

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-322 / 83-05

Docket No. 50-322

License No. CPPR-95

Licensee: Long Island Lighting Company

175 East Old Country Road

Hicksville, New York 11801

Facility Name: Shoreham Nuclear Power Station

Inspection at: Shoreham, New York

Inspection Conducted: February 1 - 28, 1983

Inspectors: J.C. Higgins
J.C. Higgins, Senior Resident Inspector

3/11/83
date signed

C.D. Petrone
C.D. Petrone, Resident Inspector

3/11/83
date signed

J.C. Higgins FOR
E.C. McCabe, Chief, Reactor Projects Section 2B

3/11/83
date signed

D.L. Caphton
D.L. Caphton, Chief, Management Programs Section
for MPS Staff

3/17/83
date signed

Approved by: Robert M. Gallo
R.M. Gallo, Chief, Reactor Projects Section 1A

3/17/83
date signed

Inspection Summary:

Inspections On: February 1-28, 1983 (Inspection Report No. 50-322/83-05)

Areas Inspected: Routine onsite and regional office inspections conducted during regular, backshift, weekend and holiday hours by the Resident Office Staff (399 onsite inspection hours) and region-based inspectors (99 in office inspection hours) of work activities, preoperational testing and plant staff activities including: tours of the facility, review of NRC Bulletins and Circulars, review of the Reactor Building Standby Ventilation System, review of Operating Quality Assurance Procedures, review of Engineering Calculations, review of 24 volt direct current (VDC) power supplies, and followup on previous inspection findings.

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Results: Of the seven areas inspected no violations were identified in six areas and one violation was identified in the seventh area (failure of the test program to assure that the 24VDC power supplies will perform satisfactorily in service, paragraph 8).

DETAILS

1. Persons Contacted

T. Arrington, Superintendent FQC (S&W)
M. Giannattasio, Asst. Construction Superintendent (L)
R. Gutman, Maintenance Engineer (L)
K. Howe, General Supt. of Construction (S&W)
J. Kelly, Field QA Manager (L)
R. Loper, Technical Support Manager (L)
W. Matejek, Lead Advisory Engineer (S&W)
J. McCarthy, Section Supervisor - FQA (L)
A. Muller, OQA Engineer (L)
W. Museler, Manager, Construction and Engineering (L)
K. Nicholas, Lead Startup Engineer (GE)
T. Paulantonio, Lead Startup Engineer (S&W)
J. Ricardo, Lead Startup Engineer (S&W)
J. Riley, Operational Manager (GE)
J. Rivello, Plant Manager (L)
C. Seaman, Senior Asst. Project Engineer (L)
J. Smith, Manager, Special Projects (L)
D. Terry, Assistant Startup Manager (L)
E. Youngling, Startup Manager (L)

GE - General Electric

L - Long Island Lighting Company

S&W- Stone and Webster

The inspector also held discussions with other licensee and contractor personnel during the course of the inspection including management, clerical, maintenance, operations, engineering, testing, health physics, security, quality assurance, and construction personnel.

2. Previous Inspection Item Update

2.1 Items Closed

2.1.1 (closed) Unresolved Item No. (322/80-04-03). Reactor Building Standby Ventilation System (RBSVS) and Control Room Air Conditioning (CRAC) System: This item identified discrepancies between the FSAR, R.G. 1.52, and NSIC-65 and the as-built plant. The items identified which did not agree with these documents included: seal welds on filter mounting frames, filter mounting frame bolt size, HEPA filter housing lights, filter spacing, access to elevators for maintenance, straightening vanes in filter housing inlet, ductwork design, and tornado missile protection for the East Air Intake. This item was addressed again in Inspection Report 80-06 where it was noted that some of these same items applied to the Reactor Building Standby Ventilation System (RBSVS) as well. Report 80-06 stated that due to the number of discrepancies between the as-built systems and commitments in the FSAR and R.G. 1.52, a review of the as-built CRAC and RBSVS systems against their design requirements appeared appropriate.

This item was addressed again in Inspection Report 81-20 when the licensee's representative stated that the CRAC and the RBSVS systems would be reviewed for differences from R. G. 1.52, which would then be documented in FSAR Table 6.2.3-2.

In a letter to the NRC dated August 13, 1982, the licensee transmitted the results of the evaluation performed to determine compliance with R.G. 1.52. In addition to the items already indicated in Shoreham's FSAR Table 6.2.3-2 Revision 24, additional exceptions to the regulatory guidance were identified.

The inspector reviewed this submittal and noted that the items identified during the NRC inspection had been addressed. The inspector also reviewed FSAR Table 6.2.3-2 "Position Compliance Summary to Regulatory Guide 1.52" Revision 27, dated August 1982 and verified that the items identified during the NRC inspection, and those additional ones identified during the licensee's inspections and review, had been incorporated into this FSAR revision. Table 6.2.3-2 is a summary of compliance to R.G. 1.52 for both the CRAC and RBSVS. This table was reviewed and accepted by the Office of Nuclear Reactor Regulation. The inspector walked-down selected portions of both systems in the plant to verify the accuracy and completeness of the licensee's system conformance review. No discrepancies were identified. The inspector also conducted a more comprehensive review of the RBSVS which is discussed elsewhere in this report. This item is closed.

2.1.2 (closed) Unresolved Item No. (322/80-13-01): Purchasing of Deficient Items: The licensee has revised procedure OAP-S-04.1, "Operational Quality Assurance Review of Procurement Documents", to establish and control a Deficient Items List. This list would control procurement of known deficient items, identified through channels such as NRC Bulletins. The inspector reviewed the current list and noted that it was being maintained up to date and was being distributed to the various onsite and offsite purchasing organizations. This item is closed.

2.1.3 (closed) Unresolved Item No. (322/81-01-06): LPCI Diversion: The inspector questioned the design and controls to prevent premature diversion of Low Pressure Coolant Injection (LPCI) system flow from the Reactor Vessel to other uses. The licensee has updated the FSAR to remove the description of the two-thirds core height interlock. The Office of Nuclear Reactor Regulation reviewed the current design in the Safety Evaluation Report, Supplement No. 1 and found it acceptable, provided that the Emergency Procedures contain adequate precautions. The inspector reviewed the SP-29 series Emergency Procedures and noted that there were precautions against diverting LPCI flow for other purposes unless "adequate core cooling" was established. The inspector further noted that "adequate core cooling" was not specifically defined in the Procedures or in the Training Department's Student Text. The licensee stated that the meaning had been covered in training and agreed to modify the Student Text to include the General Electric definition of "adequate

core cooling" from the Emergency Procedure Guidelines. The Student Text was revised on February 16, 1983 to include the above. This item is closed.

- 2.1.4 (closed) Unresolved Item No. (322/81-06-01): Review Committees: The Joint Test Group (JTG) utilizes Test Change Notices (TCN's) for a small number of changes after approval of preoperational tests by the JTG. The JTG may approve a TCN by routing initially, but then the change is reviewed by the full committee in session at time of test results approval. The Review of Operations Committee (ROC) is a committee formed to review and audit plant operations and procedures both prior to and after fuel load. The inspector noted that SP12.006.01, "Station Procedures - Prep., Review, Approval, Change, Rev. & Cancel" allowed review and approval of Station Procedure Change Notices (SPCNs) using a routing method. The inspector informed the licensee that the NRC considers routing a valuable preliminary to formal approval, but that in order to formally function and discharge its approval duties a quorum of ROC must convene and act collectively. The Plant Manager stated that the routing method of approval would not be used in the future. On February 3, 1983 a change to SP.12.006.01 was approved, which deleted routing as an acceptable method of SPCN approval. This item is closed.
- 2.1.5 (closed) Unresolved Item No. (322/81-18-01): RCIC Suction Temperature: This item addressed the lack of a suction temperature instrument for the Reactor Core Isolation Cooling (RCIC) System Pump when used in the Steam Condensing Mode of Residual Heat Removal. This item was previously addressed in report 82-08 and was subsequently forwarded to the Office of Nuclear Reactor Regulation (NRR) for review and resolution. NRR concluded that a separate temperature indicator while desirable was not required since: steam condensing is an infrequent mode and of generally short duration; maximum expected temperature is 140°F (up to 170°F RCIC pump seal degradation would be slow). This item is closed.
- 2.1.6 (closed) Unresolved Item No. (322/82-04-02): Drawing Discrepancies: One part of this item (FM-44A bird screens) was previously reviewed in report 82-11. Five parts (FM-20B notes 2 and 3, FM-15A, FM-15C, and FM-47A) of the item were reviewed by the inspector for this inspection. For each drawing the licensee reviewed the item, and made the appropriate drawing changes via E&DCRs. The inspector reviewed the E&DCRs and drawings and identified no discrepancies. The item on capping vent and drain lines was readdressed as item no. 83-02-23 and all followup will be under that item. The locked valve question will similarly be followed under item no. 83-02-21. This unresolved item is closed.

- 2.1.7 (closed) Unresolved Item No. (322/82-24-05): Fire Protection Procedures: The licensee revised procedures SP-39.500.01 and SP-39.500.02 to require that fire brigade members receive an annual physical examination. The licensee also revised SP-39.500.01 to require that the fire brigade leader (an SRO) and two members be knowledgeable of plant safety-related systems as required by Appendix R. The inspector reviewed these changes and also discussed the method of meeting this training with licensee personnel. The licensee will require that these two members of the fire brigade be operations department personnel who are either NRC licensed or who have received special training in safety related systems. A special training lesson has been established for non-licensed equipment operators in this area. Completion of this training will be documented in the individuals' training folders. This item is closed.
- 2.1.8 (closed) Inspector Follow Item No. (322/82-24-06): Fire Brigade Training Records: The licensee revised SP-39.500.03 to establish a new qualification record sheet for fire brigade training. The inspector reviewed the new form and selected individual training records and noted that the new form was being used. This item is closed.
- 2.1.9 (closed) Unresolved Item No. (322/82-26-04): Drywell-Suppression Pool Leak Test: The inspector reviewed PT.654.006-1 along with the completed test results, S&W review of test results (Letter Holden to Youngling dated January 19, 1983), and S&W Calculation titled "Drywell Pressure Decay During Startup Drywell Floor By-Pass Leak Testing". The inspector noted that the six parts of this item were addressed as follows:
1. The acceptance criteria was based on actual initial test conditions recorded.
 2. Calculations and assumptions were made available for review as discussed above.
 3. Test prerequisites were added to remove pressure sources.
 4. The main steam line air block pressure was monitored by personnel full-time, although not recorded.
 5. An initial condition was added to open the Suppression Pool hatches and keep the Suppression Pool at atmospheric pressure.
 6. The nitrogen supply to the drywell floor seal was isolated and vented. Seal pressures were verified to be the same before and after the test, although not recorded.

This item is closed.

- 2.1.10 (closed) Unresolved Item No. (322/82-26-06): Hydrogen Analyzer Calibration Gas: The licensee has committed to providing hydrogen and oxygen analyzers with a span of 0-30% in response to Regulatory Guide 1.97, Rev. 2. With the COMSIP-DELPHI analyzers utilized at Shoreham, the calibration gas determines the maximum span. Thus in order to obtain the 30% span, a calibration gas near 30% is required. The licensee has now obtained manufacturer's calibration curves, which allow interpolated readings at all points between 0% and 30%. This item is closed.
- 2.1.11 (closed) Unresolved item No. (322/82-29-03): Cut Rebar Monitoring: The licensee reviewed this area and agreed to perform the following steps. The marked-up structural rebar drawings will be transmitted to Stone & Webster (S&W), Boston for final engineering review and evaluation to determine that site approvals for rebar cutting did not exceed design guidelines. Further requests for rebar cutting will be authorized by engineering and will be documented on E&DCRs written against the appropriate structural rebar drawings. The licensee's representative stated that final review and evaluation of the rebar drawings by S&W was anticipated prior to fuel load. These additional programmatic commitments satisfy the NRC concern in this area and close the item.
- 2.1.12 (closed) Unresolved Item No. (322/82-30-04): Temporary Seals: The inspector had questioned the use of temporary seal material in open penetrations during the carbon-dioxide (CO₂) fire suppression system preoperational tests and the controls to ensure that permanent seals were installed in areas temporarily sealed. The licensee conducted surveys and documented all areas temporarily sealed. Some areas had not been slated for permanent seals. Engineering reviewed this list and provided permanent seals or seal repairs for all items identified. Subsequent to this, the Authorized Nuclear Inspector/fire inspector, who is required to review and certify the fire systems' tests stated that he would not consider the tests acceptable if performed with more than a few temporary seals. Any temporary seals used must be specifically reviewed and dispositioned. Tests performed with numerous temporary seals will therefore be redone when the permanent seals are installed. These actions adequately address the concern under this item.
- 2.1.13 (closed) Unresolved Item No. (322/82-34-22): M&TE Laboratory: Examination of the Measuring & Test Equipment (M&TE) laboratory on February 23, 1983 showed acceptable cleanliness and equipment storage. Draft procedure SP41.003.01, Rev. 7B, specifies environmental limits in paragraph 8.11.1 of 68°F-78°F and less than 85% humidity, with no calibrations to be conducted outside those limits. Paragraph 8.11.2 specifies daily mopping/vacuuming and shelving wipe down in the M&TE laboratory. Psychrometer readings were being taken to measure temperature and humidity in the M&TE laboratory because of the recent inoperability of the dedicated temperature/humidity recording instrument. The Draft SP41.003.01 Rev. 7B requires temperature/humidity checks once per shift. This item is closed based on the draft procedure and the current acceptable conditions in the laboratory.

2.2 Items Remaining Open

2.2.1 (open) Unresolved Item No. (322/81-12-05): Core Spray Preoperational Test: This item was also reviewed in report 82-15. Regarding the establishment of surveillance test conditions, the licensee performed calculations which determined the minimum pump discharge pressure, which would correspond to a reactor vessel pressure of 113 psig. The inspector reviewed the calculations, the Surveillance Test, and the draft Technical Specifications(TSs) and noted:

- The draft TSs refer to a test line pressure vice pump discharge pressure or differential pressure when no such instrumentation exists.
- The Surveillance Test (SP.24.203.01, Rev. 1) did not contain the newly calculated value of minimum pump discharge pressure.
- The calculation assumed zero suction pressure, but the test does not clearly subtract off the measured suction pressure before comparison with the acceptance criterion.
- The calculation used Pump A data as most limiting, which resulted in a minimum pressure of 270 psig. Inspector calculations with Pump B data indicated 271.2 psig, which is more limiting.
- The calculations for required Total Head (or discharge pressure) are based on preoperational flow and pressure data, which were taken with new pipe. There was no modification to the system friction to account for pipe degradation and increased friction over the 40 year life of the plant. This would result in a higher minimum pressure and a more conservative acceptance criterion.

2.2.2 (open) Unresolved Item No. (322/82-34-04): In Use Procedures: The licensee's response dated February 10, 1983 stated that SP.12.001.01, "Index and Organization of the Station Operations Manual", has been revised to include the term "In Use" on the Plant Procedures Status List (PPSL) and that the PPSL has been updated to indicate those in use. The inspector noted that the PPSL now contained In Use entries but that SP.12.001.01 had not been revised to describe the "In Use" term. The inspector further noted that ROC item 82-048-036 stated that In Use meant the procedure would be used to the extent practical as determined by the Section Head. The inspector noted that this did not address the concern of the item in that there was still insufficient definition as to which procedures were being used at any given time during the phase in of procedures, controls, etc. prior to fuel loading.

- 2.2.3 (open) Unresolved Item No. (322/82-34-14): Tagout Forms:
The licensee's response dated February 10, 1983 stated that Rev. 9 of SP.12.011.01 was issued on January 11, 1982 to approve the new forms and that the forms specified in the procedure are now used in the control room. On February 25, 1983 the inspector noted that: The Plant Procedure Status Log (PPSL) specified that Rev. 7 of SP.12.011.01 was in use: the control room set (MC-2) of procedures contained Rev. 8 of SP.12.011.01 dated December 23, 1982; the tagout log forms in use were Rev. 8; and Rev. 10 of SP.12.011.01 had been approved with an effective date of February 23, 1982. This item remains open.
- 2.2.4 (open) Violation 82-15-01: C&IO Test Discrepancies: NRC inspector review of each noted discrepancy showed it to be corrected. The licensee completed a re-review of all previously completed and approved C&IO packages for preoperationally tested systems. A number of discrepancies were identified and corrected. Inspector check of recently accepted and final reviewed C&IO packages was made to assess ongoing adequacy of corrective actions. Results follow
- System B21A, Nuclear Boiler, package 8A, Nuclear Steam Supply Shutoff System. Isolation Logic, Relay B21H-K72, Location 1H11*PNL-622, approved January 31, 1983. Satisfactory mechanical, continuity, and contact surfaces checks were documented. Specified dropout was less than 48V, recorded dropout was 39.68V. No unacceptable conditions were found.
 - System E32, MSIV Leakage Control, package 60A, approved January 31, 1983. Specified SNPS calibration procedure "N/A", accuracy $\pm 5\%$. Calibration data sheets for 15 of the 16 time delay relays checked were within specification as left (all were out-of-specification as found). The sixteenth, *TD503D, range 0-5 min., setpoint 2.5 min., was documented as being set at 5 min. (as found) and 1 min. 28.92 sec. (as-left). The as-left value deviates from the specified setpoint by about 40%. Later licensee review found the actual setpoint acceptable (about 2.5 minutes) and attributed the condition to a faulty document entry. But, the package had received required approval and the committed final documentation review imposed by the licensee as corrective action for violation 82-15-01.
 - System G11, Radwaste, package 1G11N-2C, Drywell to Equipment Drain Tank 3" Isolation Valve *MOV-248, approved January 30, 1983. The Motor-Operated-Valve Data Sheet, performed November 30, 1982 and approved January 27, 1983, specifies closure time of 16 seconds per Table 6.2.4-1 of the SNPS FSAR. That table (FSAR Rev. 26-April 1982) lists two 3" Equipment Drain from Dry Well motor-operated AC powered gate valves with a closing time of 15 seconds and a +20% tolerance. The draft Technical Specifications, Table 3.6.3-1 (January 27, 1983) specify a maximum isolation time of 18 seconds for 1G11*MOV-248. As documented, that valve closed in 15.33 seconds, within the 18 second maximum value in the draft T.S.

The inspector noted inconsistencies between the various pertinent documents. The licensee stated that a valve closure time resolution effort is in progress.

This item remains open pending resolution of the above, further NRC sampling, and further assessment of C&IO package acceptance review by the licensee.

- 2.2.5 (open) Violation (322/82-30-01): MOV Electrical Terminations and Wiring: The licensee provided documentation that, on November 4, 1982, CG21-4, of C&IO package E51-28E, was performed and included direction to check the wiring for E51*MOV-045. On November 8, 1982 LDR-0954 was issued for E51*MOV-045 limit switch compartment wiring being stripped, lack of 2 thread lug protrusion, and washers not being added to maintain surface contact. E&DCR F-9732A generically accepted full nut engagement without protruding threads on December 1, 1982. LDR 0954 accepted the non-use of washers for surface contact based on the characteristics of the Amp type lugs used. MWR 82-1662 specifically documented repair of the damaged wiring but did not specifically state that the wiring which exceeded allowable bend radius had been corrected. Also, it appeared that, in this case E&DCR F-9732A was incompletely incorporated in a drawing without E&DCR modification or note of the change in the drawing change record. Pending resolution of these concerns, this item remains open.
- 2.2.6 (open) Violation (322/81-22-02): Yellow-Lined Master (YLM) File: The licensee has significantly revised his procedure for controlling the YLMs. Reviews of the programmatic changes are not complete. A sampling review of corrective actions checked 16 YLM drawings in systems recently turned-over to LILCO production. One discrepancy was identified for ESK 11E4101A, Rev. 7, March 12, 1982, HPCI Vacuum Tank Condensate Pump 1E41*P-075. The YLM indicated check of a 90 ohm resistor in series with two components in parallel, the 125 VDC motor shunt field and a resistor (size unspecified) wired across the shunt field at the motor. A preceding E&DCR, F-06084C, February 2, 1982, noted as outstanding on the YLM, indicates the 90 ohm resistor to be in series with the shunt field between the motor and the associated electrical panel. That E&DCR also relocates the other resistor (size unspecified) from across the shunt field winding to across the series combination of the shunt field winding and 90 ohm resistor, with connection points at the associated panel. Discussion with Startup Personnel indicated that E&DCR F-06084C was initiated to reflect the actual installation. Conformance of the YLM's to existing requirements and acceptability of the practice of yellow-lining a configuration that does not conform to the existing configuration will be reviewed further. The inspector also noted that, contrary to a commitment in the response letter to the NRC dated February 19, 1982, a Test Engineer was no longer assigned to the Resource Center to review

revised electrical drawings and applicable E&DCRs to determine if retesting is required. The inspector stated that a revised response on this was needed and the licensee agreed to provide one. This item remains open pending completion of review of corrective actions.

3. Plant Tour

3.1 Discussion

The inspector conducted periodic tours of accessible areas in the plant during normal, backshift weekend, and holiday hours. During these tours, the following specific items were evaluated:

- Hot Work - Adequacy of fire prevention/protection measures used;
- Fire Equipment - Operability and evidence of periodic inspection of fire suppression equipment;
- Housekeeping - Maintenance of required cleanliness levels of systems under or following testing;
- Equipment Preservations - Maintenance of special precautionary measures for installed equipment, as applicable;
- QA/QC surveillance - Pertinent construction and startup activities were being surveilled on a sampling basis by qualified QA/QC personnel;
- Security - Adequate security for site construction and new fuel storage activities;
- Weld Rod Control - Observations to determine weld rod was being controlled per site procedures;
- Component Tagging - Implementation of appropriate equipment tagging for safety, equipment protection, and jurisdiction.

With the exception of the below area, no discrepancies were identified.

3.2 Housekeeping

The licensee has continued implementation of corrective actions in the housekeeping area, described in the NRC Confirmatory Action Letter dated January 19, 1983 and in the licensee's reply letter dated February 25, 1983. The inspector noted that: additional personnel had been hired and assigned to the housekeeping area; specific eating areas had been established; housekeeping inspections by various groups were underway; LILCO management has been active in reviewing the above activities; standing water has been reduced; personnel indoctrination sessions have been held; and that overall cleanliness has gradually improved. Specific deficiencies were noted on tours by NRC and quality assurance personnel. These were addressed by the licensee as they were identified.

4. NRC Bulletins and Circulars

4.1 Bulletin 79-09

This Bulletin, "Failure of General Electric (GE) AK-2 Circuit Breakers in Safety Related Systems", described a situation that resulted in failure of GE type AK-2 circuit breakers to trip when required. This problem was attributed either to binding within the linkage mechanism of the undervoltage trip device and trip shaft assembly, or possibly to an out of adjustment condition in the same linkage mechanism. The licensee performed a review and determined that none of the type AK-2 circuit breakers had been used in safety related systems at Shoreham. The licensee did identify that GE type AK-F circuit breakers, utilized for non-safety related applications, could fail to trip due to conditions similar to those described in this bulletin. The licensee revised Station Procedure (SP) 35.051.02 to require that maintenance be performed on those breakers in accordance with GE Instruction Manual GEK-7302A. The licensee also added these breakers to its preventive maintenance program. This conforms to the Bulletin recommendations.

The inspector examined electrical specifications, electrical diagrams, SP.35.051.02, and toured the plant. No GE AK-2 breakers were identified. The licensee also added these circuit breakers to their Deficient Items List to prevent procurement of them in the future. This Bulletin is closed.

4.2 Bulletin 79-12

This Bulletin, "Short Period Scrams at BWR Facilities", describes reactor scrams, resulting from periods of less than 5 seconds, which has occurred at three BWR facilities. The scrams were caused by high flux detected by the Intermediate Range Monitor (IRM) during an approach to criticality. In each case, an accurate estimate of the critical rod pattern had not been made prior to the approach to critical: the rod being pulled was in a high worth region; and the operator, believing that the reactor was very subcritical, was pulling a rod in continuous withdrawal. The inspector discussed this subject with licensee representatives, including reactor engineering and operations, and reviewed appropriate documents to determine if the concerns of this bulletin had been adequately addressed.

The inspector's review of various procedures revealed that recent revisions had been made which adequately address the concerns in the bulletin. The revisions included incorporation of the recommendations contained in GE Service Information Letter 316, Reduced Notch Worth Procedure.

The inspector also reviewed the reactor operator training program and determined that the concerns addressed in the Bulletin had been included in the training program. The inspector also questioned two licensed reactor operators and determined that they were familiar with actions necessary to avoid the type of scram described in this Bulletin.

Another contributing factor to scrams of the type described in the Bulletin is that the distance from the Rod Pull Controls to the Source Range Monitor (SRM) count rate meters and period meters is generally too far for easy readability. This concern was identified during the NRC Control Room Design Review. The licensee, as a result, moved the SRM count rate and period meters closer to the controls and enlarged the lettering. The inspector observed the new arrangement in the control room and noted that it now provided for easy readability of the meter when pulling rods. This Bulletin is closed.

4.3 Bulletin 79-21

Bulletin 79-21, "Temperature Effects on Level Measurements", describes the effect of increased containment temperature on the reference leg water column of level instruments. The details in this Bulletin are for PWR Steam Generator Instruments, however BWR's were also informed of the problem as it relates to Reactor Water Level instruments in letters from the Office of Nuclear Reactor Regulation (NRR) and in General Electric Service Information Letter (SIL) No. 299. The licensee provided information regarding this item in a letter to NRR and included it in the FSAR, Revision 24, as a response to question 223.91. The NRC reviewed this information and closed SER Item #44, "Level Measurement Error", which addressed this Bulletin. The licensee also performed a Shoreham specific study titled, Review of the Shoreham Water Level Measurement System (WLMS) SLI-8221 September 1982), which describes the current Shoreham WLMS and evaluates it against the improvements identified in the BWR Owners Group Report (BWROG) SLI-2811, July, 1982). The Shoreham report concluded that the Shoreham design was adequate as installed. Notwithstanding the above, the licensee agreed to certain enhancements as provided for in agreements made before the Atomic Safety and Licensing Board (ASLB) between the licensee, the NRC, and other parties. In this agreement, the NRC staff proposed a license condition that would require the licensee, by July 1, 1983, to submit to the NRC staff a description and schedule for hardware modifications to the Shoreham reactor vessel WLMS to eliminate dependence on early operator action during events involving an instrument line failure (leak or break) and a single additional component failure, in accordance with the second recommendation in the BWROG report. The proposed modifications and schedule must be acceptable to the NRC Staff and the installation must be completed no later than the end of the second refueling outage. The inspector reviewed these documents and performed a walk-down of selected system components. Based on this review, the inspector concluded that the concerns identified in Bulletin 79-21 have been adequately addressed by the licensee. This Bulletin is closed.

4.4 Circular 77-13

This Circular, "Reactor Safety Signals Negated During Testing" reported an event at a PWR in which test signals were injected into several sensors, during a surveillance test of the reactor protection logic circuitry, and replaced the actual pressurizer water level, pressure, and flow signals. This defeated the automatic pressurizer level control system and permitted the water level to drop below the range of indication. This concern is applicable to BWR's because surveillance tests require bypass of Reactor Protection System trips. When this is done it is necessary to incorporate

the appropriate precautions, prerequisites, limitations, and procedure steps to assure that only one channel is tripped or defeated at a time, and that the jumpers are removed and trips reset and verified as being returned to normal prior to testing other channels. The inspector reviewed a sample of Instrumentation and Controls (I&C) Surveillance Procedures which included: Scram Discharge Volume High Water Level recalibration and functional test; Remote Shutdown Instrumentation channel check and calibration; IRM calibration and functional tests; High Reactor Pressure calibration, functional test, and response time tests; and Reactor Vessel Low Water Level calibration and functional tests. The inspector noted that these procedures contained precautions, prerequisites, limitations, and procedural steps which were intended to prevent occurrences similar to that described in Circular 77-13. The inspector also discussed this subject with the I&C Engineer who was familiar with the issues and who had briefed the I&C technicians on the concerns addressed in this Circular. This Circular is closed.

4.5 Circular 78-04

This Circular, "Installation Errors that Could Prevent Closing of Fire Doors", discusses installation errors on sliding fire door closers that could have prevented the functioning of the doors. The licensee's representative stated that the type of door identified in the Circular is not in use at Shoreham. In addition the licensee has revised its procedures to require daily checks of all fire doors. The inspector toured various areas of the Office and Service Building, the Turbine Building, and the Reactor Building and identified none of the types of fire doors described in the Circular. The inspector also reviewed the Fire Protection Procedures and noted that they had been revised to require daily checks of the fire doors. This Circular is closed.

5. Reactor Building Standby Ventilation System (RBSVS)

5.1 Documents Reviewed

- Shoreham FSAR sections 6.2.3, 7.3.2.4, and the FSAR section containing NRC requests and responses.
- Regulatory Guide 1.52, "Design, Testing and Maintenance Criteria for Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants", June, 1973 (R.G. 1.52).
- ORNL-NSIC-65, "Design, Construction, and Testing of High-Efficiency Air Filtration Systems for Nuclear Application", C. Burchstead and A. Fuller, January, 1970 (NSIC-65).
- ANSI N510-1975, "Testing of Nuclear Air Cleaning Systems".
- Preoperational Test Procedure, PT.418.001-1, "Reactor Building Normal/ Standby Ventilation Systems and the Secondary Containment Leak Rate Test".

- Proposed Technical Specifications for Shoreham NPS.
- Pertinent system piping and instrumentation drawings.

5.2 Scope

The inspector made several tours of the as-built RBSVS system and observed major system components, piping, ductwork, and selected instrumentation and controls. The inspector compared the as-built system and the approved preoperational test procedure to the various regulatory requirements and licensee commitments.

5.3 System Design

As discussed previously in this report, unresolved item no. (322/80-04-03) identified that the RBSVS (and the CRAC) had not been designed and built in full conformance with R.G. 1.52, as stated in the FSAR. In response to this and similar findings, the licensee instituted the Shoreham Plant Configuration Review Program to determine overall conformance between the as-built plant and the FSAR. The inspector reviewed the conformance report for the RBSVS system which included a checklist of review items developed from the FSAR and other referenced documents. Also included were copies of the twelve Configuration Discrepancy Reports (CDR) T46/01 through T46/12, which were written to document and resolve discrepancies identified by the licensee during his review of the system.

Based on the inspector's review, the RBSVS appears to be built as described in the FSAR and the Shoreham Plant Configuration Review. No new discrepancies were identified; however during this review the inspector had questions in two areas.

CDR No. T46/01, HEPA Filter Drain Lines, identified that 2" drain lines had been installed on each of the RBSVS filter trains (T46*FLT 1A&B). The inspector noted that the placement of these drain lines could restrict access to these filter housings and make changeout of the contaminated HEPA filters and charcoal adsorbers difficult. The licensee's representatives stated that this obstruction had been previously identified by the licensee's Maintainability Task Force (MTF) Review. The inspector reviewed MTF-2589 and noted that this item had been adequately addressed. The inspector had no further questions on this item.

CDR T46/12 identified that the as-built atmospheric pressure probes did not conform to the FSAR. FSAR section 6.2.3.2, page 6.2-28, states that the two atmospheric pressure probe rings are constructed of small diameter tubing, with eight probes in each ring penetrating the inside metal siding and ending open to the outside atmosphere. These probes are used to sense the actual static atmospheric pressure. Multiple probes are used to average the pressure measured at different locations around the reactor building to eliminate the effects of the wind. The as-built configurations consists of two rings with four probes each. The licensee's proposed

resolution was to accept the system as is, but the documentation provided to the inspector did not contain a technical justification for this change. The inspector requested that the licensee provide the basis for accepting the four probe configuration to insure that this configuration will not adversely affect the accuracy of the data provided to the RBSVS control system. This item is unresolved. (322/83-05-01).

5.4 Preoperational Test Procedure

The inspector reviewed PT 418.001-1, "Reactor Building Standby Ventilation System preoperational test procedure, PT 418.001-1 to verify that:

- The appropriate prerequisites, test method, and acceptance criteria, described in the FSAR were included;
- The valve lineup sheets appeared to be correct based on a comparison of a sample of approximately 50% of the valves against the system drawings; and
- The test insures that the RBSVS functions in accordance with the design requirements stated in the FSAR.

Except for the item below, the inspector found no discrepancies during this review of the preoperational test procedure.

The test procedure does not require that the outside wind speed be recorded or considered as a parameter during the performance of these tests. FSAR section 6.2.3.2, System Design states that the leak tightness criteria for the secondary containment (700 cfm at a negative 0.5 inches of water) is based on wind tunnel studies, which assumed a wind speed of 30 mph or less. This section also states that the atmospheric probe rings are designed to simulate the atmospheric static pressure (by providing an averaged external surface pressure) only in winds of 30 mph or less. The inspector informed the licensee's representatives that the validity of tests performed in winds above 30 mph would be suspect, since this is outside the system design parameters. The licensee's representative agreed to revise the procedure. This item is unresolved (322/83-05-02).

6. Quality Assurance (QA) Procedure Review

Based upon a selective sampling inspection performed at the Region I Office of revised (marked Draft) LILCO Shoreham QA procedures mailed to Region I on February 3, 1983, inspector comments follow. The procedures include QAP procedures and QAP-S procedures.

6.1 QAP Procedures

These inspector comments are relative to specific QAP procedures, however, generic licensee review is needed to assure that similar or identical conditions do not exist in other QAP procedures.

6.1.1 General Comments on QAP Procedures

- 6.1.1.1 QAP 5.1 and QAP 5.2 establish standard formats for the QA procedures and the QA manual, **respectively**. Review both against the standard formats and make needed corrections to assure conformance.
- 6.1.1.2 QAP 2.7, Revision 3 - To maintain numbering uniformity and consistency between QAP-S procedures and QAP Procedures regarding a specific subject, e.g. "Quality Trends", the QAP-S procedure number should be 2 series not 16 series. These items are designated as unresolved item no. (322/83-05-05).

6.1.2 Specific Comments on QAP Procedures

- 6.1.2.1 QAP 1-1, Revision 4 - Paragraph 4.2 - States that the OQAE reports to the plant manager after fuel load. Paragraph 4.3.b - The approval of the QA Manual per Appendix D of the manual is by the Vice President, Engineering, not the QA Manager as stated in 4.3.b.
- 6.1.2.2 QAP 2.2, Revision 0 - Paragraph 3.2 - Add a step to address reports to the NRC.
- 6.1.2.3 QAP 4.1, Revision 6 - Paragraph 4 - Include "Technical evaluation" in review requirements of purchase recommendation package.
- 6.1.2.4 QAP 4.2, Revision 1 - Specify checklist items that are applicable for each procurement method.
- 6.1.2.5 QAP 7.3 (EQAP 7.3) Revision 1 - Revise to interface with later generation (e.g. QAP-7.2 and 7.5) and to update terminology and format to comply with the current program.
- 6.1.2.6 QAP 15.1, Revision 3 - Update the reference 2.4 and 2.5 to list the specific procedures.
- 6.1.2.7 QAP 15.3, Revision 1 - Update the references 2.3 and 2.6 to list the specific procedures.
- 6.1.2.8 QAP 17.1, Revision 5 - Paragraph 3.3 - Provide specific references to the procedure(s)/instructions that describe how QA working files are to be maintained. Paragraph 4.4.1 states "Properly identify records to be transmitted to the SR.1". The procedure, however, does not provide detailed and definitive instructions to assure quality and uniformity of the input to SR.2. (See QAP-S 17.2)

- 6.1.2.9 QAP 18.1, Revision 5 - Paragraph 3.1 Section 18 of the Quality Assurance (QA) Manual does not provide audit frequencies for required audits. Revise the QA Manual Appendix E to reflect ANSI 18.7 - 1976, which does address audit frequencies. Paragraph 4.2.1.2d - the change bar showing revision to the step does not pinpoint the change.
- 6.1.2.10 QAP 18.2, Revision 7 - Incorporate items from QAP 18.1.

These ten items are designated unresolved item no. (322/83-05-06).

6.2 QAP-S Procedures

The following QAP-S Procedure deficiencies were identified and a review performed on all remaining procedures to assure that similar or identical conditions do not exist.

- 6.2.1 General Comments on QAP-S Procedures
- 6.2.2.1 Include the appropriate QA Manual, Start Up Manual, or other manual section(s) when these documents are referenced (e.g. paragraphs 2.1 of QAP-Ss-07.2, Revision 3, 16.2, Revision 4 and 18.1, Revision 4; and QAP-S-9.2, Revision 3, paragraph 2.5).
- 6.2.2.2 Implementation of a procedure can result in a record(s) of the activity. QAP-Ss-05.4, Revision 3 (draft); 9.1; 9.2, Revision 3; 9.3, Revision 9; and, 11.1, Revision 3 "records" paragraphs do not recognize that records are generated. Address records generated in appropriate procedure sections.
- 6.2.2.3 Address the control of checklists in the applicable procedures such as QAP-Ss-05.4, Revision 3 (draft) and 17.3.
- 6.2.2.4 Documents such as "Comment and Resolution Form" (QAP-S-9.1, Revision 1, paragraph 5.7) and "Changing/Flush Report" (QAP-S-9-2, Revision 3, paragraph 5.2.4) are not defined nor is reference made to a procedure providing such a definition.
- 6.2.2.5 Include source documents (applicable codes and standards) as references into QAP-S-9.1; Update existing references (station and project procedures) into QAP-S-15.1; and, determine if any nonreferenced procedures are required to perform activities and include those mentioned in the body of a procedure (QAP-S-10.2, Revision 2) as references.

These five items are designated unresolved item no. (322/83-05-07).

6.2.2 Specific Comments on QAP-S Procedures

The following specific deficiencies were identified.

- 6.2.2.1 Define the responsibilities of the Quality Assurance Engineer (paragraph 5.5 of QAP-S-01.1, Revision 3).
- 6.2.2.2 The QA Engineer and QC Engineer appear to interchangeably supervise members of the same group (reference QAP-S-01.1, Revision 3, paragraph 5.7 and Appendix 3.1). Describe, more clearly, the methodology for this interchange.
- 6.2.2.3 QAP-Ss-05.2, Revision 4 (draft) and 05.4. Invoke a time limit on the use of an interim procedure and include a provision for review and evaluation of the activity should the final approved and interim versions differ. Address periodic reviews of procedures and instructions.
- 6.2.2.4 QAP-S-04.1, Revision 4 (draft) does not discuss how the attached checklist item no. 11 applies to off-the-shelf and commercial quality procured items with respect to acceptance criteria at the point of their dedication for use in safety related components/systems.
- 6.2.2.5 QAP-S-07.1, Revision 4 (draft) does not address an evaluation of the supplier procured items should a CASE survey/audit identify unacceptable conditions during a relevant activity time frame.
- 6.2.2.6 Alternate methods to accomplish an activity can be prescribed. However, an "equivalent" to a form is not an acceptable alternative as used in QAP-S-9.1, Revision 1, paragraphs 5.7 and 5.8. Therefore, delete "equivalent".
- 6.2.2.7 QAP-S-10.1, Revision 3 (draft), paragraph 4.1.1 allows sampling inspection but the presence of the word "may" allows a non-valid or unapproved sample plan to be used.
- 6.2.2.8 QAP-S-10.1, Revision 3 (draft), paragraph 5.3.3 states an LDR "may" be issued. This procedure is not consistent with QAP-S-15.1, Revision 2 (draft), paragraph 5.3. Additional clarity of intent or deletion of "may" is necessary.
- 6.2.2.9 QAP-S-10.3, Revision 1 (draft), paragraphs 5.3, 5.4 and 5.8 are not consistent in that 5.4 requires a checklist for each inspection activity while 5.3 and 5.8 allow the checklist as an alternative. Further, the individual inspection checklist must be traceable to the procedure. This procedure does not describe that traceability.
- 6.2.2.10 QAP-S-10.5, Revision 1, paragraph 5.4.2 does not describe the traceability to an issued LDR or CAR initiated from a note on the surveillance plan.

- 6.2.2.11 Resolve inconsistency between QAP-S-11.1, Revision 3 (draft), paragraph 5.3.4 and QAP-S-9.2. The former references a "Verification Report" as an Appendix 3.1 to the latter. This appendix to the latter has been deleted. Further, QAP-S-11.1 addresses flushing while the latter addresses test control.
- 6.2.2.12 QAP-S-15.1, Revision 2 (draft), paragraph 5.1.1 references guidelines that are incorrect. Further, guidance is not provided nor responsibility assigned for forwarding applicable non-MWR LDRs to the ROC for review. Also, paragraph 4.1.1.1 is not consistent with QAP 15.1, Revision 3, paragraph 3.5 (submitting LDRs to the OAE vs. QA Manager).
- 6.2.2.13 QAP-S-15.3, Revision 1 (draft), paragraph 4.3.E and 4.4.C are not consistent in that the former allows conditional release of "threaded... items" while the latter prohibits conditional release of "nuts, bolts" etc.
- 6.2.2.14 QAP-S-16.1, Revision 3, paragraph 5.2.5 allows early closeout of CARs but does not address documenting the basis for this closeout. The basis must be documented and traceable to the CAR. Further, paragraph 5.2.6 makes an incorrect reference.
- 6.2.2.15 QAP-S-16.2, Revision 4 (draft), is inadequate in its guidance on trending analysis in that paragraph 5.3.5 only permits expressing the magnitude of occurring adverse conditions and does not address the significance (safety or otherwise) of occurrences. A trending system must provide both qualitative and quantitative analyses (i.e., a "grading"). Also insert the word "shall" between "report" and "include" in the first line of paragraph 5.4.1.
- 6.2.2.16 The following paragraphs of QAP-S-18.1, Revision 4 (draft) are not consistent with ANSI N45.2.12: paragraph 5.3.1 does not require "follow up items, items requiring verification or recurring problems" to be included in audit checklists if not either followed up previously or addressed by some other method; paragraph 5.4.4 is not entirely consistent with 45.2.12, paragraph 4.3.3; paragraph 5.4.4 does not mandate a response within 30 days; and, paragraph 5.6.4 does not provide definitive escalation criteria.

These 16 items are collectively unresolved item no. (322/83-05-08).

6.3.0 Review of Two Revised Station Procedures

SP 12.013.01, Maintenance Work Requests, Revision 13, and SP 12.019.01, Procurement of Parts, Materials, Components, and Services, Revision 10, were reviewed in the Region I office. Inspector comments follow.

6.3.1 SP 12.013.01, Maintenance Work Requests, Revision 13.

- 6.3.1.1 Inspection Report 50-322/82-34 paragraph 6.4.1 identified specific concerns relative to the fit of this procedure in the overall procedure system for maintenance. There is still no overall procedure that defines when a maintenance procedure is required to perform maintenance. The concerns stated in the subject report are still unresolved and will be inspected during a future inspection.

6.3.1.2 Findings

The subject procedure will be inspected during a future inspection to further assess its adequacy relative to the overall maintenance program and will be tracked as unresolved item no. (322/83-05-09).

6.3.2 SP 12.019.01, Procurement of Parts, Materials, Components, and Services, Revision 10.

- 6.3.2.1 Procedure changes made did not affect the procedure programmatically. Changes made included reference numbers and the addition of procedure titles.

- 6.3.2.2 Step 8.1.3 does not identify a relevant procedure. The missing procedure is needed to provide assurance of adequate testing of "off the shelf commercial quality items".

6.3.2.3 Findings

The subject procedure will be reinspected to assure that the missing procedure (reference 3.2.2) has been added. This item is designated unresolved item no. (322/83-05-10).

7. Engineering Calculations

During the review of the calculations for Core Spray System Testing described in paragraph 2.2.1, the inspector questioned what type of review and/or approval and what sort of control and filing were established for this type of calculation. The licensee stated that such controls had not been formalized by the on site operating staff. The inspector noted the following pertinent requirements. 10 CFR 50, Appendix B, Criterion III calls for design control measures for various items such as the delineation of acceptance criteria for inspections and tests. Criterion V requires documented instructions and procedures for activities affecting quality. Criterion XVII specifies that sufficient records be maintained for activities affecting quality. The inspector noted that these comments did not apply to the plant's architect engineer, who performed the design of the plant and who does have a documented program. This item is unresolved and is designated item no. (322/83-05-04).

8. 24 VDC Power Supplies

On a sampling basis, 24VDC supplies used to power safety-related instrumentation and turned over to LILCO Production upon completion of initial testing were reviewed for demonstration of suitability for use in service.

Safety-related power supplies R41*E/S 60A(1), A(2), B(1), and B(2), provided by the Architect-Engineer, are required by specification SH1-421 and certified by vendor test abstract to meet the below characteristics:

| <u>Operating Characteristic</u> | <u>SH1-421 Requirement</u> | <u>Vendor Certification</u> |
|--------------------------------------|--|---|
| Humidity | 40-90% relative | None identified |
| Input Frequency | 60Hz \pm 2% | \pm 3% Output Variation from 59-61 Hz |
| Input/Output | 120 VAC, 8.7 ampere/ 24VDC, 20.0 ampere | 24VDC \pm 4% |
| Supply Voltage Effect on Output | -10% to +5%, \pm 1.2% | 108-126V, \pm 1.2% |
| Ambient Temperature Effect on Output | 40F-120F, \pm 1% | 40F-120F, \pm 1% output |
| Output Ripple | \pm 2% Maximum | 2.0% RMS (0.710 V peak-to-peak at 120 Hz) |

Onsite testing before turnover resulted in the identification of questionable power supply performance. Resolution was requested on July 27, 1981 on Engineering and Design Coordination Report (E&DCR) F-36217. That E&DCR was dispositioned on August 25, 1981 with the statement that the data provided showed the supplies to be operating properly and direction that the supplies "be put back into service and the loops checked to determine if any do not fall within the acceptable 24 \pm 2VDC at which...(the)... instrumentation should function properly." Subsequently, E&DCR F-36983 requested, on September 15, 1981, resolution of the condition that the power supplies do not remain within 24V \pm 2VDC. E&DCR 36983 was dispositioned on September 24, 1981 with the statement that the testing had overdriven the power supplies by exceeding their 20 ampere rating and the 22VDC minimum voltage was thus not maintained. The disposition also stated that no power supply will be operated at greater than $\frac{1}{2}$ to $\frac{3}{4}$ load. Three problems identified with these E&DCRs follow:

- a. The 24 \pm 2VDC value was not shown to be acceptable at the instrumentation supplied. Further, 24 \pm 2VDC at the power supply does not represent voltage supplied to that instrumentation because of voltage drops in the intervening auctioneering unit, "SRU" (400 ohms loop resistance), and interconnecting wiring.

- b. At the design basis 20.0 ampere loading, interpolated onsite test data for the powersupplies showed an output of about 21.6 ± 0.1 VDC, a value which is below both the SH1-421 design basis of 24V and the 22 VDC minimum stated in E&DCR 36217. SH1-421 specifies a design capability of 1.5 times the loop load and, even at 2/3 the 20.0 ampere basis loading, it appeared that voltage drops between the power supplies and the instrumentation would prevent the stated 22 VDC minimum from being applied. (Plant Staff technician checks indicated almost a 1 volt drop across the auctioneering panel alone.)
- c. E&DCRs F-36217 and F-36983 had the "specification change" block marked NR (not required) and were designated "information only". No authorized change to or specific deviation from SH1-421 was identified.

Power Supplies R41*E/S60A(1), A(2), B(1), and B(2) were turned over to and accepted by LILCO Production on April 29, 1982 upon completion of construction, checkout and initial operation (C&IO) testing. The purpose of such testing, pursuant to 10 CFR 50 Appendix B Criterion XI and FSAR Sections 17.1.11D and 17.2.11, is to demonstrate that components will perform satisfactorily in service. Onsite testing did not demonstrate conformance with the design basis. The master punch list for the turned-over system did include an item for verification of proper power supply voltage and current relationship, but no test procedure was available. Discussions with the plant staff I&C Engineer indicated that their intent was to verify ability to supply 24 ± 2 VDC to operate loads, but there was no indication of previous plans to verify a suitable test acceptance margin for variations in input voltage or frequency, or ambient temperature or humidity. This constitutes failure to demonstrate that components will perform satisfactorily in service and violates 10 CFR 50 Appendix B Criterion XI (83-05-03).

The following four aspects are unresolved pending further licensee input. (83-05-11).

- a. Whether 24VDC, R41B power supply design was controlled in accordance with 10 CFR 50 Appendix B Criterion III and whether these power supplies were assured and documented to conform to procurement requirements prior to onsite installation, as required for conformance to 10 CFR 50 Appendix B Criterion VII.
- b. Whether the E&DCR F-36217 value of 24 ± 2 VDC is valid and, if so, where in the instrument loop.
- c. Whether sufficient periodic surveillance of safety-related 24VDC power supplies will be conducted to assure that they will perform acceptably in service throughout the ranges of variation of input frequency, input voltage, and ambient temperature and humidity.
- d. Whether turned-over safety-related 24VDC power supplies provided by the NSSS supplier meet procurement requirements and their design basis, met valid initial testing requirements, and will be shown to continue to perform acceptably in service, with the initial test sample being core spray 25VDC power supplies E21*E/S004A,B.

9. Unresolved Items

Areas for which more information is required to determine acceptability are considered unresolved. Unresolved items are contained in paragraphs 5, 6, 7, and 8 of this report.

10. Management Meetings

On February 16 and 17, 1983 NRC management, LILCO management, and Suffolk County representatives met in the Region I Office to discuss the Operational Quality Assurance Program and Procedures.

On February 18, 1983 licensee management personnel met with Region I personnel associated with inspection 83-02 to further discuss the findings and corrective/preventive actions being taken. Areas discussed were housekeeping; Quality Accountability Program, followup actions on previous potentially generic items; program for Seismic Category I, QA Category II items; specific discussions of four 83-02 violations; and physical incorporation of E&DCRs into structural steel drawings.

At periodic intervals during the course of this inspection, meetings were held with licensee management to discuss the scope and findings of this inspection.

The resident inspector also attended the entrance and exit interviews for region-based inspections conducted during the inspection period.