August 30, 2007, NRC Workshop on
Construction Inspection Program (CIP) Assessment and Enforcement
Industry Comments and Recommendations

Overview

New plant construction under Part 52 is expected to be more efficient and effective than previous construction efforts. Construction quality assurance (QA) and corrective action programs (CAP) will be significantly stronger than in the past based on CAP and QA program improvements that have contributed to significantly improved operations in the past decade. These improved processes[1] together with the stability and predictability of the Part 52 combined license and ITAAC processes will create an environment where high-quality plants can be built according to their certified designs on a predictable schedule.

This enclosure provides comments and recommendations to refine the proposed CIP assessment and enforcement process (hereafter CIP assessment process) presented on August 30. Our comments and recommendations reflect the following principles:

- The CIP assessment framework can and should reflect that there is no immediate impact on the health and safety of the public due to inspection findings during the construction phase
- The CIP assessment process should be as simple as possible, yet assure that significant issues involving programmatic breakdowns or willful noncompliance trigger an appropriate NRC oversight response.
- Strengthened licensee CAPs should be relied upon to resolve the majority of inspection issues.

Borrowing from the Operational Reactor Oversight Program (ROP)

The extent to which ROP concepts can be applied to the construction phase is limited by significant differences between the operating and construction environments. The ROP was designed after many years of steady-state plant operation with a consistent workforce. The NRC and the industry have no experience with new plant construction under Part 52 on which to base a sophisticated, ROP-like assessment process for construction. The life cycle of construction includes thousands of new and varied tasks throughout a multi-year process and involves a largely transient workforce based on the need for very specific skills and trades. The fluid nature of construction tasks and workforce calls for an assessment process that differs significantly from the operational ROP.

We agree with the staff that CIP assessment should be transparent, predictable, and scrutable. We expect that CIP assessment will include periodic assessment and stakeholder information analogous to those elements of the operational ROP. However, other elements of the ROP do not apply or are not necessary for construction. They should not be used because they would unduly complicate the CIP assessment process. The staff has already excluded some inapplicable ROP elements from CIP assessment, including performance indicators and significance determination which require years of steady-state data and assume radiological risk that does not exist for construction activities. The staff has also not proposed to define ROP-like cornerstones for the construction phase. We agree this is unnecessary.

[1] Licensee QA programs will be based on NRC-endorsed guidance in NEI 06-14A, Quality Assurance Program Description (Revision 4). The industry also plans to develop and seek NRC endorsement of guidance for construction CAPs.

The staff's August 30 CIP assessment framework did, however, include complex, ROP-like cross-cutting issues and action matrix weighting factors. These elements are unnecessary and would unduly complicate the CIP assessment process. The industry approach to CIP assessment without cross-cutting issues and weighting factors is described below.

In limited areas where it may be appropriate to borrow concepts from the ROP, we recommend that use of ROP terms be avoided. The use of familiar ROP terms would likely confuse all parties since terms such as "action matrix" or the use of colors to indicate performance have very specific meanings that would need to be modified for construction. Further, it is important not to confuse the immediate health and safety implications of an operating plant with the activities at a construction site.

CIP Assessment Framework

The CIP Assessment Process is used to assess the licensee's overall construction quality performance, and to determine when additional NRC action beyond the normal inspection process may be necessary to assure quality. The assessment process defines a range of increasingly severe and intrusive NRC actions designed to assure proper licensee management attention to significant construction quality issues. These purposes are well served by an assessment process that is distinct from the normal construction inspection process and that is based on the number and severity of escalated enforcement actions resulting from inspection activities.

We do not agree that CIP assessment provides "a process for evaluating individual issues" or "inspection insights" as indicated on slide 7 of the NRC's August 30 presentation. In particular, individual ITAAC findings, unless the subject of escalated enforcement, need not and should not be counted as direct inputs to the assessment process or NRC "construction action matrix." The inspection process itself, and regulations requiring satisfactory completion of all ITAAC prior to fuel load assure that quality and other NRC requirements and licensee commitments are met before the plant is allowed to operate. The following points provide our rationale for concluding that ITAAC findings and other individual inspection issues should not be considered as part of CIP assessment:

- The licensee will establish and implement robust quality and corrective action programs (CAP) to assure the timely and effective identification and correction of conditions adverse to quality.
- Significant inspection findings are placed in the licensee's corrective action program and are subject to follow-up inspection to assure the adverse conditions have been corrected. Repeated failure by the licensee to implement timely and effective corrective actions could lead to a programmatic finding against the corrective action program and potential escalated enforcement action (Severity Level III or SL II). Such escalated enforcement actions would be considered in the CIP assessment process.
- Significant findings concerning a given ITAAC family may lead to expanded inspection of additional ITAAC in that family. Additional similar findings may indicate a QA breakdown subject to potential escalated enforcement that would be considered in the CIP assessment process.
- Individual ITAAC findings that represent a significant programmatic breakdown or willful noncompliance would result in escalated enforcement that would be considered in the CIP assessment process.
- Findings material to an ITAAC conclusion must be resolved in order to support ITAAC close-out and the required NRC ITAAC verification under Section 52.99. Thus, individual ITAAC findings need not input directly to the CIP assessment process to assure adequate licensee management attention to ITAAC issues. Management focus on satisfactory ITAAC

completion is already assured by NRC regulations in Part 52 that require all ITAAC to be complete and verified by the NRC staff and Commission before the licensee will be permitted to load fuel.

To make the CIP assessment process clearer, simpler and more effective, the inspection and assessment elements should not be mingled, but rather should operate in a hierarchy as illustrated in the chart on slide 4 of the NRC's presentation. The evaluation of individual inspection issues and insights should be handled through direct enforcement activities as a result of inspection activities. The assessment process should, in turn, monitor construction performance and assure appropriate NRC oversight response is triggered in the event of escalated enforcement actions resulting from programmatic breakdowns or willful noncompliance with NRC or license requirements.

Construction Action Matrix

Attachment 1 provides a revision to the Construction Action Matrix (CAM) proposed by the NRC. The revised CAM has been renamed the NRC "Construction Response Table" (CRT) to avoid using terminology from the ROP that could confuse industry and NRC personnel in the future and lead to misinterpretation. Similar to the CAM, severity level two and three violations would be considered in the CRT since these violations represent programmatic breakdowns in licensee performance or willful noncompliance with NRC or license requirements. Such escalated violations would erode regulatory confidence in the licensee and would be cause for additional inspections and oversight.

There are two important differences between the NRC's action matrix and the industry's proposed CRT. The first is that individual ITAAC findings do not input directly to the industry's proposed CRT (unless the subject of escalated enforcement). Excluding ITAAC findings from the CRT simplifies the assessment process and assures a focus on significant programmatic breakdowns, as discussed above, rather than issues readily resolvable via the licensee's CAP.

The second important difference between is that cross-cutting issues are not considered in the industry's proposed CRT. We find the ROP concept of cross-cutting issues is unnecessary for the construction phase. Cross-cutting issues would add significant complexity to the CIP assessment process and burden to inspectors with no benefit to construction oversight.

For a construction environment, quality assurance, problem identification and resolution (PI&R), and "safety-conscious work environment" were mentioned by the NRC staff on August 30 as potential cross-cutting issues for construction. There is no need to establish these as cross-cutting issues for CIP. Licensee quality assurance programs and CAP (including PI&R) implementation is already the principal focus of the NRC construction inspection process. Therefore, the addition of these "cross-cutting issues" would provide redundant information to the CIP assessment process and would be extremely difficult to implement separately in an objective fashion. There would be no benefit to assuring high quality construction by the establishment of cross-cutting issues.

As for safety-conscious work environment (SCWE), the industry will implement and monitor a program for SCWE in accordance with NRC policy and guidance. Issues associated with a failure of the licensee to provide an environment where employees can raise concerns would be handled through the allegations process which is a topic for future discussions. There is no need to establish SCWE as a cross-cutting issue for construction. Thus, the ROP concept of "cross-cutting issues" is not necessary at all and should not be adopted for CIP assessment.

Excluding both ITAAC findings and "cross-cutting issues" from the CRT eliminates the need for "weighting factors," further simplifying the CRT relative to the NRC CAM. We believe the CRT in

Attachment 1 provides clear guidance for NRC response to significant CIP issues (i.e., escalated enforcement), while establishing the licensee CAP as the principal mechanism for resolving isolated and minor issues.

Flow Chart(s) for Inspection Findings

We appreciate the initiative by the staff to create the inspection finding flowcharts presented on August 30. Such flowcharts are a useful tool for discussing how findings would be evaluated by inspectors. Consistent with the comments provided above on the staff's proposed CIP assessment framework, Attachment 2 provides a revised flowchart for NRC findings related to construction and ITAAC activities. Key principles embodied in the redrawn flowchart include:

1. The licensee Corrective Action Program (CAP) program will provide adequate oversight for minor issues consistent with current practices.
2. If the licensee has not accepted vendor work at the time of an NRC inspector's observation, the issue should be monitored in the licensee CAP program, and no inspection finding should be generated since the programs used to verify work did not fail.
3. Isolated issues typically do not rise to the level of greater than minor unless they are related to willful noncompliance.
4. Only severity level III and II violations should be part of the CIP assessment process since individual inspection findings are addressed via the licensee CAP and, unless the subject of escalated enforcement, are not input directly to the assessment process.

The industry believes that this revised process will focus NRC attention on significant programmatic issues that are important to quality plant construction rather than unnecessarily focusing management and inspection resources on individual issues that can be readily corrected by the licensee. The industry looks forward to reviewing the attached flowchart in detail at the public workshop on October 18th.

Corrective Action Program (CAP)

Similar to today's operating plants, the licensee's CAP will provide the mechanism for identification and correction of construction issues. To assist both the industry and the NRC in providing a consistent basis for the CAP program thresholds for significance, hierarchy among programs (vendor, constructor, licensee), trending, and other areas, the industry will develop a generic CAP guideline as an NEI document. Our goal is to have this guideline endorsed by the NRC such that licensee CAP programs consistent with the NEI guideline could be credited from the start of construction as a viable way to capture and resolve construction issues.

ITAAC Finding Definition

The definition (scope) of an ITAAC finding was identified as an important topic for future discussion. As we discussed the August 30 workshop, ITAAC findings must be limited to issues material to the acceptance criteria specified in the ITAAC. Moreover, as indicated in the Attachment 2 flowchart, an inspection issue should not be considered an ITAAC finding until it is determined to be a significant (not "minor") issue and that licensee controls would not have identified the issue. Assuring that ITAAC findings focus on issues material to the acceptance criteria, and not secondary or related inspection issues (e.g., Tier 2 issues), is consistent with the purpose of ITAAC to provide a focus on critical plant features and functions. Issues not material to determining that ITAAC acceptance criteria are met should be classified construction findings or inspection findings. This in one of several key CIP definitions flagged for further discussion in future public meetings.

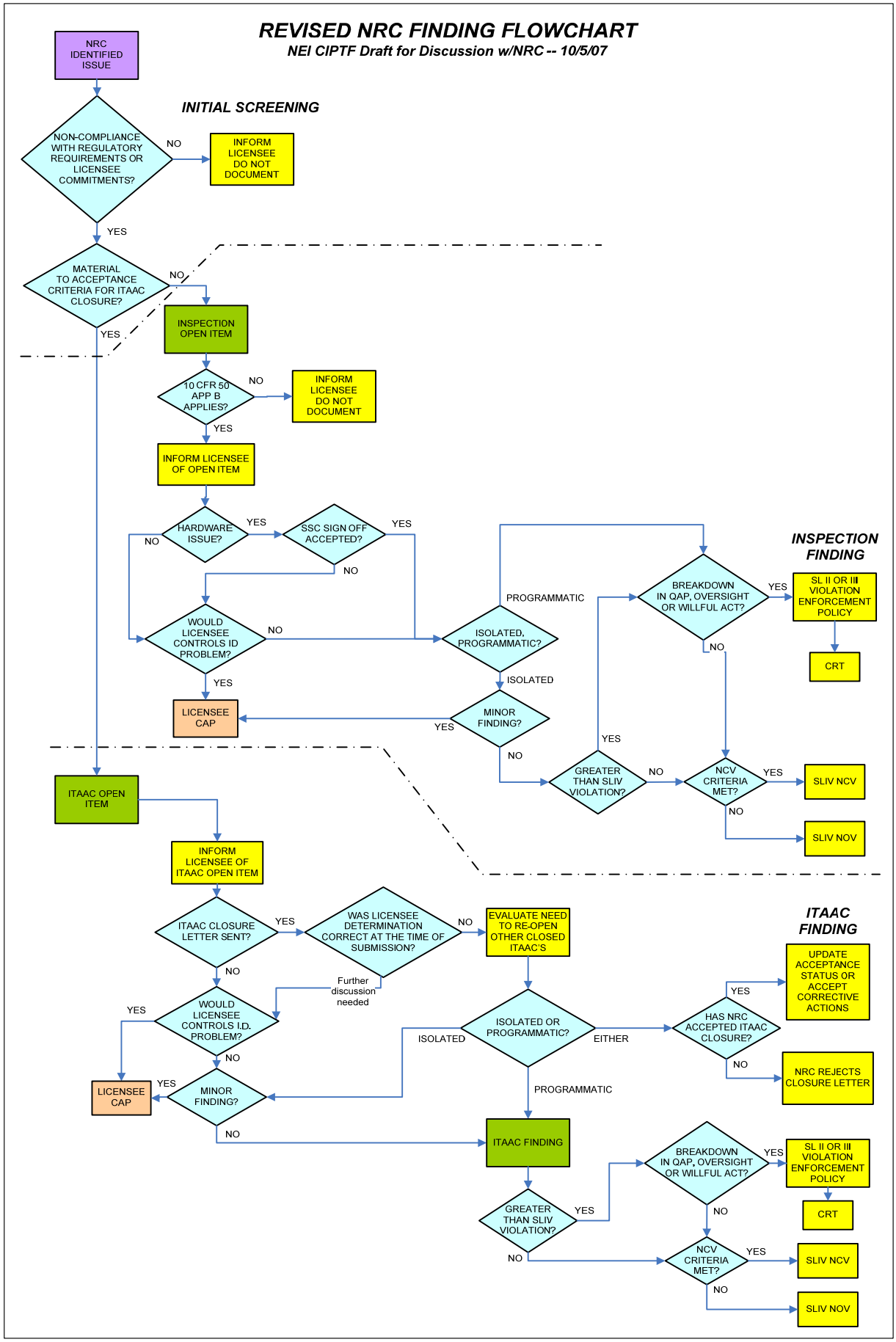
Enforcement

Though expected to be rare, we would expect the NRC to impose Severity Level III or II violations consistent with existing traditional enforcement policy based on findings that indicate a programmatic breakdown of licensee construction or quality processes, or willful noncompliance with NRC or license requirements. CIP assessment and NRC oversight response should be based on the number and severity of escalated enforcement actions, as discussed above. As the NRC prepares to update its enforcement policy, we recommend that the current criteria for severity levels remain unchanged. These have worked in past construction projects and more recent plant restarts and are well understood by stakeholders. Our comments and recommendations concerning the CIP assessment process assume that the criteria and thresholds for the severity levels will not change.

CONSTRUCTION RESPONSE TABLE

	First Bin	Second Bin	Third Bin	Fourth Bin
	All Assessment Inputs (Inspection Findings and Enforcement) no greater than SL IV.	Escalated enforcement actions, SL III violation.	Escalated enforcement actions, three SL III violations or one SL II violation Moderate Degradation in Construction Performance	Combination of SL III and SL II violations (more than four SL III, two or more SL II, or a combination of three SL III and one SL II violations) Loss of Confidence to Construct Adequately
Regulatory Performance Meeting	None	Branch Chief (BC) or Division Director (DD) Meet with Licensee	DD or Deputy Regional Administrator (DRA) Meet with Licensee	Commission meeting with Senior Licensee Management
Licensee Action	Licensee Corrective Action	Licensee root cause evaluation and corrective action with NRC Oversight	Licensee cumulative root cause evaluation with NRC Oversight	Licensee Performance Improvement Plan and Independent inspection with NRC Oversight.
NRC Inspection	Nominal Inspection Program	Focused NRC inspection in area(s) of concern.	Focused NRC inspection in area(s) of concern. ITAAC sample increased x% as necessary	Reactive team inspection in area(s) of concern.
Regulatory Actions	None	Additional inspection only	Additional inspection only	Demand for Information, show cause letter, and/or Order
Assessment Letters	BC or DD review/sign assessment report (w/ inspection plan)	DD review/sign assessment report (w/ inspection plan)	DRA review/sign assessment report (w/ inspection plan)	EDO review/sign assessment report (w/ inspection plan)
Annual Public Meeting	SRI or BC Meet with Licensee	BC or DD Meet with Licensee	DRA (or designee) Discuss Performance with Licensee	EDO (or designee) Discuss Performance with Licensee
Commission Involvement	None	None	None	Commission Meeting with Senior Licensee Management
	INCREASING SAFETY/REGULATORY SIGNIFICANCE ---------->			

Violations would be carried forward in the assessment process for a total of four calendar quarters.


REVISED NRC FINDING FLOWCHART
NEI CIPTF Draft for Discussion w/NRC -- 10/5/07
NRC IDENTIFIED ISSUE
INITIAL SCREENING
NON-COMPLIANCE WITH REGULATORY REQUIREMENTS OR LICENSEE COMMITMENTS?
NO
INFORM LICENSEE DO NOT DOCUMENT
YES
MATERIAL TO ACCEPTANCE CRITERIA FOR ITAAC CLOSURE?
NO
YES
INSPECTION OPEN ITEM
10 CFR 50 APP B APPLIES?
NO
INFORM LICENSEE DO NOT DOCUMENT
YES
INFORM LICENSEE OF OPEN ITEM
HARDWARE ISSUE?
YES
NO
SSC SIGN OFF ACCEPTED?
YES
NO
WOULD LICENSEE CONTROLS ID PROBLEM?
NO
YES
ISOLATED, PROGRAMMATIC?
PROGRAMMATIC
ISOLATED
LICENSEE CAP
MINOR FINDING?
YES
NO
INSPECTION FINDING
BREAKDOWN IN QAP, OVERSIGHT OR WILLFUL ACT?
YES
NO
SL II OR III VIOLATION ENFORCEMENT POLICY
CRT
GREATER THAN SLIV VIOLATION?
YES
NO
NCV CRITERIA MET?
YES
NO
SLIV NCV
SLIV NOV
ITAAC OPEN ITEM
INFORM LICENSEE OF ITAAC OPEN ITEM
ITAAC CLOSURE LETTER SENT?
YES
NO
WAS LICENSEE DETERMINATION CORRECT AT THE TIME OF SUBMISSION?
NO
YES
Further discussion needed
EVALUATE NEED TO RE-OPEN OTHER CLOSED ITAAC'S
WOULD LICENSEE CONTROLS I.D. PROBLEM?
YES
NO
LICENSEE CAP
YES
MINOR FINDING?
NO
ISOLATED OR PROGRAMMATIC?
ISOLATED
EITHER
PROGRAMMATIC
ITAAC FINDING
ITAAC FINDING
HAS NRC ACCEPTED ITAAC CLOSURE?
YES
NO
UPDATE ACCEPTANCE STATUS OR ACCEPT CORRECTIVE ACTIONS
NRC REJECTS CLOSURE LETTER
GREATER THAN SLIV VIOLATION?
YES
NO
BREAKDOWN IN QAP, OVERSIGHT OR WILLFUL ACT?
YES
NO
SL II OR III VIOLATION ENFORCEMENT POLICY
CRT
NCV CRITERIA MET?
YES
NO
SLIV NCV
SLIV NOV