Washington State University
Nuclear Radiation Center
Pullman, WA 99164-1300
509-335-8641
FAX 509-335-4433

Wednesday, March 2, 1994

or
Office of Nuclear Reactor Regulation USNRC
Washington, D.C. 20555

Ref: Docket 50-27
Facility Operating License No. R-76

Dear Sir:

On February 24, 1994 at 10:40 AM a reactor operator trainee, William Old, was doing a startup of the Washington State University 1 MW Triga reactor. According to the trainee and the licensed operator, Brian Bunce, who was supervising him, the reactor was below, but near full power when the trainee made an excessive control blade withdrawal that caused a safety channel #2 setpoint (117 % full power) to be exceeded, scramming the reactor. The responsible senior operator, Jerry Neidiger, checked the strip chart recorder for the fuel temperature to determine that the maximum temperature reached during the aborted startup was 312 degrees Celsius, which is well below temperature safety setting of 500 degrees Celsius. Jerry Neidiger signed the Scram Record in the reactor log. The reactor was restarted for the day's routine operations.

There were two significant irregularities about this incident. The first was that a the trainee would make a single blade withdrawal from perhaps 95 % full power to 117 % full power. Normally trainees approach 100 % very gingerly. This may be attributed to the fact that Mr. Old was a former Navy Submarine reactor operator, perhaps making him overconfident at the console. The second irregularity was that both Mr. Bunce and Mr. Old report that there was no alarm warning about the excessive power that should have occurred at 110 % power.

Because of these irregularities I asked Mr. Bunce and Mr. Old to write me a formal report on the incident. While studying the reports and the technical specifications I realized that we have not only an irregularity in the event but more importantly an inadvertent violation of our most recent technical specifications. Our most recent "Amendment No. 14." was issued on January 31, 1994. Included in the amendment was a change in the Reactor Safety Channel setting to give a Power level SCRAM at 110 % power, down from the value of 125%, which had been in force for more than 20 years. The trip settings have generally been set conservatively at less than 120% as it was in this incident. **We essentially ran the reactor for one month using the old setting under the new amendment.**

Since the incident the SCRAM set points have been lowered to the 110 % power levels and the time constant on the neutron monitor alarm has been shortened so that a warning alarm should now sound before the power reaches a scram set point. We have also decided that anyone new to the console should get more experience at arriving at lower power levels before being permitted to bring the reactor up to full power.

The fact that Power level SCRAM setting was not immediately changed from 125% to 110% when we received the approved amendment was primarily my fault. Most of the many changes in amendment #14 were concerning implementation of the new 10 CFR 20 regulations. These were

IE22
1/0

changes that we initiated. They are all listed on a separate piece of paper and the new technical specifications have each of these changes marked with a side bar. The only change not in the list and not marked with side bars was the the SCRAM setting. To this day I don't know how we overlooked marking that change with a side bar and overlooked including it in the list of changes. Once we received the approved new amendment, we circulated the list of changes and the new technical specifications marked with side bars amongst all of our operator licensees. All of the licensed people signed off on these changes, including me. Not one of us noticed the fact that we needed to lower the trip settings.

If you have any questions, please contact Dr. Gerald Tripard, Facility Director (509) 335-0172

Sincerely,

Gerald E. Tripard, Director

cc: Region V NRC office