Vendor Inspection Findings & ITAAC

Defining “Material” and Extent of Forward Projection

1/23/2014

Agenda

- Defining “Material”
  - Relevant Definitions
  - IMC 0617 Terminology Comparison
  - 2 Examples
- Extent of Forward Projection
  - Background
  - Potential Interpretations
  - 2 Examples

Relevant Definitions

- **ITAAC Finding** (IMC 2507) An inspection finding that is material to the ITAAC acceptance criteria.

  (IMC 2506) - a finding that is identified through the implementation of the construction inspection program that is associated with a specific ITAAC and is material to the ITAAC acceptance criteria.
- **Material** (76 Fed. Reg. 27931; 77 Fed. Reg. 51887) – information that has a natural tendency or capability to influence an agency decision maker in either determining whether the prescribed inspection, test, or analysis was performed as required, or finding that the prescribed acceptance criterion is met

IMC 0617 Terminology

- E.8.2: **Does the issue**, if left uncorrected, represent a condition adverse to quality that renders the quality of a structure, system, or component (SSC) or activity, unacceptable or indeterminate?
- E.8.3: **Does the issue**, if left uncorrected, represent a failure to establish, implement or maintain a process, program, procedure, or quality oversight function that could render the quality of the SCC or activity unacceptable or indeterminate?
- E.8.4: If left uncorrected, **could the issue** adversely affect the closure of an Inspection, Test, Analyses, and Acceptance Criteria (ITAAC)?

2 Examples from Licensee Letter

ML13156A136

Referenced ITAAC for 1st Example

ITAAC No.	Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.2.01.05.ii (2.2.02.05 a.ii, 2.2.05.05 a.ii, 2.3.07.05. ii, 2.7.01.05. ii also)	5. The seismic Category I equipment identified in Table 2.2.1 1 can withstand seismic design basis loads without loss of structural integrity and safety function.	ii) Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment will be performed.	ii) A report exists and concludes that the seismic Category I equipment can withstand seismic design basis dynamic loads without loss of structural integrity and safety function.

2 Examples from Licensee Letter

1st Example

Inspection	Limitorque Actuator Seismic Qualification
NON	99901412/2012-201-02 (Summary Letter Pg 7)
NON Summary	Accelerometers for vibrational aging were calibrated from 25 to 500 Hz, but used over a frequency range of 5 to 100 Hz. By using accelerometers outside of the calibrated range, it cannot be assured that equivalent fatigue effects were produced to plant operating conditions, and the seismic qualification does not meet requirements.
Comment	It is clear that this condition materially affects the acceptance criteria that the equipment can withstand seismic design basis loads. (If the condition were not corrected, the acceptance criteria would not be met.)

2nd Example from Licensee Letter
Referenced ITAAC

ITAAC No.	Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.2.03.02a	2.a) The components identified in Table 2.2.3-1 as ASME Code Section III are designed and constructed in accordance with ASME Code Section III requirements.	Inspection will be conducted of the as-built components as documented in the ASME design reports.	The ASME Code Section III design reports exist for the as-built components identified in Table 2.2.3-1 as ASME Code Section III.
2.2.03.05a.ii	5.a) The seismic Category I equipment identified in Table 2.2.3-1 can withstand seismic design basis loads without loss of safety function.	ii) Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment will be performed.	ii) A report exists and concludes that the seismic Category I equipment can withstand seismic design basis dynamic loads without loss of safety function.

2nd Example from Licensee Letter

Inspection	Enertech Check Valve Inspection
NON	99901377/2012-2012-02 (Summary Letter pg 13)
NON Summary	Inspection of QME-1 active safety function testing of nozzle check valves. Commercial Grade Dedication of procured calibration services and certain non-pressure boundary items did not include adequate technical evaluations. The testing did not include all QME-1-2007 specified operating conditions. "*if left uncorrected, these issues could call into question the validity of the qualification testing of the as-built check valves to ensure they perform their safety-related function and change position under design basis conditions in accordance with ASME Code Section III and ITAAC 2.2.03.05a.ii and 2.2.03.02a*."
Comment	It is not clear how these conditions materially affect the acceptance criteria that the valves can withstand seismic design basis loads, since the valves are qualified by analysis only, and do not utilize this QME testing. Likewise for fabrication in accordance with ASME Code Section III. (If the condition were not corrected, how does this result in the conclusion that acceptance criteria are not met?). There are no ITAAC for QME-1 testing of these valves.

Background on “Forward Projection”

- Based on review of current inspection guidance and recent Vendor Inspection Reports, it is not clear to what degree (if any) vendor Notices of Nonconformance are/will be “projected forward” to determine potential future effects on ITAAC acceptance criteria.

If {*condition*} > Then {*effect*} >…> Then {*material effect on AC*}

Potential Interpretations

Potential Interpretation	Description
No Forward Projection	Each Condition or NON is assessed as it exists at the current time. Secondary or Tertiary effects are not projected. The current condition is directly compared to the Acceptance Criteria and asked, *"If this condition were not corrected, are the Acceptance Criteria not met?"*
Subjective	The inspector considers potential downstream effects or secondary/tertiary follow-on effects of the condition, as well as Licensee processes in place to identify and correct the condition prior to ITAAC completion, and determines if the condition *could have* a material effect on the acceptance criteria in the future.
Other	Discussion at Meeting

1st Example from Recent Inspections
Referenced ITAAC

ITAAC No.	Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.1.02.12ai (2.2.02.11 ai, 2.2.03.11 ai, and 2.3.06.12 ai as well)	12.a) The automatic depressurization valves identified in Table 2.1.2-1 perform an active safety-related function to change position as indicated in the table.	i) Tests or type tests of motor-operated valves will be performed that demonstrate the capability of the valve to operate under its design conditions.	i) A test report exists and concludes that each motor-operated valve changes position as indicated in Table 2.1.2-1 under design conditions.

1st Example from Recent Inspections

Inspection	Motor Operated Valve QME-1 Flow Testing
NON	99900905/2012-201-01
NON Summary	Due to test lab capacity, partial stroke segments were used during steam and water flow testing instead of a continuous stroke. The team found that the qualification plan did not provide written justification that this test method demonstrates valve performance consistent with a continuous valve stroke as intermittent partial stroking of the valve could cloak problems with the valve that might exist during a continuous stroking cycle.
Comment	This condition was assessed as it exists, with no forward projection. To paraphrase: This condition (partial stroking without written justification) if left uncorrected, would have a material effect on the conclusion that each MOV changes position as indicated under design conditions.

2nd Example from Recent Inspections
Referenced ITAAC

ITAAC No.	Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.1.02.12a.v	12.a) The automatic depressurization valves identified in Table 2.1.2-1 perform an active safety-related function to change position as indicated in the table.	v) Inspection will be performed for the existence of a report verifying that the as-built squib valves are bounded by the tests or type tests.	v) Inspection will be performed for the existence of a report verifying that the as-built squib valves are bounded by the tests or type tests.

2nd Example from Recent Inspections

Inspection	Squib Valve Actuator Qualification
NON	99900080/2013-201-02
NON Summary	Review of the manufacturing controls used on explosive powder for the qualification cartridges determined that not all critical characteristics of the explosive powder mix were identified, nor has the vendor instituted controls sufficient to ensure the absence of contaminants from the explosive powder mix through inspections, tests, or analysis. This was assessed as having a material effect on the acceptance criteria that, "the as-built squib valves are bounded by the tests or type tests."
Comment	This condition in its current state affects only the qualification cartridges. The type tests were not complete, and the "as-built" valves were not fabricated or installed. This finding projects forward that the condition (process deficiency) will be used on the as-built valves, and will cause the future valves to not be bounded by the tested conditions.

Discussion/Questions