Inspecting and Improving the Integrity of High Restriction Pipelines

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Pipeline In-line inspection (ILI) is a reliable and well-established technique to assess the integrity of pipelines. ILI requires an initial assessment of the pipeline condition and internal minimum passage before any ILI tool can be launched in a pipeline to ensure that the pipeline passage is suitable for the ILI. However, there are several factors and challenges that can prevent ILI in piggable and difficult to pig pipelines, such as low flow, multi-diameter pipelines, tight bends, and pipelines with unknown restriction. This paper will go through a field experience, technical evaluation, and a success story of utilizing a Foam-based Eddy Current (EC) ILI tool to inspect a piggable pipeline where the ILI was not possible by conventional tools due to a major and unknown restriction in the internals of the pipeline. The tool successful deployment will allow for an accurate and reliable inspection and assessment of high restriction pipelines safely while eliminating the risk of stuck ILI tools. This opens a new window and opportunity for the revalidation and inspection of high restriction pipelines to maintain their integrity, reduce down time, and failures.