

Evaluation of Heating Rates for CEA, ICI and NSA for KSNP

Yong Il Kim, Joon Gi Ahn and Hae Ryong Hwang

Korea Power Engineering Company, Inc.

150 Duckjin, Yusong

Daejeon, Korea 305-353

Abstract

Radiation heating rates to the instruments located in the guide tubes of fuel assembly are required for the cooling analysis in the field of reactor core thermohydraulics. Previous evaluation of heating rates for the ABB-CE type power plants has been used for the design data for KSNP. But there are some differences in the structures and component materials of the instruments between them. So, it is necessary to re-evaluate the heating rates for the instruments using up-to-date cross-section library and transport code to see whether the previous evaluations are suitable for KSNP or not. The evaluations of heating rates in each component of the instruments have been performed by MCNP code and the results have been compared to those of previous works.