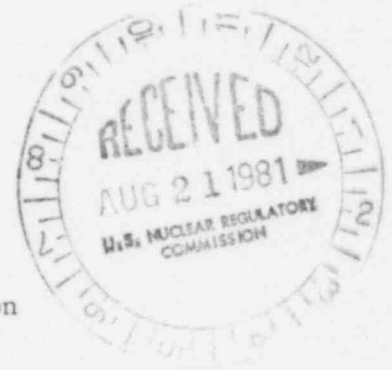
Public Service Company of Colorado

16805 ROAD 19½
PLATTEVILLE, COLORADO 80651-9298

August 17, 1981
Fort St. Vrain
Unit No. 1
P-81204



Mr. George Kuzmycz, Project Mgr.
Special Projects Division
U. S. Nuclear Regulatory Commission
Washington, D. C. 80202

Subject: Fort St. Vrain Unit No. 1
Testing Program RT-500K

Dear Mr. Kuzmycz:

As you are aware we were unable to complete our testing program under RT-500K due to problems we experienced with the main turbine-generator. The unit was brought down to effect repair of the main turbine, and due to the time required to repair the unit the decision was made to go into the refueling outage.

All RT-500K testing below 70% power was completed and on April 23 and 24, RT-500K testing was completed to a power level of 91%. We are transmitting herewith a preliminary data package for the April 23 and 24 testing period.

You will note from the attached data package that the unit experienced two temperature redistributions during the test period. The first redistribution occurred on April 23 during the rise to power from 76 to 80% and a second redistribution occurred on April 24 during the rise to power from 86 to 91%. Although a detailed analysis of these redistributions has not been completed as yet the data obtained during this test period indicates that the temperature redistributions are very similar to previous temperature redistributions. The nuclear channels, gap thermocouples, region exit thermocouples and the ICRD instrument in all responded similarly to previous redistribution mode data. While there are some differences in the absolute values the general characteristics remain unchanged.

We have completed Cycle 3 refueling and have taken the reactor to 70% power in minimum core ΔP and core resistance values. We have not experienced any evidence of temperature redistribution.

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We have, along with General Atomic, reviewed RT-500K with reference to the recent refueling. On the basis of this review we do not feel there are any revisions required to RT-500K other than establishment of a new Figure 1 and the use of different orifice patterns, both of which are test variables anyway. The test provisions and test limits are adequate for contined RT-500K testing, and we are proposing to proceed as follows:

1. Develop a new Figure 1 and set of orifice patterns to satisfy the provisions and test limits of RT-500K.

2. We would propose to return to testing under RT-500K the latter part of August or early in September as system load conditions permit.

3. We would propose to conduct RT-500K in its entirety (i.e., testing beginning at approximately 40% power and continuing to the 100% power level.)

4. Data would be evaluated for RT-500K as well as for the steady state portions of the SUT B-0 start-up test program as may be applicable.

5. Our plans are to complete testing under RT-500K prior to shutting the unit down for the loop split work.

6. We would plan to utilize the time during the loop split outage to complete and analyze the RT-500K data for presentation to the NRC staff. The data will be evaluated and utilized as the basis of our proposal for NRC release from 70% and continued operations of the unit at power levels in excess of 70%.

We would request your approval to proceed with the above program and specifically your concurrence for continuing the RT-500K test program on the basis of existing test provisions and test limits established by our previous submittal of RT-500K.

Very truly yours,

Don W Warembourg

Don W. Warembourg
Manager
Nuclear Production

DWW/skd

Attachment

cc: Jim Miller