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Draft Regulatory Guide: Qualification of Safety-Related Actuators in Production and Utilization Facilities

Comment On: NRC-2023-0088-0001

Draft Regulatory Guide: Qualification of Safety-Related Actuators in Production and Utilization Facilities

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General Comment

See Attached IEEE PES NPEC SC2 Letter

Attachments

SC2 Comment to NRC DG-1386_21June23



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Sub-Committee 2 Qualification**

June 21, 2023

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Subject: Comments to DG-1386, “Proposed Revision 2 to Regulatory Guide 1.73” from
IEEE PES NPEC SC2-Qualification

To Whom It May Concern,

Thank you for the opportunity to review and comment on the subject DG-1389. IEEE PES NPEC Sub-Committee-2 Qualification has reviewed DG-1389 for the proposed Revision 2 to Regulatory Guide 1.73. Our comments and concerns follow:

Summary: DG-1386 is the draft guide for NRC RG 1.73 which currently under REV 1 endorses IEEE 382-2006 for the environmental qualification of safety-related actuators. The current proposed version of DG-1386 is for the pending update for RG 1.73 REV 2 to endorse IEEE 382-2019 (latest version).

Comments / Concerns:

1. Section C Item 1 makes the following statement:
“Acceptable qualification methods include type testing, analysis, or a combination thereof...The staff finds that operational experience is not an adequate method for qualifying equipment.”

The proposed elimination of the use of operating experience as part of qualification as included in DG-1386 is in conflict with existing and established NRC guidance and regulations.

- The NRC has previously issued RG 1.89 REV 1 endorsing IEEE 323-1974 and RG 1.89 REV 2 endorsing IEC/IEEE 60780/323-2016. Both the NRC RGs and versions of IEEE 323 include the method of operating experience. NRC RG 1.89 is a reference included within DG-1386.
- NRC Regulation 10 CFR 50.49 Section (f)(3) which allows “Experience with identical or similar equipment under similar conditions with a supporting analysis...” as an acceptable qualification methodology.
- The previous REV 1 to RG 1.73 endorsed IEEE 382-2006 which also included the use of operating experience as taken from IEEE 323-2003, and RG 1.73 REV 1 did not take any exception to its use.

This statement appears to be a new NRC position and is recommended to be deleted from DG-1386 based on the existing approved NRC guidance and regulations.





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2. Section C Item 4.3 makes the following statement:

“IEEE Std. 382-2019 does not provide a full set of the qualification requirements for valve actuators. The users of this RG should address the other aspects of the qualification process (such as seismic and functional qualification) for power operated valves, as described in RG 1.100, which accepts the use of American Society of Mechanical Engineers (ASME) Standard QME-1-2017, “Qualification of Active Mechanical Equipment Used in Nuclear Facilities” (Ref. 20), with specific conditions. ASME Standard QME-1-2017 includes more stringent provisions for the functional qualification of power-operated valves than the ones specified in IEEE Std. 382-2019, including acceptable qualification methods, actuator grouping, actuator output capability testing, and extrapolation of actuator qualification.”

This is a new addition to the draft DG-1386 Staff Regulatory Guidance items compared to the previous RG 1.73 REV 1 which did not include this as part of the endorsement of IEEE 382-2006. In DG-1386, it is stating that ASME QME-1-2017 is required to be used with IEEE 382-2019 for the full acceptable environmental qualification of actuators.

RG 1.73 REV 1 included a reference to ASME QME-1-2007 under Related Guidance. However, there were no specific regulatory positions tied to ASME QME-1-2007 included under Section C Staff Regulatory Guidance of RG 1.73 REV 1 for the endorsement and use of IEEE 382-2006 for qualification of actuators. This change is new to DG-1386 for pending RG 1.73 REV 2.

IEEE 382-2019 qualification programs can include additional information via ASME QME-1-2017 activities. However, the current wording in DG-1386 Section C Item 4.3 implies that the use of IEEE 382-2019 is not adequate in establishing the environmental qualification for actuators without ASME QME-1-2017 qualification which is focused on mechanical qualification. The purpose of DG-1386 is for the endorsement of IEEE 382-2019 for the environmental qualification of actuators.

It is recommended that the current wording of DG-1386 Section C Item 4.3 be revised to clarify the use of IEEE 382-2019 as being adequate and acceptable for the environmental qualification of actuators.

Sincerely,

**Suresh Channarasappa,
Chair, IEEE PES NPEC Sub-Committee 2 - Qualification**

