- 1. Are you using a common data environment (CDE) for the project? Who hosts the CDE? What challenges are you facing?
  - TerraPower developing their own in-house CMIS meant to work as a CDM (common data model) linking all documents and data for immediate impact analysis and incorporation.
    - Current challenge is the human performance/user actions to create linkages in the data and documents.
    - Legacy conditions are that we are finding things that exist that we didn't know about.
  - How are you looking at integration with construction?
    - TVA working through that with GE-H; digital strategy team is laying out that plan; will we have a CMIS during construction? Will it be traditional turnover. Will it be worth the cost to have it established in the construction phase? Should we have traditional turnover.
    - Should only be one source of truth; focus is on tools but should be on information control and what is the source of truth.
    - Wolf Creek has transitioned from programs (after 25 years) to something that new corporate structure was using. Transferring into Maximo. Asset linking wasn't centrally controlled. Starting early with linking and asset management is good - spend the cost up front.
  - Development of WEC over that past ten years. When we started we took five months to figure out the data model and data migration. Differing data models from partners and companies
    - Having one unique source of truth and then being able to connect it and use it intelligently is important.
  - Information can only match the "validation structure"
  - You have to have specification on what the data fields are and what that looks like; procedure for what this looks like and who is using it and how.
  - Is there value in "siloed"/department-only info being in the CDE?
  - OPG isn't bringing in existing digital systems, they are looking for everything that is out there that might help.
    - All new digital systems and governance that is technology neutral.

## SMR Configuration Management Breakout

- What does digital twin mean and what is it used for?
  - Is a buzzword.
  - About having all digital data + what is live
  - $\circ$  There needs to be a definition is it the MEL and all the data from that? No.
  - What phase is a digital twin used for? Construction, operation? When do we call that a CM tool?
- 2. How are you coordinating numbering (documents, drawings, etc.)? Are you using a common project number for each doc/dwg, or does each partner or supplier use their own numbers? If using a common project number, who assigns it?
  - Every project this question comes up. Should it be intelligent, or dumb with attributes to get the intelligence, etc.?
  - Most designs are specific to a site vs. general numbering this is different, so each thing is different.
    - The customer perspective is important; site specific application
    - Capability to pull the metadata into a structure that exists/is customer specific.
  - Component verification; legacy fleet using QR/barcode.
    - No person in charge of all QR codes If I replace the component did I also but the QR code in?
      - It isn't working practically in the field.
    - $\circ$  ~ In the end it seems like a HU concern how much this is important
- 3. What is a "low hanging fruit" CM challenge that you still haven't solved? Why not?
  - •
- 4. For operating units, if you could start back at the beginning, what would you do differently? What would you keep the same?
  - OPG is still trying to layout the governance and still is working on that starting at the top level from scratch.
  - User software design for automatic update of the CDE

## SMR Configuration Management Breakout

- Trying to get rid of all the admin.
- There were a lot of things we did because they had to be done for compliance.
  - $\circ$   $\:$  It is refreshing to be able to ask "do we need to do that? And why?"
- Difference between equipment, components (SSCs), etc.?
  - o Addressed in CM1.0-2021
- Every plant has a different idea of what an MEL is; some have multiple MELs (Wolf Creek)
  - Have to think about sustainability; how do we keep it clear (specification), consistent (procedure), and evergreen (data structure).
- 5. What industry standards and references are you using for new generation Configuration Management with the intent to comply with ASME NQA-1? Of particular interest are ANSI/NIRMA CM-1.0 (2021), INPO AP-929, EIA 649C, and IAEA TE 1651. Was one chosen, or a blend of various references created? Lessons Learned?
  - Customers and regulators have a seat at the table on defining what that is; so it is really dependent on who the customer is on what the minimum requirement is.
  - CM is not in regulation for power generation but a lot of people look to EPRI; EIA is derivative from DOD.
  - When you dev your CM program, what is the basis?
  - Embedding/seconding people into the process of design and turnover from the company you are turning over to in order to have those people prepared in an "operational readiness" phase.
  - Is the concept of turnover changing, where the supplier may be managing data in the CDE?
    - The business case for SMRs to be cost efficient is a challenge.
  - Benchmarking how turnover is done for Oil & gas, aviation, etc., would be useful.
    - Is it handled under EPC contracts? Would a "standard generic" EPC for new builds?