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

CHAIRMAN

December 20, 1990

The Honorable Edward J. Markey
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Markey:

I am responding to your letter of November 9, 1990, concerning the Nuclear Regulatory Commission's (NRC's) review process for inspection reports prepared by the Institute of Nuclear Power Operations (INPO). I have enclosed for your information several internal NRC documents, including the most recent revision to our inspection procedures, providing guidance to the staff on the review of INPO reports.

As you may be aware, INPO prepares a variety of reports for nuclear power plant licensees, including final evaluation reports that are prepared and issued by INPO following formal evaluations of utility corporate offices and operating plants. In my remarks at the March 14, 1990 hearing, to which you referred in your letter, I indicated that the NRC did not routinely review every INPO report issued to individual licensees. As I explained during the hearing, we simply lack the necessary resources to review every INPO report. However, we have had inspection guidance in place since February 1986 which calls for NRC review of final INPO evaluation reports (See Enclosures 1-3). The evaluation reports have been singled out from other INPO reports because they document the findings of the most significant INPO inspections in terms of manpower loading, on-site inspection time, and areas inspected.

Several months after the March 14, 1990 Subcommittee hearing, the Commission decided that it would be prudent to reemphasize that INPO evaluation reports should be promptly reviewed and directed the NRC's Executive Director for Operations to ensure that the staff reads INPO evaluation reports at the time they are issued (a copy of the Staff Requirements Memorandum is provided as Enclosure 4). In response, the staff issued modified inspection procedures. This most recent revision to our inspection procedures regarding INPO and other third party inspection reports does not represent a change in the scope of the review but places greater emphasis on

timely review of final INPO evaluation reports. A copy of Inspection Procedure 71707, "Operational Safety Verification," dated August 1, 1990, is provided as Enclosure 5. You will note on pages 16-17 of this document expanded guidance for inspector handling of INPO evaluation reports. This modification incorporates the guidance established in the February 1986 memorandum.

I hope this information will resolve any questions you may have regarding our review of INPO documents.

Sincerely,

Kenneth M. Carr

Enclosures:
1. February 14, 1986 memorandum from James Taylor to Regional Administrators
2. December 17, 1986 Revision to Inspection Manual Chapter 2512
3. September 19, 1988 Revision to Inspection Procedure 40500
4. Staff Requirements Memorandum dated June 26, 1990
5. August 1, 1990 Revision to Inspection Procedure 71707

Enclosure 1

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

February 14, 1986

MEMORANDUM FOR: Thomas E. Murley, Regional Administrator, Region I
J. Nelson Grace, Regional Administrator, Region II
James G. Keppler, Regional Administrator, Region III
Robert B. Martin, Regional Administrator, Region IV
John B. Martin, Regional Administrator, Region V

FROM: James M. Taylor, Director
Office of Inspection and Enforcement

SUBJECT: NRC USE OF INPO EVALUATION REPORTS

This memorandum provides IE policy and guidance on the use of INPO Evaluation Reports and other INPO-related site specific information in relation to the NRC inspection process.

INPO teams periodically conduct formal evaluations of utility corporate offices and operating plants. Assistance visits are conducted at NTOL facilities. Evaluation schedules are provided to IE and are further distributed to regional offices. INPO provides their schedules primarily for coordination purposes. IE has agreed that, absent special situations, NRC special inspections while INPO teams are onsite will normally be limited.

INPO management exit meetings are held about one week following completion of onsite evaluation activities. The Senior Resident Inspector should attend the management exit meeting only if a specific invitation is initiated by licensee management. In the absence of an invitation initiated by the licensee, it is IE policy that NRC personnel not attend these meetings.

Several months after the exit meeting, final INPO Evaluation Reports are completed and are available onsite for NRC review. The report includes the licensee's planned corrective action in response to INPO findings. The INPO report normally requests that the licensee submit to INPO a six month letter report on the status of actions taken in response to the report. When each of these documents become available onsite, they should be reviewed by the Senior Resident Inspector. In addition, they should be reviewed by the Project Section Chief and/or Branch Chief during routine visits to the site. The following guidance is provided concerning NRC review of INPO plant specific documents.

The Coordination Plan for NRC/INPO Appraisal and Evaluation Activities states: "Since INPO has its own system for obtaining member corrective action, NRC's role in pursuing correction 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 means that NRC will not systematically followup 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 which 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 followup activities. However, if NRC review of the INPO documentation does raise such immediate questions, the Resident Inspector or regional supervisor, with agreement of the Regional Administrator, should request the licensee to describe what followup has been performed. All specific followup actions and the results of any licensee information requests should be documented in a memorandum to the Director, IE.

INPO Evaluation Reports should also be reviewed by regional supervision in order to gain some perspective on INPO's apparent overall view of licensee performance in comparison to NRC's evaluation. The results of SALP and recent inspections should generally be compared to the INPO findings through attention to the following areas:

- The significance and number of findings (and good practices) in the various evaluation areas.
- The number and nature of significant findings which are highlighted in the executive summary.
- The nature of the findings (i.e., "program needs to be implemented" is more significant than "program could be improved").
- The number and significance of previous INPO findings which have not been corrected (an appendix to the report).
- The number and significance of applicable Significant Operating Experience Reports (SOER) which have not been satisfactorily addressed.

A review of uncorrected findings and status of SOERs can provide an indication of the extent to which the licensee is responsive to the INPO evaluation program. In view of the Commission's willingness to recognize industry initiatives in self-regulation, it is important that the staff be knowledgeable of the extent to which individual licensees are being responsive to INPO. (Note that IE does periodically issue Temporary Inspection Procedures to examine response to SOERs). Over the past several years, the Commission has deferred the publication or development of new rulemaking in recognition of industry

initiatives in such areas as ALARA programs, maintenance programs, equipment failure reporting, and training programs. The Commission is currently considering the deferral of regulations pertaining to fitness for duty programs for nuclear power plant personnel. In each of these cases INPO, through the plant and corporate evaluation program, serves as the industry instrument to ensure that individual utilities meet industry commitments. NRC review of INPO Evaluation Reports and licensee status reports should especially note the licensees' actions in response to INPO findings and recommendations in these areas. This responsiveness can normally be determined from a review of the INPO report and the licensees' corrective action status letter. If NRC review of this information raises significant concerns as to the licensees' responsiveness, the Regional Administrator should contact the Director, IE and discuss the matter. Following this discussion, if determined to be appropriate, arrangements will be made for making both INPO and licensee management aware of NRC concerns. The results of any Regional management discussions with the licensee should be documented in a memorandum to the Director, IE.

For licensee performance areas which are subject to both NRC inspection and INPO evaluations, it is expected that the overall results, in general, should not be markedly different. If the supervisor's review of an INPO report does indicate apparent significant differences in performance as seen by NRC and INPO, internal discussions with appropriate inspectors and regional management should be initiated. For example (simplistic): NRC could view a licensee's intenance program as a top Category 1 SALP performer during the same period which an INPO report reveals apparent weaknesses in a significant number of maintenance program areas. Rather than the immediate scheduling of additional maintenance inspections, regional management should first retrospecti ly review and examine the conduct of past NRC inspections as to completeness, thoroughness, and objectivity. If this review indicates the need for a new look, then appropriate routine inspections should be planned in conjunction with the master inspection plan for that facility.

Questions on specific cases should be directed to James G. Partlow.

Original Signed By:
James M. Taylor

James M. Taylor, Director
Office of Inspection and Enforcement

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
Washington, D.C. 20555

INSPECTION AND ENFORCEMENT MANUAL

CHAPTER 2512

LIGHT WATER REACTOR INSPECTION PROGRAM - CONSTRUCTION PHASE

2512-01 PURPOSE

To provide inspection requirements and policy for implementation of the inspection program during construction and major plant modifications.

2512-02 OBJECTIVES

The primary objective of the construction inspection program is to ensure public health and safety through the evaluation of the adequacy of licensee performance during construction and major plant modifications. This is to be accomplished by determining licensee effectiveness in identifying conditions that may adversely affect operational safety and in achieving compliance with NRC requirements and licensee commitments. This determination should provide sufficient information to establish a basis for making recommendations relative to the issuance of an operating license (OL). Information for the above is to be obtained by direct observation of activities, personnel interviews, review of procedures and records, and by evaluation of licensee and contractor performance, including licensee involvement and control over licensed activities.

Another objective is to place more emphasis on direct inspection of work and hardware as compared to the review of procedures and records. The intent is to determine whether safety-related materials, components, structures, systems, and construction activities are technically adequate and are in accordance with NRC requirements and licensee commitments.

2512-03 DEFINITIONS

03.01 Licensee. Any individual, corporation, or association that is authorized to conduct activities under a license or construction permit issued by the NRC.

03.02 Construction Permit (CP). Authorization from the NRC to begin construction of a facility pursuant to 10 CFR 50.10.

03.03 Limited Work Authorization (LWA). Authorization from the NRC to an applicant to conduct certain construction activities pursuant to 10 CFR 50.10(e)(1) or 10 CFR 50.10(e)(3)(i).

03.04 NRC Requirements. NRC requirements include provisions of the Atomic Energy Act, NRC rules and regulations, conditions of a construction permit and Commission orders.

03.05 Licensee Commitments. Written statements made by the licensee providing information on how NRC requirements will be met relative to facility design and construction. Most of the commitments are contained in the SAR but may be elsewhere, such as in response to questions from NRR, in the SER, and in ASLB proceedings.

03.06 Quality Assurance (QA). Quality assurance comprises all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to the physical characteristics of a material, structure, component, or system which provide a means to control the quality of material, structure, component, or system to predetermined requirements.

03.07 Quality Assurance Manual (QA Manual). Quality assurance manual refers to the aggregate collection of internal instructions and procedures established by each organization that has been delegated QA program responsibilities and whose objective is to ensure acceptable implementation of the QA program.

03.08 Review. A deliberate, critical examination.

03.09 Construction Milestones. Preselected construction events that are used to determine construction status and to aid in establishing inspection points in the inspection program. For the purpose of scheduling, the term "complete" means sufficiently complete so that other dependent activities can proceed. The following milestones are pertinent to the construction inspection program.

Milestone	Milestone Event
140	Application docketed
200	CP (or LWA) issued
209	Site preparation started
210	Site prepared
219	Safety-related structural concrete placement started
220	Reactor/containment building foundation completed
239	Installation of containment liner started
240	Containment structure and liner completed
249	Major component structures and supports started
250	Major component structures and supports completed
260	Reactor/containment building crane installed
269	Installation of safety-related components within reactor coolant boundary started
270	Reactor vessel installation completed
275	Installation of safety-related components within coolant boundary completed
279	Primary piping installation started
280	Primary piping installation completed
284	Electric cable installation started
285	Electric cable installation completed

Milestone	Milestone Event
294	Instrumentation installation started
295	Instrumentation installation completed
300	Cold-hydro test completed
309	In-service baseline inspection started
310	In-service baseline inspection completed
320	Hot-functional test completed
340	Operating license issued

2512-04 RESPONSIBILITIES AND AUTHORITIES

04.01 Director, Office of Inspection and Enforcement. The Director has responsibility and authority for:

a. Overall direction of program development.

b. Overall direction of the assessment of regional implementation of the established inspection program.

04.02 Director, Division of Inspection Programs. The Director has responsiblity and authority for:

a. Administration and control of inspection program development and revision.

b. Administration and control of assessment of regional implementation of the established inspection program.

c. Assessment of the effectiveness and uniformity of the established inspection program.

04.03 Regional Administrator. The Regional Administrator has responsibility and authority for overall direction of the implementation of the inspection program.

04.04 Director, Appropriate Regional Office Division. The Director has responsibility and authority for administration and control of the implementation of the inspection program.

2512-05 PROGRAM POLICY

05.01 The licensee is ultimately responsible for the safety of the nuclear facility. The NRC ensures through an audit type of inspection program that this responsibility is carried out in an effective manner during the activities of plant construction and major modifications. The construction inspection program presented in this chapter is considered the minimum necessary to achieve an acceptable level of confidence as to the quality of construction at a facility.

05.02 The program is supplemented by other related programs such as the Vendor Inspection Program (MC 2700), and the Construction Appraisal Team Inspection Program (MC 2920). These programs can be used to assist in meeting the program objectives.

06.01 Inspection Requirements. The inspection procedures (IPs) and Temporary Instructions (TIs) applicable during construction are provided in Appendices I and II.

a. The procedures in Appendix I represent the inspection requirements that must be satisfied before an operating license is to be issued. Regional management should assure that the requirements of the program have been met through regional inspection, IE inspection, or otherwise dispositioned through allowable options of SALP.

b. The TIs applicable to the construction phase and the expiration dates are listed in Appendix II.

06.02 Level of Effort. The amount of inspection effort required to ensure the same degree of confidence that construction is adequate will vary from site to site. Similarly, different types of construction activity at the same site may require various levels of effort to provide the same degree of assurance of quality work. Generally, an increase or decrease of inspection effort will be based on an evaluation of the licensee's performance, such as through the SALP program.

a. For multiunit facilities, the construction inspection effort relative to the review of QA/QC procedures may be reduced for subsequent units when no substantive changes have been made to the QA program for subsequent units. This reduction may be accomplished in the detailed review of the QA/QC procedures established in the QA program. However, it should be noted that revisions to procedures that may have a significant adverse effect on quality should be examined for all units. Therefore, sufficient inspection is required to ascertain the adequacy of procedures common to each unit. Completion of construction inspection requirements relative to observation of work and review of quality records is required for each unit under construction.

b. Inspection procedures within each major construction discipline include requirements to complete IP 35100, Review of QA Manual. Even though this procedure is referenced a number of times in construction inspection procedures, it is not intended that the inspection requirements of IP 35100 be repeated for a specific organization at the site if the same QA procedures and same personnel were previously examined. In general, the inspection requirements of IP 35100 need be completed only once for each site organization associated with a particular construction activity. It should be noted, however, that different aspects, requirements, and procedures of the QA program may apply to different activities performed by one contractor at the same site. For example, inspection and documentation procedures related to welding may be considerably different for reactor coolant pressure boundary pipe welding as compared to structural steel welding. If this is the case, parts of IP 35100 would be repeated. Generally, the various IPs indicate that changes to the QA Manual should be considered for review during scheduled followup inspections in each area. If the changes to the QA Manual for a contractor have not been reviewed for a relatively long period of time (e.g., over 2 years), the inspector should, as a minimum,

determine whether any changes have been made and whether these changes are appropriate and adequate. It should be noted that IP 35100 is a reference procedure and is not to be used on Form NRC-766 to record an inspection effort. The procedure referencing IP 35100 is to be used for this purpose.

c. Several procedures permit a reduction of effort for particular inspection areas based on previous inspection results. They also identify specific items for increased inspection based on a Category 3 SALP determination.

06.03 Program Scheduling. To adequately fulfill the requirements of this program, effective planning is required so that the various inspection requirements are completed in a reasonable time by properly qualified inspectors. For example, although the construction phase of the LWR inspection program is predominately applicable to facility construction and major facility modification, it does include certain associated design and procurement activities which occur at the site. Also, activities conducted under other programs of MC 2500 need to be considered.

Inspection of major construction activities will begin when a CP or LWA is issued. Some early construction activities such as soil boring, site preparation, ground water control, excavation, and concrete batch plant erection may precede the issuance of a CP or LWA. In addition, some of the pre-CP phase inspection activities (MC 2511) are performed concurrently with the construction inspection activities. Final activities of the construction inspection program also overlap with the preoperational testing and operational preparedness phase activities (MC 2513) and may continue during the startup phase (MC 2514).

a. Some of the procedures of Appendix I are keyed to milestones relating to the status of work activities at the construction site. Because NRC inspection activities must be coordinated with construction activities, the inspector must be cognizant of construction status for appropriate inspection planning. It should be noted that the proper sequence of certain construction and inspection activities also is important.

b. In addition to listing the procedures associated with the NRC construction inspection program, Appendix I includes the frequency of inspection and the timeframe for initiation and completion of the various inspection procedures. This timeframe pertains to the actual work progress of that particular activity at the construction site and not to the overall construction status of the facility. Some inspection procedures, such as those pertaining to welding, are required to be used throughout most of the construction phase.

c. Because team inspections are an effective inspection method, their use by the regional office is encouraged.

06.04 Use of Inspectors. In accordance with the objectives of this program, the majority of the assigned inspector's time should be directed to hardware inspections as compared to the review of procedures and records. Inspection assignments should emphasize the early identification of problem areas.

The regional offices have the responsibility to assign inspection requirements to either the resident or regional inspectors consistent with the qualifications of the individual inspectors. In general, the resident inspectors should provide some degree of direct verification of licensee construction performance for all activities while the regionally based inspectors should provide the necessary expertise to complete specialized, technical inspection requirements of the inspection program.

Comprehensive reviews of programs and procedures should be conducted as a result of an identified hardware problem with the objective of determining the underlying cause or generic implications of the problem. In following up identified problem areas the emphasis should be on focusing the licensee's efforts to arrive at long-term resolutions.

It is the prerogative of regional management to determine which program areas are to be emphasized by the assigned inspectors. There are a number of areas in which the inspectors can be utilized consistent with the status of construction and the MC 2512 program for the site. These are:

a. A more in-depth MC 2512 program. As the MC 2512 program defines the required inspection effort to adequately assess plant construction, the additional effort of the assigned inspectors may be used to increase the scope of the routine inspection requirements for areas of construction assigned a SALP Category 3 rating. It is suggested that the effort be concentrated on the inspection procedures for observation of work and completed construction. The inspection requirements pertinent to previously identified problems or common construction problem areas may be emphasized or performed again. Inspection efforts should be more result-oriented and focus on programmatic issues when there are problems that indicate programmatic weaknesses. The inspectors should focus on problem areas to determine the root cause and to verify the implementation of broad corrective action.

b. Review of reports for applicability of identified problem areas. The efforts of the regional or resident inspectors may be used in evaluating reports of previously identified problems or potential problems. The results of NRC and industry reports can be reviewed and inspections performed to determine applicability to the specific site. If the report is written against the specific site, the effort can be used in evaluating the adequacy of the licensee's corrective actions. The types of reports to consider include Construction Appraisal Team, SALP, INPO and consultant reports of licensee self-initiated evaluation of construction. These reports also can provide direction toward the determination of problem areas and their root cause.

c. Allegation investigation and followup. As construction approaches completion, the resolution of allegations may require increased resources from the licensee and the NRC regional and resident inspectors.

d. Craft and inspector training, qualification and performance. The inspector's efforts could be directed towards an in-depth coverage of the licensee's programs for training and qualifying their construction workers and inspectors. The licensee should be emphasizing that the job be done right the first time and discourage

an attitude that quality control will catch the construction mistakes. The adequacy of the licensee inspector's performance and tools (checklists, acceptance criteria, inspection reports) could be reviewed in detail.

e. Prevention and early identification of problems. Other efforts the inspectors could emphasize for the early identification and prevention of problems include:

1. The licensee's preparation for safety-related construction activities could be reviewed. This is to ensure the timeliness of planning and program actions and the availability of resources for upcoming and current construction activity.

2. Informal discussions with licensee and contractor working level personnel can be conducted to determine attitudes, demands of schedule, and individuals' perceptions of work quality to be used as problem indicators.

3. A preliminary as-built review can be conducted six months before the formal NRC inspection to determine the licensee's level of readiness. This would include the status of procedures, adequacy of resources (numbers, skills, qualifications), and a sample of hardware for completeness.

4. Periodic in-depth reviews of site management and performance could be conducted. An experienced, informed, effective and communicating management organization will help ensure problem identification and resolution and effective use of trending programs. Particular attention should be given to management's involvement in such areas as trending, diagnosing root cause of identified problems, and in effectively communicating the need for adequate corrective action.

5. Early evaluations of system turnover programs could be performed. Emphasis should be given to the review of the licensee's program and procedures for control and turnover of systems from construction organizations to startup, testing, and operations organizations. The turnover process represents an important step in verifying the quality of construction completion and readiness for plant testing. Inspections in this area should ensure that the organizations' responsibilities are well defined, the construction and quality status of turnover systems is accurately recorded at turnover, and changes initiated to systems by startup or operations are properly documented, controlled, and appropriately inspected.

06.05 Major Plant Modifications. The regional offices are responsible for the preparation and implementation of a plan for the inspection of the safety-related aspects of major plant modifications. The plan should be based on the inspection requirements of this and other related manual chapters. It should be developed and maintained in a current status on the basis of licensee input on the scope of the effort, including applicable technical and quality commitments included in the SAR or SER, or supplements thereto. This planning effort also should review the licensee's program for control, protection, and requalification, as necessary, of safety-

related items connected or adjacent to structures, systems, and components that will be temporarily removed or otherwise affected by the modification.

The regional offices should forward a copy of the program plan for inspection of major modifications, and of any significant changes thereto, to the IE Director, Division of Inspection Programs. R

2512-07 PROGRAM MANAGEMENT

07.01 Implementation. The regional offices are responsible for the implementation of the inspection program described in this chapter and related appendices. The inspection program is intended to provide the framework for managing the inspection effort without being totally prescriptive. Not all sample sizes and frequencies of periodic inspections are explicitly specified, and the timeframe when certain inspection activities are to be performed is not rigid. In addition, inspectors are encouraged to R
independently pursue any area of safety significance. Independent inspec- R
tion effort will be reported against the inspection procedure that most R
closely describes the activity being reviewed. R

Although this inspection program contains the minimum inspection requirements, situations may arise where parts of the program cannot be completed or otherwise satisfied by related programs referenced in this chapter. In such cases, regional management shall review, approve, and document such modifications to the program. This usually should be part of the SALP process.

07.02 Inspection Findings. As stated in Title 10 CFR and in MC 2500, NRC inspectors perform a basic mission in determining whether a licensee meets current regulatory requirements and commitments. Identifying specific instances where a licensee fails to meet such requirements and commitments, although important, has frequently in the past resulted in correction of symptoms rather than correction of underlying causes of licensee problems. Inspection findings should result in the early identification and resolution of problems, their root causes, and generic implications.

Because of limited inspector resources and the minimum baseline aspect of the program, the inspection procedures cover only a small sample of licensee activities in an area. Thus, it is important that an inspector evaluate whether a noted noncompliance or deficiency represents an isolated case or may be symptomatic of a broader, more serious problem in that area. To provide the perspective to perform this evaluation, the inspector should:

a. Keep currently informed of deficiencies, audit findings, and plant problems identified by the licensee's own organization or by his contractor's organization.

b. Ascertain whether additional NRC inspection effort is merited in the area under consideration.

Where the evidence indicates a symptomatic problem, action should be taken to require the licensee to demonstrate to the NRC that it has not lost control of that area. Regional management should be consulted whenever such action appears appropriate to the individual inspectors. Enforcement action, if warranted, should be in accordance with IE Enforcement Actions policy.

2512-08 INTERFACE WITH RELATED PROGRAMS

08.01 Construction Appraisal Team (CAT) Inspection Program. The CAT program uses integrated, multidisciplined inspections to determine if a facility is being constructed in accordance with regulatory requirements and if the applicant's management and quality control programs are effective. The inspections are focused primarily on hardware installation and construction quality. Although specific responsibilities are provided by MC 2920, the IE/region interfaces are summarized here:

a. IE will solicit the region to provide an inspector who will participate as an active team member. The resident inspector at the selected facility, although not assigned as a team member, should attend the daily CAT briefing meetings and the exit meeting with the licensee.

b. The regional offices have the responsibility for followup action on the potential enforcement actions described in the CAT inspection reports.

c. The appropriate regional management will be sent recommendations on the extent to which the CAT effort satisfied the inspection program requirements of this manual chapter.

d. The CAT inspection results will be used in the assessment of regional performance of the construction inspection program described in this manual chapter. R R

08.02 Licensee Contractor and Vendor Inspection Program (LCVIP). General policies for Vendor Program/region interfaces are described in MC 2700. Changes, as they occur, will be addressed in a revision of MC 2700.

08.03 Systematic Assessment of Licensee Performance (SALP) Program. The SALP program (NRC MC 0516) is a comprehensive, periodic appraisal by the NRC staff of power reactor licensees. It is designed to improve licensee performance, improve the NRC regulatory performance by determining which areas need increased inspection emphasis, and to provide a basis for management allocation of NRC resources. The regional offices have the responsibility to adjust their expenditure of inspection resources based on the rated performance of the licensee, and the inspection procedures provide the flexibility for the regional offices to increase or decrease the amount of inspection consistent with the SALP evaluation.

08.04 Security and Safeguards Inspections. The Security and Safeguards inspection activities, as judged appropriate by regional management, will be conducted as an earlier effort of the program set forth in IE MC 2513.

Selected portions of preoperational safeguards inspection activities, such as barriers for alarm stations and vital areas, should be conducted as early as practical during construction and installation of security features. Such early onsite examination is intended to preclude the existence of later identified problems which may not be resolved due to completed work. Some of these early reviews may be possible during onsite accompaniment of licensing reviewers.

END

Appendices

APPENDIX I

LWR - CONSTRUCTION PHASE INSPECTION PROCEDURES

PURPOSE

The purpose of this appendix is to list the current inspection procedures (IPs) that are applicable to construction and major modification activities, along with condensed scheduling information.

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE	
Management Meetings					
30050B	CP Corp. Mgt. Mtg.	CP issuance ± 1 month			
30702B	Management Meeting	200	As needed	340	
30703	Management Meeting - Entrance & Exit	Every routine inspection			R
Quality Assurance					
35020	Audit of Applicant's Surveillance of Contractor QA/QC	5 mo. after docketing	As needed	----	
35051B	Site Erected Reactor Vessels - QA Procedures	----	----	Before work is 10% complete	
35060	Lic. Mgt. of QA Act. Initial Insp.	----	CP + 6 mo.	----	
	Subsequent	----	----	Every 18 mo.	
35061	In-Depth QA Insp. of Performance	----	----	Annually	
35065	Procurement, Rec'g. and Storage Initial Insp.	----	CP + 12 mo.	----	
	Subsequent	----	----	Every 24 mo.	
35100	Review of QA Manual	As referenced in applicable IPs			

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE
35960	QA Prog. Evaluation of Engrg. Serv. Org.		As required	
	Organization and Administration			
36100	Part 21 Inspection Initial Inspection	----	Early const. for constr. mgr./ vendor, as req.	----
	Subsequent	----	Major subs. and vendors, as req.	----
	Design, Design Changes and Modifications			R
37051	Verif. of As-Builts	----	1 year before operating lic.	----
37055	On-Site Design Act. Initial Inspection	----	6 mo. after activity starts	----
	Subsequent	----	----	Every 18 mo.
	Fire Prevention and Protection			
42051C	Fire Prot./Prev. Procedures	After work is started	Before work is 20% complete	Before work is complete
	Geotechnical/Foundation Activities			
45051	Procedure Review	6 mo. before work starts	1 mo. before work starts	Before signif work starts
45053	Work Observation	After work is started	6 mo. after work starts	Before work is complete
45055	Record Review	With IP 45053	Before 9 mo. of work	Completed work + 6 mo.
	Structural Concrete			
46051	Procedure Review	3 mo. before CP or LWA	Before work is started	Before containment ext. walls are placed
46053	Work Observation	When placement is started	Before containment basemat is placed	After last significant placement

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE	
46055	Record Review	With IP 46053	Before 9 mo. of Cat I placement	Cat I placement complete + 6 mo.	
46061	Masonry Const. First Inspection	When masonry work starts	Before work is 30% complete	Before work is 75% complete	R R R R
	Second Inspection	After work is 50% complete	After work is 75% complete	Work complete + 3 mo.	R R
46071	CEAs	249	250	300	R
Containment (Post-Tensioning)					
47051	Procedure Review	After basemat work starts	3 mo. before P-T begins	Before tendon installation	
47053	Work Observation	When P-T begins	----	As required by IP	
47055	Record Review	With IP 47053	Before tendons are 50% inst.	P-T complete + 6 mo.	
Structural Steel and Supports					
48051	Procedure Review	After proc. are developed	Before work is started	Before work is 20% complete	
48053	Work Observation	After work is started	Before work is 10% complete	Before work is 80% complete	
48055	Record Review	With IP 48053	Before work is 50% complete	Completed work + 6 mo.	
Reactor Coolant Pressure Boundary Piping					
49051	QA Review	6 mo. before work starts	----	Before work is 10% complete	
49053	Work Observation First Inspection	After work is 10% complete	Before work is 20% complete	Before work is 30% complete	

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE
	Second Inspection	After work is 50% complete	Before work is 60% complete	Before work is 80% complete
	Semi-Annual	----	Optional	-----
49055	Record Review First Inspection	After work is 20% complete	----	Before work is 40% complete
	Second Inspection	After work is 60% complete	Before work is 80% complete	280 + 1 mo.
Safety-Related Piping				
49061	QA Review	6 mo. before work starts	----	Before work is 10% complete
49063	Work Observation	After work is 20% complete	After work is 40% complete	Before work is 80% complete
49065	Record Review	After work is 30% complete	Before work is 50% complete	Before work is 80% complete
Mechanical Components and Equipment				R
50051	RV and Internals - QA Review	6 mo. before install. compl.	----	Before work is 10% complete
50053	RV and Internals - Vessel	----	During install.	----
	Internals	----	During install.	----
	Storage Inspection	----	Quarterly	----
50055	RV and Internals - Record Review	----	When work is complete	Work complete + 2 mo.
50071	Safety-Related Comp. Procedure Review	6 mo. before work starts	Before work starts	Before work is 10% complete

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE
50073	Safety-Related Comp. Work Observation			
	First Inspection	After work is 10% complete	Before work is 20% complete	Before work is 30% complete
	Second Inspection	After work is 50% complete	Before work is 60% complete	Before work is 80% complete
50075	Safety-Related Comp. Record Review			
	First Inspection	After work is 20% complete	Before work is 30% complete	Before work is 40% complete
	Second Inspection	Before work is 60% complete	Before work is 70% complete	Before work is 90% complete
50082B	Site Erected RV Procedures	----	----	Before work is 10% complete
50083B	Site Erected RV Work Observation	After work is 10% complete	Before work is 30% complete	270
50085B	Site Erected RV Record Review	After work is 10% complete	Before work is 30% complete	270 + 1 mo.
50090	Pipe Support and Restraint Systems	----	Before work is 20% complete	Work complete + 3 mo.
50095	Spent Fuel Storage Racks	3 mo. before installation	Before work is 10% complete	Before work is complete
50100	HVAC Systems	As required by IP		
Electrical Components and Systems				R
51051	Elec. Components Procedure Review			
	Initial Inspection	4 mo. before works starts	Before work starts	Before work is 20% complete
	Followup Inspection	After work is 40% complete	After work is 50% complete	Before work is 70% complete

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE
51053	Elec. Components Work Observation	After work starts	Before work is 20% complete	Before work is 90% complete
51055	Elec. Components Record Review			
	First Inspection	After work is 30% complete	Before work is 40% complete	Before work is 90% complete
	Second Inspection	After work is 60% complete	Before work is 70% complete	Work complete + 2 mo.
51061	Electric Cable Procedure Review			
	Initial Inspection	6 mo. before work starts	Before work starts	Before work is 20% complete
	Followup Inspection	After work is 40% complete	After work is 50% complete	Before work is 70% complete
51063	Electric Cable Work Observation	After work starts	Before work is 20% complete	Before work is 90% complete
51065	Electric Cable Record Review			
	First Inspection	When cable work is 20% complete	When cable work is 30% complete	When cable work is 50% complete
	Second Inspection	When cable work is 60% complete	When cable work is 70% complete	Work complete + 2 mo.
Instrumentation Components and Systems				R
52051	Instrument Comp. Procedure Review			
	Initial Inspection	4 mo. before work starts	Before work starts	Before work is 20% complete
	Followup Inspection	After work is 40% complete	After work is 50% complete	Before work is 70% complete
52053	Instrument Comp. Work Observation	After work starts	Before work is 20% complete	Before work is 90% complete

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE
52055	Instrument Comp. Record Review			
	First Inspection	After work is 20% complete	Before work is 30% complete	Before work is 50% complete
	Second Inspection	After work is 60% complete	Before work is 70% complete	Work complete + 2 mo.
Containment Penetrations (Mechanical)				
53051	Procedure Review	Start of liner installation	----	Before work is 10% complete
53053	Work Observation			
	First Inspection	After work is 20% complete	Before work is 40% complete	Before work is 60% complete
	Semi-Annual	----	During install.	----
53055	Record Review	After work is 30% complete	Before work is 50% complete	Before work is 80% complete
Welding and Nondestructive Examination				
55050	Nuclear Welding General			
	First Inspection	----	After work is 5% complete	Before work is 15% complete
	Subsequent	----	Periodically	----
55092B	Site Erected Rctr Vssl Work Observ.	After work is 10% complete	Before Work 30% complete	270
55093B	RV Internals Weld Work Observation	----	During Installation	Installation + 1 mo.
55100	Structural Welding General			
	First Inspection	----	After work is 5% complete	Before work is 15% complete
	Subsequent	----	Periodically	----
55150	Weld Verification		As required	

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE
57050	NDE - Visual			
	First Inspection	After work is 10% complete	----	Before work is 25% complete
	Second Inspection	After work is 75% complete	Before work is 90% complete	Before plant startup
57060	NDE - PT			
	First Inspection	After work is 10% complete	----	Before work is 25% complete
	Second Inspection	After work is 75% complete	Before work is 90% complete	Before plant startup
57070	NDE - MT			
	First Inspection	After work is is 10% complete	----	Before work 25% complete
	Second Inspection	After work is 75% complete	Before work is 90% complete	Before plant startup
57080	NDE - UT			
	First Inspection	After work is 10% complete	----	Before work is 25% complete
	Second Inspection	After work is 75% complete	Before work is 90% complete	Before plant startup
57090	NDE - RT			
	First Inspection	After work is 10% complete	----	Before work is 25% complete
	Second Inspection	After work is 75% complete	Before work is 90% complete	Before plant startup
Containment Structural Integrity Test				
63050	SIT	2 months before start of test	Before SIT starts	Before OL issuance
Fire Prevention and Protection				
64051B	Procedures	220	269	280
64053B	Fire Loop Install.	After work is 10% complete	Before work is 50% complete	Before work is complete

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE	
Low-Level Radioactive Waste Storage					
65051	Radwaste Storage		As specified by IP		
Inservice Inspection					
73051	Program	6 mo. before 309	----	309	
73052	Procedures	4 mo. before 309	309	310	
73053B	Preservice Observ.	After work is 10% complete	Before work is 30% complete	Before work is 90% complete	
73055B	Preservice Data	After work is 20% complete	Before work is 50% complete	310 + 2 mo.	
Environmental Protection					
80210	Envir. Protection Initial Inspection	Pre-LWA or CP	Post-LWA or CP.	CP + 3 mo.	
	Subsequent	Every 18 mo.	After initial inspection		
Event Reports					
90712	In-Office Review		As required		
Planned and Nonroutine Activities					R
92050	QA for Extended Delay Initial Inspection	----	When notified	----	
	Subsequent	----	Every 6 mo.	----	
92700	Event Reports		As required		
92701	Followup		As required		R
92702	Noncompliance		As required		
92703	IE Bull./Action Ltr.		As required		
92720	Corrective Action		As required		R

IP NUMBER	PROCEDURE SHORT TITLE	INSPECTION SCHEDULE MAY START	MUST START	MUST COMPLETE	
Technical Act'	ies of an Administrative Nature				R
94010B	Hearings		As required		
94300	Plant Status for OL		As required		R
94600	Info. Meetings		As required		
94702	NRR/Licensee Meetings		As required		

APPENDIX II

LWR - CONSTRUCTION PHASE TEMPORARY INSTRUCTIONS R

PURPOSE

The purpose of this appendix is to list the Temporary Instructions (TIs) applicable to the construction phase inspection program. R

TI Number	Title	Expir. Date	
2500/17	Inspection Guidance for Heat Shrinkable Tubing	09/22/87	R R
2512/07 (Rev. 2)	Regional Construction Assessment Team Inspections	Expiration date extended indefinitely	R R R
2512/13	Inspection of Replacement of BWR Recirculation Piping	No expiration date	
2512/15	Inspection of Watts Bar Nuclear Plant Employee Concerns Program	Experation date extended indefinitely	R R R

These TIs remain valid for use "as required" until otherwise noted by a Change Notice. (This appendix is not always kept current.)

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

NRC INSPECTION MANUAL

DLPQ

INSPECTION PROCEDURE 40500

EVALUATION OF LICENSEE SELF-ASSESSMENT CAPABILITY

PROGRAM APPLICABILITY: 2515 and 2525

40500-01 INSPECTION OBJECTIVE

The objective of this inspection is to evaluate the effectiveness of the licensee's self-assessment programs. The inspection will focus on determining whether the licensee's self-assessment programs contribute to the prevention of problems by monitoring and evaluating plant performance, providing assessments and findings, and communicating and following up on corrective action recommendations.

40500-02 INSPECTION REQUIREMENTS

02.01 Inspection Preparation

a. Review selected recent licensee event reports (LERs), enforcement history, operating activities, inspection reports, management meeting reports, performance indicators, and systematic assessment of licensee performance (SALP) reports to determine current areas of weakness.

b. Review the licensee's requirements for oversight activities in the technical specifications and any commitments made in the final safety analysis report (FSAR) or separate correspondence.

c. Review the licensee's site and corporate organization charts to gain an understanding of the organizational relationships. Review the charters or procedures for individual committees to determine intercommittee relationships and lines of communication.

02.02 Onsite and Offsite Review Committee Activity (or equivalent)

a. Review selected committee meeting minutes for the last year and ensure that the requirements of the technical specifications have been met with respect to the composition, duties, meeting frequency, and responsibilities of the committees, or their equivalent.

b. Observe at least one onsite and one offsite committee meeting, if possible, to evaluate the depth of review of overall plant performance.

c. Review the qualifications and expertise of the individual committee members and their designated alternates. Review the use and designation of subcommittees.

d. Review selected audits conducted under the cognizance of the offsite committee in the areas of weakness identified in item 02.01a of this procedure and determine if the findings identified are consistent with external assessments (e.g., NRC, INPO, consultants, etc.).

e. Determine what actions the committees have initiated to investigate and correct previously identified violations, reportable events, or areas of weakness noted in item 02.01a of this procedure. Determine if the findings are trended for identification of recurring problems.

f. Selectively review the follow-up to previously identified committee action items and offsite committee-initiated audit findings. Determine if there have been recurring problems that indicate ineffective corrective action or inadequate root cause determination. If there has been inaction, determine whether the reason is poor assignment of priorities because of a lack of accountability.

g. Determine if the committees have adequate tracking mechanisms for open items and if the items are aggressively pursued at each meeting. Determine if the action items are assigned priorities.

02.03 Independent Safety Engineering Group (or equivalent)

a. Review selected independent safety engineering group (ISEG) reports for the last year to determine if the identified weak areas noted in item 02.01a have been reviewed and evaluated for root cause and corrective action implementation.

b. Review ISEG reports to determine if thorough, in-depth reviews of various functional areas were performed and valid recommendations proposed. Review the validity of findings that the area is satisfactory. Review the ISEG review schedule and determine if unscheduled reviews are conducted when appropriate.

c. Select a sample of the corrective action recommendations made by ISEG during recent reviews and determine if their associated resolution has been implemented effectively.

d. Determine the reporting chain for the ISEG to ensure that the assessments are submitted to an individual senior enough in the corporate organization to effect corrective action.

e. Discuss with ISEG members the day-to-day functions of their organization, the routine reports produced, and guidance provided for routine activities. Determine if the assigned individuals understand their scope of authority and their responsibilities associated with their independent reviews.

f. Review the expertise and/or experience level of the ISEG members through interviews and survey of resumes to determine if the members are qualified to perform meaningful, independent assessments and provide valid recommendations to senior management. Determine if

the members have expertise and/or experience in all elements of plant operations, including engineering activities.

g. Determine if the ISEG recommendations are tracked until resolution. Review the tracking mechanism and the backlog.

02.04 Other Management Oversight Functions

a. Determine if licensee management and the review committees effectively use all available performance-related data to monitor plant performance. Review the performance data for anomalies and trends, and discuss with management, if necessary.

b. Determine if there are well-defined corrective action programs with adequate tracking and trending mechanisms. Verify that a program exists that ensures that the findings are forwarded to the appropriate level of management. Determine if recipients of recommendations are held accountable for responses.

c. Determine if periodic third-party or special internal reviews were conducted to assess any areas of weakness identified in item 02.01a and if effective corrective action was taken. If an ISEG is not implemented, determine if the licensee performs periodic independent self-assessments. Review the major third-party or independent reviews performed in the last year and the corrective action(s) implemented.

02.05 Summary of Safety Review Functions

a. On the basis of review of the activities of the oversight groups, determine if management is aggressive in follow-up of the recommendations of the groups. Verify that the licensee is meeting their corrective action due dates.

b. Determine if the overall self-assessment program is coordinated to ensure that all major functional areas (e.g., operations and maintenance) are reviewed.

c. On the basis of overall review and observation of the safety review activities, determine if all of the following functions are being achieved:

- Review and assessment of the operating experience of the licensee's plant and industry and application of the lessons learned

- In-depth evaluations of plant performance

- Review of significant policies, procedures, and practices that affect safety, and identification and review of unreviewed safety questions

- General assessments and issuance of findings to management

- Recommendations for improving plant safety and clear communication of and tracking of findings

03.01 General Guidance

NRC experience indicates that utilities with effective self-assessment and corrective action programs achieve superior operating performance. All nuclear power plants licensed by NRC have several provisions for the review and evaluation of items considered important to safety. The provisions are spelled out in each facility's technical specifications and call for a "Corporate Nuclear Review and Audit Group" (CNRAG), whose majority is independent of the plant staff; a "Unit Review Group" (URG), which is composed of plant staff personnel; and in post-TMI plants, an "Independent Safety Engineering Group" (ISEG), which is independent from the plant staff.

Self-assessment organizations act in a measurement and advisory capacity, monitoring the overall performance of the plant; identifying substandard or anomalous performance and precursors of potential problems; reporting findings in an understandable form and in a timely fashion to a level of line management having the authority to effect corrective action; and reporting those assessment results to line management. An effective self-assessment organization is technically and performance oriented, focusing its efforts toward end products, as opposed to being concerned only with processes and procedures. The absence of recurring problems is one measure of the effectiveness of self-assessment programs.

This inspection provides a means to ensure that self-assessments are effectively contributing to the identification, correction, and prevention of safety-significant technical problems and deficiencies in plant systems and operations. This inspection requires the inspector to make objective and subjective judgments based on information obtained through interviews, observations, and review of available documentation.

The inspection procedure is intended to be performed by the resident inspector on an ongoing basis during the SALP cycle; however, the procedure may also be performed collectively by a region-based or NRR inspector.

03.02 Specific Guidance

a. Inspection Requirement 02.01. During review of documents and reports, the inspector should look for cases in which the licensee failed to identify the root cause of an event or a problem. Identify particular cases in which the licensee's corrective action was insufficient or ineffective and in which problems recurred. Review the scope of the corrective actions to ensure that similar components and/or activities have not been overlooked.

   The inspector may, if necessary, request a briefing or presentation by licensee management on the various self-assessment groups and processes, including how they are integrated and used by management. A discussion with the senior resident inspector or regional section chief may be helpful, if necessary.

b. Inspection Requirement 02.02a. During review of the meeting minutes, determine if the meetings are thoroughly documented. Determine whether the minutes are useful in ascertaining the topics discussed and the basis for the conclusion. Determine if the action items are clearly identified and followed up.

During review of the minutes, determine if the committee reviews safety-significant concerns that are not specifically required by technical specifications.

c. Inspection Requirement 02.02b. An onsite committee meeting presents a good opportunity for the inspector to observe the interactions of the various site organizations and supervisors. During attendance, note if plant management dominates the conversation, constructive discussion occurs, the majority of the committee consistently votes the same as the chairman, or if the committee is biased towards operation or safety. Determine if the offsite committee meetings are periodically conducted at the site.

In addition, determine if the committee uses design basis, FSAR, vendor technical manuals, or similar documents for their determinations in addition to the technical specifications and the judgment of management.

d. Inspection Requirement 02.02c. Review the qualifications of the members to verify their experience levels. Ensure that the committee membership is multidisciplinary. Ensure that a mix of experience is evident at committee meetings from observation and a review of the minutes. Determine if the offsite committee has senior management members from other utilities or experienced consultants. Experience has indicated that the inclusion of outside members increases the effectiveness of the committee, and should be encouraged. The inclusion of outside members, however, is normally not a requirement.

e. Inspection Requirement 02.03. An independent safety engineering group (ISEG) was required for each applicant for an operating license following TMI (TMI Action Plan, Item I.B.1.2). The ISEG was established to perform independent reviews of plant operations. NUREG-0737 states that the principal function of the ISEG is to examine plant operating characteristics, NRC issuances, Licensing Information Service advisories, and other appropriate sources of plant design and operating experience information that may indicate areas for improving plant safety. The ISEG is to perform independent reviews and audits of plant activities, including maintenance, modifications, operational problems, and operational analysis, and aid in the establishment of programmatic requirements for plant activities. Another function of the ISEG is to maintain surveillance of plant operations and maintenance activities to provide independent verification that they are performed correctly and that human errors are reduced as much as practicable. ISEG should be in a position to advise utility management on the overall quality and safety of operations.

For those plants that do not have an ISEG, this section can be omitted. If other organizations are in place that accomplish some of the functions of an ISEG, the applicable sections may be performed.

f. Inspection Requirement 02.04. Evaluate the licensee's program to analyze the available sources of performance data, which may include a set of performance indicators. Determine if the committees have been aggressive in seeking out areas needing improvement, rather than just responding to events and inputs from outside sources.

It is important that resident and region-based inspectors be aware of significant audits, reviews, and investigations dealing with technical or management issues affecting plant operations and the major findings resulting from such third-party reviews. 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.

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, indicated the following:

The Coordination Plan for NRC/INPO Appraisal and Evaluation Activities 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 EDO.

In general, the inspector should document in internal NRC correspondence that a review of the INPO report was completed and indicate whether it was consistent or substantially deviated from the most recent NRC perception. Significant deviations between NRC and INPO perceptions should be discussed with regional management.

g. Inspection Requirement 02.05. The overall safety review function should be both corrective and preventive; that is, it should analyze the operational record, pointing out known event-causing factors, and examine procedures and practices to determine unrecognized hazards. Leading indicators and trends should be examined and contingency plans, designs, and new policy directives should result. The overall mission of the safety review function should be to prevent accidents that might affect the public health and safety. The exact organizational arrangement for safety review at each utility will differ, depending on a variety of key factors. However, whatever the organizational arrangement, there must be serious management commitment to safety review, and safety review officials must have the requisite abilities, experience, and authority to do high-quality technical work.

40500-04 INSPECTION RESOURCES

This inspection procedure is expected to take approximately 60 direct inspection hours on site by the resident inspectors per SALP cycle. Portions of the procedure may also be performed by region-based or NRR inspectors. Actual inspections at a specific plant may require substantially more or less time, depending on the circumstances.

40500-05 REFERENCES

NUREG-0737, Item I.B.1.2, "Independent Safety Engineering Group"

NUREG-0800, Standard Review Plan, Chapter 13.4, "Operational Review"

Standard Technical Specifications, Section 6.0

ANSI N18.7-1976, "Quality Assurance for the Operational Phase of Nuclear Power Plants"

ANSI/ANS 3.2-1982, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants"

Regulatory Guide 1.33, Revision 2, "Quality Assurance Program Requirements (Operation)," February 1978.

Memorandum of February 14, 1986, from J. M. Taylor to regional administrators entitled "NRC Use of INPO Evaluation Reports (DCS 6828/200)."

END

Enclosure 4

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

June 26, 1990

OFFICE OF THE
SECRETARY

MEMORANDUM FOR: James M. Taylor, Executive Director
for Operations

FROM: /s/ Samuel J. Chilk, Secretary

SUBJECT: NRC REVIEW OF INPO REPORTS

In a April 2, 1990 letter, the Congressional Subcommittee on General Oversight and Investigations expressed a concern to Chairman Carr that certain INPO reports which appeared to show safety deficiencies at Seabrook Nuclear Station were not reviewed prior to the Commission granting a full power license.

The response to the Subcommittee explained in details of the NRC's handling of INPO reports regarding Seabrook and stated that the NRC staff did not find it necessary to review every INPO document because existing requirements provided adequate assurance that the NRC would be informed in a timely manner if INPO had identified any significant violation or safety deficiency.

The Commission recognizes that licensees are required to report significant violations or safety deficiencies identified in INPO reports to the NRC. However, the Commission has agreed that it would be prudent (so as to avoid future debates on this issue) to ensure that the staff actually reads all INPO evaluation reports that are made available to us at the time that they are issued. Accordingly, you should establish a policy to this effect and promptly communicate it to the resident inspectors. This action should require no more than an instruction from NRR to the resident inspectors.

cc: Chairman Carr
Commissioner Roberts
Commissioner Rogers
Commissioner Curtiss
Commissioner Remick
OGC
IG

ILPB

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 requirements of this inspection procedure to the maximum extent possible, by direct observation of 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. Conduct selective examinations of the following items, on a day-to-day basis, with a goal of sampling all areas each week.

a. Control Room Observations:

1. Verify that 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, and with on-going control room operations. To this end, observe 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. Verify that 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. Verify that the licensee is operating the plant in a normal plant systems configuration 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 safety features (ESF) and ESF electrical alignment. In addition, confirm that selected valves are positioned appropriately for service.

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

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

6. Examine panels containing nuclear instruments and other reactor protection system elements to determine that 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. Review 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 the operators. 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 followup to ensure that adequate safety practices are followed and that appropriate corrective actions are completed. Verify that

where the use of jumpers or lifted leads results in inoperability of safety systems, that clear, unambiguous indication of the inoperable status of all affected systems is provided in the control room for as long as the inoperable condition exists. For guidance on this subject, see IP 37828.

c. The inspector should selectively review the ECCS system lineups, using the control room indication, to verify water supply and heat sink availability, as well as the 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. The inspector should observe available control room instrumentation to verify 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. Confirm that 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 not 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 seismic, meteorological, or fire detection indications, as well as plant specific monitoring systems such as for chlorine gas.

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 lengthy 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 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 Weekly Inspection Items

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

1. Verify that each accessible valve (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, including control room fuses (if visible), are aligned for components that must activate on receiving an initiation signal.

3. 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 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 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 ESF components that are normally inaccessible.

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

(c) Verify 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 each week. The inspector should independently assess, using PRA information to focus on high risk items if available, the safety conditions and adequacy of plant equipment, 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.

5. Observe a shift turnover. Ensure that all necessary information concerning plant systems status is addressed.

6. Radiation protection controls:

(a) 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. Radiation areas are properly posted.

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

NOTE: Questions concerning judgment of the adequacy of the above should be discussed with the health physics inspection staff.

7. Security program plans are being implemented as evidenced by:

   (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)].

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 of key core parameters by operators is sufficient to ensure proper core cooling while in a shutdown cooling mode.

02.03 Biweekly Inspection Items (to be done once every 2 weeks).

a. Select one safety-related tagout in effect and independently ensure that it was properly prepared and conducted 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 implementation of the licensee's sampling program (e.g., coolant samples, boric acid tank samples, and 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 inspected over a 1-year period.

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

02.04 Bimonthly Inspection Item (to be done once every 2 months).

a. Verify that the licensee's use of overtime 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.

02.05 SALP Cycle Inspection Item. Once each SALP cycle, the Resident Inspectors are required to inspect the licensee's files, pertaining to NRC licensed reactor operators, to evaluate requirements concerning the medical condition of NRC licensed operators. Consequently, the inspector is to select the records of 3 or 4 operators for examination each SALP cycle.

71707-03 INSPECTION GUIDANCE

03.01 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 in 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 operability of a component or inspection in an