



Public Service

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May 9, 1994
Fort St. Vrain
P-94047

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

ATTN: Mr. John H. Austin, Chief
Decommissioning and
Regulatory Issues Branch

Docket No. 50-267

SUBJECT: Final Survey Plan for Site Release, Treatment of Hard to Detect Nuclides, Supplemental Information

REFERENCE: PSC Letter, Warembourg to Austin, dated December 23, 1993
(P-93121)

Dear Mr. Austin:

This letter provides information requested during a telephone conversation between Public Service Company of Colorado (PSC) and Messrs. Clayton Pittiglio and Dave Fauver (NRC) on May 2, 1994. In the referenced letter, PSC proposed a method for treating Hard to Detect Nuclides (HTDN) during the final radiation survey at the Fort St. Vrain (FSV) Nuclear Station. During the review of this letter, the NRC developed an alternate plan for treating HTDN wherein the site specific guidance values for tritium and iron-55 would be 150,000 dpm/100 cm², when used in a unity equation similar to that in NUREG/CR-5849, Appendix A. This alternate approach would be considered an exception to the limits for readily detectable nuclides in Regulatory Guide 1.86.

PSC has reviewed the NRC's suggested plan for treatment of HTDN and has determined that it is acceptable for the FSV final survey project. Furthermore, this treatment would result in a substantial savings over having to consider HTDN within the 5000 dpm/100 cm² fixed contamination limit in Regulatory Guide 1.86. For example, if the exception is not issued, it will be necessary to remove additional concrete from the Prestressed Concrete Reactor Vessel (PCR/V) beyond that currently planned. Using the dismantlement methodologies described in Section 2.3.3.12 of the FSV Decommissioning Plan, this will involve removing approximately 15 additional inches of concrete from the PCR/V beltline area, since the vertical diamond wire cuts would likely be made at the next outboard row of vertical tendon tubes.

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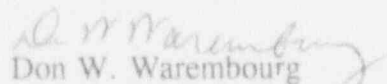
This additional concrete removal would include additional diamond wire cutting area, and approximately 9300 cubic feet of additional low level radioactive waste for disposal. The associated costs include approximately \$1 million in disposal costs and \$3.5 million in additional performance costs. The total savings from using the NRC's plan for treatment of HTDN, due to additional PCRV concrete removal, are therefore approximately \$4.5 million.

In addition to having to remove additional PCRV concrete, if the exception to the Regulatory Guide 1.86 contamination limit is not issued, the effective reduction in contamination limits will also likely increase the number of areas that would require further survey investigation, the count times that would be required for each survey area, and the amount of materials that must be removed or decontaminated from other plant areas. The costs for these activities have not been quantified but the cost increase would likely be on the same order of magnitude as the above estimated cost for PCRV concrete removal.

The activity of the PCRV beltline concrete is not known with precision, but is approximated from a horizontal core sample taken from the core mid-plane region where the extent of activation would be expected to be the greatest, at a distance of 30 inches from the reactor vessel liner. PSC is currently planning to remove PCRV concrete at about this location. Tritium activity concentration at this location is 66.5 pCi/gm and iron-55 activity concentration is 13.3 pCi/gm; both of these activity concentrations are decay-corrected to January 1, 1996. It is noted that these values are approximately the same as the activity concentrations provided in the referenced letter, identified for Characterization Sample #6, which were 65.7 pCi/gm for tritium and 10.0 pCi/gm for iron-55. The differences are due to minor differences in the calculations.

If you have any questions regarding this information, please contact Mr. M. H. Holmes at (303) 620-1701.

Sincerely,


Don W. Warembourg
Decommissioning Program Director

DWW/SWC

cc: Regional Administrator, Region IV

Mr. Robert M. Quillin, Director
Radiation Control Division, Colorado Department of Health