

**From:** Kuntz, Robert  
**Sent:** Monday, June 13, 2022 2:20 PM  
**To:** Steinman, Rebecca L:(Constellation Nuclear)  
**Subject:** RAI RE: Quad Cities Alternative RV-08, Safety Relief Valves

In a letter dated February 17, 2022, Constellation Energy Generation, LLC (Constellation, the licensee) submitted several Alternative Requests (including RV-08) for the Inservice Testing (IST) Program at Quad Cities Nuclear Power Station (QCNPS) Units 1 and 2 to the U.S. Nuclear Regulatory Commission (NRC) (Agencywide Documents Access and Management System Accession Nos. ML22048B569). The letter included Alternative Request RV-08 related to safety relief valves. The Nuclear Regulatory Commission (NRC) staff has determined that additional information is required to complete its review. The NRC staff's request for additional information (RAI) is included. The NRC staff expects a response within 30 days which is July 13, 2022. If Constellation can not provide a response within this time contact me to discuss.

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REQUEST FOR ADDITIONAL INFORMATION

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

ALTERNATIVE RV-08

Requirements:

Division 1, Mandatory Appendix I, Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants, paragraph I-1320, Test Frequencies, Class 1 Pressure Relief Valves, subparagraph (a) 5-Year Test Interval, which states:

Class 1 pressure relief valves shall be tested at least once every 5 years, starting with initial electric power generation. No maximum limit is specified for the number of valves to be tested within each interval; however, a minimum of 20% of the valves from each valve group shall be tested within any 24-month interval. This 20% shall consist of valves that have not been tested during the current 5-year interval, if they exist. The test interval for any installed valve shall not exceed 5 years. The 5-year test interval shall begin from the date of the as-left set-pressure test for each valve.

Issue:

Quad Cities Alternative Request RV-08, Section 5, "Proposed Alternative and Basis for Use," third and fourth paragraphs, state in part:

The SRV [Safety & Relief Valve] Best Practices (Reference 1 Attachment 2) is comprised of methods and philosophies concerning maintenance, inspection and techniques which uses the equipment manufacturer's recommended

maintenance practices and enhancements identified by Constellation that have been broadly termed “Best Practices.” The MSR/V [Main Steam Relief/Safety Valve] best practices are developed from the application of the EPRI/NMAC Safety and Relief Valve Testing and Maintenance Guide (Reference 2) and from Constellation (formerly Exelon) Operational Experience (OE). The MSR/V best practices have been implemented through Constellation’s oversight of the valve vendor’s test and rebuild processes. Major program elements include specific performance and inspection criteria and maintenance steps that exceed Original Equipment Manufacturer (OEM) specifications and/or Industry established guidelines. The main program elements include 1) Spring Testing, 2) Lapping Techniques and Tools, 3) Set Pressure Adjustment Methodology Precision, 4) Average Delay Time (ADT) trending, and 5) Internal Component Condition Variations. Collectively, use of these elements have supported a trend in improved setpoint retention of MSR/Vs in service at QCNPS.

An engineering program document (Reference 1) has been established to provide governance over the Constellation-approved vendor SRV maintenance procedures, to define the program elements, and to establish performance tracking and trending guidelines. This program document and the Constellation-approved vendor procedures are updated to incorporate advances in technology and operating experience from the Constellation fleet, the OEM, and the industry.

Request:

1. Discuss how the alternative would address valve testing results where drift is determined to be beyond the allowable limits (for example the testing interval would be adjusted to 24-months consistent with the ASME OM Code requirement).
2. Discuss whether the Constellation Best Practices program will include the latest industry experience with input from various groups, including Safety Relief Valve Users’ Group, GE BWR Owner’s Group, and other industry experts available in the recent EPRI Report dated July 2021,.

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