

Self-disposition of styrofoam by using ISOCS
(In-Situ Object Counting System).

Seulki Kim

Korea Hydro Nuclear Power Plant

New fuel container shock-absorbing materials (styrofoam, 480m³) have been stored in the storage for absence of self-disposition method since 1998. They were not contaminated, but it was very difficult to prove that they satisfied the self-disposition requirements. In common sampling method for gamma analysis we should analyze 2,400 samples for 100,000 seconds each to satisfy the regulatory authority's MDA guideline.

In order to reduce total counting time, we introduced the ISOCS(In-Situ Object Counting System) that measured radioactivity of material directly in the site. In our case, we derived the efficient amount of styrofoam and geometry to meet the MDA guideline. So we could reduce the total analysis time to about 1/1200 and get approval from the regulatory authority in March, 2013.

In case of radioactivity measurement of low-density material such as styrofoam, ISOCS could be very useful method.