

Benchmark of Atucha-2 PHWR RELAP5-3D control rod model by Monte Carlo MCNP5 core calculation

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[en] Atucha-2 is a Siemens-designed PHWR reactor under construction in the Republic of Argentina. Its geometrical complexity and peculiarities require the adoption of advanced Monte Carlo codes for performing realistic neutronic simulations. Therefore core models of Atucha-2 PHWR were developed using MCNP5. In this work a methodology was set up to collect the flux in the hexagonal mesh by which the Atucha-2 core is represented. The scope of this activity is to evaluate the effect of obliquely inserted control rod on neutron flux in order to validate the RELAP5-3D^C/NESTLE three dimensional neutron kinetic coupled thermal-hydraulic model, applied by GRNSPG/UNIPi for performing selected transients of Chapter 15 FSAR of Atucha-2. (authors)

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