

N63. BWR ZINC INJECTION

Thirty percent of all General Electric BWRs are either using zinc injection or are committed to its use. Recently, a workshop was organized to discuss plant experiences under the sponsorship of the Electric Power Research Institute. The conclusions of the workshop were:

For plants using normal water chemistry (NWC), the radiation fields are reduced significantly by zinc, with a larger effect on fields around piping and a smaller effect on general-area fields due to crud traps, which are not greatly affected by zinc.

The zinc-65 problems that were observed in the first zinc applications in NWC plants seem to have been overcome, and no major zinc-65 problems have been experienced recently.

Shutdown radiation fields increase significantly on switching from NWC to hydrogen water chemistry (HWC). (In fact, recent plant data show a bigger impact on fields from HWC than was observed in the Dresden-2 demonstration several years ago.) The effect of zinc in mitigating this jump in fields is uncertain.

Laboratory and plant data give a fairly high degree of confidence that there are no adverse effects of zinc on structural materials integrity.

For more, contact Howard Ocken (415-855-2055) or Christopher Wood (415-855-2379) at EPRI.