

Recontamination Reduction Techniques in BWR

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Chemical decontamination has been widely applied to the components and piping in the reactor coolant system (RCS) of Boiling Water Reactor (BWR) when the increase of worker dose is expected in the large-scale work during the refueling outage. Chemical decontamination is one of the decontamination technique that can remove the radioactive nuclides such as Cobalt-60, 58 etc. by dissolving the oxide layer formed on the surface of the components and piping. As a result, the surface of decontaminated components and piping are base metal and placed in service for next operational cycle. Therefore, growth rate of the oxide layer becomes higher compared with that before chemical decontamination, which results in the rebound of the dose rate (so called recontamination). In this paper, the applicability and effectiveness of the recontamination reduction techniques developed for BWR plants by Hitachi-GE are summarized in the viewpoint of operating chemistry regime and material of the components and piping.