Design Control: Importance of Adherence to Procurement Specifications

Deanna Zhang June 24, 2021 NRR/DRO/IQVB



Design Control

- Criterion III to Appendix B of Title 10 of the Code of Federal Regulations (10 CFR) Part 50 requires, in part, that:
 - Measures are established to ensure that applicable regulatory requirements and the design basis for safety-related structures, systems, and components (SSC)s are correctly translated into specifications, drawings, procedures, and instructions.
 - Design control measures are provided for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program.



Procurement Document Control

- Criterion IV to Appendix B of 10 CFR Part 50 requires that:
 - Measures are established to assure that applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the documents for procurement of material, equipment, and services, whether purchased by the applicant or by its contractors or subcontractors.
 - Procurement documents require contractors or subcontractors to provide a quality assurance program consistent with the pertinent provisions of this appendix.



Procurement Specifications

- Licensees must impose regulatory requirements, such as Appendix B to 10 CFR Part 50 and 10 CFR Part 21, in procurement specifications to vendors for safety-related SSCs.
- Licensees may impose other requirements in procurement specifications. Examples include compliance to:
 - Codes and standards and other technical requirements
 - Plant design and licensing basis requirements
- The vendor's issuance of Certificates of Compliance (CoCs) to these requirements within the procurement specification may be included as a requirement in the purchase order.



Recent Findings and Observations

- During recent vendor inspections, the NRC inspection team observed the following:
 - Requirements from standards imposed by the licensee in purchase orders (POs) were not verified to have been met.
 - CoCs did not clearly state what requirements within applicable standards were met.
 - Compliance to standards imposed by licensee's PO did not get translated to sub-suppliers.



Vendor Responsibilities

- Vendors that supply safety-related SSCs and services should as a minimum verify the following:
 - Requirements from licensee's PO are correctly translated into design requirements, including those that apply to testing and qualification.
 - Activities and documentation provide clear objective evidence that these requirements have been met.
 - If portions or all the licensee's PO need to be supplied by a sub-supplier or contractor, the applicable requirements from the licensee's PO need to be correctly translated to procurement documents to the sub-supplier or contractor.



Questions?

Contact Information:

Deanna.Zhang@nrc.gov

