The issues of the NDE in Korean nuclear plants

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I will present the recent three issues for the NDE of Korean nuclear plants in this article. The first issue is that detection of the deformed Pipe support in the major RCS(Reactor Coolant System) piping by visual examination at the plant A. A Nondestructive defect was found by Visual examination under KEPIC MI requirement at the Pipe support of 3 inches' Branch piping from 16 inches' RCS, which examination point was selected by LTP(Long Term Plan of a Interval of the In-service Inspection) of A plant which was established in accordance with KEPIC MI Code. This Pipe support is very importantly working to support piping, to distribute load and absolve vibration in the environment of high temperature and high pressure. Additional visual examination was carried out to evaluate any affect to another Pipe support in the system according to the applied KEPIC MI code. And UT and VT were performed in the connected piping to the defective Pipe supports to check their integrity of these welds. The second issue is that the detection of the free Thermal Sleeve which was originally installed in the inside of piping, but was broken away from original location at the plant B. A visual examination was being performed to the inside of reactor pressure vessel according to KEPIC MI code when a foreign material was found in the spot between Flow Baffle and the wall of the reactor pressure vessel. The foreign material was verified as a Thermal Sleeve which was broken away from the inside of high pressure safety injection system piping. After the event, the examination procedure to verify the integrity of the Thermal Sleeve was set up through a mock up testing. And a periodical examination is being carried out to check the possibility of the breakaway of the Thermal Sleeve. The third issue is that the detection of Crack at the surface of Hinge of the Swing check valve of the Cast Stainless steel material in the OPR-1000 plant. The crack was verified as Stress Corrosion Crack from affected by the grease to lubricate the Hinge. In this article, I explain the three main issues and disposal of the NDE defects in Korean nuclear plants.