

**From:** [Manny Sayoc](#)  
**To:** [Justin Hawkins](#)  
**Cc:** [Carolyn Lauron](#); [Greg Cranston](#)  
**Subject:** Holtec SMR-160 Feedback on I&C D3 Diversity White Paper / presentation  
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Justin,

Please see initial feedback on the presentation materials on 7/26 Public Meeting on I&C diversity:

- In addition to the NUREG CR 6303 methods, Holtec may also want to consider the methods provided in [NUREG/CR-7007](#), "Diversity Strategies for Nuclear Power Plant Instrumentation and Control Systems." This NUREG provides a method that can be used to quantify the degree of diversity achieved for specific designs and is based on the same diversity categories defined in NUREG/CR 6303. Though there is not specific numeric criteria for determining acceptability of a diverse system, the results of this analysis strategy would provide a means for making a relative comparison of diverse systems and functions that can be used to establish a diversity basis for the plant I&C designs.
- The Diversity analysis provided in the paper seems to address the diversity of functions performed by the DAS, however, the subsequent D3 analysis may also identify reliance on functions that are performed by systems other than the DAS. For these non-DAS functions, the NRC staff would anticipate a similar analysis to be performed for the systems or circuits performing these functions. Our experience is that most plants rely on functions performed by two or more diverse plant systems or components to satisfy the criteria of BTP 7-19 when performing the best estimate analysis methods to address the potential for CCF of the safety related digital I&C system. Ultimately, the NRC staff will be looking for assurance that all functions that are credited in the D3 analysis remain operable in the presence of a CCF of the safety protection system, regardless of what systems perform them.
- Holtec should be aware of the recent change in the NRC's policy on CCF and how this new policy will be implemented into regulatory guidance in the near future. This policy change has been issued on SECY 22-0-76, "Expansion of Current Policy on Potential Common-Cause Failures in Digital Instrumentation and Control Systems" and the NRC staff is currently working on a revision to Branch Technical Position 7-19 to adopt the use of risk informed approaches that can be used for performance of D3 analysis. The new policy will not invalidate analysis methods performed in accordance with the previous policies and guidance, therefore, the acceptability of the analysis provided in the JEXK-0143-1048-P(R0) white paper would not be impacted by this policy change. However, the policy change introduces the possibilities of using risk informed alternative methods for addressing CCF in a D3 analysis, and Holtec may want to consider use of these methods as the criteria for them becomes available. The NRC recently held a public meeting on 7/11/2023 to discuss its plans for implementing this new policy on CCF and we anticipate additional public interactions as the guidance development proceeds.

Thank You,  
Very Respectfully,  
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