N229. Utilities use Modified pH from Startup to Reduce Radiation Fields

Benefits:

- Vogtle 1 estimates a savings of $4,620,000 over 10 years of operation due to using elevated pH from startup.
- Comanche Peak 1 estimates a savings of $770,000 over 10 years of operation due to using elevated pH from startup.
- Seabrook estimates a savings of $4,620,000 over 10 years of operation due to using elevated pH from startup.
- The dollar savings for each outage are calculated as the product of the exposure savings and a dollar value per man-rem saved. Dose rate measurements after about one effective full power year of operation show that adoption of the modified pH primary coolant chemistry control technique can save up to 66 man-rem per outage per unit.
- Additional undocumented benefits are likely to be realized because lower radiation exposures contribute to higher worker morale and higher productivity. Also, reduced corrosion product deposition on the fuel is anticipated to lead to improved fuel performance.

Comments:

"The benefits of using modified pH from startup on reducing radiation fields have exceeded our expectations." (Ken Duquette, Georgia Power)
"Modified pH plays an important role in the exposure reduction efforts at Comanche Peak." (S.E. Bradley, TU Electric)
"The modified pH used from startup helped limit the collective dose to 82.6 man-rem during cycle 1." (Robert Sterritt, Public Service Company of New Hampshire)

Taken from , "Utilities Use Modified pH from Startup to Reduce Radiation Fields," Innovators with EPRI Technology bulletin, IN-101429, December 1992. EPRI, P.O. Box 10412, Palo Alto, CA 94303. EPRI Hotline: (415) 855-2411.