



# Proposed Construction Inspection Assessment Process

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# Incorporate Most Key Features of ROP

- Objective, Predictable, Consistent, Risk-Informed and Performance Based
- Transparent to stakeholders
- Cornerstones
- Significance of findings risk informed
- Graduated NRC response
- However, performance indicators are not appropriate



DRAFT

# Construction Inspection Assessment Process

NRC's Overall Safety Mission

Public Health and Safety as a Result of Civilian Nuclear Reactor Operation

Strategic Performance Area

Plant Construction In Accordance With Approved Design

Readiness of Operational Programs

Construction Security

Cornerstones

Design Implementation

Procurement

Fabrication & Installation

Inspection & Testing

Operational Programs

Training & Qualification

Construction Security

Quality Assurance

Safety Conscious Work Environment

Problem Identification & Resolution

Elements of Construction Safety Culture



# Significance of Findings

- ITAAC were selected to capture the risk important aspects of the plant and, as such, risk-inform the process
- While performance deficiencies can have significant impact on cost and schedule, they can only have low safety significance for impacting public health and safety
- Findings have greater significance if they are repetitive, or are identified after ITAAC Closure Letters are submitted



# Construction Finding

- Construction Finding
  - Greater than minor non-compliance
  - Not associated with a specific ITAAC or required operational program
- Prior to Commission finding that all ITAAC acceptance criteria are met, findings are “GREEN”
  - Treated as non-cited violations if the NRC has verified the effectiveness of the licensee’s CAP
  - If the CAP effectiveness has not been verified, a Level IV violation is issued
- Significance after Commission final ITAAC finding will be evaluated using the ROP SDPs



# ITAAC Related or Operational Program Construction Finding

- ITAAC Related Construction Finding
  - Greater than minor
  - Associated with a specific ITAAC for which the closure letter has not been issued
  - Material to an ITAAC acceptance criterion
- Operational Program Construction Finding
  - Greater than minor
  - Related to a required operational program
- These findings are “GREEN” non-cited violations if the NRC has verified the effectiveness of the CAP
  - If not, a Level IV violation is issued
- May be increased to “WHITE” if repetitive within the same cornerstone, indicating a breakdown in CAP effectiveness.



# ITAAC Finding

- ITAAC Finding
  - Greater than minor
  - Associated with a specific ITAAC for which the licensee has issued the ITAAC closure letter
  - Material to an ITAAC acceptance criterion
- May invalidate a prior ITAAC conclusion and could require that a previous ITAAC closure letter be supplemented
- May be related to a single ITAAC or a family of ITAAC
- ITAAC Findings are categorized as “WHITE”



# Treatment of Findings

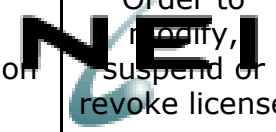
- Increasing occurrences of white or greater findings, within or across cornerstones can lead to increased regulatory oversight
- Similar to the ROP, traditional enforcement would be used for violations involving deliberate misconduct, employee protection, actual consequences, and accuracy of information





# Construction Response Table

		<b>Licensee Response Column</b>	<b>Regulatory Response Column</b>	<b>Degraded Cornerstone Column</b>	<b>Multiple/Repetitive Degraded Cornerstone Column</b>	<b>Unacceptable Performance Column</b>
<b>Results</b>		All assessment inputs green	Up to two white inputs in a cornerstone	Three or more white inputs in a cornerstone, or one yellow input	Repetitive Degraded Cornerstone or Multiple Degraded Cornerstones, or 2 yellow inputs or one red input	Overall unacceptable performance. Construction activities suspended.
<b>Response</b>	<b>Regulatory Performance Meeting</b>	None	Branch chief (BC) or division director (DD) meet with licensee	DD or RA meet with licensee management	RA or meet with senior licensee management	Commission meeting with senior licensee management
	<b>Licensee Action</b>	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 with NRC oversight	
	<b>NRC Inspection</b>	Baseline Inspection Program	Baseline and supplemental inspection per 90001	Baseline and supplemental inspection per 90002	Baseline and supplemental inspection per 90003	.
	<b>Regulatory Actions</b>	None	Supplemental inspection only	Supplemental inspection only	102.204 DFI 1050.54(f) Confirmatory Action Letter	Order to deny, suspend or revoke license



# Construction Safety Culture

- Construction site differs from an operating plant
  - Transient population
  - No possibility of radiological release
- Key elements of construction safety culture
  - QA/QC, PI&R, and SCWE
- Craft must be trained to understand their roles and responsibilities
- Supervisors must be vigilant in ensuring construction safety culture is inherent in work every day
- Management will assess safety culture through oversight and trends identified through the CAP
- NRC oversees the capability of management to maintain a strong construction safety culture



# When the following conditions are met, the plant will transition to ROP

- All significant construction and testing activities complete
- Licensee corrective actions for significant deficiencies for construction, testing, and startup activities completed
- All other construction, testing, and startup open items have been placed in the licensee's CAP
- The licensee has established a program to benchmark and to collect performance indicator data
  - Until sufficient data has been collected, additional inspection may be necessary in some areas
- The plant has completed a minimum of 100 hours of commercial operation



# Summary of Key Elements of the Industry Proposal

Element	Industry Approach
Credit for licensee identified items	Credit given as discussed in IMC 0613.
Minor violations	Defined in IMC 0613.
Non-cited violations	Characterize Level IV violations as NCVs if NRC has validated the effectiveness of the licensee’s CAP.
Type of findings	Construction Finding, ITAAC Related Construction Finding and ITAAC Finding as defined in IMC 0613. Added Operational Program Construction Finding.
Significance of Construction Findings	<p>“GREEN” because not associated with risk-informed ITAAC or required operational program; and inability to impact public health and safety until fuel is loaded.</p> <p>After Commission has made final ITAAC finding, the ROP SDPs will be used (GREEN/WHITE/YELLOW/RED).</p>
Significance of ITAAC Related Construction Finding or Operational Program Construction Finding	<p>“GREEN” because there is still an opportunity for licensee to identify issue as part of the ITAAC closure process and inability to impact public health and safety until fuel is loaded.</p> <p>“WHITE” violation if it is repetitive within a construction cornerstone, indicating a breakdown in the CAP</p>



# Summary of Key Elements of the Industry Proposal

Issue	Industry Approach
Significance of ITAAC Finding	"WHITE"
Traditional Enforcement	Used if violation is willful, results in actual consequences (such as overexposure), impacts NRC ability to perform its regulatory function or impacts employee protection.
Civil Penalties	Not applied to "colored" findings. Similar to the ROP, reserved for the items that call for traditional enforcement described above.
Construction Response Table	Graded approach based on number of "WHITE" findings in a cornerstone, the number of cornerstones affected and repetitiveness of cornerstone deficiencies. After Commission has made final ITAAC finding, the ROP SDPs will be used such that there can be greater than Green findings.
Safety Culture/Cross cutting issues	Industry will establish an approach similar in concept to the changes being sought in the ROP. Work is ongoing.

