Georgia Institute of Technology
NEELY NUCLEAR RESEARCH CENTER
900 ATLANTIC DRIVE
ATLANTA, GEORGIA 30332-0425
USA
(404) 894-3600

July 27, 1994

Mr. Craig Bassett
U.S. Nuclear Regulatory Commission, Region II
101 Marietta St., N.W.
Atlanta, GA 30323

Dear Mr. Bassett:

Enclosed please find a report from Mr. Parker concerning the drift of the temperature trip setting of the primary coolant. The steps taken to assure reliability of this setting include: (1) lowering the trip setting to 124°F so that the current thermocouple simulator may provide accurate test signal, and (2) purchasing a new continuous temperature simulator. Should you have any questions, please let me know.

Sincerely,

R.A. Karam

R.A. Karam, Ph.D., Director
Neely Nuclear Research Center

RAK/ccg
Enclosure-1

H005
1/1

Telex: 542507 GTRIOCAATL
A Unit of the University System of Georgia
Fax: 404-853-9325 (Verify 404-894-3600)
An Equal Education and Employment Opportunity Institution

TO: Dr. R. A. Karam, NNRC Director

FROM: Dixon F. Parker, Reactor Supervisor

SUBJECT: Primary Temperature SCRAM Channel #2

On 7/22/94 a non-licensed NNRC operations employee tested and calibrated the primary coolant system second temperature scram channel as part of a six month calibration procedure. The test requires an as found check of the scram setpoint. The setpoint was found to be 146°F. This is in excess of the Technical Specification Limiting Safety System Setting of 139°F The scram point was set to 138.2°F at the end of the test. Billy Statham brought this to my attention on 7/26/94, and together we brought this to your attention that same day.

This scram channel is tested on a weekly basis prior to reactor startup. The weekly test is accomplished by using a thermocouple simulator that provides test signals in 25°F increments. Consequently a signal of either 125°F or 150°F can be used to test the trip setting. Therefore the weekly test does not have adequate resolution to determine if the scram setting is actually below 139°F. There is no prior history of trouble with this instrument, and there is no positive indication of when the failure occurred. It is possible that the failure occurred during the current extended shutdown of the reactor since 5/25/94 due to failure of the compressor that provides building compressed air. For a brief time during this period the building air conditioning was out of service and the containment building was humid. It is possible that the humidity caused the channel setpoint to drift.

During the six months since the last calibration reactor operations were at a minimum, and at powers such that the reactor outlet temperature never approached 139°F. During the six month period the first primary temperature channel scram was always operational, and the scram on the reactor inlet, set to 124°F, was also operational. I believe the safety implications of this failure are insignificant.

A new piece of equipment has been ordered to replace the current unit. The new unit will allow for temperature indication via a digital panel meter. The digital panel meter will also allow visual inspection of the system setpoint and visual indication that the unit is working by comparison with other temperature monitoring channels. The new unit will allow the weekly channel test to be modified so that the actual system setting can be determined. Until the new equipment is installed the setpoint for the existing unit will be set to approximately 124°F. This will allow the thermocouple simulator to check that the channel setpoint is below 125°F. A channel test will be performed daily prior to reactor startup until the new equipment is installed.