

N109. Shutdown Radiation Fields At BWRs Using Hydrogen Water Chemistry

There is now strong evidence from several plants that BWRs switching to hydrogen water chemistry (HWC) after several cycles of normal water chemistry (NWC) are likely to experience higher piping radiation fields at subsequent shutdowns. The increased fields appear to result from increased cobalt-60 concentrations in the reactor water following HWC implementation. The radiation field increases range from 30 to 200% and may depend on several factors, including effectiveness of reactor water cleanup, sources of iron and cobalt-60 in the primary system, and rate and consistency of hydrogen addition.

EPRI will develop a collaboration project with the objective to determine the factors causing the increase in fields and to develop mitigating actions.

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