



- NOTES:
1. ALL VALVES ARE THE SAME SIZE AS THE PIPING UNLESS OTHERWISE NOTED.
 2. TV AND TC DENOTE "TEST VENT" AND "TEST CONNECTION".
 3. FLOW DIAGRAM FOR UNIT 1 SHOWN.
 4. ALL PIPE CLASS B UNLESS OTHERWISE NOTED.
 5. "D" DENOTES LOCAL DRAIN; "DH" DENOTES DRAIN HEADER; AND "V" DENOTES VENT.
 6. THE ORIFICE IS LOCATED A MINIMUM OF 7' ABOVE THE RCP CONN.
 7. SPECIAL TRANSITION PIECE (3/8" ID FLOW RESTRICTOR) REQUIRED FOR TRANSITION FROM CLASS A SYSTEM TO CLASS B, C, D, ETC. INDICATES LINE NO. CORRESPONDING TO DESIGN PRESSURE AND TEMPERATURE CHART ON THIS SHEET.
 8. ALL INSTRUMENT CONNECTIONS ARE 1/2" UNLESS OTHERWISE NOTED.
 9. ALL INSTRUMENT VALVES ARE 3/4" UNLESS OTHERWISE NOTED.
 10. SAFETY CLASS (I.E. CLASS A, B, AND C) PIPING SHALL BE HYDROSTATICALLY TESTED TO 1.25 TIMES DESIGN PRESSURE. ALL NON-SAFETY RELATED PIPING SHALL BE TESTED TO 1.5 TIMES DESIGN PRESSURE. CONSTRUCTION SHALL DETERMINE IF THE COMPONENTS IN THE SYSTEM ARE LIMITING COMPONENTS TO THE HYDROSTATIC TEST ASSESSMENT. CASES INVOLVING HYDROSTATIC TESTING MAY BE USED IF EN DES APPROVES THE APPLICATION. HYDROSTATIC TEST PRESSURE DATA IS HISTORICAL INFORMATION AND NO LONGER MAINTAINED AS DESIGN OUTPUT.
 11. FOR DEFINITIONS OF SYMBOLS OF "LC" OR "LO", REFER TO MEMO B2880402001.
 12. DESIGN CRITERIA/SYSTEM DESCRIPTION REFERENCE DOCUMENTS (USE THE LATEST REVISION ON ALL WORK UNLESS OTHERWISE SPECIFIED. SEE THE LATEST REVISION OF THE 47821 SERIES DRAWINGS):
 - 12.1 PIPING SYSTEM CLASSIFICATION (I) 1-47811-1, H-3
 - 12.2 CHEMICAL VOLUME AND CONTROL SYSTEM PIPING SYSTEM CLASSIFICATION (I) 1-47811-1, H-3
 - 12.3 CHEMICAL VOLUME AND CONTROL SYSTEM PIPING SYSTEM CLASSIFICATION (I) 1-47811-1, H-3
 - 12.4 CHEMICAL VOLUME AND CONTROL SYSTEM PIPING SYSTEM CLASSIFICATION (I) 1-47811-1, H-3
 13. DENOTE UNIT 1 A UNIT 2 INTERFACE POINTS WILL HAVE MORE THAN ONE STRUCTURAL TERMINATION FOR TWA CLASS B, C & D PIPING DOWNSTREAM OF THE LAST ISOLATION VALVE USED WHERE DESIGN PRESSURE AND TEMPERATURE HAVE CHANGED PER DCM S-21158-B. FOR W SUPPLIED VALVES SEE MAT-0-3224 (RIMS NO. 133 930308 978) FOR ACCEPTANCE OF VALVES WHERE DESIGN PRESSURE AND TEMPERATURE HAVE CHANGED FROM PREVIOUS DESIGN CONDITIONS.
 14. SEE CALCULATION EPM-CRS-032293 FOR REVIEW AND ACCEPTANCE OF VALVES USED WHERE DESIGN PRESSURE AND TEMPERATURE HAVE CHANGED PER DCM S-21158-B. FOR W SUPPLIED VALVES SEE MAT-0-3224 (RIMS NO. 133 930308 978) FOR ACCEPTANCE OF VALVES WHERE DESIGN PRESSURE AND TEMPERATURE HAVE CHANGED FROM PREVIOUS DESIGN CONDITIONS.
 15. SOME CIDS ON THIS DRAWING HAVE BEEN CHANGED AND MAY DIFFER FROM THE CIDS SHOWN ON OTHER DOCUMENTS FOR THE SAME COMPONENT. THE ALTERNATE ID SCREEN (A11) IN ENCS CAN BE ACCESSED AS NECESSARY TO DETERMINE IF PREVIOUS CIDS EXISTED FOR A SPECIFIC COMPONENT.
 16. THE DESIGN PRESSURE AND TEMPERATURE RATINGS OF THE RCP SEAL LEAKOFF LINES BETWEEN ISOLATION VALVES W-1-1-FCV-062-0009, 0022, 0035 AND 0049, AND FLOW MEASURING ORIFICES W-1-062-0010, 0023, 0036 AND 0049 MAY BE EXCEEDED DURING A STATION BLACKOUT (SBO) EVENT. AN EVALUATION OF THE ACCEPTABILITY OF THE LINES FOR THE NON-DESIGN BASIS SBO EVENT IS DOCUMENTED IN CALCULATION EPM-041592.
 17. VALVE W-1-062-0637-S HAS BEEN DISABLED BY DRILLING HOLES IN THE VALVE DISC TO ELIMINATE ITS ISOLATION CAPABILITY IN ORDER TO ASSURE ADEQUATE CODE REQUIREMENTS ARE MET. SEE DCM W-3003-A.

59	ADMIN	GJB	JEW	JWA	11-10-09
REVISED TO CORRECT DISCREPANCIES IDENTIFIED BY PER 164561 (171 091110 800).					
REV	CHANGE REF	PREPARED	CHECKER	APPROVED	DATE
SCALE: NTS EXCEPT AS NOTED					
PROJECT FACILITY POWERHOUSE UNIT 1					
TITLE FLOW DIAGRAM CHEMICAL & VOLUME CONTROL SYSTEM					
1 WATTS BAR NUCLEAR PLANT TENNESSEE VALLEY AUTHORITY					
DESIGN		INITIAL ISSUE		ENGINEERING APPROVAL	
DRAFTER	CHECKER	RO ISSUE PER		1 J.R.WETH	
S.R.HANCOCK	C.E.THOMPSON	WBP 5.17 & RIMS B26 '90 0514 378 & DCM M-01591-A		2 J.R.WETH	
DESIGNER	REVIEWER			3 L.W.BOYD	
M.L.CHAPMAN	M.D.DAVIS				
DATE	85	M	1-47809-1	R59	
7-23-90	85	M	1-47809-1	R59	

FSAR FIG. 9.3-15 SH 1 COMPANION DRAWINGS: 1-47809-1 THRU 6 & 6A