

# **The Introduction of Korean Performance Demonstration for Nondestructive Examination at Nuclear Power Plants in Korea**

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Abstract: NDE is recognized as a vital part of the safe and efficient operation of all types of industrial plants and other structures. In the early 1980's, a number of leaks in the pipe systems of boiling water reactors in the USA were discovered which had previously been examined ultrasonically and found to be defect free. Efforts to demonstrate the effectiveness of in-service inspection have mostly often resulted in demonstrating its shortcomings. This led to the recognition of the need to demonstrate the performance of the inspections used for key components of all nuclear reactors and performance demonstration(PD) was selected as the most appropriate solution. Performance demonstration systems is to verify ability of flaws detection and sizing by the nondestructive examination systems including procedures, equipment and exam personnel to apply in-service inspection for safety components in the nuclear power plants. Inservice inspection of nuclear power plant component in Korea are required to apply the performance demonstration of nondestructive examination by the the ASME Section XI(KEPIC MIZ, Rules for Inservice Inspection of Nuclear power plant component) Appendix VIII. KHNP(Korea Hydro & Nuclear Power Co. LTD) has developed the korean performance demonstration systems by the NSSC(Nuclear Safety and Security Commission) bulletin and has done performance demonstration of the ultrasonic testing and eddy current testing at nuclear power plants. This paper describes the status of korean performance demonstration for nuclear power plants in Korea.