Suggestions for Path Forward TOPIC 5

Need an industry wide effort involving a team of Owner reps, NRC/DOE reps, code/standard committee reps, SMEs, and fabricators/constructors!

1. Explore if and how a reliability-based framework can be developed to evaluate the efficacy of various QA/QC programs, including for specific items that are deemed to be more egregious
2. Explore opportunities to apply QA/QC requirements in a graded manner based on structure's importance (failure consequences), design limit state, and relative importance of specific members and connections within the structure
3. Explore if and how we can use test data and / or numerical models to assess impact of certain types of undetected errors (possibly using a reliability-based framework)
4. Explore if and how improved construction/fabrication and material production practices in the past few decades may lead to improved nuclear QA/QC practices
5. Demonstrate how increasing use of automation and its expanded adoption could further improve some of the QA/QC requirements
6. Demonstrate how emerging trends and tools such as digital engineering, digital twin, and drones, sensors, etc., can alleviate / redefine (and thus improve) some of the QA/QC requirements

To craft a path forward, poll a team of SMEs, Owner Reps, NRC/DOE Reps, and Fabricators /Constructors to help draft a research proposal for the next phase