



- NOTES:
- FOR INSTRUMENTS WITH XX-30-XX NUMBERS REFERENCE CONTROL DIAGRAM 47610-30.
  - THE ESSENTIAL RAW COOLING WATER (ERCW) SYSTEM IS A SHARED FACILITY SERVING BOTH UNITS 1 AND 2. THE SYSTEM IS DESIGNED TO PROVIDE AN EMERGENCY OR CONTINUOUS SUPPLY OF COOLING WATER TO ESSENTIAL PLANT EQUIPMENT.
  - THE PRIMARY COMPONENTS OF THE SYSTEM ARE 8 ERCW PUMPS AND ASSOCIATED PIPING, STRAINERS, AND VALVES.
  - UNDER NORMAL OPERATING CIRCUMSTANCES COOLING WATER IS SUPPLIED IN THE OPEN CYCLE COOLING MODE TO THE VARIOUS COOLERS OR HEAT EXCHANGERS BY THE ERCW PUMPS.
  - ERCW IS SUPPLIED TO EACH UPPER AND LOWER CONTAINMENT AND CONTROL ROD DRIVE VENTILATION COOLER THROUGH A THROTTLING ACTION VALVE CONTROLLED BY A TEMPERATURE INDICATING CONTROLLER. MANUAL AND/OR AUTOMATIC OVERRIDE TO FULLY CLOSE THE CONTROL VALVE IS PROVIDED FOR BY MEANS OF A HAND SWITCH AND/OR LOGIC SIGNAL.
  - ERCW IS SUPPLIED TO EACH AIR CONDITIONER CONDENSING UNIT THROUGH A WATER REGULATING VALVE CONTROLLED BY COOLING COIL PRESSURE.
  - IN GENERAL, ERCW IS SUPPLIED TO EACH COOLER OR HEAT EXCHANGER (OTHER THAN THOSE COVERED IN NOTES 5 AND 6) THROUGH AN ON-OFF ACTION VALVE CONTROLLED BY A HAND SWITCH, TEMPERATURE SWITCH, MANUAL VALVE, LOGIC SIGNAL, OR A COMBINATION OF THESE.
  - A FLOW ELEMENT IS PROVIDED IN THE DISCHARGE LINE OF EACH COOLER OR HEAT EXCHANGER FOR USE DURING SYSTEM BALANCING. BALANCING IS ACCOMPLISHED BY SETTING THE DESIRED FLOW RATE THROUGH EACH PIECE OF EQUIPMENT BY MEANS OF A MANUAL THROTTLING VALVE IN THE DISCHARGE LINE.
  - FOR DETAILED SPECIFICATIONS OF THE ERCW SYSTEM, SEE DESIGN CRITERIA FOR ESSENTIAL RAW COOLING WATER SYSTEM, WB-DC-40-16.
  - INSTRUMENTS ASSOCIATED WITH BACKUP CONTROL AND MARKED WITH AN ASTERISK (\*) WILL BE LOCATED ON THE APPROPRIATE 480V MOTOR OPERATED VALVE OR 8.9KV SHUTDOWN BOARDS. OTHER INSTRUMENTS ASSOCIATED WITH BACKUP CONTROL WILL BE LOCATED IN THE AUXILIARY CONTROL ROOM ON PANELS INDICATED ON THE DIAGRAM.
  - HS-67-28B, 32B, 36B, & 40B ARE DISCONNECTED TO PREVENT SPURIOUS TIVA 47610-07-2, C-A & D-A IN CASE OF FIRE.
  - TRANSFER SWITCHES 1-XS-67-431, 440, 2-XS-67-437 AND 447 ARE LOCATED ON 480V C & A BUILDING VENT BOARDS 1A1-A, 1B1-B, 2A1-A AND 2B1-B RESPECTIVELY.
  - INPUT TO MICROBIOLOGICAL INDUCED CORROSION (MIC) REMOVAL SYSTEM SUPPLIED ON CONTRACT 91NNA-75954A, DWG #BEC 50001.
  - (TD) DENOTES A UNIT 1/UNIT 2 SAFETY RELATED INTERPOSE POINT.
  - REFER TO TABLE A6 FOR ADDITIONAL DIGITAL COMPUTER POINTS (POWER AVAILABLE, PUMP RUNNING, ETC.).
  - 1-FS-67-61 & 1-FS-67-62 ARE IN LOOP ONLY FOR CONTINUITY.

REFERENCE DRAWINGS:

- 47610-50 SERIES-----MECHANICAL-ESSENTIAL RAW COOLING WATER PIPING
- 47610-50 SERIES-----ELECTRICAL-INSTRUMENT TABULATION
- 47610-50 SERIES-----ELECTRICAL-CONTROL DIAGRAM-CONTAINMENT VENTILATION
- 47611-30 SERIES-----LOGIC DIAGRAM-CONTAINMENT VENTILATION
- 47611-30 SERIES-----LOGIC DIAGRAM-ESSENTIAL RAW COOLING WATER
- 47645 SERIES-----MECHANICAL-FLOW DIAGRAM-ESSENTIAL RAW COOLING WATER
- 47920 SERIES-----MECHANICAL-COOLING AND VENTILATION SYSTEM

COMPANION DRAWINGS: 47610-67-1A, 2A, 3A, 4, 5, 6

THIS CONFIGURATION CONTROL DRAWING SUPERSEDES UNIT 1 AS-CONSTRUCTED DRAWING 47610-67-1 REVISION C.

27	52798	ESJ	GJB	JHL	10/12/09
REVISED PER DCA 52798-45-0.					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
				EXCEPT AS NOTED	
PROJECT FACILITY POWERHOUSE UNIT 1					
TITLE <b>ELECTRICAL CONTROL DIAGRAM ERCW SYSTEM</b>					
1		WATTS BAR NUCLEAR PLANT TENNESSEE VALLEY AUTHORITY		Q	
DESIGN		INITIAL ISSUE		ENGINEERING APPROVAL	
DRAFTER C.N. CLABOUGH		CHECKER C.E. THOMPSON		RO ISSUE PER WBEP 5.17 & RIMS B26 '90 0110 375	
DESIGNER M.L. CHAPMAN		REVIEWER J.F. EDWARDS		1 H.E. JERMAKOWICZ 2 H.E. JERMAKOWICZ 3 M.C. BRICKEY	
DATE 1-31-90		85 E		1-47610-67-1 R27	