UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CHAIRMAN

CFO

January 24, 1994

The Honorable Joseph I. Lieberman
United States Senate
Washington, D.C. 20510-0703

Dear Senator Lieberman:

On behalf of the Commission, I am responding to your letter of December 22, 1993, in which you expressed concern regarding a recently released Public Citizen report that indicated that numerous differences exist between Nuclear Regulatory Commission (NRC) Systematic Assessment of Licensee Performance (SALP) reports and Institute of Nuclear Power Operations (INPO) evaluation reports. The Commission welcomes your comments and agrees that the Public Citizen report, as written, raises concerns that require evaluation. We want to assure you that control room professionalism and liquid radioactive waste releases are issues of concern to the Commission.

As a result of the Public Citizen report and your comments, the NRC staff has initiated a detailed review of the INPO evaluation, the corresponding NRC SALP report, and supporting NRC inspection reports pertaining to Millstone to examine each major INPO finding, including those cited in your letter. The purpose of the review is to determine if the process the NRC established for reviewing INPO reports to ensure that significant safety issues identified by INPO receive proper NRC attention, as described on pages 16 and 17 of the enclosure, has been followed at Millstone.

It is important to note here, however, that some disparities between NRC SALP and INPO evaluation reports are inevitable. While both the NRC and INPO missions include the concept of ensuring safety, our overall missions differ, and these differences make comparisons between findings potentially misleading. The mission of the NRC is to ensure that nuclear power plants are operated safely pursuant to standards set by NRC regulations. Some issues pursued by INPO relating to industry standards to promote excellence are not evaluated by the NRC as long as NRC regulations are satisfied.

Differences also exist between the purpose and content of NRC SALP reports and INPO evaluation reports. SALP reports provide a summary of licensees' integrated safety performance based on a compilation of 12 to 24 months of NRC inspection, licensing, and enforcement activities. INPO evaluation reports are based on a

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single, intensive assessment of licensee performance and operations that lasts approximately 2 weeks. They provide the specific findings identified during the evaluation with supporting examples and/or recommendations for improvement. Consequently, comparisons between SALP reports and INPO evaluations would likely reveal some disparities.

We will provide you the full results of our review of your concerns and any other differences between the NRC's SALP report and INPO's evaluation of Millstone in approximately three weeks.

Sincerely,

Ivan Selin

Enclosure:
NRC Inspection Manual -
Inspection Procedure 71707

INSPECTION PROCEDURE 71707

OPERATIONAL SAFETY VERIFICATION

PROGRAM APPLICABILITY: 2515, 2525

71707-01 INSPECTION OBJECTIVES

01.01 Ensure that the facility is being operated safely and in conformance with license and regulatory requirements.

01.02 Ensure that the licensee's management control system is effectively discharging its responsibilities for continued safe operation.

01.03 Complete the selective examination requirements of this inspection procedure to the maximum extent practicable, by direct observation of safety significant activities and equipment, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and limiting conditions for operation (LCO), corrective actions, and review of facility records.

71707-02 INSPECTION REQUIREMENTS

02.01 Daily Inspection Items. Typically, one of the residents should attend appropriate portions of the licensee's plan of the day meeting to determine overall status of the plant. This does not have to be conducted every day but should be performed on a sampling basis in order to evaluate the adequacy of the licensee's approach to resolving problems.

Also, conduct selective examinations of the following items, on a day-to-day basis, with the goal of sampling all areas with a frequency appropriate to their current safety significance.

a. Control Room Observations

1. Determine whether proper control room staffing is maintained, access to the control room is properly controlled, and operator behavior is commensurate with the plant configuration and plant activities in progress. Determine the attentiveness of the operators in carrying out their assigned duties and ensure that the control room is free of distractions, such as radios and non-work-related reading materials.

2. Determine whether operators are adhering to approved procedures, including Emergency Operating Procedures, for any ongoing activity.

Procedures should be of the correct revision, and should be obviously useful, i.e., legible, complete etc.

3. Determine whether the licensee is operating the plant with systems configured as required by the Technical Specifications (TS); and when abnormal conditions exist, that the licensee is complying with the appropriate TS LCO action statements. Emphasis should be given to engineered safety features (ESF) and ESF electrical alignment. In addition, confirm that selected safety significant valves are positioned appropriately for service.

4. Observe instrumentation and recorder traces as appropriate to their safety significance, for abnormalities, including differences between channels monitoring the same parameter to detect inoperable channels.

5. Examine the status of selected control room annunciators and ensure that control room operators understand the reasons why annunciators are in an alarm condition. In addition, if an off-normal condition or false annunciation signal exists, the inspector should determine whether appropriate actions have been initiated to return the situation to normal. The inspector should determine whether the corrective action has been initiated and completed in a timely manner.

6. Inspect panels containing nuclear instruments and other reactor protection system elements to determine whether required channels are operable.

7. Review visible portions of stack and other radiation monitor recorder traces and follow up on any indication of an apparent uncontrolled release.

8. Verify, by examining the panel indications, that required onsite and offsite emergency power sources are available for automatic operation.

9. Be aware of the frequency and duration of visits to the control room and other parts of the plant by the Plant Manager, Operations Supervisor, Maintenance Supervisor, and other licensee managers and observe the effectiveness of their influence during these visits on the activities being performed by plant personnel.

10. Observe the operability of the safety parameter display system (SPDS) and other display systems.

b. Review control room, shift supervisor and tagout log books, operating orders, and plant trouble reports to obtain information concerning operating trends and activities, and to note any out-of-service safety system. Visually inspect tags on the control panels to determine their age, whether they are consistent with the tagout log, and how they impact plant operations. Review the licensee's jumper/bypass log to verify that there are no conflicts with Technical Specifications (TS) (and, if required, that safety evaluations have been performed), that the licensee is actively pursuing correction to conditions requiring jumpers, and that jumpers/bypasses have been installed and removed properly. Apparent anomalies may require follow-up to ensure that adequate safety practices are followed and that appropriate corrective actions are completed. When the use of jumpers or lifted leads results in inoperability of safety

systems, determine whether appropriate actions have been implemented. These actions include clear, unambiguous indication of the inoperable status of all affected systems in the control room and that operators are knowledgeable of resultant plant limitations for as long as the inoperable condition exists. For guidance on this subject, see IP 37828.

c. Selectively review the ECCS system lineups, using the control room indication, to determine the water supply and heat sink availability, as well as the operability of valves, pumps, control and indication instrumentation, and the status of other components. The inspector should also look for indications that the system lineup does not meet the TS requirements for the current plant operating mode.

d. Observe available control room instrumentation to inspect for primary and secondary containment integrity, including the positions of isolation valves, airlock doors, and the operability of isolation dampers. Also, as part of the verification of secondary containment integrity, verify the operability of the standby gas treatment system, where installed.

e. Determine whether the required leak rate calculations have been performed to quantify identified and unidentified leakage, and that the leak rates are within the TS limits.

f. Verify that the reactor mode switch, where installed, is in the appropriate position for current plant conditions and that key controls, if any, are in effect.

g. Look for indications that the TS safety limits for the current plant condition are exceeded. Examples include reactor thermal power, reactor coolant system pressure, reactor heat-up or cool-down rates, and reactor vessel or pressurizer water level. From the plant process computer printout, review the power distribution limits such as minimum critical power ratio, linear heat generation rate, etc.

h. Audit the performance of daily surveillances required by the TS or licensee procedures, and determine whether their results comply with requirements. Examples include control rod exercises, jet pump flow, instrument channel checks, and boron concentration or shutdown margin determinations.

i. Audit operability of meteorological or fire detection indications, as well as plant specific monitoring systems such as for chlorine gas. At least once per SALP cycle, observe the seismic monitoring instrumentation operability tests (i.e., channel checks, channel calibrations, channel functional tests) performed by the licensee.

j. Review, in a PWR, secondary water activity analysis and radiation monitor alarm status to confirm steam generator tube integrity.

k. Verify plant chemistry to be within the TS and procedural limits.

l. Verify through direct observation of associated activities, review of surveillances, and tag-out records the operability of the reactor protection system, including operability of sensors providing inputs, calibration, and required number of channels. (Note: At certain facilities this verification may be too lengtny to perform in its entirety each day.)

m. Verify, in a BWR, correct positioning of scram discharge volume vent or drain valves, and that the volume is empty.

n. Verify the availability of ac and dc electrical sources, including diesel generators, as required by the TS for the plant's current condition.

o. Verify that the control rod pattern and withdrawal or insertion sequence is that specified by the reactor engineer or other responsible authority, that rod position indication is available, and that any automatic control systems designed to protect the reactor or ensure sequence compliance are operable as appropriate for the current plant condition.

p. During refueling operations or core alterations periodically verify appropriate mode switch position (where equipped), minimum source range nuclear instrumentation, required communications between control room and refueling area, all control rods are inserted except as permitted by the TS for maintenance or testing, minimum reactor vessel and spent fuel pool water level, administrative controls to maintain accurate fuel bundle placement inventory, and status of shutdown cooling systems as required.

02.02 Biweekly Inspection Items

a. Evaluate using PRA information, if available, the operability of a selected ESF train by performing the following:

1. Verify that each accessible valve selected (manual or power operated) in the main system flow path is in its correct position by either visual observation of the valve, by flow indication; or by stem, local or remote position indication.

2. Verify that power supplies and breakers examined, including control room fuses (if visible), are aligned for components that must activate on receiving an initiation signal.

3. Selectively verify that power has been removed from those ESF motor-operated valves identified in the TS or safety analysis report as requiring deenergization for the configuration the plant is in.

4. Visually inspect the major components selected for leakage, proper lubrication, cooling water supply, and any general condition that might prevent fulfillment of their functional requirements.

5. Verify that the instrumentation and support systems selected for inspection which are essential to system actuation or performance (interlocks, equipment protective trips, air/cooling systems etc.) are operational by observing instrumentation indication or proper valve lineup, if accessible.

6. Selectively perform the following in the event of a short-duration outage:

(a) Visually inspect selected ESF components that are normally inaccessible.

(b) Verify the correct position of a selected number of normally inaccessible valves in the various ESF systems before the end of the outage.

(c) Verify selected ESF valve alignment for the plants current condition.

b. Tour portions of the accessible plant area, including exterior areas, each day such that the entire plant is toured with a frequency appropriate to the current safety significance of plant activities. The inspector should independently assess, using PRA information to focus on high risk items if available, the safety conditions and adequacy of plant equipment, fire protection, radiological controls, and security. The following items should be observed or verified, on a sampling basis, during the tour:

1. General plant/equipment conditions, including operability of standby equipment (items such as correct positioning of suction or discharge valves, leaks, etc.).

2. Plant areas (including cabinet interiors) for fire hazards. Examine fire alarms, extinguishing equipment, emergency lighting, actuating controls, fire-fighting equipment, fire barriers, and emergency equipment for operability.

3. Control of ignition sources and flammable materials.

4. Control of activities in progress (e.g., maintenance and surveillance). Verify these activities are being conducted in accordance with the licensee's administrative controls and that they do not interfere, or have the potential to interfere, with the safe operation of the facility. Verify that control room operators are aware of activities in progress which could influence safe operation of the plant.

5. Observe a shift turnover. Verify that all necessary information concerning plant systems status is understood by the oncoming shift.

6. Observe the following radiation protection controls activities:

(a) Verify that workers are following the licensee's health physics procedures, e.g., wearing required personnel dosimetry properly, using protective clothing, properly frisking upon exiting a radiation controlled area, and if radiation areas are properly posted.

(b) Determine operability of randomly selected radiation protection instruments that are in use, and licensee adherence to calibration frequency. Instruments should include portable instruments, area monitors, friskers, and counting equipment.

NOTE: Noted strengths and weaknesses should be discussed with the health physics inspection staff.

7. Observe the following security program activities:

(a) All persons within the protected area (PA) display proper photo identification badges; those requiring escort are properly escorted.

(b) Vital area (VA) portals are kept locked and alarmed.

(c) Personnel and packages entering the protected area at the primary access portal are searched by hand or by appropriate search equipment [10 CFR 73.55(d)(2)].

NOTE: Noted strengths and weaknesses should be discussed with the safeguards inspection staff.

8. Control of plant housekeeping conditions/cleanliness.

9. Plant areas for missile hazards caused by improper or unauthorized handling or storage of portable gas cylinders that could cause unacceptable damage to equipment with safety significance.

10. Instrumentation and alarms in the control room. Verify that the frequency of monitoring key core parameters by operators is sufficient to ensure proper core cooling while in a shutdown cooling mode.

02.03 Monthly Inspection Items (to be done once every month)

a. Select two safety-related tagouts in effect and independently ensure they were properly prepared and implemented by verifying proper selection and placement of tags on breakers, switches, and valves. Additionally, verify that tagged components are in the required positions, especially keeping in mind the possibility that an activity was performed on the wrong train or wrong unit. Selection should concentrate on those items from which the licensee might inadvertently remove redundant components from service by such actions as placing a control switch in the lockout position and then closing the suction valve on the redundant pump.

b. Observe portions of the licensee's sampling program (e.g., coolant samples, boric acid tank samples, or plant liquid and gaseous effluents).

c. Review the "problem-identification system" (trouble reports, nonconformance reports, etc.) to verify that the licensee's system is functioning. The inspector should be aware of deficiencies (from other inspection activities) and should be able to confirm that they are tracked via the licensee's problem-identification system.

d. Verify that a selected portion of the containment isolation lineup is correct. The sample should be rotated so that all accessible containment penetrations are periodically inspected, with a frequency determined by the safety significance of other on-site inspection activities.

e. The inspectors should contact the licensee to keep informed of any third party reviews, inspections and results addressing safety significant issues.

02.04 Trimonthly Inspection Item (to be done once every 3 months)

a. Verify that the licensee's use of overtime for licensed reactor operators is consistent with regulatory requirements.

b. Periodically examine the status, scope and findings of scheduled QA/QC audits/surveillances of control room activities required under the licensee's quality assurance program.

Select a representative example of the findings and determine, preferably by direct inspection of the results of corrective actions, whether the objective of the QA activities was achieved.

c. Determine if all required notices to workers are appropriately and conspicuously posted in accordance with 10 CFR 19.11.

71707-03 INSPECTION GUIDANCE

General Guidance

a. The guidance given in this section does not reference regulations, standards, or regulatory guides because this inspection procedure is somewhat general in nature and it focuses primarily on the facility's TS and approved procedures. References to specific regulations, guides, and so forth may be found in the corresponding specific inspection procedures.

The inspectors should be aware of the hazards associated with entry into various areas of the facility and take appropriate precautions, including adhering to the licensee's rules for entry and work in these areas. Climbing, opening of energized panels, and engaging in other hazardous activities should not be done alone. The inspector should conduct this type of activity in the company of another inspector or a licensee's representative, if appropriate.

Inspectors touring a large facility, particularly on backshifts, are subject to occupational hazards, the effects of which would be exacerbated if an injury occurred in a remote, seldom visited area. For that reason inspectors need to be particularly safety conscious during the required backshift inspection, and may wish to notify the control room of their itinerary or accompany an operator on the operator's rounds. The inspector is expected, during the course of these tours and inspection activities, to enter contaminated areas and radiation areas. It also will be necessary periodically to enter high-radiation areas and areas requiring respiratory protection. In many cases, only a small portion of a room may be in a high-radiation area. The inspectors should make efforts to minimize personnel exposure and balance such exposure among inspectors assigned to the site. If elevated radiation doses would be received in verifying the op ability of a component or inspection in an area, the interval between verifications should be increased. However, the inspectors should enter high radiation areas only for inspection tasks with urgent safety significance and then in keeping with the guidelines of the licensee's exposure minimization program (ALARA). Inspection tasks such as routine valve lineup verifications, housekeeping, inspections and fire protection observations can normally wait until the plants operational condition is such that entry can be made without unwarranted exposure, and without degrading the effectiveness of the inspection program.

Some inspection activities require the inspector to independently verify valve positions. This means the inspector observes the positioning of the valve stem, position markings, etc. Valve position verification is to be accomplished visually or by flow indication. If the inspector requires more than visual verification, he/she should request the assistance of an operator. Inspectors and licensee personnel alike sometimes have difficulty in ascertaining valve position using visual inspection alone, and the common practice of attempting to close the valve to verify

position does not always detect the open position of the seldom operated valve frozen open on its backseat. Valve stem indication is not always operational or available. For the purpose of encouraging licensee corrective actions, the inspector should identify to the licensee those valves for which position verification is difficult.

Some inspection activities require access to the interior of electrical panels and breaker cabinets. In those cases the inspector will have the doors opened and closed by licensee personnel. The inspector should avoid physical contact with this equipment.

This inspection procedure also applies during refueling outages and long-term shutdowns. Inspectors should adjust their inspection activities consistent with the purposes of the outage. During outages, increased inspection emphasis should be directed toward shutdown cooling equipment and activities used only during shutdown, security measures, radiological control practices, facility housekeeping/cleanliness, and areas that are inaccessible during power operations. For long-term shutdowns that extend for several months, it may be appropriate to develop a plant-specific inspection routine that focuses on special activities in progress that could impact safety system performance or reliability and that supplements or replaces items listed in this procedure. This inspection procedure should be modified when inspecting high temperature gas-cooled reactors (HTGR) because of their unique design. Since many engineered safeguards features at an HTGR are incorporated by design, are normally already operating, or cannot be checked because of their physical location, the inspector should use this procedure and the plant as-built drawings, (P&IDs electrical schematic drawings, etc. and the FSAR as a guide to conduct the inspection).

b. PRA Guidance. In selecting plant hardware samples for completing the objectives of this IP, if PRA information is available in useful form (e.g., a Risk-Based Inspection Guide as described in Appendix D to NRC Inspection Manual Chapter 2515), the Inspector should consider the associate risk significance when selecting the inspection sample of components and systems. However, the sample actually selected is based upon an assessment of all the selection criteria. When the inspector includes a highly risk significant item in the sample, the inspector may wish to observe during the examination whether or not the licensee's maintenance and surveillance programs were changed in a way and with an appropriate frequency that is commensurate with the risk importance of the item to plant safety.

03.01 Specific Guidance

a. Inspection Requirement 02.01. Attendance at a selected sampling of licensee's plan of the day meetings can be beneficial for both the licensee and the inspectors. The licensee is relieved of the additional burden of briefing the residents on the identification of significant issues, and the inspectors get the advantage of hearing the facts first-hand from those individuals most closely involved.

Consequently the inspectors will also know which licensee individual or group is responsible for followup, making it more efficient for the inspectors to follow corrective action or to obtain additional details later, if necessary.

b. Inspection Requirement 02.01a.1. The inspector should refer to IE Information Notice No. 85-83: "Performance of NRC-Licensed Individuals while on Duty" for additional guidance and background.

c. Inspection Requirement 02.01a.3. The inspector shall develop unit specific checklists for the various operating modes to be used in verifying the licensee's adherence to an LCO. These should be items which are observable at the control room panels or in the control room. Specific emphasis should be given to ESF and electrical alignments. The following types of items should be considered in developing the checklists:

1. switch and valve positions required to satisfy the LCO

2. alarms or absence of alarms

3. meter indications and recorder values that are important to safety, for example, containment temperature and pressure

4. status lights and power-available lights

5. front panel bypasses (mode switches, knife switches, test switches, etc.)

6. computer printouts

7. comparisons of redundant readings

NOTE: Efficiencies that can be developed in the checklist are to be encouraged. How often each checklist is used can be prioritized using PRA considerations. Checklist use is not mandatory after sufficient familiarity has been gained to allow the checks to be made from memory. However, caution should be exercised regarding inspector complacency. It would be appropriate to use a check list at least once per month to refresh the inspector's memory.

d. Inspection Requirement 02.01a.5. The inspector should elicit the licensee's attention to annunciators lighted over an extended period of time, with emphasis on encouraging licensee corrective action toward the goal of a "dark board".

e. Inspection Requirement 02.01.a.9. The purpose of this inspection requirement is to assess, in part, the effectiveness of the licensee management's direct influence over plant activities. NRC regulations and licensee commitments require licensees to perform assessments of their management effectiveness in the achievement of safe plant operations. Licensees have many methods to assess their management effectiveness. One method consists of management's direct observations of activities in the plant to allow them to appraise the effectiveness with which their directives are being accomplished. NRC inspection of this interface is appropriately part of the inspection process.

In particular, it is in those instances where certain licensee activities are experiencing significant problems that the management presence in the plant is given significant weight as one of the factors considered in evaluating whether management's directives for safe operation and needed corrective actions are being effectively implemented. Typically, the

situation will be one in which, in response to past difficulties, the licensee has formulated a program of significant corrective actions to ensure safe operations. In such cases, additional NRC, including resident inspector, attention to the effectiveness of management's interaction with plant personnel may be useful in evaluating the licensee's progress. The management presence in the plant is to be used as one indication of whether licensee management is adequately monitoring its own initiatives.

The use of the plant security computer printout to determine the frequency and duration of management visits inside the protected and vital areas of the plant is of limited value as an indicator of management effectiveness. Thus, there should be no attempt by the inspector to simply equate the statistics of these visits with licensee management effectiveness as a substitute for the inspector's direct observation of management's activities during these visits.

f. Inspection Requirement 02.01b. The inspector should identify the major operating logs (control room, shift supervisor, operating orders, etc.) and review these daily (or as frequently as practicable). The review should cover the period back to the last time the log was reviewed. For events or malfunctions reported in the logs, the inspector should review the event, using IP 93702 as a guide, to ensure that proper corrective action was taken by the licensee. Additional followup action may be desired under IP 92700, "Onsite Follow-up of Written Reports of Non-Routine Events at Power Reactor Facilities." Other operating logs and records (Radwaste Panel, Chemistry Lab Log, Diesel Generator Test Log, H.P. Log, etc.) should be identified and reviewed on a sampling basis during the reporting interval so that all logs and records receive some review. The size of the sample and attention given these logs is left to the inspector's judgment and knowledge, and competing safety significant activities in progress within the facility.

The inspectors should use information gained from their log and document review to assess, through direct interview of on-shift operators, the operating staff's current knowledge of plant conditions, awareness of off-normal conditions and trends, LCOs in effect, work and tests in progress and the effectiveness of shift turnover. Also, the log and document review should be used to look for indications that the facility does not meet the minimum TS requirements for equipment and instrumentation availability.

The inspectors should verify that for work observed in progress appropriate procedural controls, including work authorizations, tag outs, and equipment lineup verifications are in place.

The intent of the review of the logs and records is to:

1. Obtain information to enable the inspector to remain cognizant of facility operations and problems.

2. Detect significant changes and trends in performance.

3. Detect possible conflicts with TS or inadequate safety practices, including indications that prerequisites from TS and administrative procedures have not been satisfied before startup, shutdown, or mode change.

4. Identify problem areas for future followup.

5. Determine whether records are being maintained and reviewed as required by the facility's administrative procedures.

6. Assess the effectiveness of the communications provided by the logs and determine whether management is appropriately knowledgeable of problems identified in these logs.

7. Determine whether proper constants have been entered into computer programs such as the Core Protection Calculator (CPC) or process computer when starting up after a refueling outage.

8. Selectively verify that required tests, surveillances and surveys have been performed on schedule, including equipment operability surveillances, radiation protection surveys, identified and unidentified leak rate calculations, and special samples or tests required as compensatory measures for equipment out of service.

9. Verify that the NRC Operations Center has been notified of any reportable events, as appropriate.

10. The inspector should remain cognizant of maintenance work planned, underway or completed; and should integrate this information into inspection activities to verify proper system removal and restoration, compliance with tagging and isolation requirements, effectiveness of QA/QC and radiation protection practices, compliance with TS for equipment out of service, and effectiveness of the maintenance organization.

In addition to the above, the inspector should question operators regarding tagout actions required by tags hung on the control panels, as well as what action is being taken to remove old tags.

g. Inspection Requirement 02.02a. The operability verification of ESF trains should include:

- emergency core cooling systems
- emergency boration
- containment spray
- shutdown cooling
- diesel generators
- vital support systems

The biweekly verification is intended to be a check of the major flow paths and components to provide an overview of operability and not a verification of every valve and breaker. The train selected should be varied on a rotating basis so that all trains are periodically verified. If there has been significant activity in or near a train, such as repairs to the equipment or for a recurring problem affecting operation, it should receive priority even if it has been recently verified. The evaluation also should include other systems, subsystems, or components that may have an impact on facility safety. This additional effort may be based on probabilistic risk assessment, incidents that occurred at a similar facility, recurring events, or items that result from NRC-sponsored reviews, evaluations, and such. Examples are as follows:

1. spray addition system for PWRs (as part of containment spray)

2. component cooling water and service water system (as part of shutdown cooling)

3. combustible gas control system (power to recombiners and operability of H2 monitors)

4. emergency lighting

5. safety-related portions of the compressed air system

6. heating, ventilating, and air conditioning (HVAC) - control room and in other areas

7. emergency gas treatment systems

8. Class IE direct current systems, including batteries, interconnections and cabling.

9. low temperature, overpressure protection

10. boron dilution and controls

11. steam binding of auxiliary feedwater (AFW) pumps.

The inspector shall prepare a checklist for valve and circuit breaker lineups and equipment checks. The licensee's checklists may be used if they are adequate to accomplish the task, provided the inspector has verified their adequacy and accuracy. The position of locked and sealed valves should be verified (if they are accessible). The verification of instrumentation is not intended to duplicate the daily control board checks where an LCO exists for the instrumentation, but to check essential instruments that are not specifically identified as having an LCO. A check of plant monitoring of auxiliary feedwater pump steam binding can be accomplished by touching the pipe or reading instrumentation to verify that the AFW pump discharge piping is near ambient temperature. During outages of short duration, attention should be given to inspection of components that are inaccessible during power operations. For example, the valves in a number of systems located in the containment might be checked during short duration outages.

h. Inspection Requirement 02.02b. Facility tours need not be completed at one time, but can be a series of shorter tours of various areas of the facility conducted on a systematic basis so that important areas are covered with a frequency appropriate with their current safety significance. During extended shutdowns, facility tours should focus on ongoing maintenance activities, HP practices, and vital area access control (because of the large number of temporary workers on site).

Inspectors should be attentive to possible conflicts between safeguard measures and operational emergency requirements. For example, access control might interfere with essential (though perhaps unforeseeable) emergency actions or emergency actions might compromise necessary access controls. Problems of this sort should be brought to regional management attention.

i. Inspection Requirement 02.02b.4. The intent here is for the inspector to perform a brief observation limited to a verification that maintenance and surveillance activities observed during tours are being performed in

accordance with appropriate work packages which are properly authorized, and that control room personnel are appropriately aware of these ongoing activities, especially their operational significance.

j. Inspection Requirement 02.02b.6. During their normal plant tours, resident inspectors have the opportunity to observe radiation protection controls as they apply to various plant activities in progress. The following are items that the inspectors should, on a sampling basis, note during tours:

1. Whether the Radiation Work Permits (RWPs) contain information required by the licensee's procedures relating to the performance of work in a safe manner and under appropriately controlled conditions. Consider the following elements:

   - job description
   - radiation levels
   - concentrations of airborne radioactivity - actual or anticipated
   - contamination levels
   - respiratory protective equipment
   - protective clothing and equipment
   - dosimetry
   - special tools and equipment
   - special instructions
   - expiration
   - health physics coverage
   - signatures

2. Whether RWPs show current levels of general area radiation and hot spots, fixed and loose contamination, and concentrations of airborne radioactive materials.

3. Whether RWPs are prominently posted or otherwise readily available for employees' review and observation.

4. Whether personnel within a radiation controlled area are wearing personnel monitoring equipment (TLD or film badge and direct reading dosimeter) and if it is properly located on the body.

5. Whether individuals leaving a radiation controlled area follow the licensee's procedures for recording dosimeter readings.

6. Whether the requirements for control of access to high radiation areas, normally contained in Technical Specifications Section 6.12, are being observed at the entrance to a high radiation area, and whether it is properly barricaded or locked, posted as a high radiation area and, if required by Technical Specifications, posted as requiring an RWP for entry.

7. Whether radiation levels at several locations within a radiation controlled area are properly posted. The inspector should use a calibrated beta-gamma portable survey meter (NRC or licensee) to measure the field strength independently.

8. Whether individuals exiting a radiation controlled area follow proper frisking methods.

9. Whether individuals exiting a radiation controlled area properly use high sensitivity personal contamination monitors, portal monitors, or hand and foot counters as required.

10. Whether the posting of radiation areas, contaminated areas, "hot spots," and labeling of containers holding radioactive materials are properly posted and labeled in compliance with NRC regulations and the licensee's procedures.

11. Flooding and long-term contamination of part of the radwaste building at a licensed facility raised the possibility that similar conditions may arise in the future at other nuclear power facilities. Licensee actions to control and recover areas that become unusable as a result of an operational occurrence should be followed by the inspector. If they occur, the inspector must review and discuss these types of situations, and the licensee's proposed corrective actions, with both licensee and regional office management. (See SECY-89-326 dated 10/20/89 located at DCS Microfiche Address 70038-056.)

k. Inspection Requirement 02.02b.7. During normal plant tours, resident inspectors have the opportunity to make routine observations of various plant activities in progress in the area of security. The following are items that the inspectors should, on a sampling basis, note during tours:

1. Whether search equipment such as X-ray machines, metal detectors, and explosives detectors are operational.

2. Whether the protected area (PA) barrier is well maintained and is not compromised by erosion, openings in the fence fabric or walls, or proximity to vehicles, crates, or other objects that could be used to scale the barrier.

3. Whether the vital area (VA) barriers are well maintained and not compromised by obvious breaches or weaknesses.

4. Whether access control procedures during shift change include verification that personnel entering and packages being delivered to the PA are properly searched, and that access control is performed in accordance with licensee procedures.

5. Whether the licensee implements appropriate compensatory measures to maintain the necessary level of security as specified in the site security plan for area control when search equipment or alarm systems are inoperable, or when there is a breach in the PA or VA barrier.

l. Inspection Requirement 02.02b.9. Plant procedures should require that portable gas cylinders not be allowed in areas containing safety-related equipment unless:

1. analysis indicates that portable gas cylinder missiles would not damage safety equipment to the extent that safety functions were compromised

2. procedures are developed to protect the cylinders and prevent them from becoming missiles

For portable gas cylinders stored in the plant, the inspector should ensure that at least one of the above conditions is met.

m. Inspection Requirement 02.02b.10. AEOD Case Study Report, AEOD/C503, points out that failures in instrumentation or components used to monitor reactor coolant system (RCS)/reactor vessel level in modes 4, 5, and 6 along with the relatively infrequent monitoring of this level by operators, has led to the loss of decay heat removal capability at some PWRs. The report states that lack of requirements in TS for RCS level measurement and monitoring during shutdown and draindown is a significant generic safety deficiency.

The inspector should consider the following in assessing the adequacy of instrumentation and operating practices in this area:

1. The operating level of the RCS/reactor vessel. Since this level defines the amount of water above the top of the core, this relates directly to the time available to recognize and mitigate the loss of decay heat removal capability before the onset of core boiling.

2. The availability of indications and alarms for RCS/reactor vessel level, core cooling flow, and RCS/reactor vessel water temperature. This has a bearing on whether or not frequent monitoring of available indications, either inside or outside the control room, is necessary to alert operators of an imminent or an actual loss of decay heat removal capability.

3. The frequency of monitoring these key parameters by the operators as adjusted by the operability of some or all of the indications and alarms considered in 2. above.

If the inspector finds that instrumentation and/or operating practices in this area are inadequate, the inspector should raise this concern to the licensee and request that the licensee evaluate the concern and identify what action is warranted. Where corrective action has been requested for this weakness, the report transmittal letter should request a response from the licensee.

n. Inspection Requirement 02.03b. The general intent is for significant aspects of each sampling program to be inspected every SALP cycle. Of particular importance is whether samples taken are representative of the attribute being sampled, whether the associated acceptance criteria for accumulating the sample are being met, and whether the test results are being properly evaluated and trended, if appropriate. From week to week, vary observation among various groups (operations, radiation protection, maintenance, etc.).

o. Inspection Requirement 02.03d. Inspections should include, as appropriate:

1. Verification that manual valves are shut, capped, and locked.

2. Verification that motor and air-operated valves are not mechanically blocked and power is available; unless blocking or power removal is required.

3. Inspection of piping between containment and isolation valves for leakage or leakage paths, including closure of test, vent and drain valves. Conditions of electrical penetrations also should be periodically observed.

p. Inspection Requirement 02.03e. The intent is to ensure, on a continuing basis, that the NRC is cognizant of licensees third party efforts (contractor, INPO, etc.) initiated to address and resolve significant safety issues identified by the licensee or the NRC. The Resident Inspector should keep Regional Management informed of such licensee initiatives. The inspector should be sensitive to the fact that NRC efforts to improve the staff's awareness of these audits could stifle or prevent critical self-evaluations of this type. However, licensees are still responsible for all applicable reporting requirements should an internal investigation discover a reportable condition or event. The resident inspector is specifically tasked to read all INPO evaluation reports when issued.

Regarding use of the Institute of Nuclear Power Operations (INPO) evaluations, a memorandum for Regional Administrators from J. Taylor, Director of Inspection and Enforcement, dated February 14, 1986, and the October 20, 1988 revised Memorandum of Agreement (MOA) with INPO forwarded by the EDO to Regional Administrators, et. al., indicated the following:

The Coordination Plan for NRC/INPO Appraisal and Evaluation Activities states, "INPO expects its member utilities to make operating plant evaluation reports available to the NRC for review and reading." It is intended that the resident inspector perform, and if needed, coordinate other NRC inspector on-site review of INPO evaluation reports. The previously referenced Coordination Plan also states, "Since INPO has its own system for obtaining member corrective action, NRC's role in pursuing corrective action of INPO evaluation findings will primarily involve only those potentially significant safety problems for which NRC has no other reasonable alternative in meeting its legislative responsibilities." This statement means that NRC will not systematically follow-up on the timeliness and adequacy of licensee actions taken in response to specific INPO findings. However, if NRC review of documents does present the reviewer with specific information that could substantially affect nuclear safety in the short term, then these matters should be pursued by the resident inspector. Given the general nature of most INPO findings and INPO's review and acceptance of corrective actions as described in evaluation reports, it is expected that NRC will rarely need to conduct specific follow-up activities. However, if NRC review of the INPO documentation raises such immediate questions, the resident inspector or regional supervisor, with agreement of the regional administrator, should request the licensee to describe what follow-up has been performed. All specific follow-up actions and the results of any licensee information requests should be documented in a memorandum to the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, EDO.

In general the resident inspector should document in internal NRC correspondence (memorandum or note to section chief) that a review of the INPO report was completed. This internal documentation should be prepared to meet the intent of the specific provisions of the EDOs MOA which in part states..."NRC will control distribution on INPO proprietary documents and information within the agency and will exert best efforts to protect it from unauthorized disclosure." On that basis, the internal NRC correspondence should note only that a review of the INPO evaluation report was completed and indicate whether it was consistent with, or substantially deviated from the most recent NRC perception of the licensee's performance. This documentation should not include a recounting or listing of INPO findings, but be limited only to that

necessary to describe the area of significant differences between NRC and INPO perceptions. This should be a qualitative comparison of NRC inspection findings and INPO evaluation findings, and no inquires of the INPO final rating should be made of the licensee. The specifics of any significant differences between NRC and INPO perceptions should be discussed with regional management prior to documentation.

Third-party or special internal reviews are also discussed in inspection procedure 40500 exclusive of INPO reports. The inspectors are referred to the resident inspector for that information.

q. Inspection Requirement 02.04a. Maximum overtime limits are specified in NUREG-0737, Item I.A.1 3, as modified by Generic Letter 82-12 dated June 15, 1982; facility TS, and in some cases, license conditions. Deviation from these limits must be documented and authorized by the plant manager, the manager's deputy, or high levels of management.

r. Inspection Requirement 02.04b. Periodically, the inspector should observe scheduled QA/QC - surveillance tasks which monitor the performance of control room activities to assess their effectiveness. The inspection focus should include an assessment of whether the licensee personnel involved are properly qualified for their QA/QC surveillance activities.

s. Inspection Requirement 02.04c

1. The licensee is required to conspicuously post copies of 10 CFR 19.11 notices to workers in sufficient quantities and locations to permit workers engaged in licensed activities to observe them on the way to or from any activity location to which the document is applicable.

2. Any notices of violation involving radiological working conditions, proposed impositions of civil penalties, or NRC orders shall be posted by the licensee within two working days of its receipt from the NRC. Licensee responses shall be posted within two working days of their dispatch. These documents shall remain posted at least five days or until corrective action for the violation is complete, whichever is later.

71707-04 INSPECTION RESOURCES

On the average, about 56 hours of direct inspection are required per month for the execution of this procedure at single unit sites. Multiunit sites require an additional 22.5 hours of direct inspection per month for each additional unit.

71707-05 REFERENCES

Facility Technical Specifications.

FSAR Commitments.

10 CFR Part 50, as applicable.

NRC Bulletins/Information Notices, as applicable.

NUREG/CR-3551, "Safety Implications Associated with In-Plant Pressurized Gas Storage and Distribution Systems in Nuclear Power Plants".

AEOD Case Study AEOD/C503, "Decay Heat Removal Problems at U.S. Pressurized Water Reactors."

NUREG/CR-3551, "Safety Implications Associated with In-Plant Pressurized Gas Storage and Distribution Systems in Nuclear Power Plants."

Memorandum of Agreement Between the Institute of Nuclear Power Operations and the U.S. Nuclear Regulatory Commission, dated October 20, 1988

END

JOSEPH I. LIEBERMAN
CONNECTICUT

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December 22, 1993

The Honorable Ivan Selin
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Chairman Selin:

I am writing to express my concerns over the information released by the Public Citizen Critical Mass Energy Project concerning differences between the Nuclear Regulatory Commission's (NRC) Systematic Evaluation of Licensee Performance (SALP) and the Institute for Nuclear Power Operations (INPO) evaluations for nuclear power plants.

It is of the utmost importance that the public and the Congress have confidence in the accuracy, completeness, and openness of the NRC's assessments of nuclear power plant operation. The confidence of the Congress and of the American public that nuclear power plants are being operated safely is solely dependent upon the information publicly provided by the NRC. I therefore am very concerned about whether in fact the information released by Public Citizen is accurate.

Public Citizen claims that there is a significant discrepancy between the information concerning plant performance that is contained in the confidential INPO evaluations and the information that is contained in the public NRC SALP reports. Although I have not yet had an opportunity to review all of their analyses and the underlying information, I have noted significant discrepancies between the NRC's two most recent SALP reports for the Millstone Nuclear Plant with INPO's most recent evaluation.

For example, the INPO evaluation for Millstone dated October 1992 found that "Increased Unit 3 management emphasis is needed to upgrade the formality of control room activities." INPO evaluators had found a senior control room operator reading a newspaper during a plant operating mode change, and had found that in another instance "a nonoperations individual had entered the control room, obtained permission from a control operator to use the plant computer, selected a computer screen that detailed a restaurant menu, made several notes, and left the control room." By contrast, the NRC SALP report for the period February 1992-April 1993 found that Unit 3 reactor operator professionalism was "very good."

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The use of the control room at a nuclear power plant for activities not directly related to the operations of a nuclear power plant should be of serious concern to the NRC. Control room professionalism is integral to plant safety. In 1987, the NRC ordered the Peach Bottom plant to shut down because control room operators were found to be sleeping on the job. It is disturbing to find another instance of unprofessional control room behavior at a nuclear power plant, and even more alarming to learn that the NRC has represented to the public that the control room professionalism at this plant during this period was "very good."

The INPO evaluation for Millstone in October 1992 also found that "The station has taken insufficient action to minimize the volume and radioactivity of liquid waste releases. The volume of liquid radioactive waste and the total radioactivity discharged have been among the highest in the industry for the past six years."

By contrast, the NRC SALP for the period February 1992-April 1993 found that "The licensee continued to maintain and implement a highly effective program for radioactive liquid and gaseous effluent controls. . . . Overall, the programs exceeded regulatory requirements." The SALP for the period December 1990-February 1992 similarly found that "In the radioactive effluent area, the licensee effectively monitored and controlled both liquid and gaseous radioactive effluent."

I am very concerned about these differences. If the NRC is doing its job properly, there should be no question regarding the accuracy and completeness of the information provided by the NRC to the public.

Please provide an explanation of these and any other differences between the NRC's SALP report and INPO's evaluation of the Millstone nuclear power plant within ten days. I intend to follow-up on any issues raised by that review as soon as possible.

Thank you for your time and attention.

Sincerely,

Joseph I. Lieberman

CONGRESSIONAL CORRESPONDENCE SYSTEM
DOCUMENT PREPARATION CHECKLIST

This checklist is be submitted with each document (or group of Qs/As) sent for ing into the CCS.

1. BRIEF DESCRIPTION OF DOCUMENT(S) Ltr to Sen Lieberman

2. TYPE OF DOCUMENT ___X___ Correspondence ___ Hearings (Qs/As)

3. DOCUMENT CONTROL ___ Sensitive (NRC Only) ___X___ Non-Sensitive

4. CONGRESSIONAL COMMITTEE and SUBCOMMITTEES (if applicable)

___ Congressional Committee

___ Subcommittee

5. SUBJECT CODES

(a) ___

(b) ___

(c) ___

6. SOURCE OF DOCUMENTS

(a) ___ 5520 (document name ___

(b) ___X___ Scan (c) ___ Attachments

(d) ___ Rekey (e) ___ Other ___

7. SYSTEM LOG DATES

(a) 2/19/94 Date OCA sent document to CCS

(b) ___ Date CCS receives document

(c) ___ Date returned to OCA for additional information

(d) ___ Date resubmitted by OCA to CCS

(e) ___ Date entered into CCS by ___

(f) ___ Date OCA notified that document is in CCS

8. COMMENTS

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