

Response to SDAA Audit Question

Question Number: A-12.2-2

Receipt Date: 05/01/2023

Question:

Please explain the assumptions made in developing the “CVCS Mixed Bed Transferred – 48 hour decay” source term in SDAA Table 12.2-6. For example, please explain why the Cs-137 and Sr-90 activities for the 48 hour decay source term is approximately one quarter the value of the “CVCS Mixed Bed IX,” while other relatively long-lived radionuclides like Co-58 and Co-60 activities are equivalent to the “CVCS Mixed Bed IX” values.

Response:

The “CVCS Mixed Bed transferred – 48-hour decay” source term in SDAA Table 12.2-6 is a representative source term for the distributed spent resin influent to the SRW spent resin storage tank, based on one NPM operating at the design basis failed fuel fraction (FFF) and the remaining 5 NPMs operating at the conservative realistic FFF. Corrosion product isotopes like Co-58 and Co-60 are not altered by the FFF, and are the equivalent activity of the “CVCS Mixed Bed IX” source term. Fission-based isotopes are roughly 25 percent of the “CVCS Mixed Bed IX” source term.

No changes to the SDAA are necessary.