

Establishment of Buried Piping System for Guided Wave Inspection in Korea Nuclear Power Plants

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Basically buried pipe inspection of nuclear power plants in Korea is following NEI 09-14(Guideline for the Management of Underground Piping and Tank Integrity) methodology, first do the indirect inspection and next do the direct inspection. Indirect inspection is survey techniques used to assess the likelihood of degradation without having direct access to the section of component being examined and the results are typically qualitative and less accurate than direct examination. Direct examination is NDE examination where NDE sensor is in immediate contact with or in close proximity to the section being examined. Guided wave inspection is regarded as indirect inspection for the purpose of NEI 09-14 document. In Korea, over the line survey is used for indirect inspection and UT for direct inspection. But guided wave inspection has some benefits even if it is regarded as indirect inspection. Recently KHNP start researches on buried pipe guided wave inspection to verify its reliability. For this purpose, mockups are necessary to conduct studies to identify characteristics and capabilities of guided wave. But designing and building large-scale guided wave mockups in an economical way is challenging and requires compromise. This paper describes the buried pipe survey results of nuclear power plants in Korea including pipe diameter, thickness, material, coating type and mockups that will be built to conduct study.