عنوان مقاله:

Smart Pigging – It's Role in Gas Pipeline Inspection and Maintenance

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خلاصه مقاله:

Smart pigging is a high-tech method for detecting imperfection as corrosion, dents and other anomalies. The smart pig is actually a cylindrical electronic inspection device that is covered with sensor to gather information. Smart pigs are generally pushed through pipelines by fluid shipped in the pipeline at slow rate of speed (about two to four miles per hour).In this paper we will be the survey of different types of a smart pigs. The pigs are divides into three categories: utility pigs, in line inspection tools, and gel pigs. Next section will scrutiny of Pig Technologies as if inclusive Electromagnetic and Acoustic (Non Linear Harmonics), Circumferential Magnetic Flux(Leakage (MFL)).The electromagnetic technology NLH (Non Linear Harmonic) smart pig process inclusive the sensor, circuit and suspension design. In the next part we will be Smart Pig Evaluation ,Low Resolution Magnetic Leakage Tools These smart pigs While unable to differentiate between internal and external defects, they can detect the majority of defects in pipelines .Ultrasonic Tools, These smart pigs use ultrasonic technology to measure remaining pipe wall thickness. Until very recently these smart pigs have not been able to inspect thin-wall pipe (≤0.25 inches). Even now, the technology for inspecting thin walls is some what difficult. In the extremity will show how an alternating magnetic field is attracted to the steel pipe and 360-degree magnetic field coverage of inside of the pipe detects any deformity in the pipe.

کلمات کلیدی:

Pipeline, Smart Pigs, Corrosion, N LH

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