

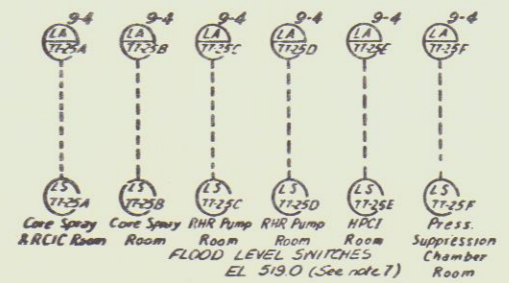
NOTES:

- NORMALLY EACH SUMP IS EQUIPPED WITH A FLOAT WELL IN WHICH LEVEL SWITCHES ARE INSTALLED TO AUTOMATICALLY INITIATE ACTIONS AT SEVERAL SUMP LEVELS AS FOLLOWS:
 - HIGH LEVEL-START PUMP SELECTED BY AUTOMATIC PUMP SELECTOR SWITCH.
 - HIGH-HIGH LEVEL-START SECOND PUMP AND ENERGIZE HIGH-HIGH LEVEL ANNUNCIATOR CIRCUIT.
 - LOW LEVEL-STOP PUMP(S).
 - A FOURTH CONTACT IS INCLUDED TO OPEN A DEMINERALIZED WATER INLET VALVE AT LOW-LOW SUMP LEVEL TO MAINTAIN A MINIMUM SUMP WATER LEVEL ON THE FOLLOWING SUMPS ONLY:
 - STACK SUMP
 - STANDBY GAS-TREATMENT BUILDING
 - OFF-GAS CONDENSATE COLLECTOR SUMP IN THE RADWASTE BUILDING
 THE DRAIN LINE FROM THE OFF-GAS SYSTEM DEHUMIDIFICATION COIL TO THE TURBINE BUILDING CONDENSATE PUMP PIT EQUIPMENT DRAIN SUMP FORMS A LOOP SEAL IN WHICH A LEVEL SWITCH IS LOCATED TO OPEN A SOLENOID VALVE AND ADMIT CONDENSATE TO THE OFF-GAS LOOP SEAL PIPE AT A LOW LOOP SEAL LEVEL.
- THE DRYWELL FLOOR AND EQUIPMENT DRAIN SUMPS, THE REACTOR BUILDING EQUIPMENT DRAIN SUMP IS EQUIPPED WITH TWO FLOAT WELLS AND TWO LEVEL SWITCHES. THE TWO LEVEL SWITCHES ARE INTERCONNECTED TO ACHIEVE REDUNDANCY FOR PUMP CONTROL TO PREVENT SUMP OVERFLOW IF A PUMP FAILS TO START DUE TO A SINGLE LEVEL SWITCH MALFUNCTION.
- THE CONDENSATE PIPING TUNNEL SUMP AND THE REACTOR BUILDING EQUIPMENT ACCESS SUMP USE ONLY A SINGLE FLOAT SWITCH WHICH IS PART OF THE SUBMERSIBLE PUMP.
- THE DRYWELL EQUIPMENT DRAIN SUMP AND THE REACTOR BUILDING EQUIPMENT DRAIN SUMP FOR EACH UNIT ARE PROVIDED WITH AUTOMATIC TEMPERATURE CONTROLLED RECIRCULATION SYSTEMS WHICH ROUTE SUMP WATER THROUGH HEAT EXCHANGERS TO PREVENT HIGH-TEMPERATURE SUMP EFFLUENTS FROM BEING PUMPED INTO THE RADWASTE SYSTEM.
- THE EFFLUENT FROM ALL FLOOR DRAIN SUMPS IS PUMPED INTO THE FLOOR DRAIN COLLECTOR TANK IN THE RADWASTE SYSTEM. THE EFFLUENT FROM ALL EQUIPMENT DRAIN SUMPS IS PUMPED INTO THE WASTE-COLLECTOR TANK IN THE RADWASTE BUILDING (SEE 47W610-77-2).
- ALL RADWASTE ALARMS ARE REPEATED IN THE MAIN CONTROL ROOM ON ONE DROP "RADWASTE SYSTEM ABNORMAL" ON PANEL 9-4A-77-302.
- THE SIX LEVEL SWITCHES LS-77-25A THROUGH LS-77-25F ARE SET TO SOUND AN ALARM IN THE CONTROL ROOM WHEN THE WATER LEVEL IN THE RESPECTIVE ROOMS REACHES "2" ABOVE THE FLOOR LEVEL.
- ALL VALVE STYLES WILL BE CHANGED AS REQUIRED, WHEN PURCHASE SPECIFICATIONS ARE APPROVED.
- FOR PANEL LOCATIONS OF PILOT LIGHTS, SEE THE PANEL NUMBER FOR THE ASSOCIATED HAND SWITCH.
- ALL AIR AND SOLENOID OPERATED PROCESS VALVES ARE SHOWN IN FAILED OR SHUT CONDITION.
- SEE 47W610-151, DETAIL DIST FOR MTG

REFERENCE DRAWINGS:

- GE DRAWINGS:**
- 728E903 - RADWASTE SYSTEM P&ID
 - 720E769 - FUNCTIONAL CONTROL DIAGRAM
 - 730E807 - PROCESS DIAGRAM
- CROLL-REYNOLDS ENGRG CO.:**
- D-69784 - RADWASTE FILTRATION SYSTEM
- IVA DRAWINGS:**
- 47W601-77-1 THRU -18 - RADWASTE INSTRUMENT TOLERANCES
 - 47W610-77-2 THRU -11 - RADWASTE CONTROL DIAGRAMS
 - 47W611-77-1 THRU -9 - RADWASTE LOGIC DIAGRAMS
 - 47W630-1 THRU -6 - RADWASTE FLOW DIAGRAMS
 - 47W651-1 THRU -3 - FLOW DIAGRAM DRAINAGE
 - 47W652-1 THRU -3 - FLOW DIAGRAM REACTOR BLDG DRAINAGE

TI APERTURE CARD



POWERHOUSE UNITS 1-3			
MECHANICAL CONTROL DIAGRAM RADWASTE SYSTEM			
BROWNS FERRY NUCLEAR PLANT TENNESSEE VALLEY AUTHORITY DIVISION OF ENGINEERING DESIGN			
SUBMITTED	RECOMMENDED	APPROVED	
J.C. Grant	M.W. [Signature]	[Signature]	
KNOXVILLE	4-10-69	67 M 4	47W610-77-19

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