of the procedure will be reviewed as a part of the regular inspection program.

4.3 ALARA

In a June 27, 1989 briefing of NRC management, the licensee identified a source reduction program intended to reduce Cobalt 60 sources in the plant. The program was reviewed to determine the extent of licensee efforts for controlling and reducing out of core radiation, and to measure the effectiveness of the ALARA program.

The source reduction program was still in the development stage. Ten potential modifications have been identified for Cobalt reduction; feasibility studies have been undertaken for the modifications. At the time of the review, studies had been completed for three of the modifications, and replacement of control rods with a low Cobalt design was believed to have the greatest benefit. Although the licensee plans to make a recommendation to the site ALARA committee in November 1989, licensee engineering management indicated that emphasis had shifted away from the program during power ascension. Engineering management also indicated that several Cobalt reduction measures were already in effect, including condensate polishing, and Cobalt free feedwater regulating valves and check valves.

Final licensee action on the feasibility studies will be reviewed as a part of the regular inspection program to assess management oversight of the source reduction program.

4.4 Procedure Upgrades

Select Radiological Procedures were reviewed to determine the effectiveness of radiation surveys and the Radiation Work Permit (RWP) program in controlling and measuring exposure to workers.

Radiation survey procedure SI-RP-.3001 and RWP procedure 6.1-022 had recently been upgraded by the licensee. Changes were incorporated to conserve technician dose, improve data maps, increase surveillance of high traffic areas, and provide clarifying guidance to workers and technicians.

The upgraded procedures were determined to meet regulatory requirements and are considered to be improvements over previously existing revisions.

5.0 Surveillances

5.1 Review of Completed Surveillance Results

The following selected samples of recently completed safety related system surveillance records were reviewed to verify that the tests had been conducted in accordance with approved procedures as required by the Technical Specifications:

8.4.1	Standby Liquid Control Pump and Flow Rate Test
8.M.2-2.10.4.4	HPCI Simulated Automatic Actuation
8.5.1.3	Core Spray Motor Operated Valves
8.M.2-2.5.8.A.1	HPCI Steam Line Low Pressure Functional Test
8.M.1-3.2.5	ECCS Analog Card File Calibration
8.C.4	Running of Standby Gas Treatment System
8.C.6	Control Room Environmental System
7.1.36	Diesel Generator Fuel Oil Storage Tank Sampling
8.C.14	Pilot Cell Overall Battery Check
8.B.1	Weekly Fire Pump Test
9.5.1.1	Core Spray Pump Operability and Flow Rate Test
8.5.22	LPCI Pump Operability and Flow Rate Test

No discrepancies were noted.

5.2 Observation of Surveillance Tests

Conduct of the following surveillance tests was observed during this inspection period:

9.5	LPRM Calibration
8.7.4.2	Primary Containment Atmospheric Control Valve Quarterly Operability

Pre-test briefings were adequate, sufficient personnel were available for testing, control room personnel were aware of test status and personnel adhered to procedures. Operators used procedures in a step by step manner and relayed instructions to test personnel in a concise and clear manner. Independent verifications of component/valve positions were conducted in accordance with procedures. Test instruments were within calibration frequency and test data was reviewed promptly upon completion of testing.

6.0 Review of Licensee Self-Assessment Activities

The inspectors routinely monitored the licensee's in-place programs to assess facility and personnel performance. The licensee has in place a formal peer evaluation program of routine personnel performance monitoring. Peer evaluators are selected from the onsite organization, receive training on performance monitoring techniques and are assigned to monitor specific activities. The peer evaluator program provided twenty-four hour

operations monitoring during power ascension testing at the 50-75 percent power plateau. Peer evaluator findings, both positive and negative, were relevant and generally appropriate. Findings were discussed with the Watch Engineers and technical issues were corrected. Senior management was observed on the backshifts to emphasize management policies and provide oversight of activities.

The Management Oversight and Assessment Team (MO&AT) provided additional review of restart and power ascension activities. The MO&AT, composed of senior managers, including the Station Director and Vice President, Nuclear Engineering, maintains oversight of restart related activities and associated plant operations through self-assessment programs, including the peer evaluations and management monitoring programs. The inspectors noted that the MO&AT, being comprised primarily of senior managers, sometimes appeared to lack detailed plant specific knowledge of issues discussed; additional plant specific knowledge could improve the MO&AT's capability to make or evaluate technical decisions. The inspector discussed this observation with senior licensee management and they are currently evaluating it. In general, management performance was satisfactory during this period and management has set high performance standards.

7.0 Followup on Issues from Previous Inspections

7.1 Followup on RCIC Check Valve

Following the Reactor Core Isolation Cooling (RCIC) System overpressurization event on April 12, 1989 (Inspection Report 50-293/89-80), licensee investigation identified that the RCIC discharge check valve CV-1301-50 apparently failed to properly seat, allowing backleakage of feedwater to the low pressure RCIC suction piping.

The check valve was in an indeterminate state (as to whether fully seated) until disassembly on April 21. Internal binding was found which was attributed to previous furmaniting in March 1985 that was not fully removed by permanent repairs done in August 1987. An Engineering evaluation, documented in a March 8, 1985 NED memorandum allowing the use of Procedure M-885084 to implement the repairs to the check valve stipulated that "...Maintenance shall exercise control over the volume of Furmanite injected to ensure that only the amount necessary to seal the valve is injected." That condition was apparently not strictly met, in that the sealant became more than just an extension of the existing gasket, and in fact did have an adverse effect on check valve operability.

Maintenance request 86-13-24 initiated in August 1986 and performed in August 1987 to permanently repair and repack the valve failed to completely remove the Furmanite which had migrated past the packing into the valve, and onto the face of the disc, actuator shaft bushing, and plug. This ultimately caused binding and impeded free movement of the check valve.

The Augmented Inspection Team's review of the maintenance history for the RCIC system check valve exposed a weakness in the use and control of Furmanite. The adequacy of the engineering evaluation and the controls used to apply Furmanite is considered unresolved (UNR 50-293/89-08-02) pending further licensee and NRC review.

7.2 Followup on RHR System Valve Failures

This item was previously reviewed in inspection 88-31. The licensee's Failure and Malfunction Report package covering the yoke cracking of two 18" injection globe valves in the RHR system was reviewed by a Region I specialist inspector during this period. Special attention was focused on review of metallurgical analyses and material test reports. The valves identified as MO-1001-28A and 28B were manufactured by Walworth Company. The package included root cause analysis, metallurgical analysis, repair procedure and QA documentation.

The initial problem which occurred in June 1988 involved valve 28B. The valve allowed a 2000 gpm flow in the closed position. Field inspection of valve 28B revealed an extensive through-wall crack in the weld joining the flange to the yoke. Inspection of valve 28A revealed small cracks in the yoke just below the flange to yoke weld.

The inspector found that the licensee's evaluation with regard to the cause of failure was thorough and provided a good technical assessment of the cause of the failure. Failure of both valves was similar in manner in that cracking was believed to be initiated by small fatigue cracks that started in material defects. Their conclusion was based on a metallurgical investigation of cracked sections removed from each valve and a root cause analysis. In the case of valve 28B, which ultimately failed in a brittle manner, cracks started from weld defects. In the case of valve 28A, cracks started from surface imperfections in the yoke casting, and propagation was aided by the presence of porosity in the casting. Although the location of the failure and the nature of the initiating defects differed, the underlying cause for both failures was due to the yoke configuration which caused high stresses to concentrate in a sharp notch at the intersection of the motor operator flange/yoke bottleneck juncture, and the use of a Limitorque operator that delivered a higher thrust than originally anticipated.

The valves were repaired by removing the failed portion of the valves and replacing it with a newly designed yoke/flange assembly that eliminated the bottleneck design. The new assembly was also made from a stronger material (SA 516 Gr70) than the original material (AISI 1025). The change to a stronger material was necessitated since there was evidence in valve 28B that the original flange deformed because of its inability to withstand the localized bending loads. The inspector reviewed the associated Quality Assurance (QA)

production records covering the repair including nondestructive examination (NDE) welding procedure qualification records and post weld heat treatment, and found no deficiencies. The repair was performed in accordance with ASME Section XI requirements. The inspector had no further questions.

7.3 Review of Emergency Operating Procedure (EOP) Satellite Procedure

Procedure 5.4.6, "Primary Containment Venting and Purging Under Emergency Conditions," was reviewed to ensure that the procedure provided the operations staff with adequate guidance on the use of the direct torus vent. Procedure 5.4.6 contained clear and concise entry conditions for use of the direct torus vent; instructions and technical information for activating and operating the vent system were accurate. Controls in place to prevent inadvertent operation, through pulled fuses and keylock switches, were also adequate. In conclusion, the procedure was determined to be adequate to control initiation and operation of the direct torus vent system.

8.0 Management Meetings

An NRC Restart Assessment Panel meeting was held on July 19, 1989 at the NRC Region I Office in King of Prussia, Pennsylvania. The Restart Assessment Panel received a presentation from the licensee on their assessment of the results of the 25% - 50% Power Ascension Program, including their assessment of the July 18, 1989 manual reactor scram. The licensee's handout for the presentation is included as Attachment II to this report.

A supplemental Enforcement Conference to further discuss additional issues regarding the April 12, 1989 Reactor Core Isolation Cooling (RCIC) system piping pressurization event was held on July 19, 1989 in the Region I Office in King of Prussia, Pennsylvania. The NRC staff had previously verified the licensee's implementation of short-term corrective actions prior to plant startup on April 28, 1989. NRC Region I had issued the Augmented Inspection Team's evaluation of the RCIC system event in NRC Inspection Report 50-293/89-80 on May 8, 1989.

On August 10, 1989, an NRC Restart Assessment Panel teleconference was held at the NRC Region I Office in King of Prussia, Pennsylvania. The panel received a briefing from the licensee on their assessment of the August 2, 1989 condensate overpressurization event.

At periodic intervals during the inspection period, meetings were held with senior facility management to discuss the inspection, scope and preliminary findings of the Restart staff. A final exit interview was conducted on September 21, 1989. No written material was given to the licensee that was not previously available to the public.

ATTACHMENT I TO INSPECTION REPORT 50-293/89-08

Persons Contacted

R. Bird, Senior Vice President - Nuclear
K. Highfill, Site Director
R. Anderson, Plant Manager
D. Eng, Outage and Planning Manager
E. Kraft, Deputy Plant Manager
D. Swanson, Nuclear Engineering Department Manager
D. Long, Plant Support Department Manager
J. Alexander, Training Department Manager
N. DiMascio, Radiological Section Manager
J. Seery, Technical Section Manager
R. Sherry, Maintenance Section Manager
L. Olivier, Operations Section Manager
J. Neal, Security Division Manager
W. Clancy, Systems Engineering Division Manager
W. Sullivan, Fire Protection Division Manager

POWER ASCENSION STATUS

SCHEDULED TESTS AND ACTIVITIES TO DATE -- COMPLETE

LINE ORGANIZATION -- EFFECTIVE

OVERALL PLANT CONDITION -- EXCELLENT

OVERSIGHT MANHOURS

7,050 MANHOURS OF DIRECT OVERSIGHT SINCE BEGINNING
OF POWER ASCENSION PLAN

680 MANHOURS ABOVE 25%

PEER EVALUATORS

3200 MANHOURS

240 MANHOURS GREATER THAN 25%

QA/QC

1835 MANHOURS

240 MANHOURS GREATER THAN 25%

MO&AT AND OTHER LINE MANAGEMENT

2000 MANHOURS

200 MANHOURS GREATER THAN 25%

2 KEY QUESTIONS

IS THERE ANYTHING THAT WARRANTS FURTHER INVESTIGATION?

ARE WE MAKING PROGRESS ON THE ISSUES WHICH WE HAVE PREVIOUSLY IDENTIFIED AS NEEDING ADDITIONAL MANAGEMENT ATTENTION?

PEER EVALUATOR OBSERVATIONS

STRENGTHS

SDOCR -- EFFECTIVE TRAINING, WALKTHROUGHS, PERFORMANCE

**GOOD CONTROL OF EVOLUTIONS AND SURVEILLANCE BY
CR PERSONNEL**

GOOD WATCH TURNOVER AND PRE-SHIFT BRIEFINGS

**PRECISION AND FORMALITY OF ORAL COMMUNICATION
IN THE CR**

STRONG CONTROL BY CR SUPERVISORS

PROCEDURAL COMPLIANCE

INTEGRATION OF LESSONS FROM RCIC EVENT

PEER EVALUATOR OBSERVATIONS

IMPROVEMENTS NOTED

DEMAND FOR PROCEDURAL ACCURACY

CR SUPERVISORS REINFORCING STRICT AWARENESS/ATTENTION

REVISED TAGGING PROCEDURE

PRE-EVOLUTION BRIEFINGS

USE OF SAFETY EQUIPMENT

PEER EVALUATOR OBSERVATIONS
ADDITIONAL MANAGEMENT ATTENTION

MATERIAL CONDITION OF RADWASTE AREA

AWARENESS OF ATTENTION TO DETAIL IN RP PERSONNEL

CONTROL OF CHEMICALS

NON-OPERATIONS PERSONNEL IN CR

ATTENTION TO DETAIL IN DOCUMENTATION BY OPERATIONS

QAD OBSERVATIONS

STRENGTHS

PERSONNEL PERFORMANCE DURING SDOCR

MANAGEMENT SUPPORT FOR CORRECTION OF DEFICIENCIES

**ABILITY TO MAINTAIN SCHEDULE DURING MINI-OUTAGE
6/29-6/30**

QAD OBSERVATIONS

ADDITIONAL MANAGEMENT ATTENTION

**INSTITUTIONALIZATION OF ROOT CAUSE
ANALYSIS**

**MORE THOROUGH INCORPORATION OF DESIGN
CHANGE DATA IN PLANT DOCUMENTS**

PLANT CONDITION

OVERALL -- BETTER THAN EVER

**SOME DIFFICULTIES TYPICAL DURING
POWER ASCENSION**

ORGANIZATION SUPPORT

**EFFECTIVELY DOCUMENTING AND TRACKING PROBLEMS AND
CORRECTIVE ACTIONS**

ALL REQUIRED SURVEILLANCES CURRENT

0800 PLANNING AND SCHEDULING MEETING EFFECTIVE

CHEMICAL CONTROL PROGRAM IMPROVED

RADWASTE MANAGEMENT IMPROVED

CLEARINGHOUSE EFFECTIVE

SDOCR -- VERY SUCCESSFUL

PHASE I:

PLANT AND PEOPLE PERFORMED WELL

50 ° F COOLDOWN USING RCIC

PHASE II:

COINCIDENT WITH OCTOBER OUTAGE

PERSONNEL PERFORMANCE

SDOCR --EXCELLENT

GOOD CONTROL BY WATCHSTANDERS

NO ESF ACTUATIONS CAUSED BY PERSONNEL ERROR

SRO CLASS UNDERWAY-- 11

STA CLASS UNDERWAY-- 4

RO CLASS STARTS IN NOVEMBER 1989

SECOND REQUAL CYCLE--COMPLETE FOR SIX SECTION
ON 7/21

INTERPERSONAL TRAINING FOR KEY MANAGERS

INTEGRATED EFFORTS TO SOLVE EMERGENT ISSUES OVER
JULY 4TH WEEKEND

SUMMARY

SCHEDULED
ALL TESTS IN PAP TO 50% COMPLETE

ONLY SIGNIFICANT PROBLEM DURING PERIOD WAS RBM

EVALUATION COMPLETE AT 50% REACTOR POWER PLATEAU

PHASE I OF SDOCR SUCCESSFULLY COMPLETED

ALL PAP CHANGES REVIEWED

PERSONNEL PERFORMANCE DEMONSTRATES READINESS

ORGANIZATION SUPPORT IS ADEQUATE

RESTART READINESS

SELF ASSESSMENT

STATUS OF COMMITMENTS

RRSA ITEMS

- TOTAL NUMBER: 94
- TOTAL OPEN: 6

IATI ITEMS

- TOTAL NUMBER: 14
- TOTAL OPEN: 1

ATTACHMENT II
(CONTINUED)

Status of Pilgrim
Emergency Planning Issues
From June 15, 1989
to Present

Boston Edison Company

This report is being submitted on behalf of Boston Edison company in response to a request from the NRC staff. It does not necessarily represent the views or opinions of the Commonwealth of Massachusetts or any of the local governments around Pilgrim Station.

STATUS OF EMERGENCY

PLANNING

Bridgewater

Issue: EOC Staffing for 24 hours

Progress:

Complete as of 1/25/89.
Thirty-eight (38) operational staff positions required for extended response; all are filled.
Eight (8) administrative support staff identified for extended response; all are filled.

Issue: Plans & Procedures

Progress:

Revised draft emergency plan and initial draft implementing procedures were forwarded to MCDA and subsequently forwarded to FEMA on Sept. 21, 1988. Results of the FEMA informal technical review were received on 2/10/89. Corrective action response has been prepared and was reviewed with the town 4/14/89. It was forwarded to MCDA/FEMA on 4/28/89.

MCDA returned RAC comments on 6/29. These comments are being reviewed by the town for incorporation into the plan.

STATUS OF EMERGENCY

PLANNING ISSUES

Bridgewater

Issue: Equipment

Progress:

- Traffic control: complete
- Communications: complete

Issue: Public Information Brochure

Progress:

An Agreement between the Commonwealth and Boston Edison for the publication of the brochure has been reached. (See attached Memorandum dated 7/14/89).

The Brochure was provided to the printers on 7/10/89. Printing time is anticipated to take 4 weeks. Distribution of the brochure will occur in late August or early September 1989.

STATUS OF EMERGENCY

PLANNING ISSUES

Bridgewater

Issue: Reception Center Renovations

Progress:

Reception Center Renovations:

Implementation of facility improvements is being coordinated with Bridgewater State College, MCDA, and the Division of Capital Planning Office. Work has been scheduled to begin immediately after sign-off on the "license to enter" by Bridgewater State College, Department of Capital Planning, and MCDA. (See attached Memorandum Dated 7/14/89).

Equipment:

- Monitoring & decontamination: Delivered.
- Registration: Delivered
- Dosimetry: Delivered

STATUS OF EMERGENCY

PLANNING ISSUES

Carver

Issue: EOC Renovations/Equipment Placement

Progress:

1. EOC renovations complete.
2. EOC equipment is complete.
3. EWMDS. The Plymouth Airport Commission voted unanimously to establish the Plymouth/Carver EWMDS at the Airport. Design work is complete and cost estimates are being prepared.

Issue: Training

Progress:

Training is nearly complete in Carver. Six sessions have been conducted since 6/15/89.

Two practicals were conducted on 7/15/89 and 7/18/89.

There are five practicals scheduled for 7/19/89, 7/20/89, 7/22/89, 7/27/89, and 8/10/89.

STATUS OF EMERGENCY

PLANNING ISSUES

Carver

Issue: EOC Staffing for 24 hours

Progress:

Forty-six (46) operational staff positions required for extended response. Forty-four (44) of these are filled.

Eight (8) administrative support staff positions required for extended response. Six (6) of these are filled.

Issue: Plans and Procedures

Progress:

Revised draft emergency plan and initial draft implementing procedures were forwarded to MCDA and subsequently forwarded to FEMA on 10/12/88. Results of the FEMA technical review were received on 2/10/89. Corrective action response has been prepared and reviewed with the town and MCDA. It was forwarded to MCDA/FEMA on 4/26/89.

MCDA returned RAC comments on 6/29. These comments are being reviewed by the town for incorporation into the plan.

STATUS OF EMERGENCY

PLANNING ISSUES

Carver

Issue: Equipment

Progress:

- EWMDS: Delivered
- Traffic control: Delivered
- Dosimetry: Delivered
- Communications: Delivered.

Issue: Public Information Brochure

Progress:

An Agreement between the Commonwealth and Boston Edison for the publication of the brochure has been reached. (See attached Memorandum dated 7/14/89).

The Brochure was provided to the printers on 7/10/89. Printing time is anticipated to take 4 weeks. Distribution of the brochure will occur in late August or early September 1989.

STATUS OF EMERGENCY

PLANNING ISSUES

Duxbury

Issue: EOC Renovations/Equipment Placement

Progress:

- EOC renovations complete
- EOC equipment is complete.

Issue: Training

Progress:

Training is continuing in Duxbury. Two sessions have been conducted since 6/15/89.

Two practicals were conducted on 7/18/89.

Three practicals are scheduled for 7/19/89, 7/25/89, and 8/7/89.

STATUS OF EMERGENCY

PLANNING ISSUES

Duxbury

Issue: EOC Staffing for 24 hours

Progress:

Forty (41) operational staff positions required for extended response. Thirty-one (31) of these are filled.

Ten (10) administrative support staff required for extended response. Eight (8) of these are filled.

An advertising effort has been reinitiated to find people to fill these positions.

Issue: Plans & Procedures

Progress:

- Initial draft emergency plan previously provided to MCDA/FEMA. Comments received have been incorporated.
- 44/44 Procedures reviewed by agency heads.
- All 44 procedures have been forwarded by the agency heads, with their comments, to the Selectmen for review. The RERP Committee completed their review and forwarded the IP's with comments attached to the Selectmen on 5/11/89. The Selectmen held an executive summary workshop on 5/13/89. The RERP Committee was granted additional time to submit comments to the Selectmen.
- To date, five procedures have been reviewed and commented on through a stenographer, by the RERP Committee. The RERP Committee has been meeting on a weekly basis, averaging one procedure per week.

STATUS OF EMERGENCY

PLANNING ISSUES

Duxbury

Issue: Equipment

Progress:

- EWMDS - Delivered
- Traffic control - Delivered
- Dosimetry - Delivered
- Communications - Delivered

Issue: Public Information Brochure

Progress:

An agreement between the Commonwealth and Boston Edison for the publication of the brochure has been reached. (See attached Memorandum dated 7/14/89).

The Brochure was provided to the printers on 7/10/89. Printing time is anticipated to take 4 weeks. Distribution of the brochure will occur in late August or early September 1989.

STATUS OF EMERGENCY

PLANNING ISSUES

Kingston

Issue: EOC Renovations/Facility Equipment Placement

Progress:

1. EOC renovations are complete
2. EOC equipment is complete.

Issue: Training

Progress:

Training is nearly complete in Kingston. Two sessions are scheduled for 7/25/89 and 8/3/89. Three sessions were conducted on 6/27/89, 6/28/89, and 7/11/89.

One practical was conducted on 7/10/89.

There are three practicals scheduled for 7/19/89, 7/31/89, and 8/4/89.

STATUS OF EMERGENCY

PLANNING ISSUES

Kingston

Issue: EOC Staffing for 24 Hours

Progress:

Forty-six (46) operational positions are required for extended response. Forty-four (44) of these are filled.

Eight (8) Administrative support staff positions are required for extended response. Seven (7) of these are filled.

Issue: Plans and Procedures

Progress:

Revised draft emergency plan and initial draft implementing procedures were forwarded to MCDA, and subsequently forwarded to FEMA on 10/12/88. Kingston received FEMA comments from the Commonwealth 2/8/89. Corrective action response has been prepared, reviewed by the town and was forwarded to MCDA on 4/13/89.

MCDA returned RAC comments on 6/29. These comments are being reviewed by the town for incorporation into the plan.

STATUS OF EMERGENCY

PLANNING ISSUES

Kingston

Issue: Equipment

Progress:

EWMS - Delivered

Traffic control - Delivered

Dosimetry - Delivered

Communications - Delivered except for:

- Pagers (received by BECo, awaiting delivery).

Issue: Public Information Brochure

Progress:

An agreement between the Commonwealth and Boston Edison for the publication of the brochure has been reached. (See attached Memorandum dated 7/14/89).

The Brochure was provided to the printers on 7/10/89. Printing time is anticipated to take 4 weeks. Distribution of the brochure will occur in late August or Early September 1989.

STATUS OF EMERGENCY

PLANNING ISSUES

Marshfield

Issue: EOC Renovations/Facility Equipment Placement

Progress:

- EOC building renovations are complete.
- EOC equipment is complete.

Issue: Training

Progress:

Training is continuing in Marshfield. Four sessions have been conducted since 6/15/89.

Seven training sessions are scheduled for 7/24/89 (2), 7/25/89 (2), 7/26/89, and 7/27/89 (2).

Three practicals are scheduled for 7/25/89, 8/28,29/89, 9/5,6/89.

STATUS OF EMERGENCY

PLANNING ISSUES

Marshfield

Issue: EOC Staffing for 24 Hours

Progress:

Thirty-four (34) operational staff positions required for extended response. Thirty-three (33) of these are filled.

Six (6) administrative support staff positions required for extended response. Four (4) of these are filled.

Issue: Plans & Procedures

Progress:

Initial draft emergency plan and initial draft implementing procedures were forwarded to MCDA, and subsequently forwarded to FEMA on 8/8/88. FEMA technical review was received on 2/10/89. Corrective action response has been prepared and was reviewed by the town and forwarded to MCDA the week of 7/10/89.

MCDA returned RAC comments on 6/29. These comments are being reviewed by the town for incorporation into the plan.

STATUS OF EMERGENCY

PLANNING ISSUES

Marshfield

Issue: Equipment

Progress:

EWMS - Delivered

Traffic control - Delivered

Dosimetry - Delivered

Communications - Delivered

Issue: Public Information Brochure

Progress:

An agreement between the Commonwealth and Boston Edison for the publication of the brochure has been reached. (See attached Memorandum dated 7/14/89).

The Brochure was provided to the printers on 7/10/89. Printing time is anticipated to take 4 weeks. Distribution of the brochure will occur in late August or early September 1989.

STATUS OF EMERGENCY

PLANNING ISSUES

Plymouth

Issue: EOC Renovations/Facility Equipment Placement

Progress:

EOC renovations are complete. All equipment is in place.

Issue: Training

Progress:

Four training sessions have been scheduled for 7/27/89, 8/1/89, 8/2/89, and 8/7/89.

Four practicals have been scheduled for 7/25/89, 7/26/89, and 8/16/89 (2).

STATUS OF EMERGENCY

PLANNING ISSUES

Plymouth

Issue: EOC Staffing for 24 Hours

Progress:

There are forty-four (44) operational staff positions required for extended response. Thirty-four (34) of these have been filled.

There are six (6) administrative support staff positions required for extended response. Two (2) of these have been filled.

Issue: Plans & Procedures

Progress:

On 7/13/89, the Town of Plymouth submitted the Radiological Emergency Response Plan and 92 Implementing Procedures to MCDA for informal review. In their submittal, the Town requested MCDA to forward all but the school procedure to FEMA for their informal technical review. Plymouth has withheld the school procedure pending school committee review/approval.

STATUS OF EMERGENCY

PLANNING ISSUES

Plymouth

Issue: Equipment

Progress:

EWMS - Delivered

Traffic control - Delivered

Dosimetry - Delivered

Communications - Delivered except for:

- multi-frequency radio racks (received by BECo, awaiting delivery)
- 28 CB's for schools (received by BECo, awaiting delivery).

Issue: Public Information Brochure

Progress:

An agreement between the Commonwealth and Boston Edison for the publication of the brochure has been reached. (See attached Memorandum dated 7/14/89).

The Brochure was provided to the printers on 7/10/89. Printing time is anticipated to take 4 weeks. Distribution of the brochure will occur in late August or early September 1989.

STATUS OF EMERGENCY

PLANNING ISSUES

Taunton

Issue: EOC Renovations/Facility Equipment Placement

Progress:

- EOC building renovations are complete.
- Equipment delivery is complete.

Issue: Training

Progress:

Training is nearly complete in Taunton. Three sessions were conducted on 6/19/89, 6/20/89, and 7/18/89. Six sessions are scheduled for 7/19/89, 7/24/89, 7/25/89, 7/27/89, and 8/1/89.

Two practicals were conducted on 7/11/89, and 7/12/89.

Nine practicals have been scheduled for 7/24/89 (2), 7/28/89, 8/7/89, 8/2/89, 8/3/89, 8/14/89, and 8/15/89.

STATUS OF EMERGENCY

PLANNING ISSUES

Taunton

Issue: EOC Staffing for 24 Hours

Progress:

Forty (40) operational staff positions required for extended response. All of these are filled.

Ten (10) administrative support staff positions required for extended response. All of these are filled.

Issue: Plans and Procedures

Progress:

Revised draft emergency plan and initial draft implementing procedures were forwarded to MCDA and subsequently forwarded to FEMA on 8/8/88. The results of the FEMA technical review were received on 2/10/89. Corrective action response has been prepared, was reviewed with the City on 4/12/89, and was forwarded to MCDA for FEMA on 4/27/89.

The plans and procedures have been revised to incorporate FEMA comments and to reflect the change in reception center. Updated plans and procedures have been provided to MCDA.

MCDA returned RAC comments on 6/29. These comments are being reviewed by the town for incorporation into the plan.

STATUS OF EMERGENCY

PLANNING ISSUES

Taunton

Issue: Equipment

Progress:

Traffic control: Delivered

Communications: Delivered

Issue: Public Information Brochure

Progress:

An agreement between the Commonwealth and Boston Edison for the publication of the brochure has been reached. (See attached Memorandum dated 7/14/89).

The Brochure was provided to the printers on 7/10/89. Printing time is anticipated to take 4 weeks. Distribution of the brochure will occur in late August or early September 1989.

STATUS OF EMERGENCY

PLANNING ISSUES

Taunton

Issue: Reception Center Renovations/Equipment Placement

Progress:

Reception Center Renovations:

On June 14, the Taunton School Committee voted to designate Taunton High School as the City Reception Center. Subsequently, the City of Taunton officially designated Taunton High School as the City Reception Center. Monitoring and decontamination equipment has been moved to the High School from the State Hospital. The Taunton State Hospital Cain Building is no longer the reception center.

Equipment:

- Portal monitors - Delivered
- Monitoring & decontamination - Delivered
- Registration - Delivered
- Dosimetry - Delivered

STATUS OF EMERGENCY

PLANNING ISSUES

Commonwealth

Issue: Area II Improvements/Equipment Placement

Progress:

Currently the Area II EOC is operational. Boston Edison has reached agreement with MCDA on the scope of the improvements and is awaiting Commonwealth approval to begin the work. (See attached Memorandum dated 7/14/89).

Issue: Commonwealth, County, and Federal Training

Progress:

Training is continuing with the Commonwealth, County, and Federal agencies. Two sessions were conducted for Area II staff and the NSEPP on 6/21/89 and 7/10/89. (See attached Memorandum dated 7/14/89).

STATUS OF EMERGENCY

PLANNING ISSUES

Commonwealth

Issue: Area II Staffing for 24 Hours

Progress:

Forty (40) operational staff positions required for extended response.

Six (6) administrative support staff positions required for extended response.

Secretary Barry has committed to working with the National Guard to quickly fill these positions with National Guard staff. (See attached Memorandum dated 7/14/89.

Issue: Plans and Procedures

Progress:

The results of the FEMA informal technical review dated 1/31/89 of the Area II Plan have been received. Comments have been incorporated in an updated revision. Corrective action response has been prepared and was included with the submittal to FEMA. The submittal was confirmed by MCDA, Framingham on 6/7/89.

Area II Implementing Procedures have been drafted and were submitted on 2/9/89 to FEMA for an informal technical review.

The Commonwealth RERP was submitted to FEMA and 8 additional copies were forwarded to the RAC on 6/26/89.

STATUS OF EMERGENCY

PLANNING ISSUES

Commonwealth

Issue: Equipment

Progress:

- Traffic Control - Equipment is on hand at BECo.
- Monitoring/Decon - Equipment has been identified and has been ordered.
- Dosimetry - All dosimetry has been delivered except for:
 - Transportation providers pending receipt of chargers from MCDA.

Issue: Public Information Brochure

Progress:

An Agreement between the Commonwealth and Boston Edison for the publication of the brochure has been reached. (See attached Memorandum dated 7/14/89).

The Brochure was provided to the printers on 7/10/89. Printing time is anticipated to take 4 weeks. Distribution of the brochure will occur in late August or early September 1989.

STATUS OF EMERGENCY

PLANNING ISSUES

Commonwealth

Issue: Reception Center Renovation/Equipment Placement

Progress:

Reception Center Renovations:

Long term enhancements to the Wellesley DPW garage are currently being discussed with DPW and MCDA representatives. Initial walk thrus of the facility were conducted on June 23rd and June 26th for the purpose of engineering analysis. Training has been scheduled with State DPW personnel (See page 1 of 5). A draft plan and procedures have been submitted to MCDA for review and further development. Planning meetings are being scheduled between MCDA, BECo, and other state agencies, meeting dates will be announced by MCDA in the near future.

Agreement has been reached between the Commonwealth and Boston Edison on the renovations for the Wellesley DPW Garage. (See attached Memorandum dated 7/14/89).

Equipment:

- Monitoring & decontamination - Delivered
- Registration - Delivered
- Dosimetry - Delivered 4/13/89.

STATUS OF EMERGENCY

PLANNING ISSUES

Commonwealth

Issue: Transportation Provider LOA

Progress:

All transportation provider resource commitment and response time data was reformatted in accordance with directions from the Commonwealth and compiled into updated letters of commitment. The letters of commitment have been signed by the transportation providers and are currently in the custody of MCDA.

Issue: Transportation Provider Training.

All training conducted for transportation providers from Aug. 1988 to the present has been Hands-on-Training.

Progress:

Transportation provider training is complete.

Status Of Progress On Emergency Planning Issues In Pilgrim EPZ For The Period Of: 15-Jun.-89 - 18-Jul.-89

AGENCY	EOC	TRAINING	EOC STAFFING	EMERGENCY PLAN & PROCEDURES	FIELD EQUIPMENT	PUBLIC INFORMATION BROCHURE	RECEPTION CENTERS	TRANSPORTATION PROVIDER TRAINING	TRANSPORTATION PROVIDER LOA
Carver	- Renovations Complete - Equipment Essentially Complete - See Attachment EWMDS - see attachment	- 6 Sessions conducted - Two practicals conducted - 5 Practical scheduled for 7/19, 7/20, 7/22, 7/27 and 8/10.	- 43 / 46 Operational - 6 / 8 Administrative. - See attachment.	- Draft Revised Plan / Initial Draft Procedure FEMA Review received 2/10/89 - Corrective response submitted to MCDA 4/27/89	- Doximity delivered. - EWMDS delivered. - Traffic Control delivered. - Communications delivered.	- Into publisher - See attachment.	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Duxbury	- Renovations Complete. - Equipment complete. - See attachment.	- 2 Sessions conducted on 6/19 and 6/30. - One practical conducted on 7/19. - 3 Practical scheduled for 7/19, 7/25, and 8/7.	- 22 / 40 Operational - 5 / 10 Administrative. - See attachment.	- 44 / 44 IP's reviewed by agency heads - 5/44 Reviewed by RERP. - See attachment.	- Doximity and EWMDS equipment delivered. - Communications delivered. - Traffic Control delivered.	- Into publisher - See attachment.	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Kingston	- Renovations Complete - Equipment Essentially Complete - See attachment.	- 3 Sessions conducted since 5/27. - 2 Sessions scheduled for 7/25 and 8/2. - 1 Practical was conducted on 7/10. - 3 Practical scheduled for 7/19, 7/31 and 8/4.	- 44 / 46 Operational. - 7 / 8 Administrative. - See attachment.	- Draft Revised Plan / Initial Draft Procedure FEMA Review received 2/8/89 - Corrective response submitted to MCDA 4/13.	- Doximity and EWMDS equipment delivered. - Communications - papers - See Attachment. - Traffic Control equipment delivered.	- Into publisher. - See attachment.	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Marshfield	- Renovations completed. - Equipment complete. - See attachment.	- 4 Sessions conducted since 5/15. - 7 Sessions scheduled for 7/24, 7/25, 7/26, and 7/27. - 3 Practical scheduled for 7/25, 8/29, 8/29, 9/5, and 9/6. - See attachment.	- 33 / 34 Operational. - 4 / 6 Administrative. - See attachment.	- Draft Revised Plan / Initial Draft Procedure FEMA Review received 2/10/89 - Corrective action response forwarded to MCDA week of 7/10. - See attachment.	- Doximity and EWMDS equipment delivered. - See Attachment - Traffic Control equipment delivered. - Communications.	- Into publisher. - See attachment.	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Plymouth	- Renovations Complete - Equipment Complete - See attachment.	- Four practicals scheduled for 7/25, 7/26, 8/16 (2). - Four training sessions scheduled for 7/27, 8/1, 8/2, and 8/7.	- 34 / 44 Operational. - 2 / 6 Administrative. - See attachment.	- Plan and IP's forwarded to MCDA / FEMA week of 7/10. - See attachment.	- Doximity and EWMDS equipment delivered. - See Attachment - Traffic Control equipment delivered. - Communications - 28 CB's and radio racks.	- Into publisher. - See attachment.	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Bridgewater	- Renovations Complete - Equipment complete - See attachment.	- Underway. - 9 Sessions conducted. - 4 Sessions scheduled for 7/26, 7/26, and 7/27. - 9 Practical scheduled for 7/24, 7/25, 7/26, 7/27, 8/7, 8/8, 8/16, 8/17.	- 38 / 38 Operational. - 8 / 8 Administrative. - See attachment.	- Draft Revised Plan / Initial Draft Procedure Results of the FEMA Informal Review were received on 2/10/89. - Corrective response submitted to MCDA 4/28/89.	- See attached.	- Into publisher. - See attachment.	- Building Improvements scheduled. - Portal Monitors Delivered - Monitoring, decon, and registration equipment delivered. - Bladder delivered 3/21.	NOT APPLICABLE	NOT APPLICABLE
Taunton	- Renovations Complete - Equipment complete - See attachment.	- 3 Sessions conducted since 5/15. - 2 Practical conducted on 7/11 and 7/12. - 6 Training sessions scheduled for 7/19, 7/24, 7/25, 7/27, 8/1. - 9 Practical scheduled for 7/24, 7/27, 7/28, 8/1, 8/2, 8/3, 8/14, 8/15.	- 40 / 40 Operational. - 10 / 10 Administrative. - See attachment.	- Draft Revised Plan / Initial Draft Procedure Informal FEMA review results received 2/10/89. - Plans / IP's have been revised to reflect new reception center.	- See Attachment - Equipment delivered to Taunton JPW 2/3/89. - Communications delivered.	- Into publisher. - See attachment.	- Taunton High School designated, is official. - Portal Monitors delivered. - Monitoring, decon, and registration equipment delivered.	NOT APPLICABLE	NOT APPLICABLE
Commonwealth	(AREA II) - Operational. - Agreement reached on Improvements - See attachment.	- Underway. - 2 Session conducted 6/21 and 7/10. - See attachment.	(AREA II) - 40 / 40 Operational. - 5 / 6 Administrative - See attachment.	(AREA II) - Draft Area II IP's submitted to FEMA on 2/8. Plan comments received from FEMA have been incorporated. - State RERP submitted 6/26. - See attachment.	- All delivered, with exceptions as noted. - See attachment.	- Into publisher. - See attachment.	- Wellesley. - DPW Facility identified. - Portal monitors, Decon equipment delivered. - See attachment.	- Complete.	- Updated LOAs received by MCDA.

MEMORANDUM

Date: July 14, 1989

Subject: Agreement between the Commonwealth's Executive Office of Public Safety and Boston Edison Company on Critical Emergency Preparedness Issues

Introduction

The purpose of this memorandum is to reflect the agreement which was reached between the Boston Edison Company and the Executive Office of Public Safety concerning the fourteen (14) critical emergency preparedness recommendations discussed on July 7, 1989. Those recommendations were identified in a letter and attached memorandum from Mr. Ralph Bird to Secretary Barry dated June 30, 1989. A copy of the June 30 letter and memorandum are attached. Participants in the July 7 meeting were Secretary Barry, Assistant Secretary Agnes, Mr. Bird and Mr. Ronald Varley. Each of the agreements are listed below.

Agreement 1:

It was agreed that Boston Edison would provide the following improvements to the Wellesley facility and that such improvements, upon verification of completion by the Executive Office of Public Safety, are sufficient to satisfy minimum Commonwealth standards for operational capability of that facility:

Operations (EOC)

- Boston Edison will convert an existing storage area of approximately 2400 square feet into an Emergency operations center. The EOC will include space and furniture for staff positions, status boards and maps.

Feeding

- Boston Edison will upgrade the existing dining area and provide new furniture.

Lodging

- Boston Edison will clean and paint the area currently housing compressors. The Executive Office of Public Safety agreed to provide necessary berthing/furnishings.

In addition to the agreements on the scope of the improvement effort, the Executive Office of Public Safety agreed to assume responsibility for expediting the Commonwealth (MCDA, MDPW & DCPO) review and approval of a Letter of Agreement and Construction Packages. Boston Edison agreed to provide a renovation package and schedule to the Commonwealth, and to begin renovations starting with the shower areas, as soon as authorization was given to commence the work, and to complete these renovations as soon as possible.

Agreement 2:

The Executive Office of Public Safety agreed that while completion of every detail of Wellesley improvements is not a precondition to the conduct of a successful exercise, renovations must have progressed to the point where a meaningful test of the reception center's capabilities can be accomplished.

Agreement 3:

With continued support from BECo, MCDA will promptly conclude the development of the Wellesley Reception Center Implementing Procedures and deliver the procedures to FEMA and other parties for review.

Agreement 4:

The Executive Office of Public Safety will promptly complete the identification of and deliver to Boston Edison a list of Commonwealth personnel designated to staff the Wellesley Reception Center. MCDA will

expeditiously schedule all identified individuals for training. MCDA will coordinate any outstanding staffing issues and any outstanding training issues.

Agreement 5:

The Executive Office of Public Safety approved the Public Information Brochure for publication as a joint Commonwealth - Boston Edison document. It was agreed that verification of initiation of Reception Center improvements, as set forth in this agreement, by the Executive Office of Public Safety would be conducted prior to Brochure distribution. Furthermore, prior to distribution, the Executive Office of Public Safety will send a copy of the brochure to the Chairmen of the Boards of Selectmen (or Mayor) in each of the eight local communities. Boston Edison agreed to provide advance printed copies of the Brochure to Secretary Barry for transmittal with his letter to the local communities. The parties agreed to support a schedule that would see the Brochure being distributed in late August or early September in recognition of the new school year.

Agreement 6:

The Executive Office of Public Safety agreed that it would expedite DCPO approval of the proposed Area II EOC renovations and signature of the renovation Letter of Agreement. Boston Edison agreed to expedite the construction process and to ensure that the Area II EOC renovation activity does not conflict with the conduct of the October exercise.

Agreement 7:

The Executive Office of Public Safety agreed that while the completion of every detail of Area II EOC renovations is not a precondition to the conduct of a successful exercise renovations must have progressed to the point where a meaningful test of Area II EOC's capabilities can be accomplished.

Agreement 8:

The Executive Office of Public Safety agreed that MCDA will promptly provide to Boston Edison complete lists of Commonwealth responders who require training and that MCDA would promptly schedule such persons for training. Boston Edison agreed to promptly conduct training for all scheduled classes.

Agreement 9:

The Executive Office of Public Safety agreed to clarify to all involved Commonwealth agencies that Boston Edison is not responsible for compensating Commonwealth employees for time spent in training.

Agreement 10:

The Executive Office of Public Safety agreed to notify the Bridgewater State College Administration that completion of Bridgewater reception center staff training represents an urgent public safety matter and to work closely with the BSC administration to conclude all required training.

Agreement 11:

The Executive Office of Public Safety agreed to expedite all required approvals for the renovation Letter of Agreement for the Bridgewater Reception Center. Boston Edison agreed to begin renovations as soon as authorization was received to commence work.

Agreement 12:

The Executive Office of Public Safety agreed that while the completion of every detail of the Bridgewater State College improvements are not a precondition to the conduct of a successful exercise and would so inform BSC, however, renovations must have progressed to the point where a meaningful test of the reception center's capabilities can be accomplished.

Agreement 13:

The Executive Office of Public Safety agreed, after consulting with the National Guard, to identify and designate National Guard personnel to staff the Area II EOC. Existing draft Area II implementing procedures would be used at the Area II EOC.

Agreement 14:

The Executive Office of Public Safety agreed to, once again, notify local officials in the five EPZ towns of the urgency for completing draft implementing procedures, as well as, securing Commonwealth and FEMA informal technical reviews. The Executive Office of Public Safety agreed to personally contact each of the Towns to determine any outstanding needs and to offer any Commonwealth assistance.

Signed:

R. Bird
R. Bird
Senior Vice President, Nuclear
Boston Edison Company

7/17/89
Dated

Signed:

Charles V. Barry
C. Barry
Secretary of Public Safety
Commonwealth of Massachusetts

7/17/89
Dated