

Snapshot Analysis for Rhodium Fixed Incore Detector using BEACON Methodology

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Abstract

The purpose of this report is to process the rhodium detector data of the Yonggwang Nuclear Unit 4 Cycle 5 core for the measured power distribution by using the BEACON methodology. Rhodium snapshots of the YGN 4 Cycle 5 have been analyzed by both BEACON/SPNOVA and CECOR to compare the results of both codes. By analyzing a large number of snapshots obtained during normal plant operation, BEACON/SPNOVA gave some competitive results against CECOR code. The results of this analysis indicate that the BEACON/SPNOVA can be used for the snapshot analysis of Korean Standard Nuclear Power (KSNP) plants.

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Geometry Determination for New Fixed in-core Detector of Korean Standard Nuclear Power Plant

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Abstract

A new long-lived and self-powered fixed in-core detector (FID) was developed for the Korean Standard Nuclear Power Plant (KSNP). To determine the geometry of the detector, a comparative study of the power peaking factor monitoring accuracy for various self-powered fixed in-core detector geometries and a sensitivity calculation related with the diameter of emitter materials were made. According the results the new FID design can be used for both monitoring and protection system of the KSNP plants.