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RADIOLOGICAL ASSESSMENT OF DECOMMISSIONING AT FORT ST. VRAIN

Keywords: CONTAMINATION REMOVAL; DECOMMISSION;
DECONTAMINATION; ALARA; FORT ST. VRAIN

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Project Manager:

Objectives: Present the current status of the decommissioning effort at the Public Service Co. of Colorado (PSC) Fort St. Vrain (FSV) reactor.

Comments: The decon option was chosen over safstor for decommissioning. The goal is to reduce the amount of residual radioactive material remaining on the Fort St. Vrain site to a level acceptable for the termination of the FSV operating license.

Fort St. Vrain Background Information:

- first and only of its kind in the US: 330 MWE HTGR reactor
- poor operational performance (< 15%)
- outstanding radiological performance (avg 3 person-rem/year)
- high cost, poor performance basis for planned 6/1990 shutdown
- equipment failures prompted premature shutdown in 8/1989

Scope of the FSV decon:

- decontamination and dismantlement of the prestressed concrete reactor vessel (PCRV) containing 90-95% of radioactivity
- decontamination and dismantlement of contaminated balance of plant systems with the remaining 5-10% of radioactivity
- site cleanup and final site release survey
- release of site for unrestricted use, likely as repowered electric generating facility

Remarks/Potential for dose limitation: Radiological Assessment:

- All project person-rem recorded exposures have been under the goals and estimates
- No positive internal body burdens have been recorded
- Workers have submitted over 100 exposure saving ideas with over 80 implemented
- Over 5,000 formal radiological classroom training hours have been conducted
- The project has conducted numerous job specific rad worker training classes to ensure workers understand the job task to be performed.
- No project NRC violations have been recorded.

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Project ALARA Program includes:

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| 1) aggressive shielding program | 6) integrated work package reviews |
| 2) contamination control | 7) communication usage |
| 3) mock up training program | 8) special instrumentation |
| 4) radiological engineering controls | 9) video camera usage |
| 5) ALARA awareness programs | |

References: Borst, T., "Radiological Assessment of Decommissioning at Fort St. Vrain," 1993
Radiation Exposure Management Seminar, Westinghouse, Pittsburgh, Pennsylvania, 1993.

Duration: from: 1989 to: 1995

Funding: N/A

Status: In progress

Last Update: December 14, 1993