SUMMARY OF MODIFICATIONS

TO

WATER SYSTEMS

FOR

PSS CRITICAL COMPONENTS

Presented at TWG Meeting, Thursday, June 17, 2004
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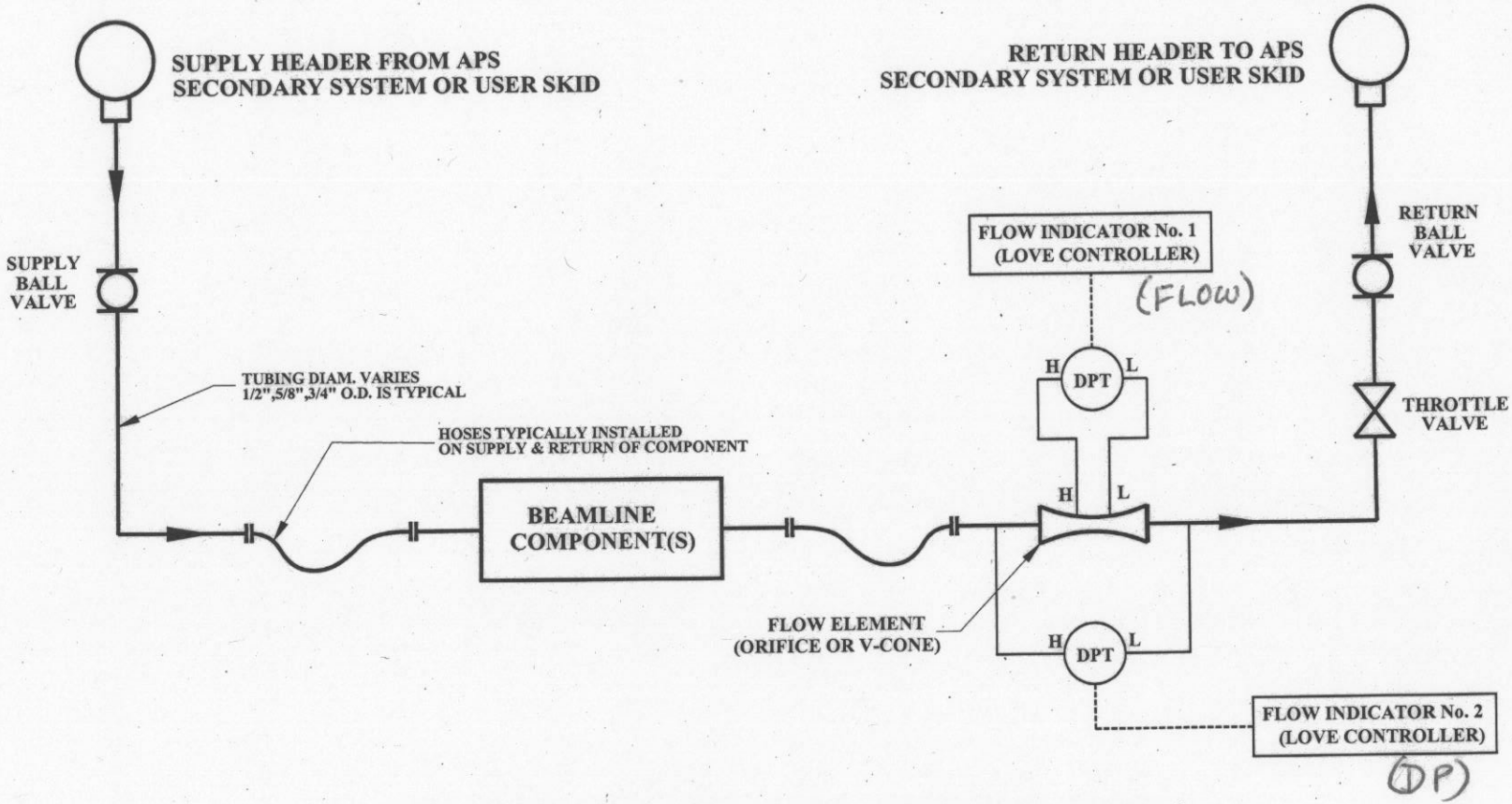
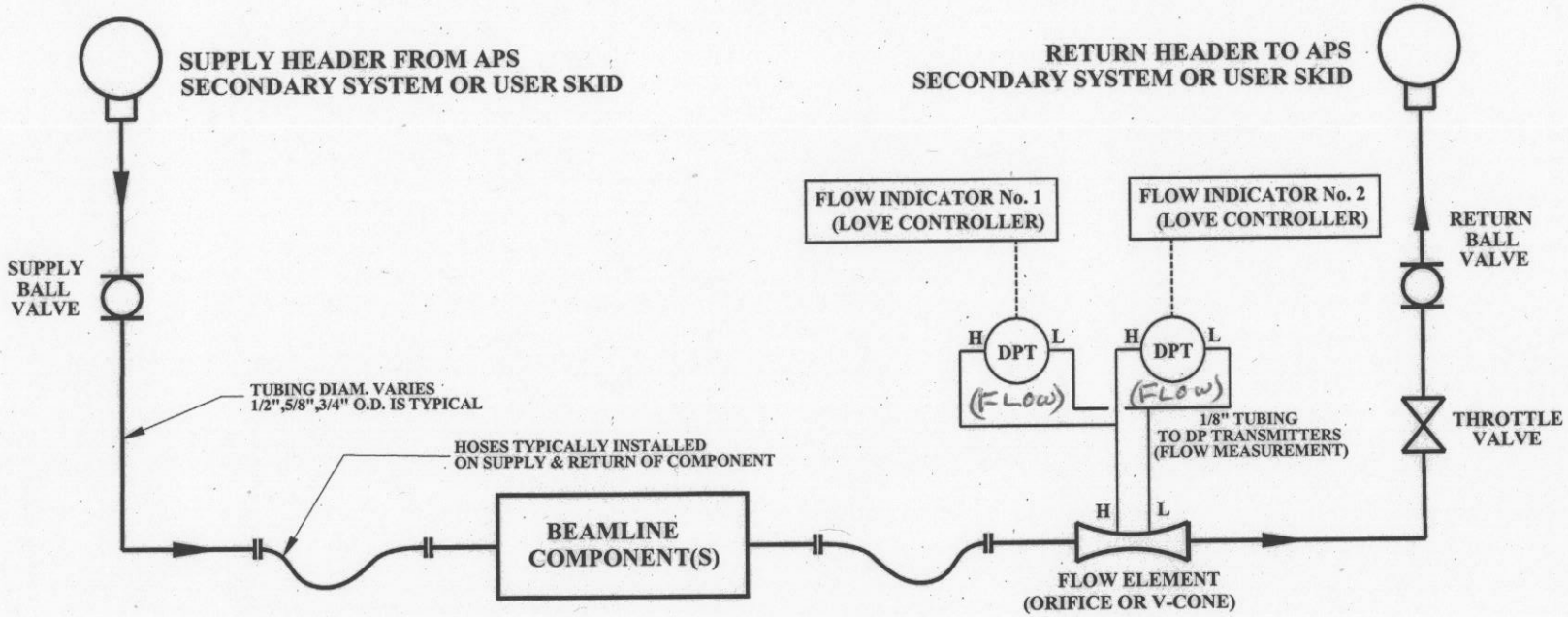
PSS WATER CIRCUITS

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)

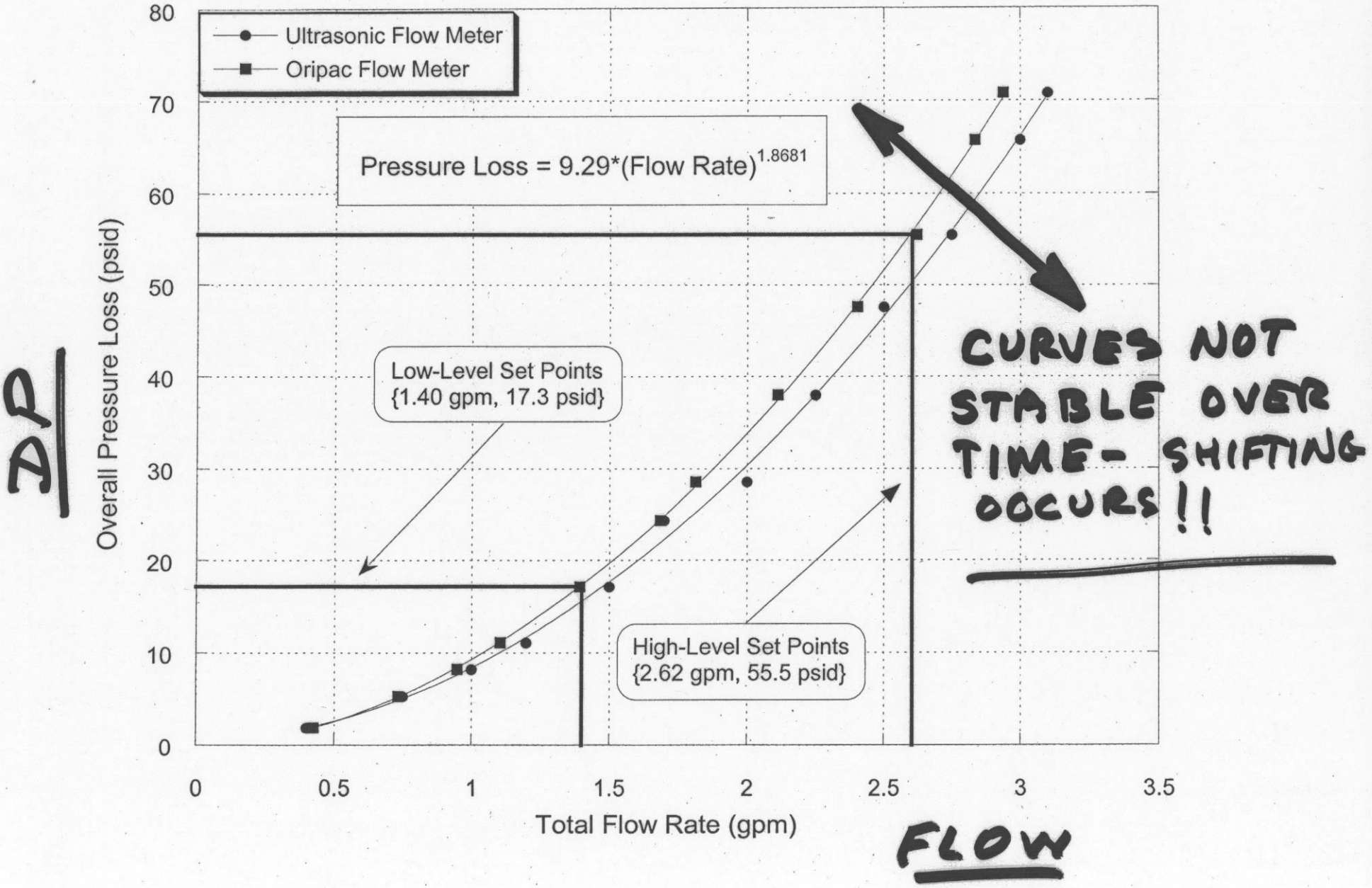


CURRENT WATER CIRCUIT FOR ALL BEAMLINE PSS COMPONENTS (REDUNDANT FLOW INSTRUMENTATION)

Overall Pressure Loss vs. Total Flow Rate

JTC
3/3/04

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



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

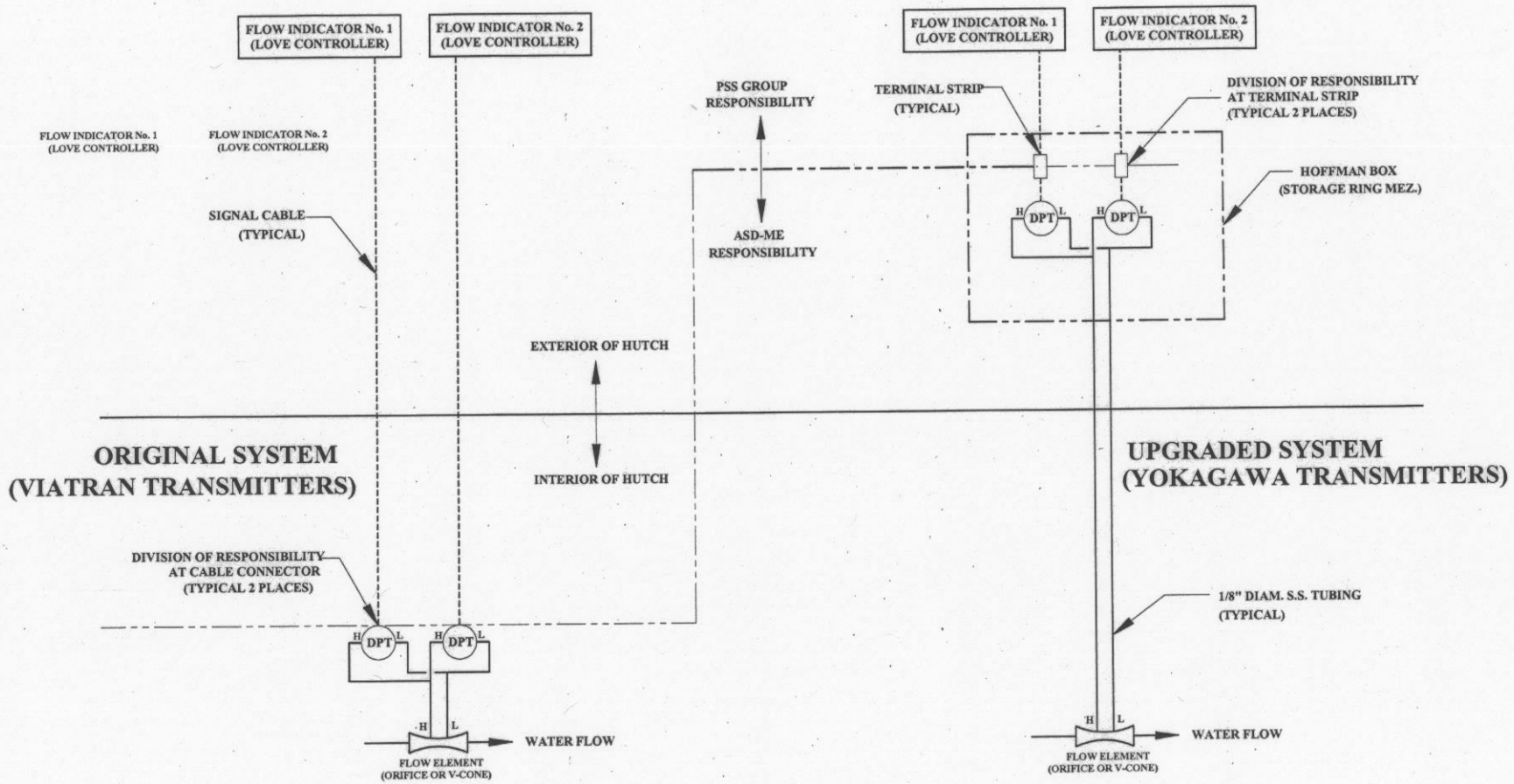
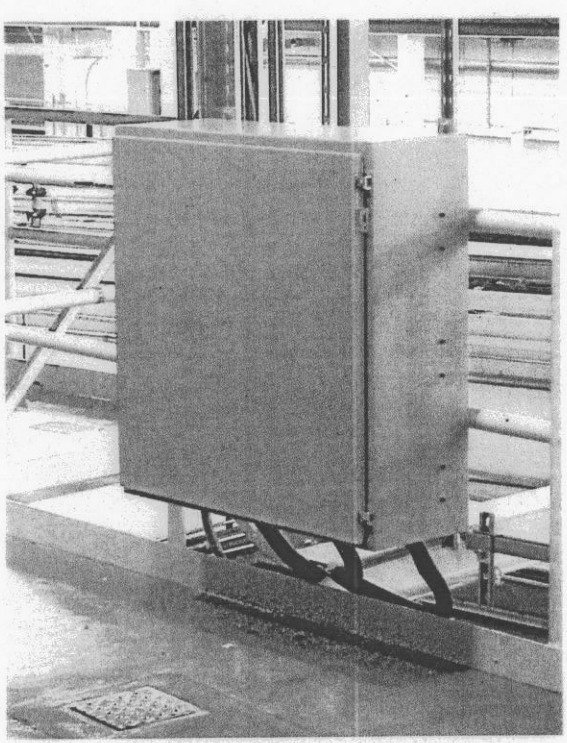
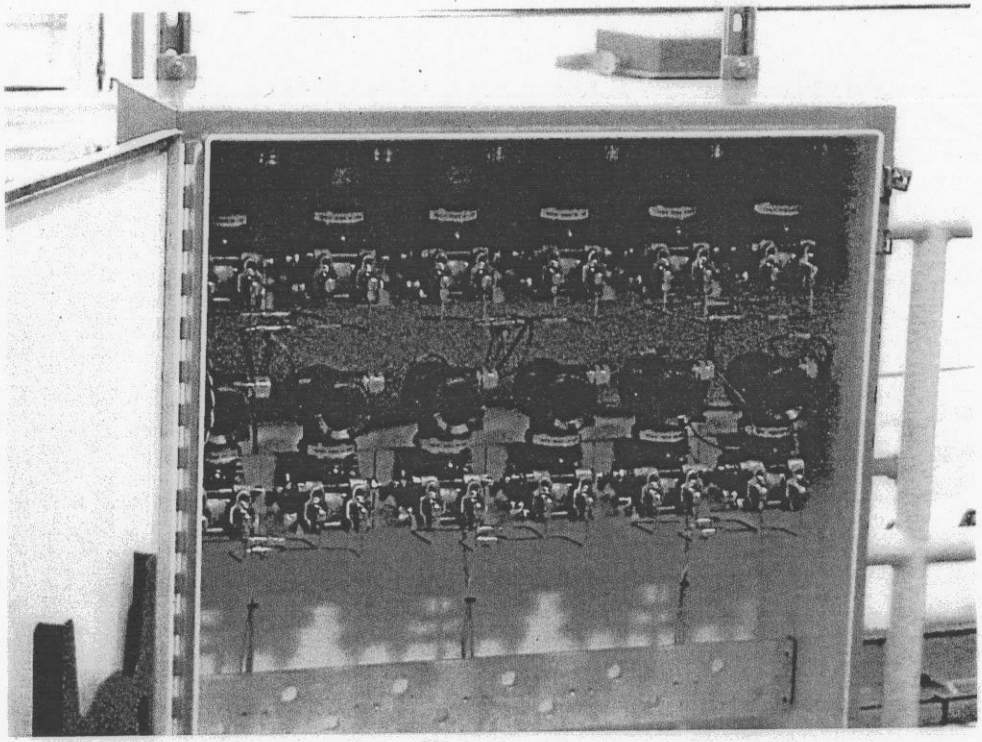


FIG. 2: DIVISION OF RESPONSIBILITY FOR PSS COMPONENTS





PSS "FLOW" TRANSMITTERS
IN HOFFMAN BOX ON S.R. MEZZANINE
AFTER RELOCATION (Sector 34-ID shown)

(62% complete)