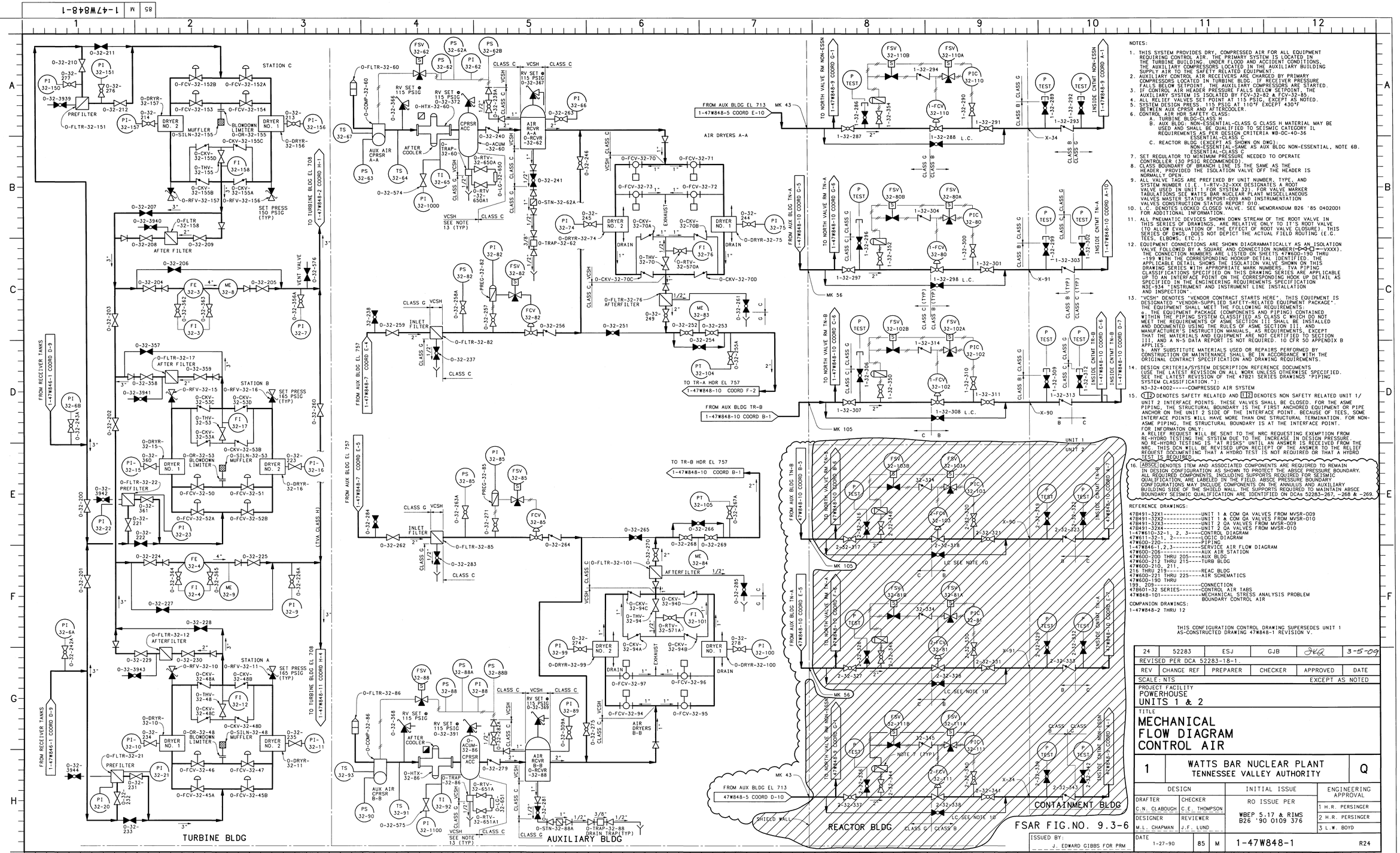

NOTES:

1. THIS SYSTEM PROVIDES DRY, COMPRESSED AIR FOR ALL EQUIPMENT REQUIRING CONTROL AIR. THE PRIMARY SYSTEM IS LOCATED IN THE TURBINE BUILDING, UNDER FLOOD AND ACCIDENT CONDITIONS, THE AUXILIARY COMPRESSORS LOCATED IN THE AUXILIARY BUILDING SUPPLY AIR TO THE SAFETY RELATED EQUIPMENT.
2. AUXILIARY CONTROL AIR RECEIVERS ARE CHARGED BY PRIMARY COMPRESSORS LOCATED IN TURBINE BLDG. IF RECEIVER PRESSURE FALLS BELOW SETPOINT, THE AUXILIARY COMPRESSORS ARE STARTED.
3. IF CONTROL AIR HEADER PRESSURE FALLS BELOW SETPOINT, THE AUXILIARY SYSTEM IS ISOLATED BY FCV-32-82 & FCV-32-85.
4. ALL RELIEF VALVES SET POINT AT 115 PSIG, EXCEPT AS NOTED.
5. SYSTEM DESIGN PRESS. 115 PSIG AT 110°F EXCEPT 430°F BETWEEN AUX CPRSR AND AFTERCOOLER.
6. CONTROL AIR HDR SAFETY CLASS -
   A. TURBINE BLDG-CLASS H
   B. AUX BLDG: NON-ESSENTIAL-CLASS G CLASS H MATERIAL MAY BE USED AND SHALL BE QUALIFIED TO SEISMIC CATEGORY IL REQUIREMENTS AS PER DESIGN CRITERIA WB-DC-40-36 ESSENTIAL-CLASS C
   C. REACTOR BLDG (EXCEPT AS SHOWN ON DWG): NON-ESSENTIAL-SAME AS AUX BLDG NON-ESSENTIAL, NOTE 6B. ESSENTIAL-CLASS C
7. SET REGULATOR TO MINIMUM PRESSURE NEEDED TO OPERATE CONTROLLER (30 PSIG RECOMMENDED).
8. CLASS BOUNDARY OF BRANCH LINE IS THE SAME AS THE HEADER, PROVIDED THE ISOLATION VALVE OFF THE HEADER IS NORMALLY OPEN.
9. ALL VALVE TAGS ARE PREFIXED BY UNIT NUMBER, TYPE, AND SYSTEM NUMBER (I.E. 1-RTV-32-XXX DESIGNATES A ROOT VALVE USED IN UNIT 1 FOR SYSTEM 32). FOR VALVE MARKER TABULATIONS SEE WATTS BAR NUCLEAR PLANT MISCELLANEOUS VALVES MASTER STATUS REPORT-009 AND INSTRUMENTATION VALVES CONSTRUCTION STATUS REPORT 010.
10. L.C. DENOTES LOCKED CLOSED VALVE. SEE MEMORANDUM B26 '85 0402001 FOR ADDITIONAL INFORMATION.
11. ALL PNEUMATIC DEVICES SHOWN DOWN STREAM OF THE ROOT VALVE IN THIS SERIES OF DRAWINGS, ARE RELATIVE ONLY TO ITS ROOT VALVE (TO ALLOW EVALUATION OF THE EFFECT OF ROOT VALVE CLOSURE). THIS SERIES OF DWGS. DOES NOT DEPICT THE ACTUAL FIELD ROUTING (E.G. TEES, ELBOWS, ETC.).
12. EQUIPMENT CONNECTIONS ARE SHOWN DIAGRAMMATICALLY AS AN ISOLATION VALVE FOLLOWED BY A SQUARE AND CONNECTION NUMBER (-O-VXXX). THE CONNECTION NUMBERS ARE LISTED ON SHEETS 47W600-19O THRU -19S WITH THE CORRESPONDING HOOKUP DETIAL IDENTIFIED. THE APPLICABLE DETAIL SHOWS THE ISOLATION VALVE SHOWN ON THIS DRAWING SERIES WITH APPROPRIATE MARK NUMBERS. TVA PIPING CLASSIFICATIONS SPECIFIED ON THIS DRAWING SERIES ARE APPLICABLE UP TO AN INTERFACE POINT ON THE CORRESPONDING HOOK UP DETAIL AS SPECIFIED IN THE ENGINEERING REQUIREMENTS SPECIFICATION N3E-934 "INSTRUMENT AND INSTRUMENT LINE INSTALLATION AND INSPECTION".
13. "VCSH" DENOTES "VENDOR CONTRACT STARTS HERE". THIS EQUIPMENT IS DESIGNATED "VENDOR-SUPPLIED SAFETY-RELATED EQUIPMENT PACKAGE". THE EQUIPMENT SHALL MEET THE FOLLOWING REQUIREMENTS:
   a. THE EQUIPMENT PACKAGE (COMPONENTS AND PIPING) CONTAINED WITHIN THE PIPING SYSTEM CLASSIFIED AS CLASS C WHICH DO NOT MEET THE REQUIREMENTS OF ASME SECTION III SHALL BE INSTALLED AND DOCUMENTED USING THE RULES OF ASME SECTION III, AND MANUFACTURER'S INSTRUCTION MANUALS, AS REQUIREMENTS, EXCEPT THAT THE MATERIALS AND EQUIPMENT ARE NOT CERTIFIED TO SECTION III, AND A N-5 DATA REPORT IS NOT REQUIRED. 10 CFR 50 APPENDIX B APPLIES.
   b. ANY SUBSTITUTE MATERIALS USED OR REPAIRS PERFORMED BY CONSTRUCTION OR MAINTENANCE SHALL BE IN ACCORDANCE WITH THE ORIGINAL CONTRACT SPECIFICATION AND DRAWING REQUIREMENTS.
14. DESIGN CRITERIA/SYSTEM DESCRIPTION REFERENCE DOCUMENTS USE THE LATEST REVISION ON ALL WORK UNLESS OTHERWISE SPECIFIED. SEE THE LATEST REVISION OF THE 47B21 SERIES DRAWINGS "PIPING SYSTEM CLASSIFICATION.").
    N3-32-4002-----COMPRESSED AIR SYSTEM
15. 1|2 DENOTES SAFETY RELATED AND 1|2 DENOTES NON SAFETY RELATED UNIT 1/ UNIT 2 INTERFACE POINTS. THESE VALVES SHALL BE CLOSED. FOR THE ASME PIPING, THE STRUCTURAL BOUNDARY IS THE FIRST ANCHORED EQUIPMENT OR PIPE ANCHOR ON THE UNIT 2 SIDE OF THE INTERFACE POINT. BECAUSE OF TEES, SOME INTERFACE POINTS WILL HAVE MORE THAN ONE STRUCTURAL TERMINATION. FOR NON-ASME PIPING, THE STRUCTURAL BOUNDARY IS AT THE INTERFACE POINT.
    FOR INFORMATION ONLY:
    A RELIEF REQUEST WILL BE SENT TO THE NRC REQUESTING EXEMPTION FROM RE-HYDRO TESTING THE SYSTEM DUE TO THE INCREASE IN DESIGN PRESSURE. NO RE-HYDRO TESTING IS "AT RISKS" UNTIL AN ANSWER IS RECEIVED FROM THE NRC. THIS DCN WILL BE REVISED UPON RECIEPT OF THE ANSWER TO THE RELIEF REQUEST DOCUMENTING THAT A HYDRO TEST IS NOT REQUIRED OR THAT A HYDRO TEST IS REQUIRED.
16. ABSCE DENOTES ITEM AND ASSOCIATED COMPONENTS ARE REQUIRED TO REMAIN IN DESIGN CONFIGURATION AS SHOWN TO PROTECT THE ABSCE PRESSURE BOUNDARY. ALL REQUIRED COMPONENTS, INCLUDING SUPPORTS REQUIRED FOR SEISMIC QUALIFICATION, ARE LABELED IN THE FIELD. ABSCE PRESSURE BOUNDARY CONFIGURATIONS MAY INCLUDE COMPONENTS ON THE ANNULUS AND AUXILIARY BUILDING SIDE OF THE SHIELD WALL. THE SUPPORTS REQUIRED TO MAINTAIN ABSCE BOUNDARY SEISMIC QUALIFICATION ARE IDENTIFIED ON DCAs 52283-267, -268 & -269.

REFERENCE DRAWINGS:

47B491-32X1----------UNIT 1 & COM QA VALVES FROM MVSR-009
47B491-32X2----------UNIT 1 & COM QA VALVES FROM MVSR-010
47B491-32X3----------UNIT 2 QA VALVES FROM MVSR-009
47B491-32X4----------UNIT 2 QA VALVES FROM MVSR-010
1-47W610-32-1, 2, 3----CONTROL DIAGRAM
47W611-32-1, 2---------LOGIC DIAGRAM
47W600-22O-----------PIPING
1-47W846-1,2,3---------SERVICE AIR FLOW DIAGRAM
47W600-206-----------AUX AIR STATION
47W600-200 THRU 205----AUX BLDG
47W600-212 THRU 215----TURB BLDG
47W600-210, 211, 216 THRU 219----------REAC BLDG
47W600-221 THRU 225----AIR SCHEMATICS
47W600-190 THRU 199, 209----------CONNECTION
47B601-32 SERIES-------CONTROL AIR TABS
47W848-101-----------MECHANICAL STRESS ANALYSIS PROBLEM BOUNDARY CONTROL AIR

COMPANION DRAWINGS:
1-47W848-2 THRU 12

THIS CONFIGURATION CONTROL DRAWING SUPERSEDES UNIT 1 AS-CONSTRUCTED DRAWING 47W848-1 REVISION V.

24	52283	ESJ	GJB	JHG	3-5-09

REVISED PER DCA 52283-18-1.

REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE

SCALE: NTS — EXCEPT AS NOTED

PROJECT FACILITY
POWERHOUSE
UNITS 1 & 2

TITLE
MECHANICAL FLOW DIAGRAM CONTROL AIR

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 0109 376	1 H.R. PERSINGER
DESIGNER: M.L. CHAPMAN	REVIEWER: J.F. LUND		2 H.R. PERSINGER
			3 L.W. BOYD

DATE: 1-27-90 — 85 — M — 1-47W848-1 — R24

ISSUED BY: J. EDWARD GIBBS FOR PRM

PRINTS REQ'D R ____

PRINT SIZE F: BR OR PROJ AB CE EE ME NE FE HE SE TE BL BF WB SQ
PRINT SIZE H: BR OR PROJ AB CE EE ME NE FE HE SE TE BL BF WB SQ

CAD MAINTAINED DRAWING

CONFIGURATION CONTROL DRAWING