The design set point is 50%. High and Low Level Switches, LSH-6 and LSL-6, monitor extremes of level in the hotwell and each sounds an alarm to alert an operator to the problem. The High Switch is set at 55%. The Low Switch is set at 40%. These set points, along with the design set point correspond to how high the liquor level is above the lower tap of Level Transmitter LT-6.

C. INTERMEDIATE CONCENTRATION LIQUOR - (Yellow-Red)

The flow of liquor from Effects 1 through 4 is controlled by a level control loop on the subsequent effect. These level loops are identical to the loop controlling the feed flow. All the level controllers are density compensated via the DCS to adjust for differences in the liquor specific gravity.

D. PRODUCT LINE (Red)

Concentrated liquor is drawn off the recirculation line of the first effect (Body #1, Body #2 if Body #1 is on wash). The liquor flows through the density control valve, DCV-12A (or DCV-12B), and is flashed down to the third effect pressure in Product Flash Tank 1A (or 1B). Liquor is then drawn into Product Flash Tank 1B (or 2B), which operates at the same pressure as the fifth effect, where it flashes down to the final product concentration and temperature. Finally, the product is pumped from Product Pump #1 (or #2) through the magnetic flowmeter, FE-13A (or FE-13B), the second product flash tank level control valve, LCV-13A (or LCV-13B), and out of the system at TP B1 (or B2).

The density of the concentrated liquor in the first effect is measured in Density Column #1 (or #2) by the density transmitter, DT-12A (or DT-12B). A signal is sent from the transmitter to the reverse acting controller, DIC-12A (or DIC-12B), which varies the concentrated liquor flow out of the system through the control valve, DCV-12A (or DCV-12B). The density controller has a set point of 1.25 (specific gravity). A high alarm (set at 1.28) and a low alarm (set at 1.20) are utilized to ensure proper operation. A continuous record of the concentrated liquor density is provided by the density recorder, DR-12A and DR-12B.

The level in the Product Flash Tank 1B (or 2B) is measured by a differential pressure transmitter, LT-13A (or LT-13B). The transmitter sends a signal to a reverse acting controller, LIC-13A (or LIC-13B) which medulates the control valve, LCV-13A (LCV-13B), to maintain the level setpoint at 50%. A high alarm set at 60%) and a low alarm (set at 40%) ensure proper control.

Recorder FR-13A (or FR-13B) continuously measure the product flow out of the system.