



SOUTH CAROLINA ELECTRIC & GAS CO.  
 VIRGIL C. SUMNER NUCLEAR STATION UNIT No. 1

APPROVED  
 APPROVED AS NOTED  
 RETURNED FOR CORRECTION

CHECKING IS ONLY FOR GENERAL DESIGN AND GENERAL DIMENSIONS SET FORTH IN CONTRACT DOCUMENTS AND DOES NOT RELIEVE CONTRACTOR FROM HIS OBLIGATION AS TO DETAIL WORKMANSHIP AND GUARANTEES.

GILBERT ASSOCIATES, INC.

B/M ITEM No. RKA DATE 4/4/85

- NOTES:
1. TWO MOMENTARY CONTROLS: OPERATING EITHER CONTROL WILL ACTUATE.
  2. TWO MOMENTARY CONTROLS: ACTUATION IS EFFECTED ONLY IF BOTH CONTROLS ARE OPERATED SIMULTANEOUSLY.
  3. ONE MOMENTARY CONTROL PER LOOP ON THE CONTROL BOARD (A TRAIN ONLY) AND ONE MOMENTARY CONTROL FOR ALL THREE LOOPS (B TRAIN ONLY).
  4. CONTAINMENT PRESSURE BISTABLES FOR SPRAY ACTUATION ARE ENERGIZE-TO-ACTUATE (OTHER BISTABLES ARE DE-ENERGIZE-TO-ACTUATE).
  5. ENCLOSED CIRCUITRY IS NOT PART OF THE SAFEGUARDS SYSTEM AND IS NOT REDUNDANT.
  6. COMPONENTS ARE ALL INDIVIDUALLY SEALED (LATCHED), SO THAT LOSS OF THE ACTUATION SIGNAL WILL NOT CAUSE THESE COMPONENTS TO RETURN TO THE CONDITION HELD PRIOR TO THE ADVENT OF THE ACTUATION SIGNAL.

7. FEEDWATER ISOLATION INCLUDES THE TRIPPING OF ALL MAIN FEEDWATER PUMPS
8. SERVICE WATER SYSTEM ISOLATION IS USED ONLY IF REQUIRED.
9. THE REDUNDANT MANUAL RESET CONSISTS OF TWO MOMENTARY CONTROLS ON THE CONTROL BOARD, ONE FOR EACH TRAIN.
10. SUPPLIED BY OTHERS
11. NUCLEAR STEAM SUPPLY SYSTEM SEQUENCE REQUIREMENTS SPECIFIED BY W.
12. ALSO CLOSES THE BYPASS VALVE IN PARALLEL WITH THE ASSOCIATED STEAM LINE STOP VALVE.
13. LIGHTS SHOULD BE PROVIDED IN THE CONTROL ROOM FOR EACH STEAMLINE STOP VALVE TO INDICATE WHEN THE VALVE IS FULLY CLOSED OR FULLY OPEN.
14. THE ACTUATION MAY BE DELAYED AND SEQUENCED IF THE EMERGENCY DIESEL POWER CAPABILITY IS LESS THAN THE TOTAL LOAD WITH ALL SYSTEMS STARTING, THE TIME DELAY(S), IF USED, MAY NOT EXCEED THE MAXIMUM STARTING TIME REQUIREMENTS FOR EACH SYSTEM.

15. SOME ENGINEERED SAFEGUARDS FUNCTIONS ARE NOT WITHIN THE FUNCTIONAL DESIGN SCOPE OF W NUCLEAR ENERGY SYSTEMS BUT ONLY SHOWN ON THIS SHEET AS THE FUNCTIONS ARE BUILT IN THE W SUPPLIED EQUIPMENT.
16. THE 2 OUT OF 4 COINCIDENCE, MEMORY AND/OR LOGIC ARE DUPLICATED WITHIN EACH TRAIN. EACH OF THESE TWO CIRCUITS IN A TRAIN IS CONNECTED TO AN INDIVIDUAL OUTPUT RELAY, TO MINIMIZE FALSE CONTAINMENT SPRAY. ONE OUTPUT SHOULD START THE PUMPS AND THE OTHER SHOULD OPEN THE SYSTEM VALVES.
17. ALSO OPENS SPRAY INJECTION VALVE AND N2O8 TANK OUTLET VALVE.

WESTINGHOUSE, INC.  
 DATE 4/4/85

RN 03-052  
 April 2004

FSAR Figure 7.2-1

FUNCTIONAL DIAGRAMS

SAFEGUARD ACTUATION SIGNALS

DESIGN ENGINEERING

DESIGNED BY	JTS	DATE	7/25/04
CHECKED BY	MGR	DATE	
APPROVED BY	JMW	DATE	

1MS-41-011 8 7