N40. Update On Full-System LWR Decontamination

Chemical decontamination of the complete BWR or PWR coolant system is now technically and financially feasible for major outage work. Potential advantages of decontaminating the full coolant system rather than a subsystem include lower residual radiation fields, reduced outage time, and lower recontamination rates. An EPRI study which developed a method for assessing the site-specific technical feasibility and cost savings for full-system decontamination reached the following conclusions:

* Full system decontamination of BWRs and PWRs is technically feasible, upon consideration of engineering application, process chemistry, and radioactive waste (radwaste) management requirements.

* Full-system decontamination of BWRs is cost-beneficial for fuel-in and fuel-out cases if applied during major outage work. Including the fuel in decontamination increases the benefit but also raises radwaste disposal cost. In both cases, man-rem cost to avoid radiation exposure was about the same ($740-$1440).

* Full system decontamination of PWRs is cost-beneficial for fuel-in and fuel-out cases in major outage work. The fuel-in case had the lowest man-rem cost to avoid radiation exposure ($1490-$1080/man-rem).

For more, see C.J. Wood (EPRI Project Manager), "Feasibility of Full-System LWR Decontamination," EPRI NP-3900, July 1988. (Available from Research Reports Center, Box 50490, Palo Alto, CA 94303.)