N39. Radionuclide Buildup In BWR Reactor Coolant Recirculation Piping

Since the spring of 1985, thermoluminescent dosimeter, dose rate, and gamma spectral data have been acquired on the contamination of boiling water reactor primary coolant recirculation systems as part of a Nuclear Regulatory Commission funded study. Data have been gathered for twelve facilities by taking direct measurements and/or obtaining plant and vendor data. The project titled, "Effectiveness and Safety Aspects of Selected Decontamination Processes" (October 1983), initially reviewed the application of chemical decontamination processes on primary coolant recirculation system piping. Recontamination of the system following pipe replacement or chemical decontamination was studied as a second thrust of this program. During the course of this study, recontamination measurements were made at eight different commercial boiling water reactors. At four of the reactors, the primary coolant recirculation system piping was chemically decontaminated. At the other four, the piping was replaced. Vendor data were obtained from two boiling water reactors that had replaced the primary coolant recirculation system piping. Contamination measurements were made at two newly operating boiling water reactors. This report discusses the results of these measurements as they apply to contamination and recontamination of boiling water reactor recirculation piping. Further, this work is a continuation of that work performed and reported in NUREG/CR-4445.

For more, see Duce, S.W., Marley, A.W. and Freeman, A.L., "Radionuclide Buildup in BWR Reactor Coolant Recirculation Piping," NUREG/CR-5483, December 1989. (Available from National Technical Information Service, Springfield, VA 22161.)