SUMMARY OF MODIFICATIONS TO WATER SYSTEMS FOR PSS CRITICAL COMPONENTS

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PSS WATER CIRCUITS

THREE SEPARATE MODIFICATIONS

1. REPLACE "DP" TRANSMITTERS WITH "FLOW" TRANSMITTERS
   ♦ Complete

2. REMOVE HIGH FLOW TRIPS
   ♦ Complete
   ♦ Warning given at high end of display range

3. REPLACE VIATRAN TRANSMITTERS WITH YOKAGAWA AND RELOCATE TO S.R. MEZZANINE
   ♦ Complete in sectors 1-8, 11, 16, 23, 24, 34
   ♦ 62% of all PSS transmitters
   ♦ Full completion ~ end of FY2005
ORIGINAL WATER CIRCUIT FOR
BEAMLINE PSS COMPONENTS WITH MESH
(I.E. FLOW AND DP MEASUREMENTS)
CURRENT WATER CIRCUIT FOR ALL BEAMLINE PSS COMPONENTS (RENDUNDANT FLOW INSTRUMENTATION)
Overall Pressure Loss vs. Total Flow Rate

Sector 9-ID-A WBSA (White Beam Stop A-Hutch) Data

Pressure Loss = 9.29*(Flow Rate)^1.8681

Low-Level Set Points {1.40 gpm, 17.3 psid}

High-Level Set Points {2.62 gpm, 55.5 psid}

Curves not stable over time - shifting occurs!!
ADVANTAGES

REDUNDANT "FLOW" TRANSMITTERS
- No more shifting of DP-FLOW curves
- Stable set points
- Built-in diagnostic (both indicators should be equal)

YOKAGAWA TRANSMITTERS + RELOCATION
- Much more reliable than Viatran
- Not in x-ray environment
- Easier to service
FIG. 2: DIVISION OF RESPONSIBILITY FOR PSS COMPONENTS
PSS "FLOW" TRANSMITTERS
IN HOFFMAN BOX ON SR. MEZZANINE
AFTER RELOCATION (Sector 34-ID shown)

(62% complete)