



GPU Nuclear, Inc.
U.S. Route #9 South
Post Office Box 388
Forked River, NJ 08731-0388
Tel 609-971-4000

December 22, 1999
1940-99-20601

U.S. Nuclear Regulatory Agency
Attention: Document Control Desk
Washington, DC 20555

Gentlemen,

Subject: Oyster Creek Nuclear Generating Station, (OCNGS)
Docket No. 50-219
Response to RAI on TSCR 226 Three Loop Operation

In a conference call on November 3, 1999 and by letter dated December 2, 1999, the NRC requested additional information regarding Technical Specification Change Request 226, "Three Loop Operation". Detailed below are the questions posed by the NRC reviewer and the answers provided by GPU Nuclear. The questions are shown in italics.

1) Nine Mile Point 1 (NMP1), which is the sister plant of Oyster Creek Nuclear Generating Station (OCNGS), increased the minimal critical power ratio MCPR safety limit by 0.01 for 3-loop operation to account for potential increase in flow uncertainty due to back flow, uneven flow distribution, etc., during 3-loop operation. Why should the MCPR safety limit for OCNGS not be increased for 3-loop operation?

It is GPUN's understanding the NMP1 increase of 0.01 in the MCPR safety limit was due to the potential of increased Traveling In-Core Probe (TIP) noise uncertainty under partial loop operating conditions. Oyster Creek has not used TIPs to directly monitor the core thermal limits parameters since 1983. Oyster Creek uses the Power Shape Monitoring System (PSMS), developed by EPRI, that is similar to the GE 3-D Monicore and Sieman's PowerPlex systems. If comparisons between predicted and measured TIPs result in a higher uncertainty than used in the development of the SLMCPR limit, Oyster Creek procedures require a reduction in thermal limits to compensate for increased uncertainty. If the technical specification change is approved, Oyster Creek 3-loop operation will be restricted to 90% of rated power, which compensates for the uncertainties (back flow, uneven flow distributions, etc.) during 3-loop operation.

Acc 1/1

RAI ADDOC 05000219

2) NMP1 has baffle plates in the lower plenum to uniformly distribute the impinging water from recirculation pumps for even distribution of flow during 3-loop operation. Does OCNGS have the same design feature?

Yes.

3) Is there cross-connection between the loops in OCNGS? If so, what is the valve position in those lines during 3-loop operation?

No. Each loop is independent of the other loops.

4) For 3-loop operation, each loop will carry a higher flow. In a loss-of-coolant accident (LOCA), this can result in faster flow coastdown and earlier boiling transition. It has been stated in the application that no credit was taken for flow coastdown during a large-break LOCA. It was also stated that for small-break LOCA, the impact is not significant. Is this statement based on actual small-break LOCA calculation for 3-loop operation?

Three loop calculations were performed only for the bounding DBA breaks. However, for the four-loop small break case with the loop isolated, the GE dry-out correlation (no-flow assumption) is used to conservatively bound the effect of faster core flow coast-down. This would be applicable to 3-loop operation with only one isolated loop.

5) Does the normal operating conditions for 3-loop operations always occur outside the unstable region of the power/flow map?

Yes. The Oyster Creek power to flow map has an exclusion zone in which operation is not permitted and procedures are in place that detail actions to be taken if the exclusion zone is inadvertently entered. Normal 3-loop operation is outside of the exclusion zone and the procedures for inadvertent entry would apply to 3-loop operation as they would to 4 and 5-loop operation.

6) Has GE performed the analysis for 3-loop operation of OCNGS, or was it done by the licensee in-house?

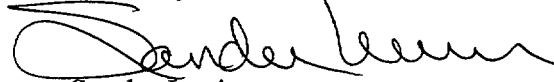
GE performed the 3-loop analysis. GPUN does not have the licensed GE methods in-house.

1940-99-20601

Page 3

This additional information should assist the reviewer in evaluating GPU Nuclear's request. If you have any questions or require additional information please contact Dennis Kelly of Oyster Creek Licensing at (609) 971-4246.

Sincerely,

A handwritten signature in black ink, appearing to read "Sander Levin". The signature is fluid and cursive, with a large initial "S" and a long, sweeping underline.

Sander Levin
Acting Director
Oyster Creek

cc: Region I Administrator
Oyster Creek Project Manager
Oyster Creek Senior Resident Inspector