

**From:** Fred Sears <cfsnuc@engr.psu.edu>  
**To:** "Mendonca, Marvin" <MMM@nrc.gov>  
**Date:** 9/29/04 10:49AM  
**Subject:** TS 4.1.1 Time Period Extension Request

This email requests a one-time three (3) month extension of the allowable time period for Tech Spec 4.1.1, Reactor Power Calibration, for the Penn State Breazeale Reactor, License R-2, Facility Docket Number 50-005.

Tech Spec 4.1.1 requires "A thermal power calibration shall be made on the linear power level monitoring channel annually, not to exceed 15 months." CCP-2, Reactor Thermal Power Calibration, is the implementing procedure for accomplishing Tech Spec 4.1.1. Our last thermal power calibration was performed on July 8th and 15th, 2003.

As we were upgrading our reactor console computers (beginning of August, 2004) and moving to a new fuel loading (mid-August, 2004), we delayed performance of CCP-2, Reactor Thermal Power Calibration until after those two evolutions were performed since the new fuel loading would have required another thermal power calibration. When we undertook the performance of CCP-2 on August 27th, 2004, our primary flow measurement instrumentation suffered an electrical failure. This instrumentation is a magnetic flow measurement device. Other instrumentation such as flow orifices and turbine flow meters have proven unreliable due to the extremely short runs of pipe and many bends of our primary coolant heat exchanger system. The magnetic flow device is somewhat unique since it is designed for the high purity water used in our primary system. To date we have been unable to obtain appropriate repair or replacement of that flow device. The current efforts to return the flow measurement system to service and perform CCP-2 may not be completed in time to meet the 15-month interval.

In conjunction with the new fuel loading the steady state reactor power has been administratively limited to 850 kW with a reduction of RSS overpower setpoints from 108% to 93%. This reduction remains in effect until CCP-2 is completed. The effect of the new fuel loading on measured power was predicted to be less than 5%. The best estimate of change in indicated power was expected to be within the measurement uncertainties. The 15% reduction in power level and setpoints was thus conservative. Operations to date based on both measured fuel temperatures and irradiation results have not shown any noticeable variation between indicated power and expected results for that power level. Thus we have reasonable assurance that the indicated power is very close to the actual power.

Your acknowledgement of receipt of this request would be appreciated.

We are making every effort to complete our instrumentation repairs in time to meet TS 4.1.1. Since we have reasonable assurance as to actual power level and are operating with restricted power level we believe an extension is appropriate. We have significant education, research, and service work that would be negatively impacted if we had to shutdown the reactor. Every effort has been and is being made to comply with TS 4.1.1.

If there are any questions regarding this request please contact me.

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Fred Sears  
Director, Radiation Science & Engineering Center  
Breazeale Nuclear Reactor  
The Pennsylvania State University  
University Park, PA 16802-2301  
Ph 814-865-6351  
Fax 863-4840

**CC:** "Dragoun, Thomas" <TFD@nrc.gov>, Tom Litzinger <talme@engr.psu.edu>, Terry Flinchbaugh <tlfnc@engr.psu.edu>, Larry Burton <L.Burton@engr.psu.edu>, "Eva J. Pell" <ejp@psu.edu>