

N87. Combining Zinc Injection With Hydrogen Water Chemistry

The effect of zinc on the increase in radiation fields experienced at many plants when they switch from normal water chemistry to hydrogen injection are being evaluated. After a decontamination at Fitzpatrick, recontamination rates under hydrogen water chemistry conditions were only slightly greater than the rates expected in normal water chemistry, and zinc appeared to be effective at reducing the soluble Co-60 concentrations in reactor water (as found at plants using normal water chemistry), but radwaste disposal costs were high due to zinc-65. These results are described by George Vargo and Alfred Jarvis in *Health Physics* (Vol. 60, No. 6, June 91, pages 843-857). Radiation field buildup at Monticello in HWC was unchanged with zinc injection, but the introduction of zinc coincided with a higher hydrogen injection rate, it is difficult to draw conclusions at this stage. Again, soluble Co-60 concentrations decreased with zinc injection. It seems that HWC releases activated corrosion products from the vicinity of the reactor pressure vessel; some of this material is transported in soluble form, the effects of which can be mitigated by zinc. Zinc is not likely to have much impact on material released in particulate form.

Taken From: "Update on Zinc Injection for BWRs," Christopher Wood, Radiation Control News, No. 11, September 1991. For more information, contact Chris Wood, EPRI, Phone (415) 855-2379.