Discussion

The process map created shows the interplay between multiple corrosion disciplines and the effect that each has on the other. While care was taken to prevent double work or multiple trips, the simple fact remains that the AC mitigation systems are going to be connected and disconnected multiple times. Mapping the process prior to being in the field enabled each team to have a better understanding of the expectations associated with their portion of the project. The visual nature of the process map also brings awareness of the time associated with each portion and the total process time to bring the pipeline into the monitoring phase.

Performing this hierarchical technique for pipeline corrosion commissioning and survey does increase the repeated need for access to many groups of corrosion professionals, which may not be ideal in all situations. As one can see in this case study, there is survey work performed at both the beginning and the end of the entire system's process. Similarly, the need for technicians and engineers fluent in both CP and AC knowledge areas can create a limited pool of professionals from which to draw. In this case, sourcing the field personnel and survey groups required schedule and personnel management that may not be feasible in all situations. The fluid nature of the hierarchical process and delineation of needs by project does allow for movement of processes as is seen fit.

Treating the testing and commissioning phase of the project as one true corrosion system and not as singularities of CP and AC mitigation creates a more holistic process with more evaluation techniques being done throughout the process. When all the testing processes are layered on top of each other, there is a greater chance that early warning signs can be caught, and a better operating system is created. Future work associated with this process mapping would be to determine if greater efficiency is reached in getting the pipeline operational, and if creating the process map creates a longer-lasting and more efficient long-term corrosion system.

Conclusions

The hierarchy and process guide that was created is in no way a singularity; instead, this has been chosen through collaborative exchange between multiple stakeholders and can be altered in the future depending on other individual or group needs. Operator requests, process limitations, and changes in timeline are all factors that must be considered in future cases. The use of the input and output generator process can thus be adapted and utilized by general contractors, corrosion firms, and pipeline operators to collaboratively produce pipelines that are not only completed in a timely manner but turned over to operations groups in good working condition.

A common theme that came up during the initial hierarchy discussions is the acknowledgement that each scope item is part of a larger process of turnover and is thus not the simple line item that one may expect. For example, one is not merely performing the DCVG survey; this is feeding into the CP commissioning as the survey has identified areas that may pose a threat to system integrity and potential disruption of the corrosion control system. In this way, while each item of the hierarchy is performed in a linear fashion, the actual system is a positive feedback loop of information and data collection, building on the process preceding it to create a picture of the corrosion ecosystem and the management of it as a whole.

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