

"As-Built"

Public Meeting w/NRC
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Original Definition of As-built

- *As-built* means the physical properties of a structure, system, or component following the completion of its installation or construction activities at its final location at the plant site.

Definition of As-Built in NEI 08-01

- *As-built* means the physical properties of a structure, system, or component following the completion of its installation or construction activities at its final location at the plant site. Determination of physical properties of the as-built structure, system, or component may be based on measurements, inspections, or tests that occur prior to installation, provided that subsequent fabrication, handling, installation, and testing do not alter the properties.

NRC's Definition of As-Built

- *As-built* means the physical properties of a structure, system, or component following the completion of its installation or construction activities at its final location at the plant site. In cases where access to the component for inspection or test is impractical after installation in the plant, determination of physical properties of the as-built structure, system, or component may be based on measurements, inspections, or tests that occur prior to installation, provided that subsequent fabrication, handling, installation, and testing do not alter the properties.

Concerns with NRC Proposal

- The term impractical is subject to varied interpretation and challenge.
- There are advantages to performing tests and inspections under factory controlled conditions, rather than in the field, provided that test and inspection results are not altered by subsequent fabrication, transportation and installation activities.
- It is premature – without any experience with either module construction or ITAAC implementation – to try to draw the definition of “as-built” so tightly as to preclude effective options for the future.

Examples of Work performed prior to equipment delivered on-site

- RV measurements to comply with ITAAC 2.1 03.02c (Inspection of as-built Reactor Vessel will be performed to verify the RXS system will accommodate the RV as shown in Figure 2.1.3-3 of the DCD).
 - The figure has specific measurements that would be impractical to perform on-site.
 - Must measure before application of cladding for 2 measurements.
 - Vendor has more precise measurement tools.

Examples of Work performed prior to equipment delivered on-site

- ITAAC 2.1 02.02a requires ASME Code Section III design reports for the as-built components as identified in Table 2.1.2-1.
 - Most components will arrive at the plant site already N-stamped by the vendor.
 - It would be impractical to require the vendor to extend their N-stamp to the plant site.
 - The ITAAC won't be closed until the system is stamped after verification of the system.

Examples of Work performed prior to equipment delivered on-site

- ITAAC 2.1 02.05a.ii requires type testing, analyses, or a combination to conclude that the Seismic Category I equipment in Table 2.1.2-1 can withstand the seismic design basis loads without a loss of safety function.
 - The components will be type tested or analysis will be performed at the vendor facility.
 - It is impractical to perform testing or analysis at the plant site.

Examples of Work performed prior to equipment delivered on-site

- ITAAC 2.2 03.03b requires inspection of the as-built pressure boundary welds of the piping identified in Table 2.2.3-2, in accordance with the ASME Code Section III.
 - Some of the welds in modules will have their ASME Code examinations performed at the module facility.
 - After these welds are completed and inspected, insulation will be installed and the modules will be shipped to the plant site.

Recommendation

- RG 1.215 should adopt NEI 08-01 definition
- Consider revision to NEI 08-01 explanatory guidance in the future
- Implementation guidance should be provided in NEI 08-01, not DCDs
- “As-built” is adequately dealt with in NEI 08-01, and the staff should not seek to establish a more limiting definition in the design certifications at this time.