

# Plant Differences

## Chapter 15.0

# Objectives

1. Describe the basic design differences between the various Combustion Engineering plant generations.
2. Explain how later Combustion Engineering plants were able to increase their operating power densities.
3. Describe the basic control and protection system differences between the various Combustion Engineering plant generations.

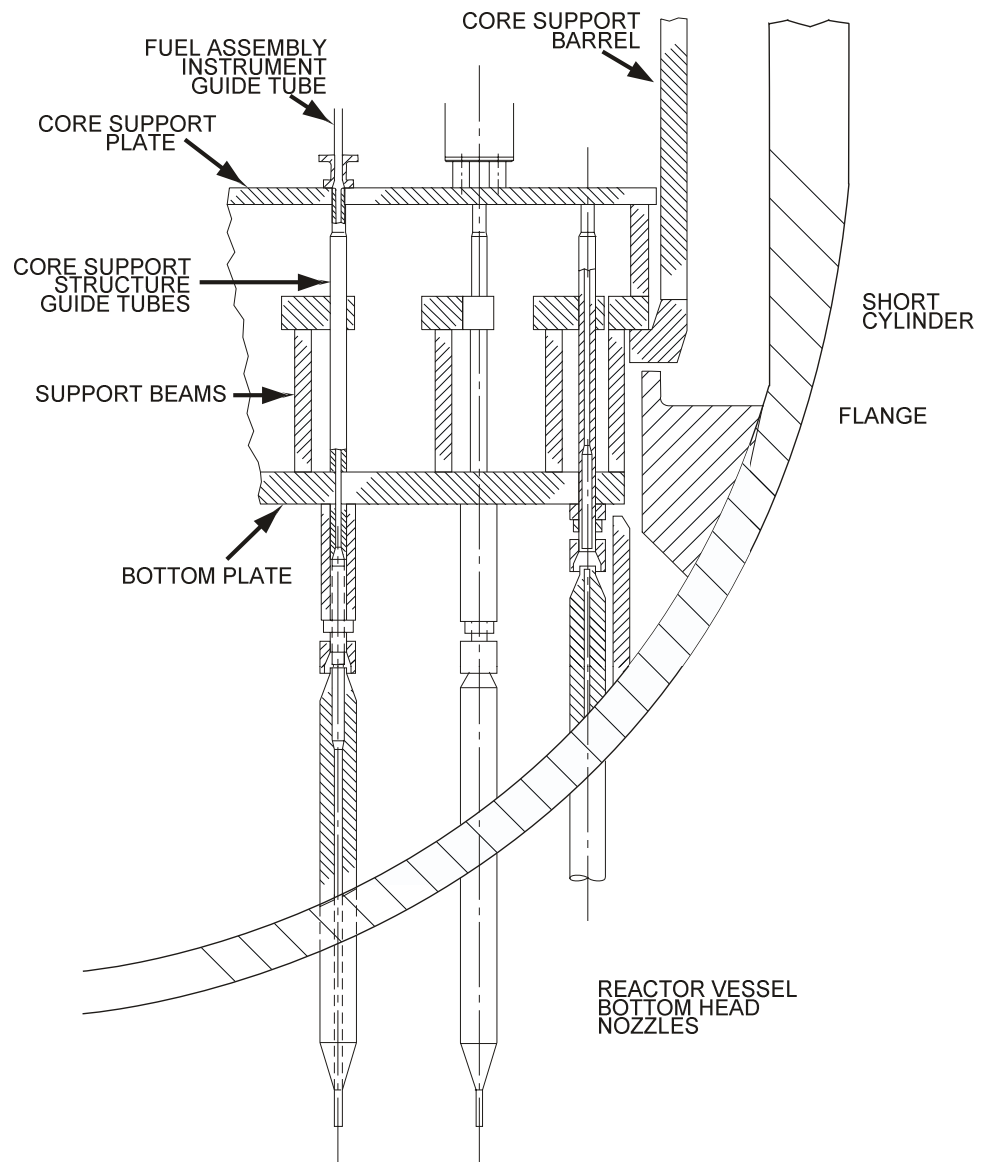


Figure 15-1 Core Support Plate and Lower Support Structure

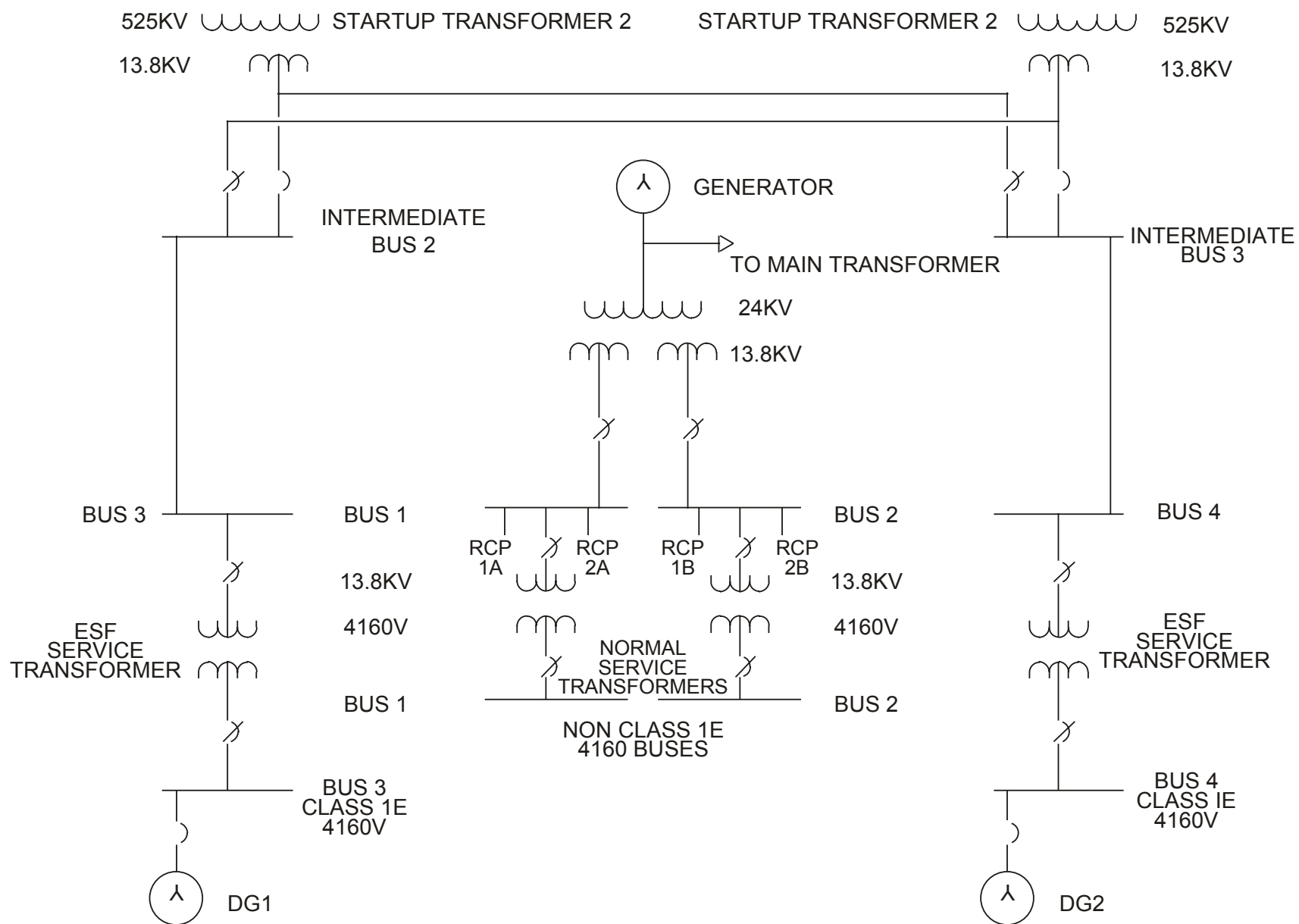


Figure 15-1 Palo Verde Electrical Distribution

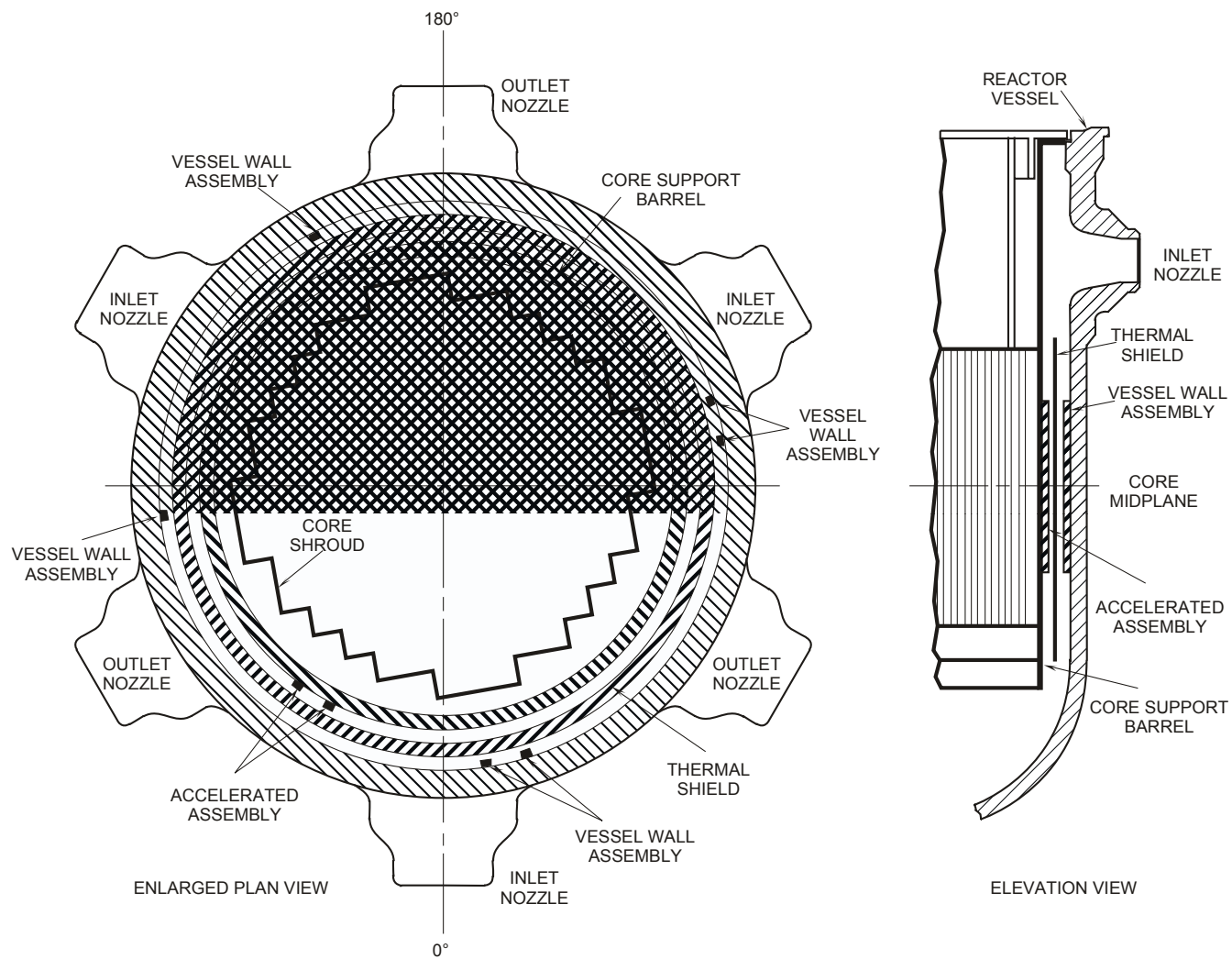


Figure 15-2 Typical Locations of Maine Yankee Surveillance Capsule Assemblies

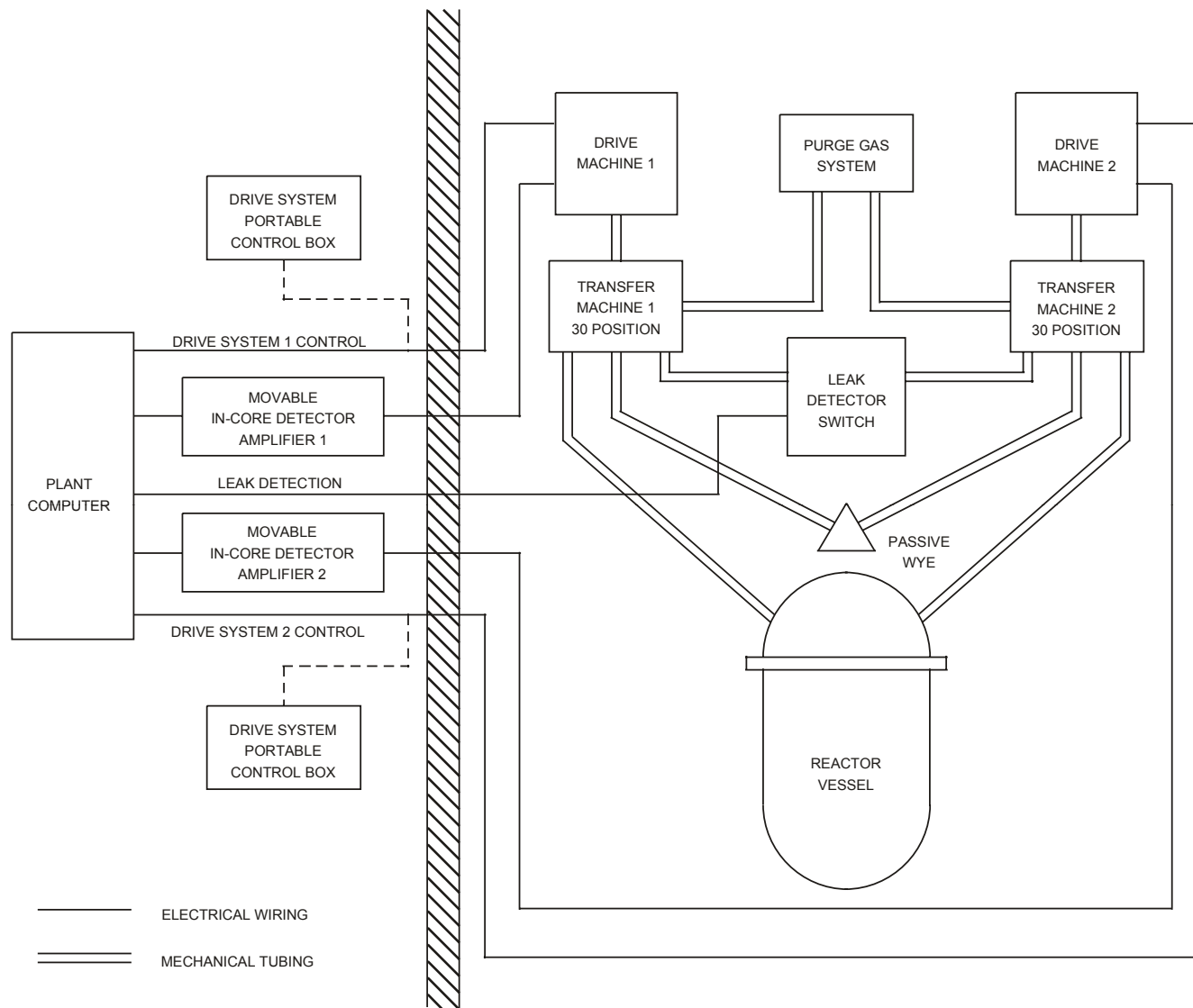


Figure 15-3 Movable Incore Layout

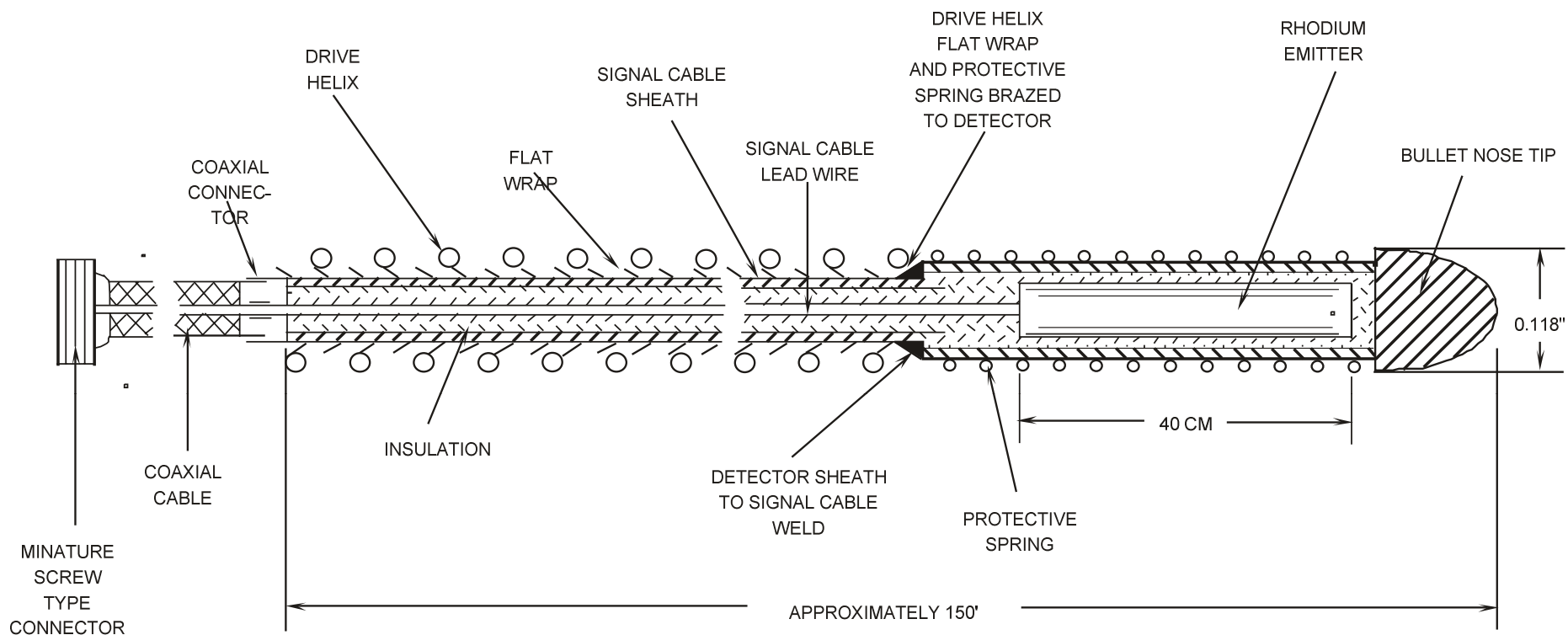


Figure 15-4 Movable Incore Detector

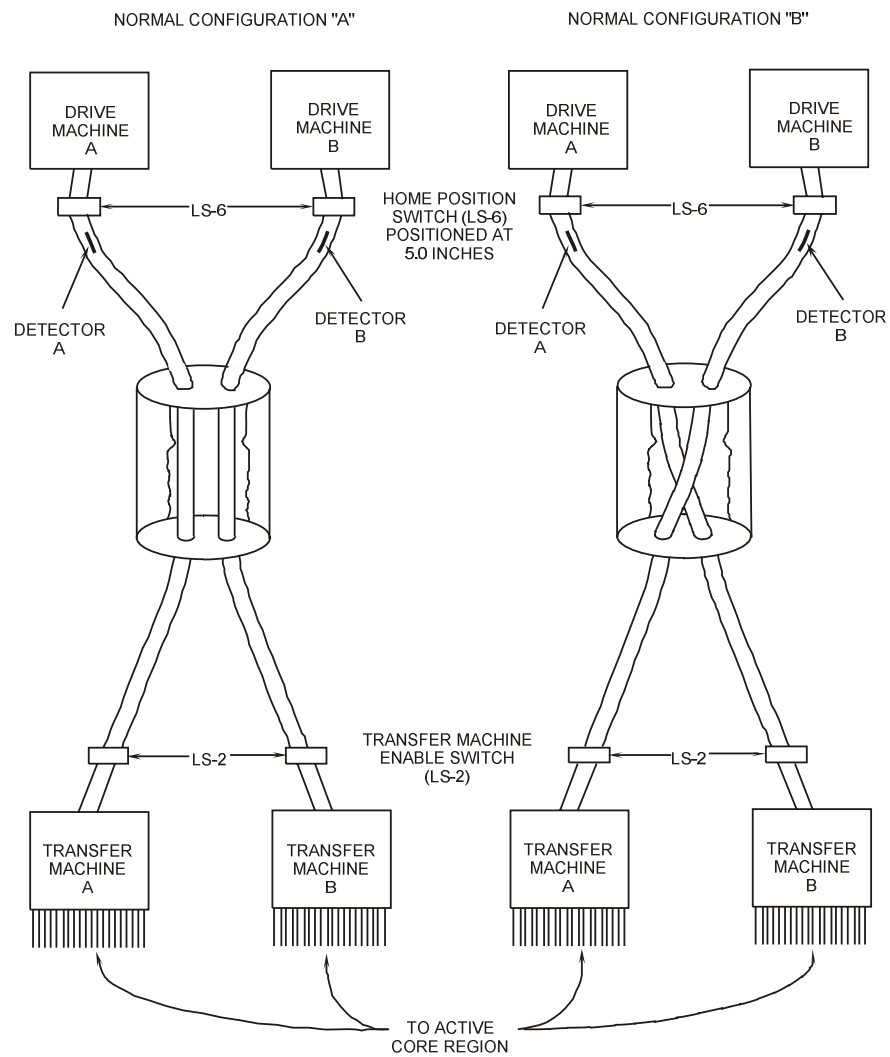


Figure 15-5 Drive Path Switching

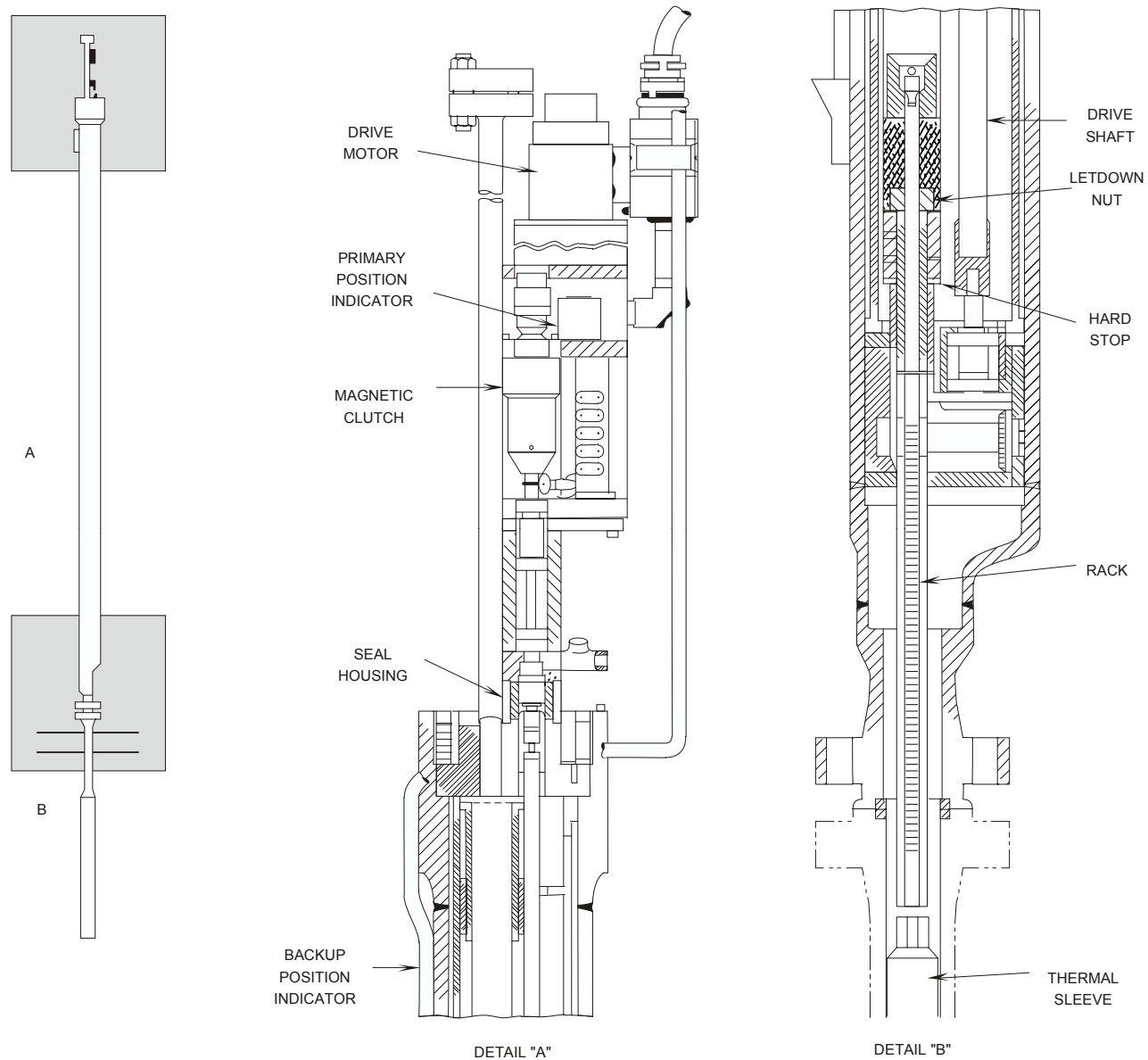


Figure 15-6 Control Rod Drive Mechanism

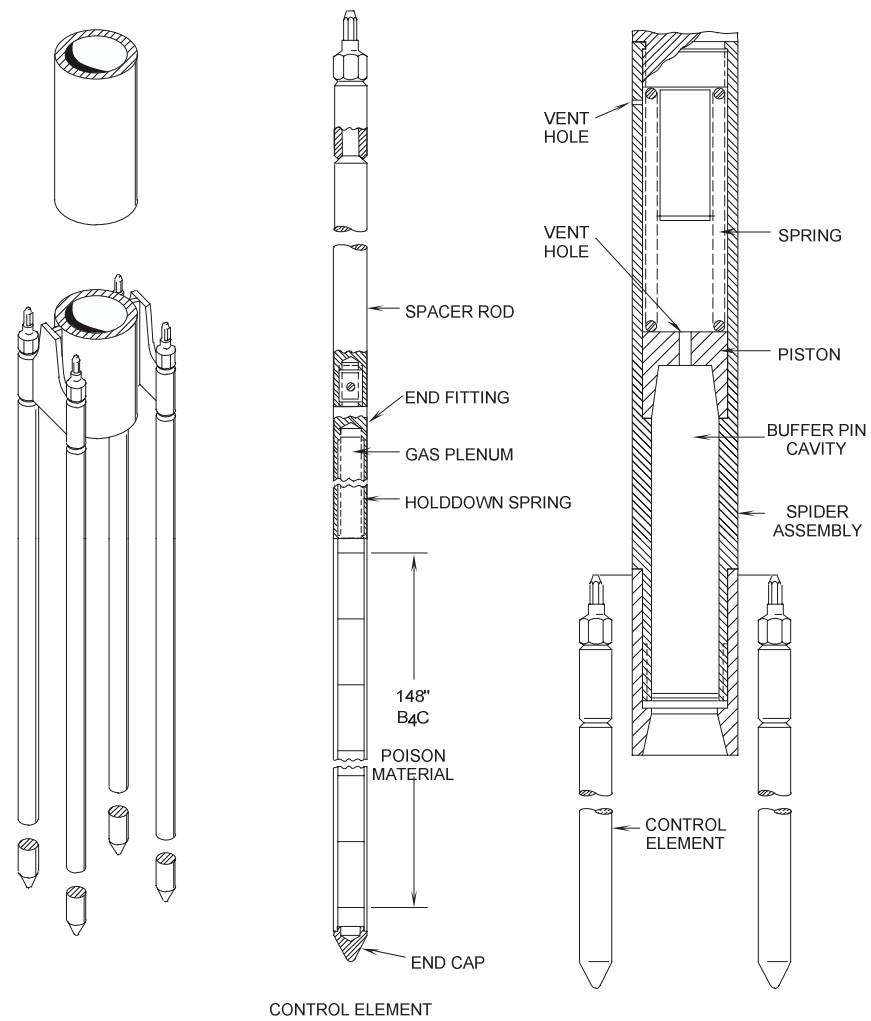


Figure 15-7 Four Element Control Element Assembly

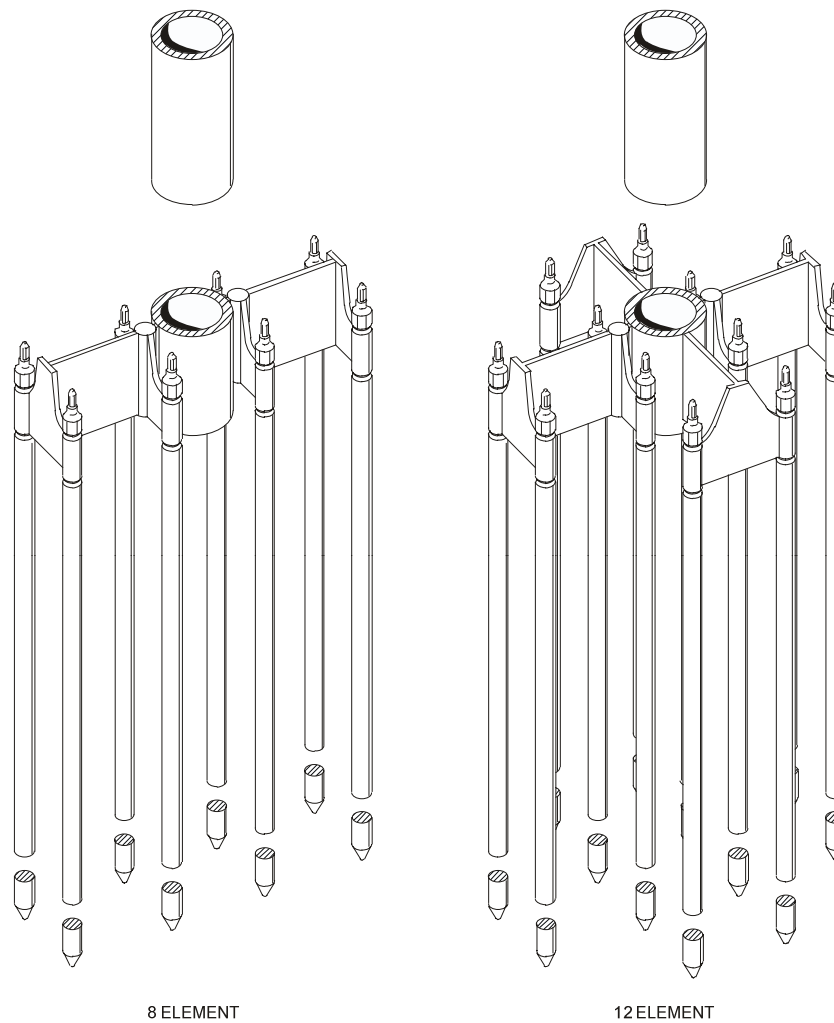


Figure 15-8 8 and 12 Element Control Element Assemblies

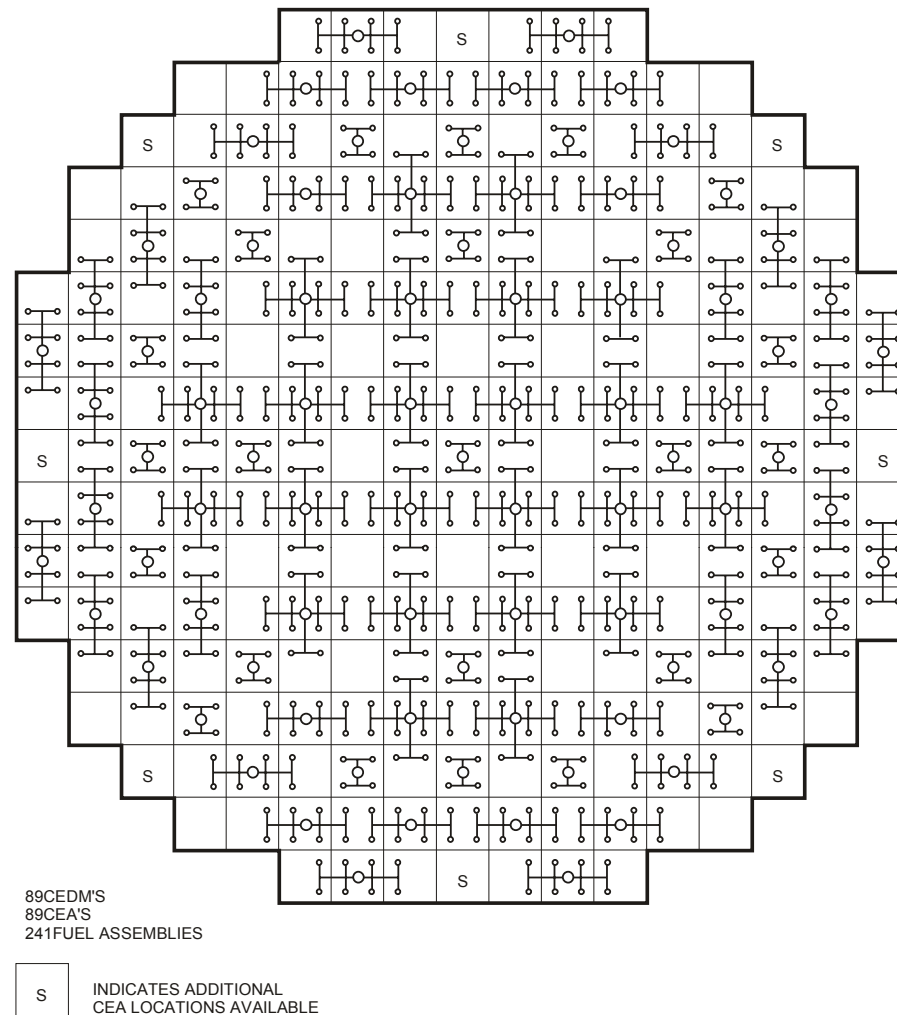


Figure 15-9 Control Element Pattern

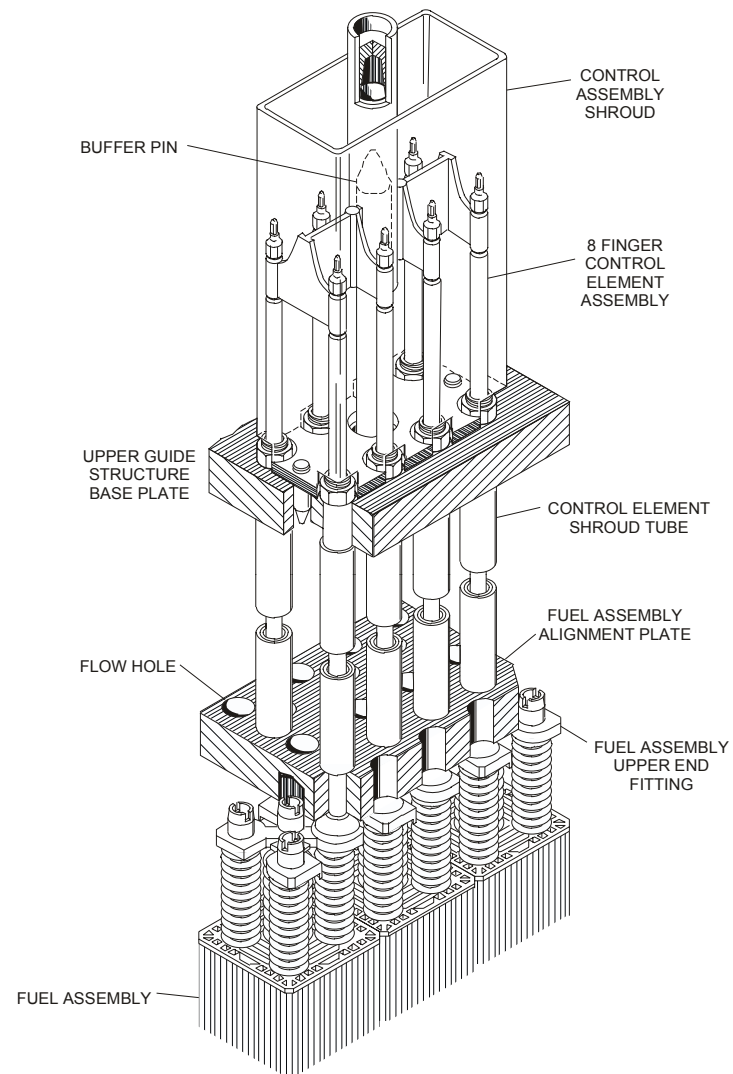
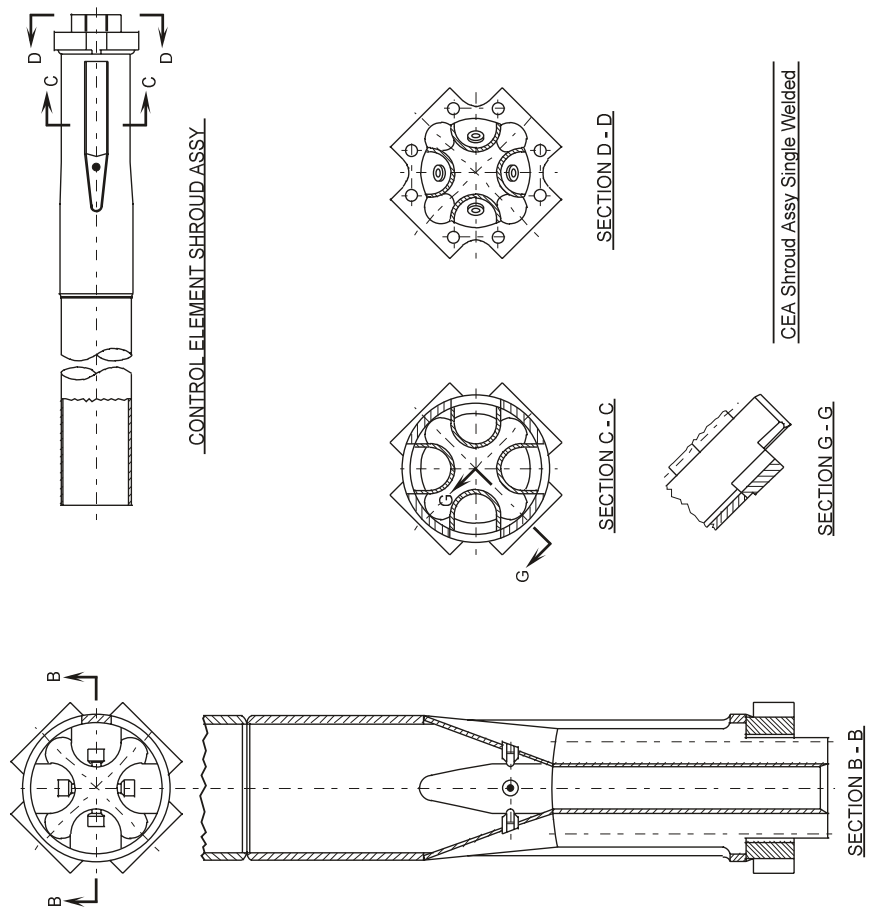


Figure 15-10 Fuel/Control Element/Upper Guide Structure Interface



CEA Shroud Assy Single Welded

Figure 15-11 CEA Shroud

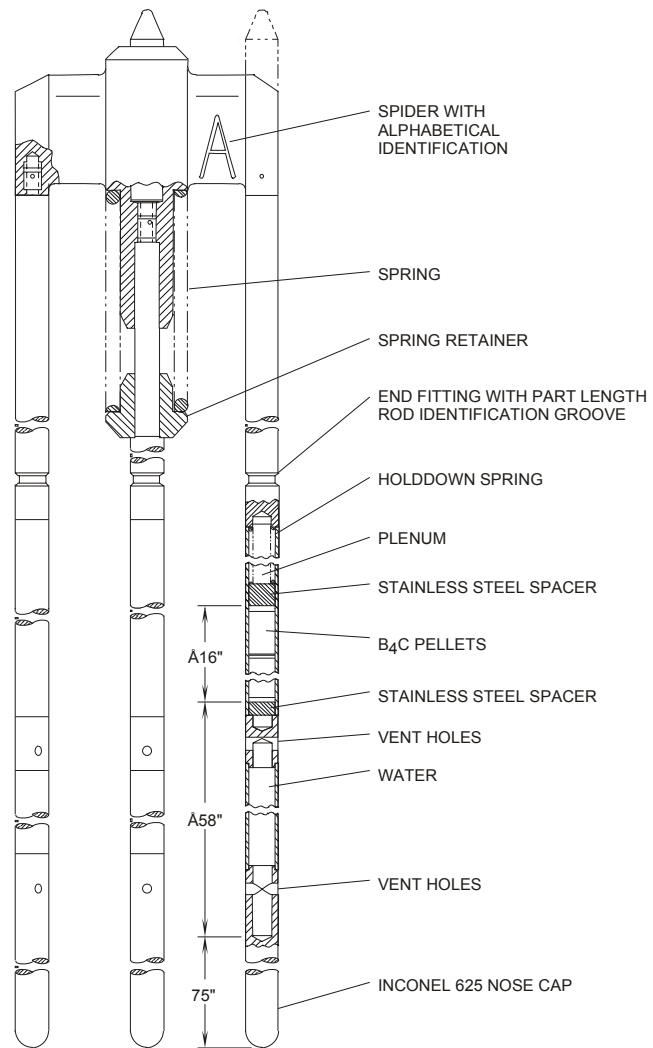


Figure 15-12 Part Length CEA

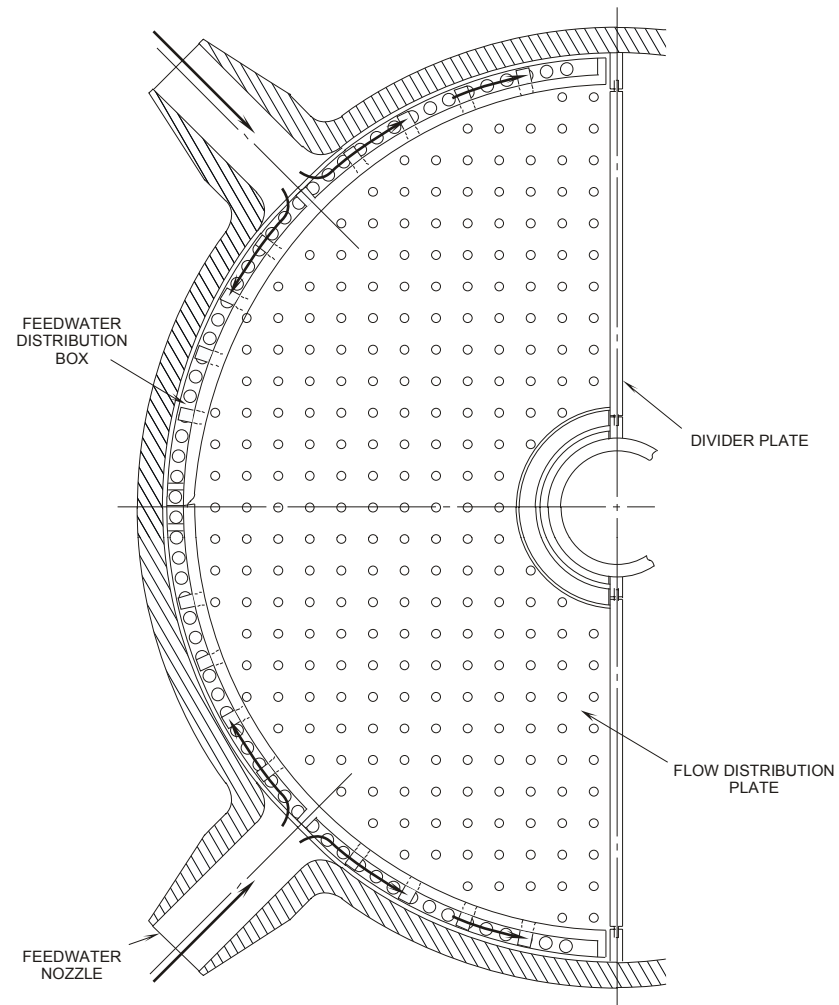


Figure 15-13 Economizer Plan View

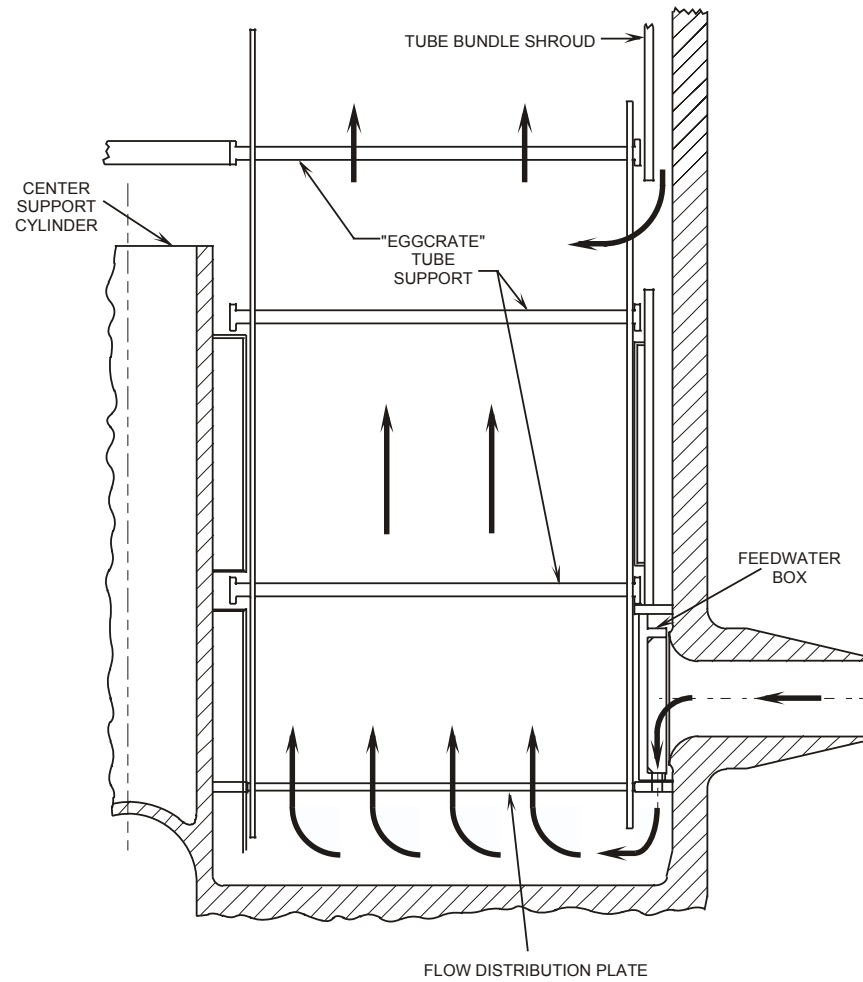


Figure 15-14 Economizer Elevation View

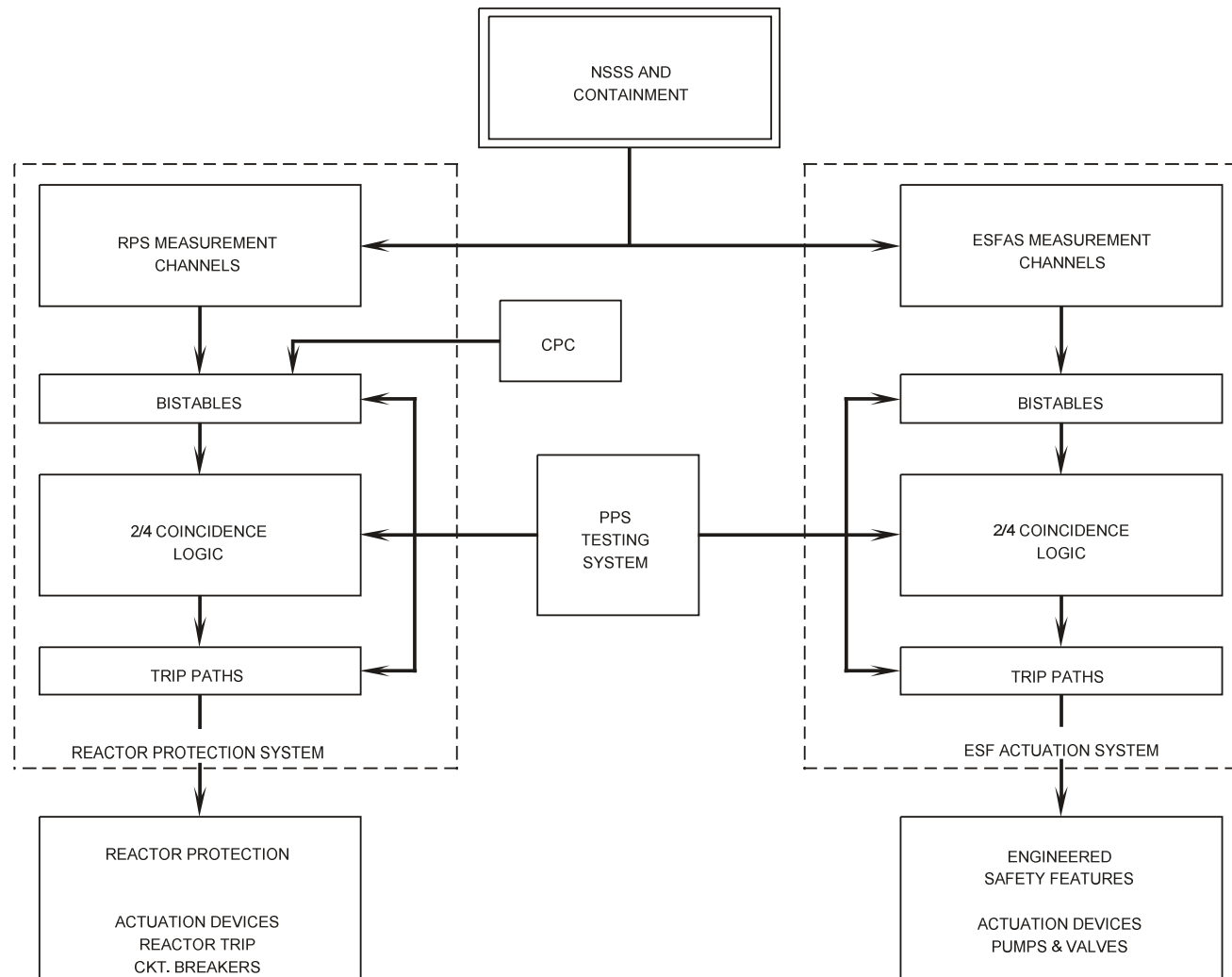


Figure 15-15 Plant Protection System Basic Block Diagram

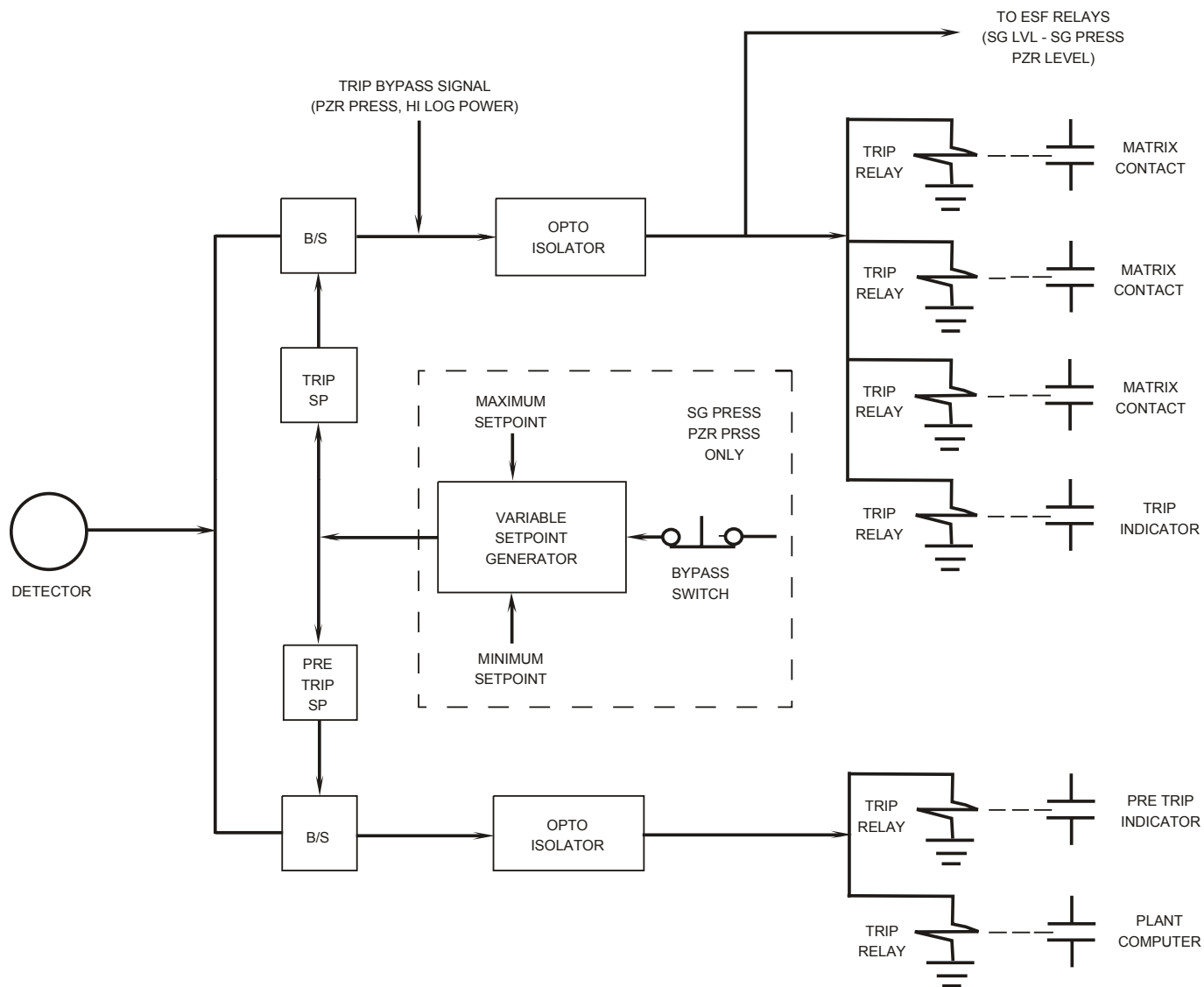


Figure 15-16 Analog Bistable Relay

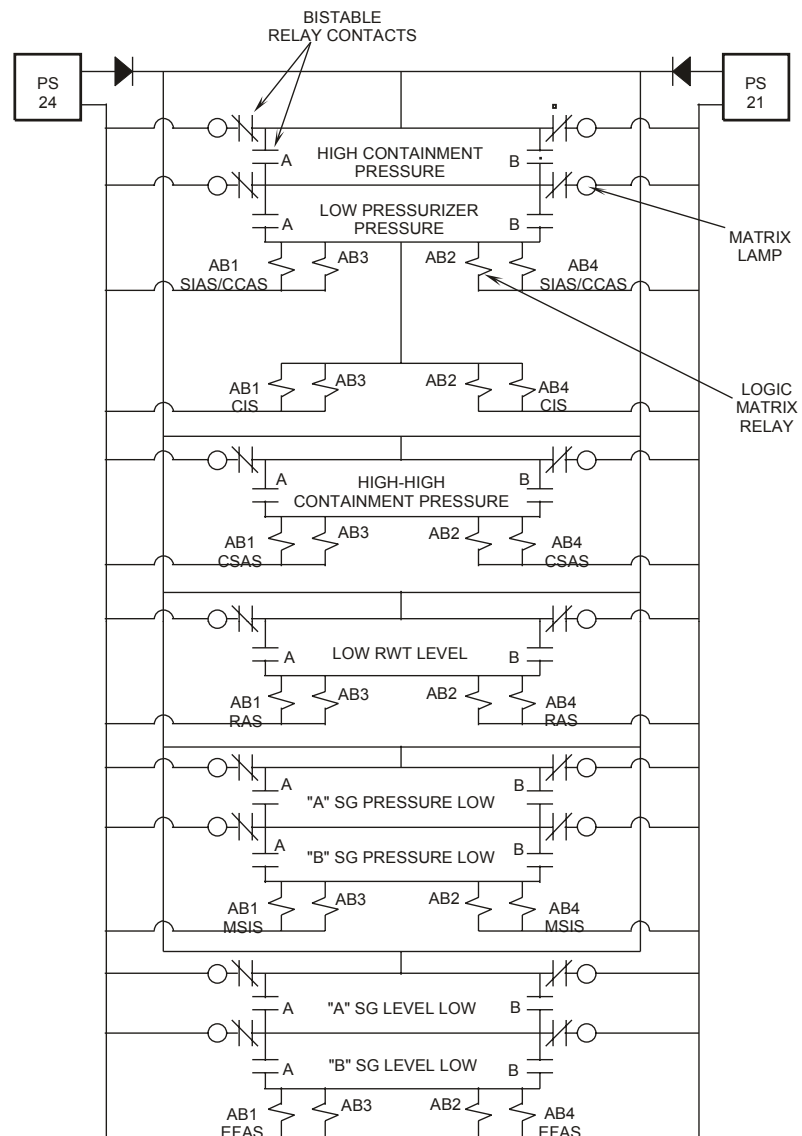


Figure 15-17 ESF Matrix

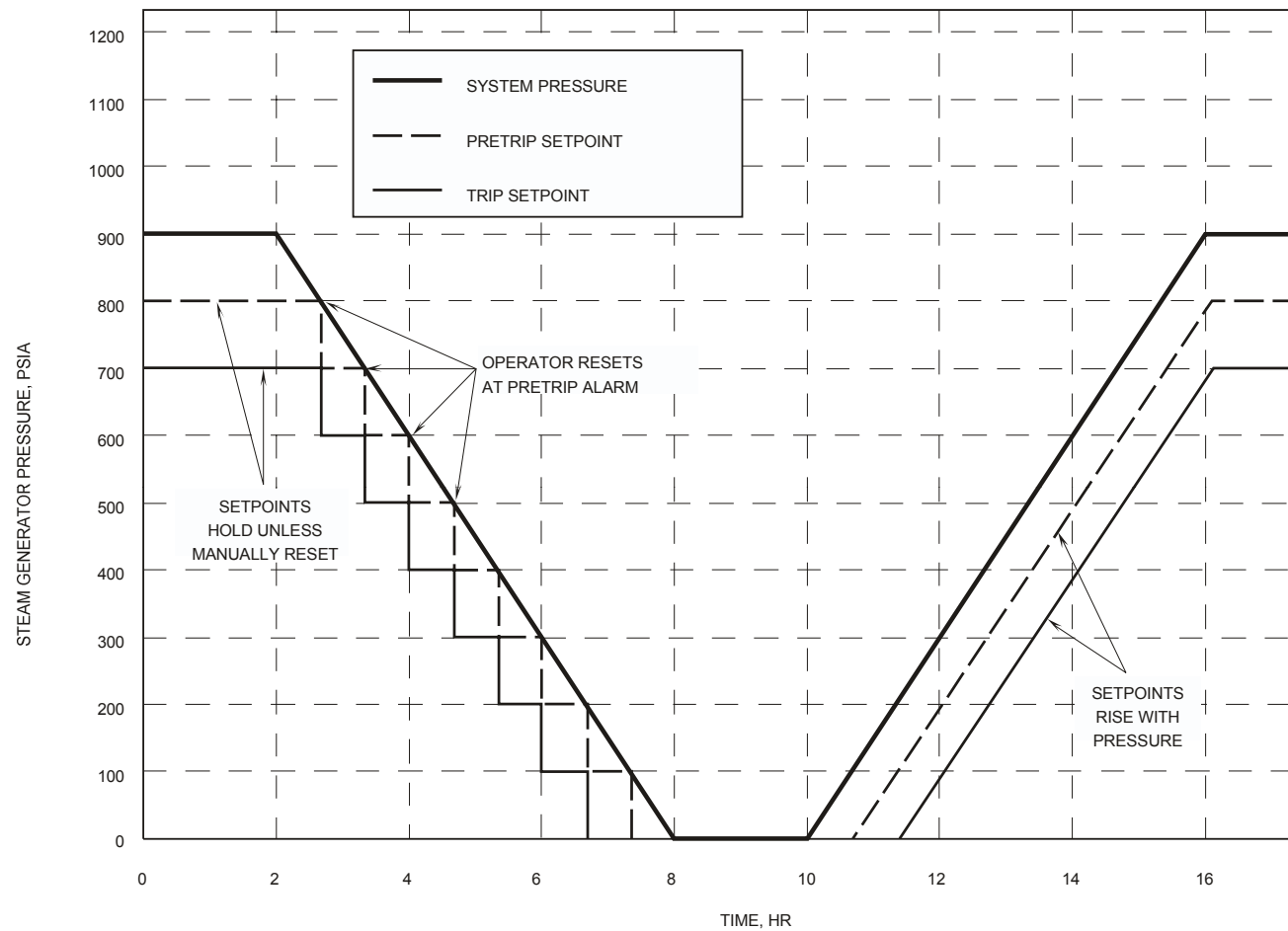


Figure 15-18 Steam Generator Variable Setpoint

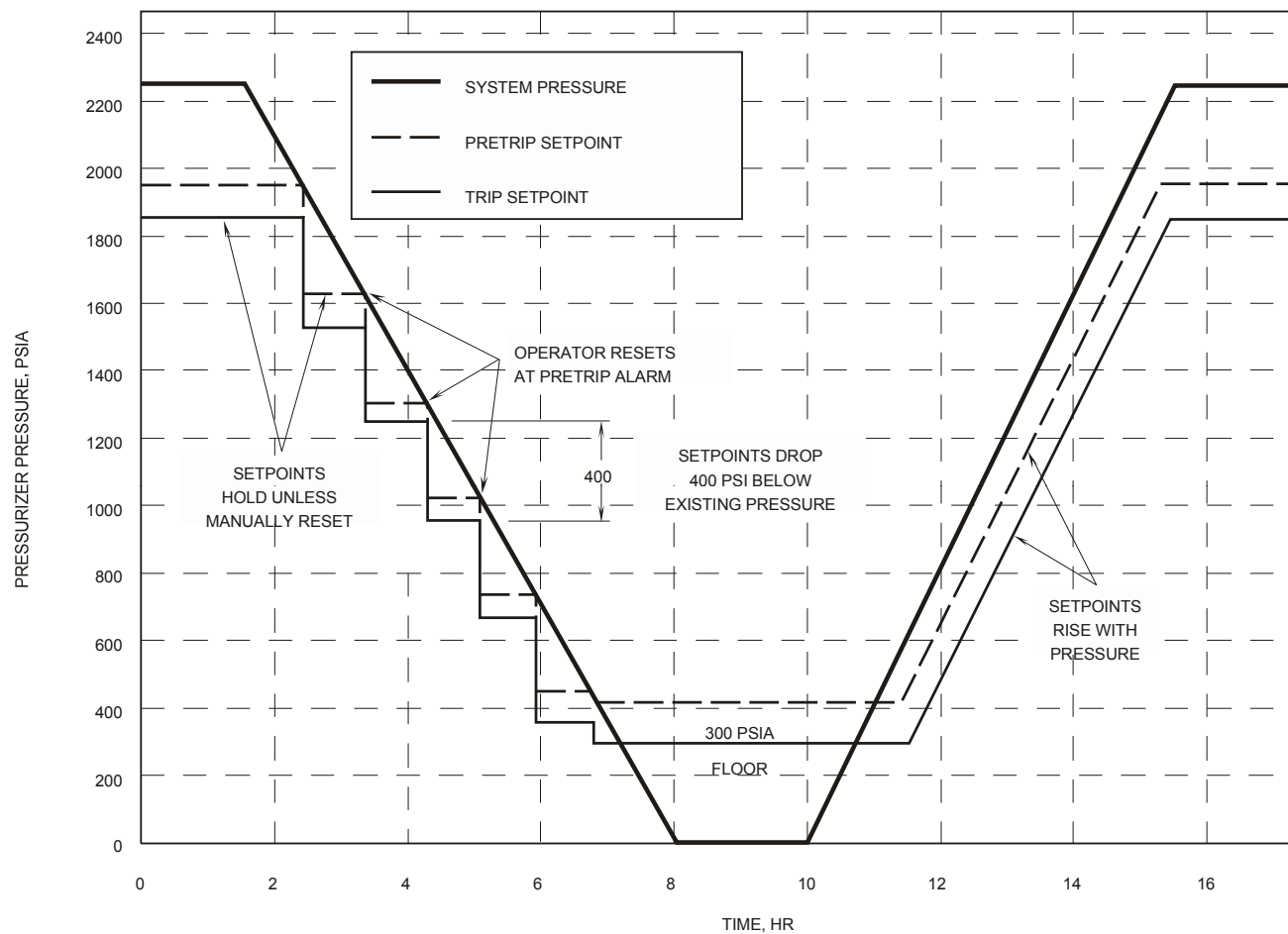


Figure 15-19 Pressurizer Pressure Variable Setpoint

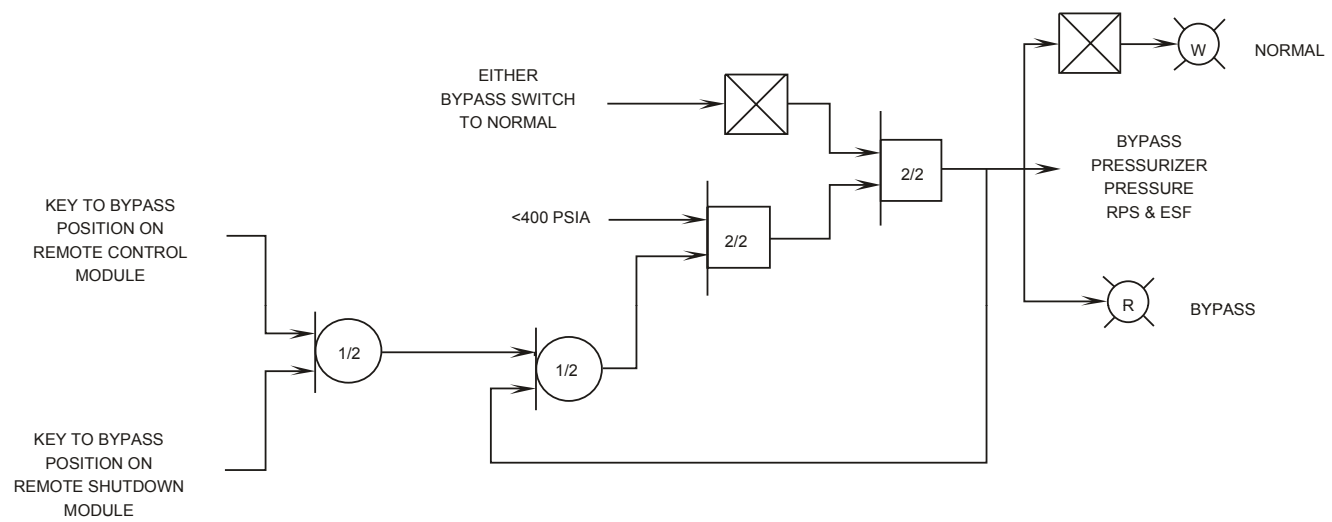


Figure 15-20 Pressurizer Pressure Bypass Logic

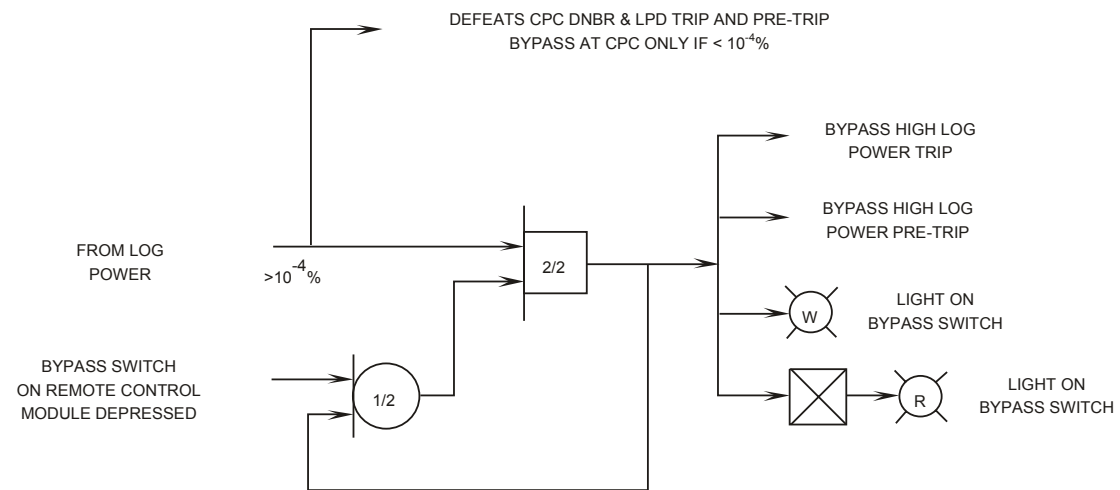


Figure 15-21 High Logarithmic Power Bypass Logic

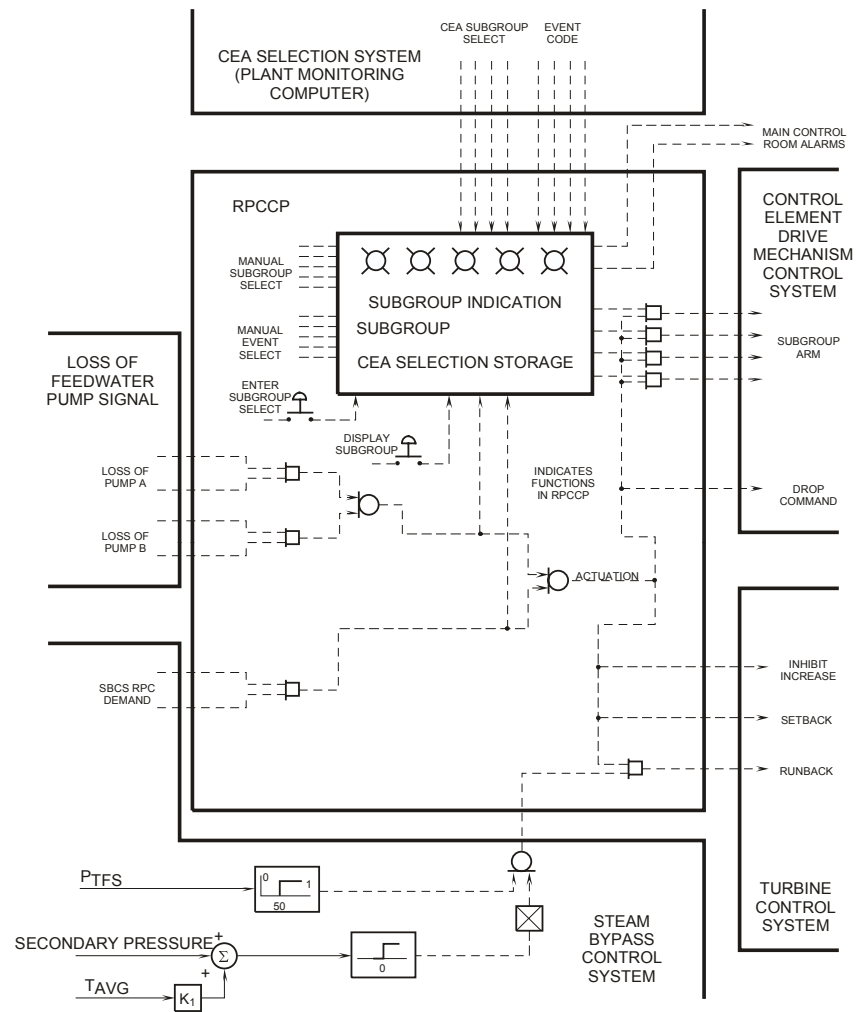


Figure 15-22 RPCS Functional Diagram

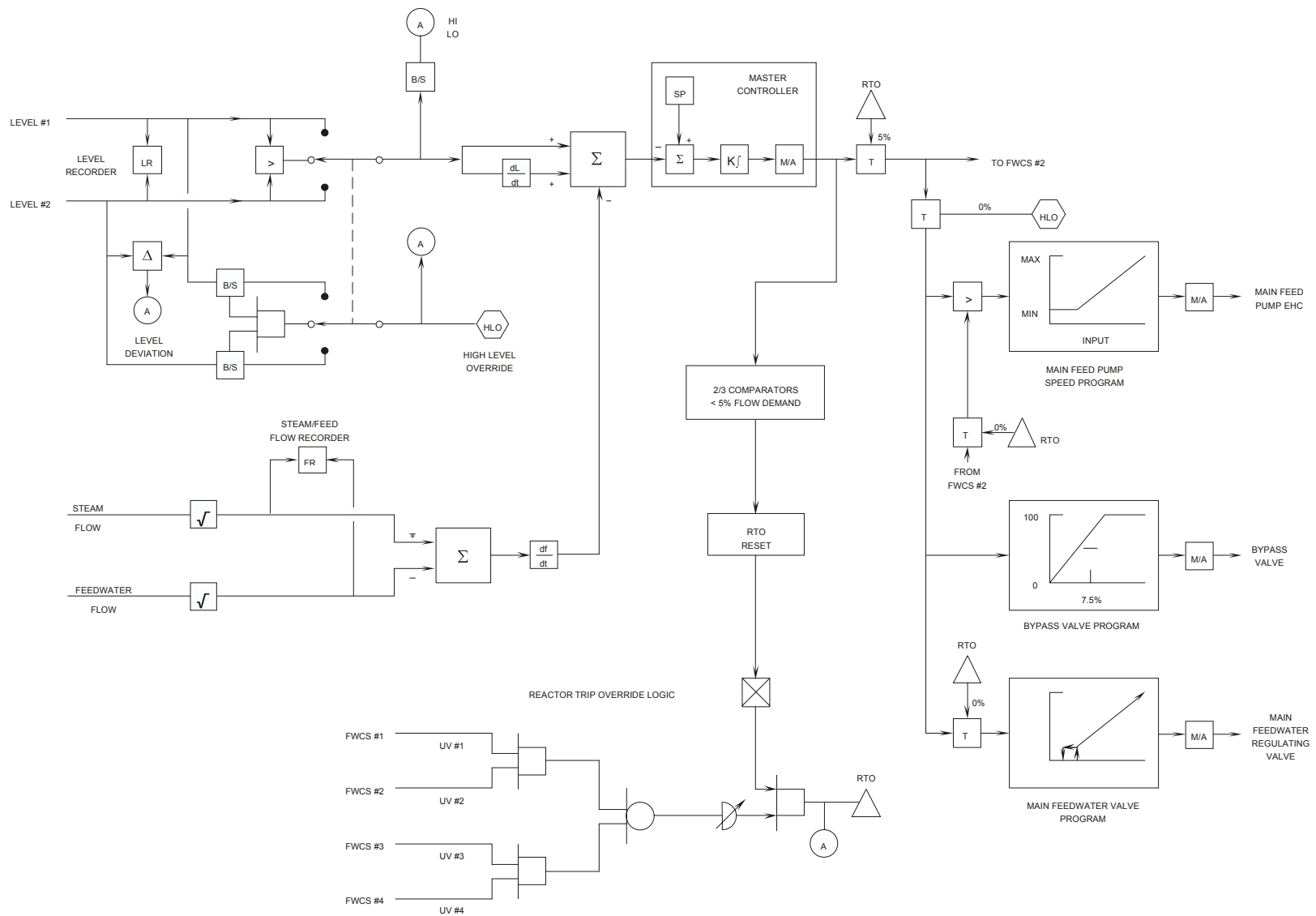


Figure 15-23 Feedwater Control System



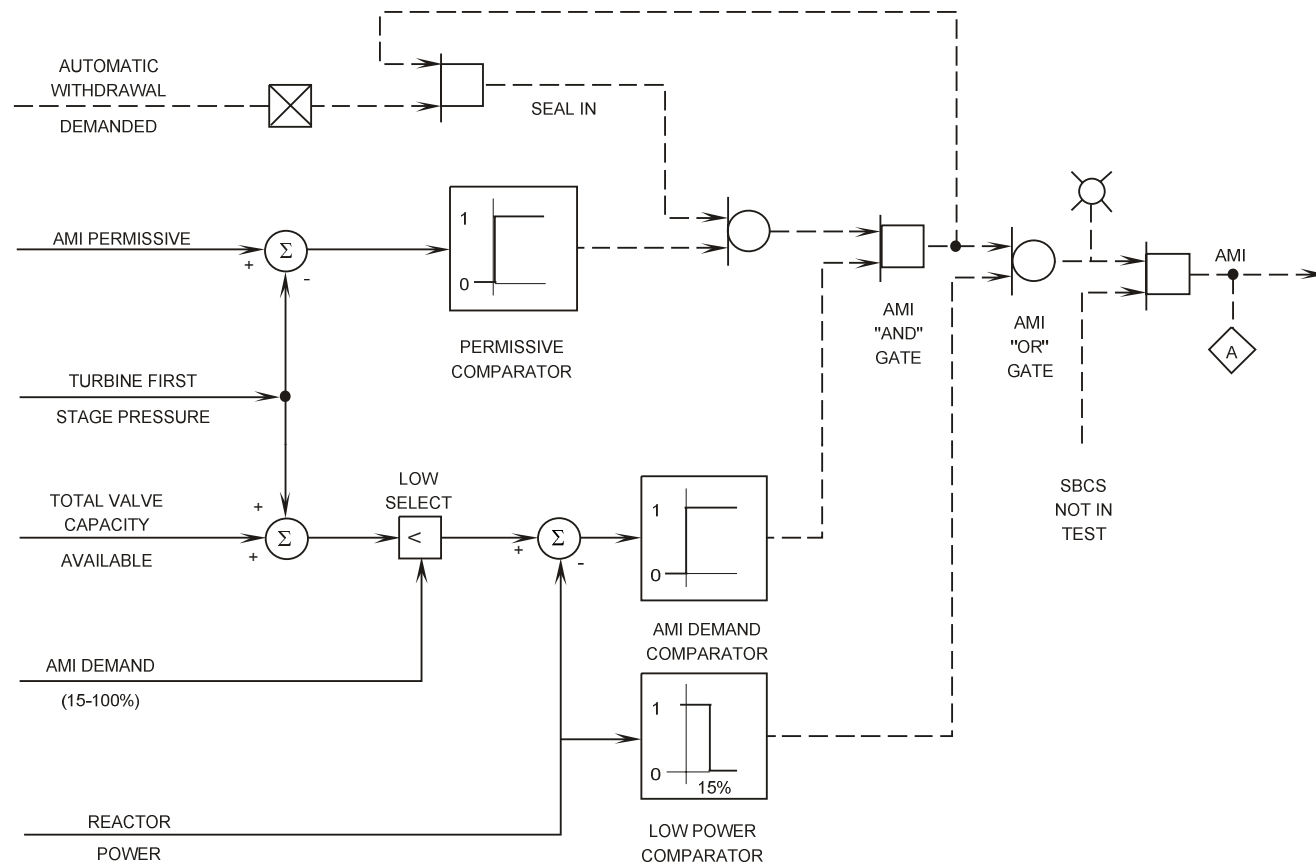


Figure 15-25 Automatic Motion Inhibit

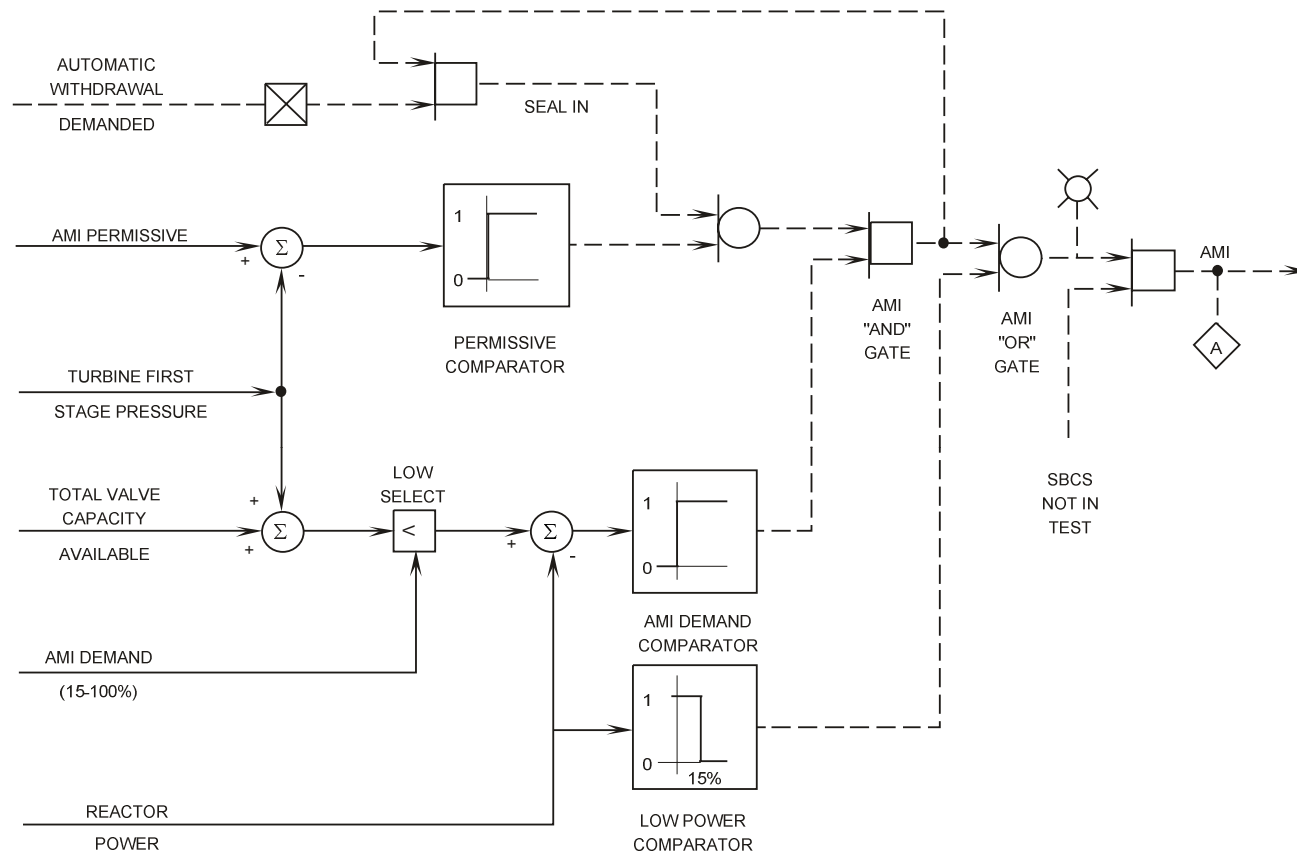


Figure 15-25 Automatic Motion Inhibit

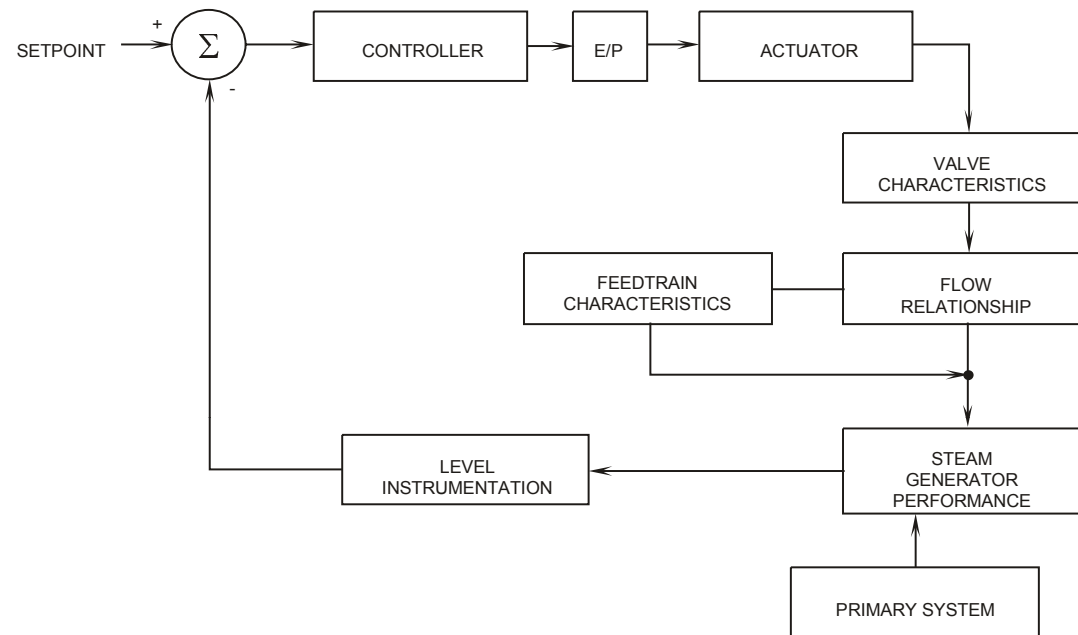


Figure 15-26 Feedwater Flow and Steam Generator Level Loop Block Diagram

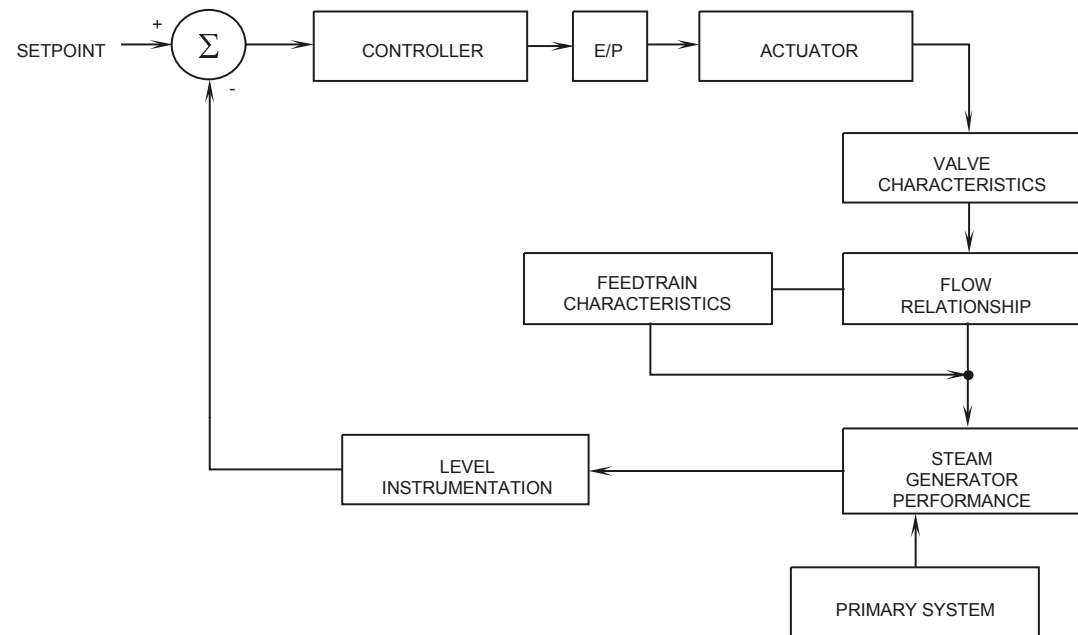


Figure 15-26 Feedwater Flow and Steam Generator Level Loop Block Diagram

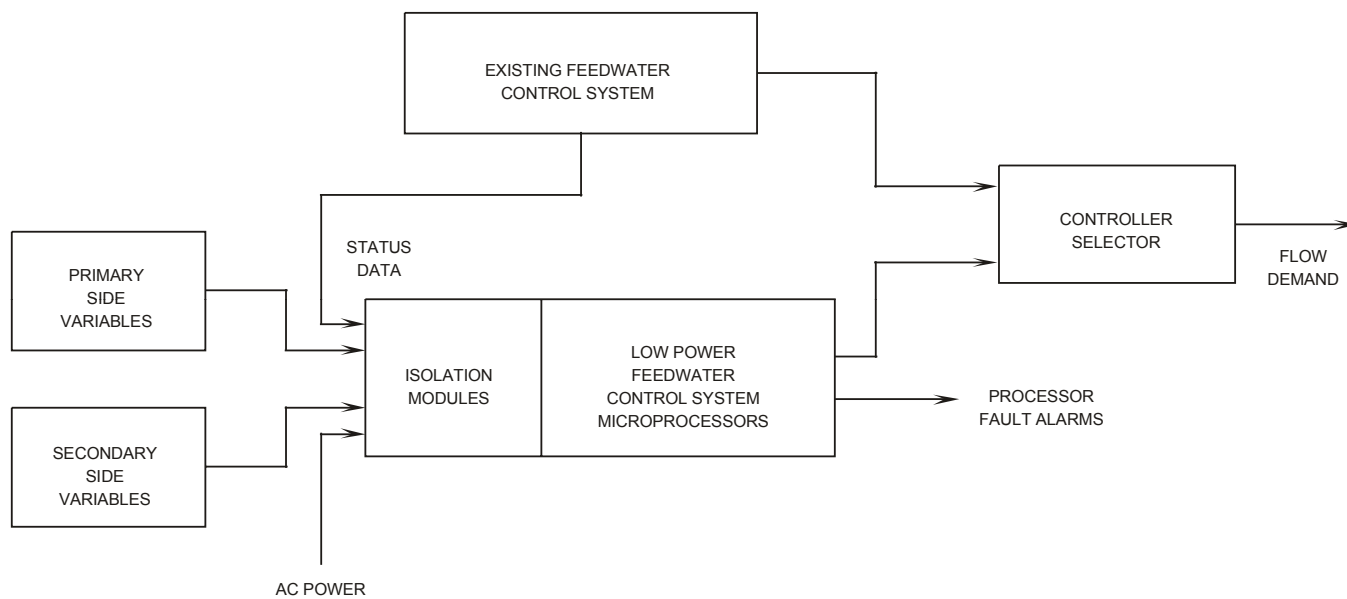


Figure 15-27 Low Power Feedwater Control System Block Diagram

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