## عنوان مقاله:
Prognosis of Time to Failure of Corroding Pipelines

## محل انتشار:
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## خلاصه مقاله:
The oil and gas pipelines are significant assets in Iran. However, these assets are subject to degradation from corrosion. Corrosion causes gradual thinning of the pipelines' wall leading to leaks or bursts. Allowing a corroding pipeline to continue operation may lead to a finite risk of exceeding the limit state of burst. Codes of practice, such as Modified ASME B۳۱G [۱] and DNV F۱۰۱ [۳], among others, have developed relationships to determine the bursting pressure of corroded pipelines. The purpose of this paper is to develop, test, and illustrate a simple spreadsheet-based probabilistic procedure that can be used by practicing engineers to determine the Remaining Useful Life (RUL) of a corroding pipeline, following its first inspection. Modified ASME B۳۱G and DNV F۱۰۱ equations are used to illustrate this method. As new inspection data regarding the extent of corrosion becomes available, the results can be updated and a new probability of failure obtained. The calculated probability of failure is then compared with the target values to determine the remaining life. The approach is equally applicable to both onshore and offshore oil and gas pipelines.

## کلمات کلیدی:
Pipeline corrosion, Integrity management, Remaining useful life (RUL), Modified B۳۱G, Fitness-For-Service (FFS), Reliability assessment, Time-dependent wall thinning.