OpenVision Method For Real Time CUI Inspection

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Corrosion under insulation (CUI) is an ever-increasing concern of operations managers, integrity managers, and owners of refineries, petrochemical facilities, power plants, etc. where insulated piping is prevalent. The increased awareness among asset owners of the CUI problem drives ever increasing demand for CUI detection and monitoring solutions. Many CUI inspection methods are currently available to asset owners and NDE service providers for incorporation into CUI programs; each with specific capabilities and limitations. Selecting which method(s) to employ depends on both the physical characteristics of the assets to be inspected and client key performance indicators (KPIs) for CUI inspection. Physical characteristics include insulation material and thickness, cladding material and thickness, accessibility of inspection location, condition of insulation and pipe surface, and discontinuities in piping systems (e.g., flanges, hangars, elbows, etc.). Client KPIs include probability of detection, qualitative versus quantitative testing, and inspection rates. The capabilities of a CUI inspection method must be clearly understood to ensure client expectations are met for a particular CUI application. This paper focuses on the OpenVision method of real time radiography utilizing a live video x-ray system for high speed, truly non-destructive screening of insulated piping targeting corrosion or indications of corrosion on external pipe surfaces. Capabilities and limitations of the OpenVision method will be presented supporting practical examples and case studies. Additional applications of the OpenVision method such as weld location in conjunction with alloy identification for PMI will be introduced.