

Characterizations of Neutron and Gamma Fields and Dosimetry Response from Spent Fuel in Transit and Stored at ISFSI Facilities

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ABSTRACT

We have performed characterizations of neutron and gamma radiation fields from spent fuel in 2 primary configurations: 1) during the fuel drying process in preparation of final container welding and transfer to ISFSI pads (three completed), and 2) while stored on ISFSI pads (seven completed). Measurements have been performed using the Far West Technologies "HAWK" (a tissue equivalent proportional counter) for the neutron fields, and GE high pressure ionization chamber for the gamma fields. Each of these characterizations included the irradiation of personnel dosimetry for comparison to the characterized fields. The objectives of these measurements are to respond to the requests from the American Nuclear Insurer's (ANI) to evaluate the performance of personnel dosimetry to neutron radiation fields (per ANI Bulletin 11-02) and, in some cases, to validate the dose estimates to members of the public from ISFSI's. The results of these measurements will be presented and discussed.

Paper presented at the 24th Annual RETS/REMP Workshop, June 24-26, 2014, Savannah, GA.