



Public Service

Public Service
Company of Colorado
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September 1, 1992
Fort St. Vrain
Unit No. 1
P-92273

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

ATTN: Dr. Seymour H. Weiss, Director
Non-Power Reactor, Decommissioning and
Environmental Project Directorate

DOCKET NO: 50-267

SUBJECT: Tritium Leach Test on Irradiated Graphite Reflector
Blocks from the Fort St. Vrain Reactor Core

REFERENCE: PSC Letter, Brey to Weiss, dated
October 10, 1991 (P-91299)

Dear Dr. Weiss:

Public Service Company of Colorado (PSC) contracted with Babcock and Wilcox (B&W) to perform a leach test on two replaceable graphite hexagonal reflector blocks from the Fort St. Vrain reactor core. Both of these reflector blocks are composed of H-327 graphite, a relatively high purity grade of nuclear graphite, and resided in the reactor core for its entire operating life of 890 effective full power days. B&W analyzed graphite samples from the blocks to characterize them prior to immersion in deionized water. B&W then analyzed water samples taken at regular intervals to determine activity concentrations in the water.

The attached report describes the leach test and summarizes the results of this test for tritium, the nuclide of primary concern, over a 30-day interval. The report concludes that less than 0.1% of the tritium content was released from each reflector block in the 30-day interval. This is significantly below the 0.44% cumulative tritium leach fraction at 30 days observed in the test involving irradiated graphite from a British Magnox reactor, as reported in the referenced letter.

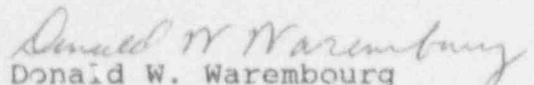
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Should you have any questions on the attached report, please contact Mr. M. H. Holmes at (303) 620-1701.

Sincerely,


Donald W. Warembourg
Manager, Nuclear Operations

DWW/JRJ:dh
Attachment

cc: Regional Administrator,
Region IV

Mr. J. B. Baird
Senior Resident Inspector
Fort St. Vrain

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