



- NOTES:
- 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.
  - AUXILIARY CONTROL AIR RECEIVERS ARE CHARGED BY PRIMARY COMPRESSORS LOCATED IN THE TURBINE BUILDING. RECEIVER PRESSURE FALLS BELOW SETPOINT, THE AUXILIARY COMPRESSORS ARE STARTED.
  - IF CONTROL AIR HEADER PRESSURE FALLS BELOW SETPOINT, THE AUXILIARY SYSTEM IS ISOLATED BY FCV-32-82 & FCV-32-85.
  - ALL RELIEF VALVES SET POINT AT 115 PSIG, EXCEPT AS NOTED.
  - SYSTEM DESIGN PRESSURE IS 115 PSIG AT 10' EXCEPT 430' AT BETWEEN AUX CPDRS AND AFTER-COOLER.
  - CONTROL AIR HDR SAFETY CLASS:
    - A. AUX BLDG: NON-ESSENTIAL-CLASS G
    - B. AUX BLDG: NON-ESSENTIAL-CLASS C
    - C. REACTOR BLDG (EXCEPT AS SHOWN ON DWG): NON-ESSENTIAL-SAME AS AUX BLDG NON-ESSENTIAL, NOTE 6B.  - SET REGULATOR TO MINIMUM PRESSURE NEEDED TO OPERATE CONTROLLER (30 PSIG RECOMMENDED).
  - CLASS BOUNDARY OF BRANCH IS THE SAME AS THE HEADER, PROVIDED THE ISOLATION VALVE OFF THE HEADER IS NORMALLY OPEN.
  - VALVE TAGS ARE PREFIXED BY UNIT NUMBER, TYPE, AND SYSTEM NUMBER (I.E. 1-RTV-32-XXX DESIGNATES A ROOT VALVE WITH UNIT 1 FOR SYSTEM 32). FOR VALVE MARKER TABULATIONS SEE WATTS BAR NUCLEAR PLANT MISCELLANEOUS VALVES MASTER STATUS REPORT-009 AND INSTRUMENTATION VALVE IDENTIFICATION STATUS REPORT.
  - L.C. DENOTES LOCKED CLOSED VALVE. SEE MEMORANDUM B26 '85 0402001 FOR ADDITIONAL INFORMATION.
  - ALL PNEUMATIC DEVICES SHOWN DOWN STREAM OF THE ROOT VALVE IN THIS SERIES OF DRAWINGS. ARE RELATIVE ONLY TO IT'S ROOT VALVE (DO NOT ALLOW FOR QUANTIFICATION OF ROOT VALVE CLOSURE). THIS SERIES OF DWGS DOES NOT REFLECT THE ACTUAL FIELD ROUTING (E.G. TEES, ELBOWS, ETC.).
  - EQUIPMENT CONNECTIONS ARE SHOWN DIAGRAMMATICALLY AS AN ISOLATION VALVE FOLLOWED BY A SQUARE AND CONNECTION NUMBER (E.G. 1-VXXX). THE CONNECTION NUMBERS ARE LISTED ON SHEETS 47W800-190 THRU 47W800-208 WITH THE CORRESPONDING HOOKUP DETAIL IDENTIFIED. THE APPLICABLE DETAIL SHOWS THE ISOLATION VALVE SHOWN ON THIS DRAWING SERIES WITH APPROPRIATE MARK NUMBERS. TYPICAL PIPING CLASS DESIGNATIONS SPECIFIED ON THIS DRAWING ARE APPLICABLE UP TO AN INTERFACE POINT ON THE CORRESPONDING HOOKUP DETAIL AS SPECIFIED IN THE ENGINEERING REQUIREMENTS SPECIFICATION NSE-934 "INSTRUMENT AND INSTRUMENT LINE INSTALLATION AND INSPECTION".
  - "VCSH" DENOTES "VENDOR CONTRACT STARTS HERE". THIS EQUIPMENT IS DESIGNATED "VENDOR-SUPPLIED EQUIPMENT PACKAGE". THE EQUIPMENT SHALL MEET THE FOLLOWING REQUIREMENTS:
    - THE EQUIPMENT SHALL BE ASSEMBLED AND PIPING CONTAINED WITHIN THE PIPING SYSTEM CLASSIFIED AS CLASS C WHICH DOES NOT MEET THE REQUIREMENTS OF ASME SECTION III SHALL BE INSTALLED AND DOORED OUT USING THE RULES ASME SECTION III, AND MANUFACTURER'S INSTRUCTION MANUALS, IF REQUIREMENTS, EXCEPT FOR THE EQUIPMENT AND EQUIPMENT ARE NOT CERTIFIED TO SECTION III, AND A N-5 REPORT IS NOT REQUIRED. 10 CFR 50 APPENDIX B APPLIES.
    - ANY SUBSTITUTE MATERIALS USED OR REPAIRS PERFORMED BY CONSTRUCTION OR MAINTENANCE SHALL BE IN ACCORDANCE WITH THE ORIGINAL CONTRACT SPECIFICATION AND DRAWING REQUIREMENTS.
  - 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" AND "COMPRESSED AIR SYSTEM").
  - 1/1 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.
    - 47B60-120 REHYDRO TESTING IS "AT RISK" UNTIL AN ANSWER IS RECEIVED FROM THE NRC. THIS DCN WILL BE REVISED UPON RECEIPT OF THE ANSWER TO THE RELIEF REQUEST DOCUMENTING THAT A HYDRO TEST IS NOT REQUIRED OR THAT A HYDRO TEST IS REQUIRED.
  - ABSCE DENOTES ITEM AND ASSOCIATED COMPONENTS ARE REQUIRED TO REMAIN IN DESIGN CONFIGURATION AS SHOWN TO PROTECT THE ABSCE PRESSURE BOUNDARY. ALL SUPPORTS 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:

|                          |   |
|--------------------------|---|
| 47B49-124                | UNIT 1 & COM QA VALVES FROM MVSF-009                    |
| 47B49-125                | UNIT 1 & COM QA VALVES FROM MVSF-010                    |
| 47B49-126                | UNIT 2 QA VALVES FROM MVSF-009                          |
| 47B49-127                | UNIT 2 QA VALVES FROM MVSF-010                          |
| 1-47W610-32-1, 2, 3      | CONNECTION DIAGRAM                                      |
| 47W611-32-1, 2           | LOGIC DIAGRAM   |
| 47W600-208               | PIPING  |
| 1-47W846-1, 2, 3         | SERVICE AIR FLOW DIAGRAM                                |
| 47W600-212 THRU 215      | AUX AIR STATION   |
| 47W600-216 THRU 219      | REAC BLDG   |
| 47W600-221 THRU 225      | AIR SCHEMATICS  |
| 47W600-190 THRU 199, 205 | CONNECTION  |
| 47W600-32 SERIES         | 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          | JLR                  | 3-5-09 |
| REVISED PER DCA 52283-18-1.                          |               |               |              |                      |        |
| REV  | CHANGE REF    | PREPARED      | 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 |               |               |              |                      |        |
| DESIGN   | CHECKER       | INITIAL ISSUE | RO ISSUE PER | ENGINEERING APPROVAL |        |
| C.N. CLABOUGH  | C.E. THOMPSON |               |              | 1 H.R. PERSINGER     |        |
| DESIGNER   | REVIEWER      |               |              | 2 H.R. PERSINGER     |        |
| M.L. CHAPMAN   | J.F. LUND     |               |              | 3 L.W. BOYD          |        |
| DATE   | 1-27-90       | 85            | M            | 1-47W848-1           | R24    |