

부분감육 압력용기에 필렛 용접된 보강판의 건전성 평가

김형남*, 최성남*, 유현주*, 송석윤*

*한국전력공사 전력연구원 원자력발전연구소

An Evaluation Method for the Structural Integrity of a Fillet Welded Plate on a Partially Thinned Pressure Vessel Wall

Hyung-nam Kim*, Sung-nam Choi*, Hyun-ju Yoo*, Seok-yoon Song*

*Korea Electric Power Research Institute

103-16 munji-Dong, Yuseong-Gu, Daejeon, 305-380, Korea

Abstracts ; An evaluation method for structural integrity of an inforcement plate welded on a partially thinned pressure vessel is introduced. This method is composed of the evaluations with and without hole from the result of thinning. As an example, the method is applied to the structural integration of feedwater heaters of a domestic nuclear power plant. The wall thicknesses of the heater shells in nuclear power plants in Korea have been measured periodically by the ultrasonic method. As the power plants are aged, the wall thicknesses of the shells became thinner compared to the original thicknesses due to the erosion. Sometimes the measured wall thicknesses are under the minimum required thicknesses which are calculated following the ASME Code. In that case it is needed to enforce the thinned area to weld the plates on the outside of the shell.

Key Words : Heat exchanger, Shell, Minimum wall thickness, Enforcement plate