

SCDS Safety I&C Non-Safety I&C SDM 🛮 PS/SAS **FUNCTIONAL UNIT** (APU, ALU, CU) Input Module MSI Communication Fiber Optic Module Communi-Communi-(SICS) Fiber Optic Function Function cation cation Processor Processor Module Module Communication EOC EOC Gateway ·► PICS Module Output Module **PACS** Communi-Fiber Optic Priority cation Interface Module Module **LEGEND NOTES** The interface from the Service Unit to the safety SYSTEM BOUNDARY I&C systems is not shown POINT TO POINT DATA CONNECTION on this figure. The Service Unit interface is shown in the Digital Protection System Technical Report (ANP-10309P) (Reference 6). NON-SAFETY RELATED EQUIPMENT QUALIFIED ISOLATION DEVICE REV 003 EPR3095 T2

Figure 7.1-20—Implementation of Independence Between Safety and Non-Safety I&C



Figure 7.1-21—Deleted



Figure 7.1-22—Distributed Control System Physical Architecture

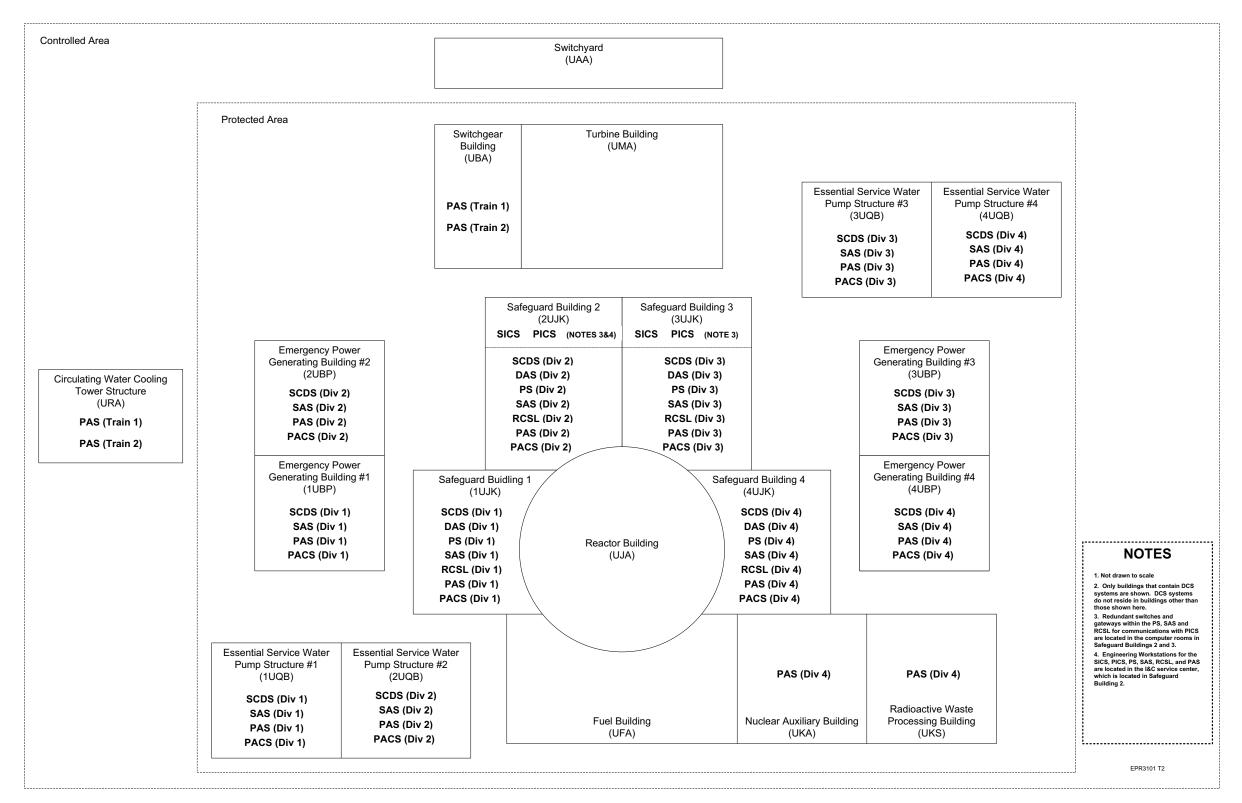


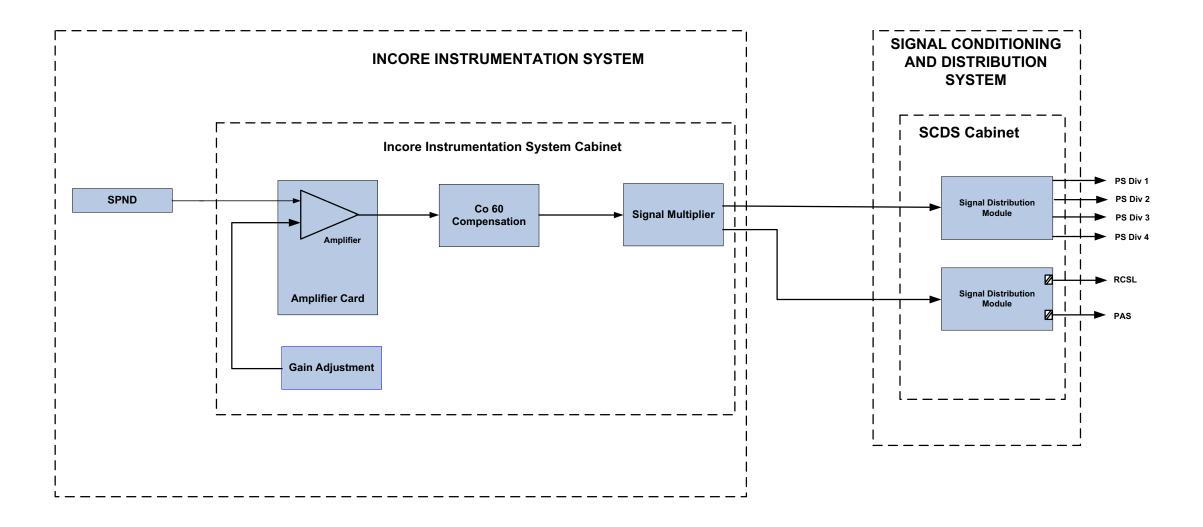


Figure 7.1-23—Signal Conditioning and Distribution System Architecture

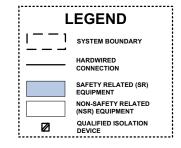
## SIGNAL CONDITIONING AND DISTRIBUTION SYSTEM SICS DAS PS SAS RCSL PAS | SCDS | DIVISION DIVISION | DIVISION 3 DIVISION 4 11 $\Box$ 11 $\Box$ 11 $\Box$ $\Box$ $\Pi$ -11 $\Box\Box$ Signal Distribution Signal Distribution Signal Distribution Signal Distribution Signal Distribution Module(s) Signal Distribution Module(s) Signal Distribution Module(s) Signal Distribution Module(s) Module(s) Module(s) $\Box$ $| \cdot |$ $\Box$ 11 $\Box$ $\Box$ $\prod$ 11 $\Box$ 11 -11 $\Box$ **Signal Conditioning Signal Conditioning Signal Conditioning Signal Conditioning** Signal Conditioning Signal Conditioning Signal Conditioning Signal Conditioning $\Pi$ Module(s) Module(s) Module(s) Modules(s) Module(s) $\Box$ $\Pi$ $\Pi$ $\Pi$ SENSORS/ SENSORS/ SENSORS/ SENSORS/ SENSORS/ SENSORS/ SENSORS/ SENSORS/ **BLACK BOXES BLACK BOXES LEGEND NOTES** SYSTEM BOUNDARY 1. MULTIPLE SIGNAL CONDITIONING MODULES OR SIGNAL DISTRIBUTION MODULES MAY BE USED SAFETY RELATED (SR) EQUIPMENT AS NEEDED. NON-SAFETY RELATED (NSR) EQUIPMENT 2. FOR DISTRIBUTION OF SPND SIGNALS, EACH QUALIFIED ISOLATION DEVICE **DIVISION OF SCDS SENDS** 18 SPND SIGNALS TO ALL FOUR PS DIVISION. EPR3102 T2



Figure 7.1-24—Self Powered Neutron Detector Functional Arrangement



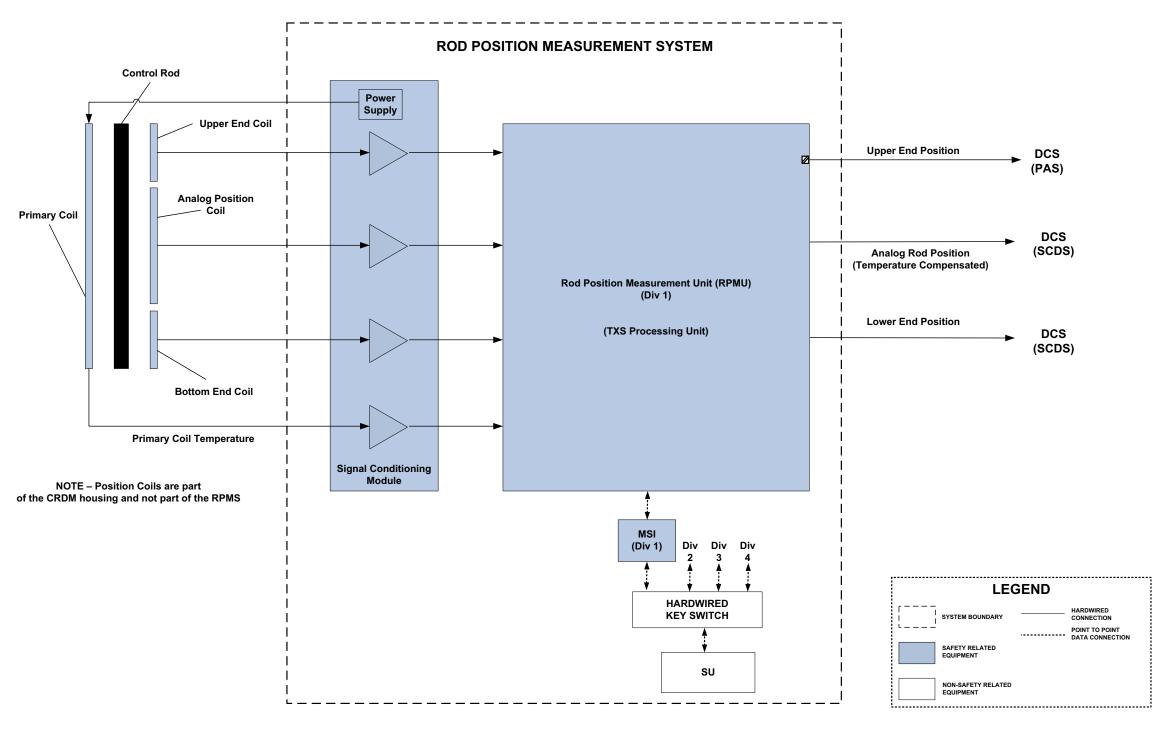
## SIMPLIFIED SIGNAL PATH



EPR3103 T2



Figure 7.1-25—Rod Position Measurement System Arrangement



EPR3104 T2



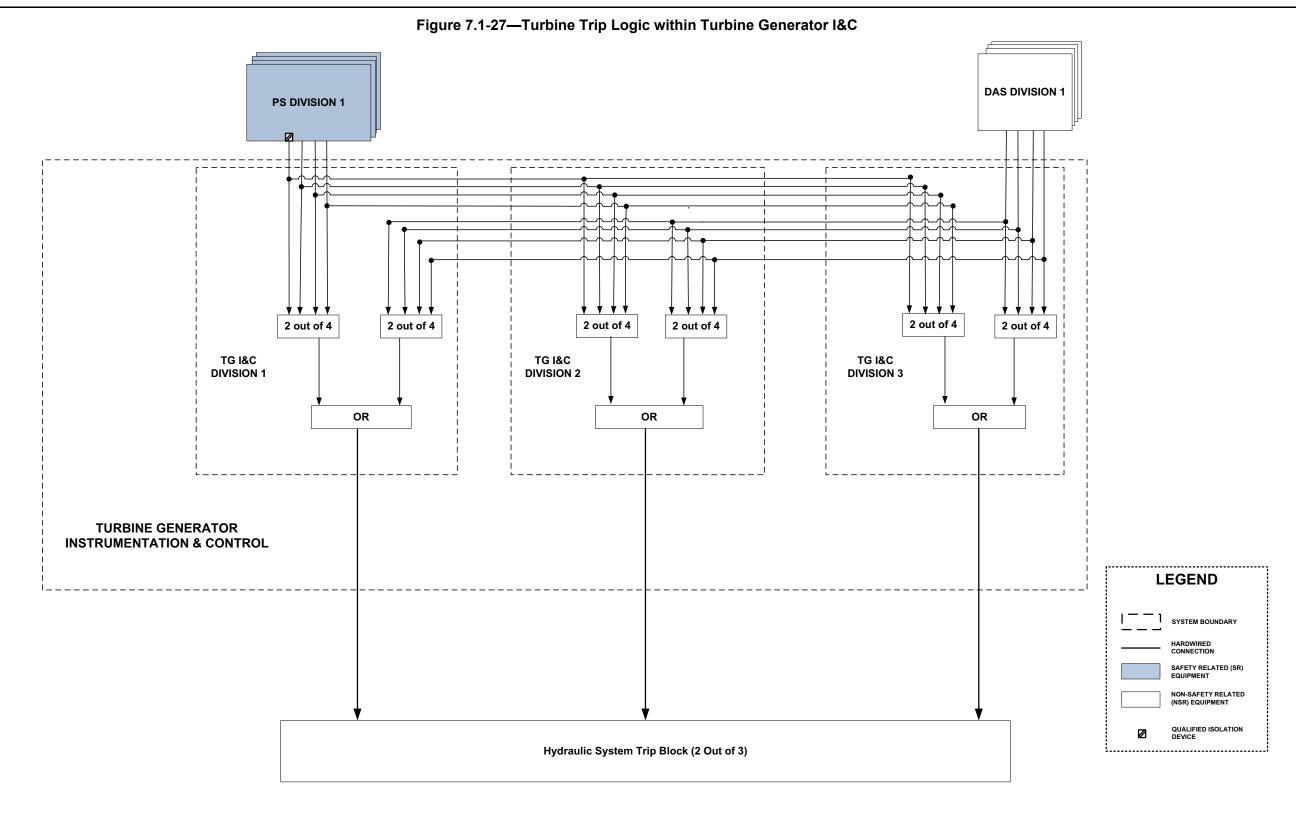
Control Rod Drive Control System Coil Module **CRDCS Cabinet** Lift Coil (Control Transistors) RCSL -Movable DAS RCCA 1 Gripper Coil (Control Transistors) Coil Module (Control Gripper Coil Coil Module (Control Lift Coil RCSL < Movable Rod Control Coil Module RCCA 2 DAS -(Control Coil Module Stationary Gripper Coil Coil Module (Control Transistors) Lift Coil RCSL -Coil Module RCCA 3 DAS Gripper Coil (Control Transistors) Coil Module (Control Stationary Gripper Coil Coil Module (Control Lift Coil Movable RCCA 4 DAS Gripper Coil Coil Module (Control Transistors) Stationary Gripper Coil 24 VDC Power Supply Module 24 VDC Power Supply Module Main Trip **Breakers** DAS

Figure 7.1-26—Control Rod Drive Control System Arrangement

EPR3106 T2

250 VDC





EPR3428 T2