



71
Memo from
J. N. FOX
Ext. 5-4824 M/C 782

52-001

Chet-

Enclosed are two copies of RIP data that Tom Murley was looking for and I think George Thomas is handling. I sent this FE because of the poor quality of the figures.

Jack

GE Nuclear Energy

9209160281 920723
PDR ADDCK 05200001
A PDR

020058

Change: PRE PDR 1 0 Ltr. Encl
PNK Stegbauer, G 1 0

DOSD

10 and 9 Reactor Internal Pump (RIP) Operation

Toshiba's test data of 10 Reactor Internal Pump (RIP) and 9 RIP operations are shown in the attached Figures 3 & 4. Two different measurement configurations (labelled as "Pump Deck ΔP " and "Proposed ΔP ") were tested and the data was obtained. The pump Deck ΔP is measured by pressure sensing lines with taps located above and below the pump deck (See Figure 1). The "Proposed ΔP " method, which is now in the ABWR design, is measured by sensing lines with upper taps upstream of the pump deck, and lower taps inside the shroud (See Figure 2). The first method tends to measure the local conditions while the second method measures the average condition after lower plenum mixing. Figure 3 shows that with 10 RIP operation, the ΔP measured by Pump Deck ΔP method is fluctuated due to the pump operation, while the ΔP measured by the second method shows a uniform flow distribution. For 9 RIP operation as shown in Figure 4, the pump ΔP measurement shows that there is significant flow perturbation due to the idle RIP. But the second flow measurement shows the flow is uniform. This is due to the lower plenum flow mixing. Therefore, it is concluded that the flow distribution to the reactor core is still uniform even if one RIP is idle.