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Processes and Practices Related to Occupational Dose

ID: 14

ELECTROPOLISH REFUELING TOOLS; LIFTING RIGS; AND NEW PIPING

Keywords: ELECTROPOLISHING; ELECTROPOLISH; REFUELING TOOLS; SURFACE TREATMENT; RECIRCULATION PIPING; PRECONDITIONING; LIFTING RIGS; PIPING

Description:

The importance of surface preconditioning in reducing cobalt deposition on out-of-core surfaces has been demonstrated both for new and replacement components. Electropolishing is one of the most effective decontamination techniques used to date. It has been used on (a) remote refueling tools, (b) lifting rigs, (c) replacement recirculation piping, and (d) control rod drive shafts and filters. Laboratory and plant loop tests and in-plant measurements have proven highly promising in reducing cobalt deposition rates (i.e. radiation build-up factor) and minimized the decontamination effort and recontamination of recirculation piping. Electropolishing of surfaces has diminished the time required for decontamination and the time between decontaminations. It has reduced radiation fields and lowered the potential for internal contamination. However, since degradation of the base layer of the metal will occur, electropolishing should not be used on components requiring tight tolerances.

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