

EVALUATING DAMAGE TO ONSHORE AND OFFSHORE PIPELINES USING DATA ACQUIRED USING IN-LINE INSPECTION EFFORTS

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ABSTRACT

Evaluating the integrity of pipelines often involves assessing data acquired from an in-line inspection (ILI) run. ILI generates a range of data types including one being geometric data from a caliper tool run. Once the data is collected engineers are required to evaluate the relative severity of any indications that might have been found. With recent advances in storage capacity and instrumentation, the resolution of the acquired data is of sufficient magnitude to make relatively accurate assessments of the potential damage that might exist within a given pipeline system.

In this paper the authors provide a case study that used data collected during an in-line inspection run of a damaged subsea pipeline. The assessment included the development of finite element models constructed using the geometric ILI data. Integral to the assessment was integration of actual pressure history data that, used in conjunction with a cumulative damage assessment model, determined the remaining life of the selected anomalies. Additionally, the assessment also utilized prior full-scale experimental data to confirm the accuracy of the models. Readers will be provided with a systematic approach for evaluating damaged pipeline using ILI data.

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