WATTS BAR NUCLEAR PLANT

TECHNICAL INSTRUCTION

TI-50A

ASME SECTION XI

PRESERVICE INSPECTION PROGRAM

UNIT 1

CURRENT REVISION LEVEL 12

Prepared By Jeff Goulart

Revised By Jeff Goulart

Submitted By Gary L. Beck
Inservice Inspection Group Supervisor

FQE Review Linda J. Smith

PORC Review Date 3-27-84

Approved By E. G. Wren
Superintendent

Date Approved 3-27-84

1C	Document Control Unit, 1520 CST2-C
	NRC
1C	Nuclear Safety Review Staff
1C	Plant Master File
	Plant Superintendent
	Asst. Plant Supt. (Operations)
	Asst. Plant Supt. (Maintenance)
	Adm. Svs. Supervisor
1C	Mech. Maint. Shop Office
	Chemical Laboratory
	Chemical Unit Supervisor
1C	Chief, Nuclear Training Branch
	Compliance Unit
	DPSO-WBN
	Document Control Supervisor
	Electrical Maint. Supervisor
	Electrical Shop
1C	Engineering Supervisor
1C	Field Services Supervisor
1C	Health Physicist
	Health Physics Laboratory
1C	Instrument Engineer
1C	Instrument Maint. Supervisor
1C	Instrument Shop
	Janitor & Labor Supervisor
	Management Svs. Supervisor
1C	Mechanical Maint. Supervisor
1C	Mechanical Unit Supervisor
1C	Operations Supervisor
	OPQA - Plant Coordinator
	Plant Services Supervisor
	Plant Training Officer
1U	Plant Training Shift Engineer
1C	Power Stores Unit Supervisor
	Preop Test Supervisor
	Public Safety
	QA Manager, QA and Audit Staff
2C	Field Quality Engineering Supervisor
	Reactor Unit Supervisor
	Safety Engineer
1C	Shift Engineer's Office
	Stationary Equipment Group
	Technical Support Center
1C	Unit 1 Control Room
1C	Unit 2 Control Room
1U	Supv., Reactor Systems Group-C
1C	Inservice Inspection Group-C
1C	ISI Programs Section-C
1C	NDE Section-C
1C	DCU-B, CONST-WB
1C	ANI-(WB)

Last page of this instruction: 432

OS/6

8404170340 840413
PDR ADOCK 05000390
Q PDR

HISTORY OF REVISION/REVIEW

REV. NO.	DATE	REVISED PAGES	REASON FOR CURRENT REVISION (INCLUDE ALL TEMPORARY CHANGE NUMBERS)
0	07/14/81	All	
1	09/29/81	Page 55	
2	10/13/81	Page 103	
3	10/17/81	Pages 69,70,75, 76,89-97,105-109 Added pages 69a, 76a,97a,97b,97c, 109a,109b,109c, 109d, & 109e	
4	11/10/81	Added page 92a	
5	01/15/82	Table of Contents 34a, 35	
6	01/20/82	Punchlist	
7	04/28/82	All	
8	01/11/83	Cover sheet; Table of Contents; Punch-list; Pages 2-4, 17, 18, 20-22, 38-46, 48, 49 100; Added pages 20a-20d, 22a, 22b, 45a, 45b, 49a, 51a, 109L-109Q, 137-151	Add Appendix E - Minor corrections and clarifications
9	03/22/83	Pg. 1	Change WB7.3.8 to AI-9.7
10	07/25/83	Table of Contents; Pages 2-4, 7, 15, 20b, 20c, 22a, 22b, 25, 31-40, 47, 49a, 51, 51a, 73-76, 89a, 90, 91, 104, 150; Added pages 31a, 46a, 79a, 79b, 109J1, 109J2, 109R, 109S; Deleted pages 26-30, 36	- Minor corrections, added and revised weld location drawings, revised section on repairs and replacement, and revised organizations titles.
11	09/21/83	Pages 33,34,50,51a, added pages 51b, 109T-109BBBB	Incorporated temporary change number 83-1[illegible] revised section on Notification of Indi[illegible], and added hanger location drawings.

HISTORY OF REVISION/REVIEW

REV. NO.	DATE	REVISED PAGES	REASON FOR CURRENT REVISION (INCLUDE ALL TEMPORARY CHANGE NUMBERS)
12	3-27-84	All	General revision to update program, added support drawings, tables, incorporated temporary changes 83-137, 83-149, and 84-46, removed calibration block drawings, removed reciprocation charging pump drawings and renumbered all pages.

1. Incorporate Scan Plan Data Upon Completion of PSI, Appendix F

2. Add Appendix E

3. Complete Appendix A

4. Complete Section 6.4.3

Jeffery C Goulart 3/21/84
Signature Date

TABLE OF CONTENTS

		Page No.
1.0	STATEMENT OF APPLICABILITY	1
2.0	PURPOSE	1
3.0	CODES OF RECORD AND CODE CASES	1
4.0	METHOD OF IMPLEMENTATION AND RESPONSIBILITIES	2
5.0	ABBREVIATIONS AND DEFINITIONS	4
6.0	COMPONENTS SUBJECT TO EXAMINATION - ASME CLASS 1	5
7.0	COMPONENTS SUBJECT TO EXAMINATION - ASME CLASS 2	18
8.0	COMPONENTS SUBJECT TO EXAMINATION - ASME CLASS 3	29
9.0	HYDROSTATIC PRESSURE TESTS	29
10.0	AUTHORIZED INSPECTOR	29
11.0	EXAMINATION METHODS	29
12.0	QUALIFICATIONS OF NONDESTRUCTIVE EXAMINATION PERSONNEL	31
13.0	ACCEPTANCE CRITERIA	31
14.0	REPAIRS AND REPLACEMENTS	31
15.0	RECORDS AND REPORTS	31
16.0	NOTIFICATION OF INDICATION	35
17.0	CALIBRATION BLOCKS	36
18.0	REQUESTS FOR RELIEF	36
19.0	AUGMENTED INSPECTIONS	37
20.0	REFERENCES	37
APPENDIX A - Table A		39
APPENDIX A - Table B		44

	Page No.
APPENDIX A - Table C	48
APPENDIX A - Drawings	51
APPENDIX A - Table D	262
APPENDIX A - Table E	264
APPENDIX A - Table F	275
APPENDIX A - Table G	281
APPENDIX A - Table H	313
APPENDIX A - Table I	343
APPENDIX A - Table J	399
APPENDIX B - Data Sheets	401
APPENDIX C - Notification of Indication Form	408
APPENDIX D - Requests for Relief	409
APPENDIX E - Augmented Inspections	-
APPENDIX F - Scan Plan Data	-

Preservice Inspection Program

Cover Sheet

Owner: Tennessee Valley Authority

Address of Corporate Office: Knoxville Office Complex
400 Commerce Avenue
Knoxville, Tennessee 37902

Name and Address of Nuclear Power Plant: Watts Bar Nuclear Plant
P. O. Box 800
Spring City, Tennessee 37381

Applicable Nuclear Power Units: Watts Bar Nuclear Plant, Unit 1

1.0 STATEMENT OF APPLICABILITY

This Technical Instruction supersedes Surveillance Instruction 4.4.10.1.

This program outlines details for performing the preservice nondestructive examinations of the Watts Bar Nuclear Plant ASME Code Class 1, 2, and 3 components (and their supports) containing water, steam, or radioactive material (other than radioactive waste management systems). The program has been organized to comply as practical with the preservice examination requirements of Section XI of the ASME Boiler and Pressure Vessel Code and will be conducted in accordance with the Operational Quality Assurance Manual, Part II, Section 5.1.

The requirements of ASME Section XI are in effect when the requirements of ASME Section III have been satisfied. Criteria for determining that ASME Section III requirements have been satisfied are as follows:

Item	When ASME Section III Requirements are Satisfied
Pressure Vessels and Pumps	When "N" stamped
Valves	When "N" stamped
Piping System	When the hydrostatic pressure test is complete, N-5 data form is completed, piping system "N" stamped or partial piping assemblies "NA" stamped.

Specifics concerning performance of nondestructive examinations are not a part of this program, but are included in nondestructive examination procedures (DPM N80E3 and AI-9.7).

2.0 PURPOSE

The Preservice Inspection Program (hereinafter PSI) is preliminary in nature and is employed to obtain detailed information for inclusion in the Inservice Inspection Program. The examinations required by this program will establish acceptance of components for service.

The PSI Program serves as a means of determining built-in limitations caused by original plant design, geometry, materials of construction of the components, and the current technology or state-of-art of nondestructive testing. The PSI Program will also permit verification of the examination methods selected, finalization of detailed procedures, and will establish preservice examination data to be used as a reference for later inservice examinations.

3.0 CODES OF RECORD AND CODE CASES

The code of record in effect six months prior to the date of issue of the Construction Permit was 1971 Edition, Winter 1971 Addenda of Section XI.

This program was prepared to meet the requirements of the 1974 Edition, Summer 1975 Addenda of Section XI of the ASME Boiler and Pressure Vessel Code.

Procedures for eddy current examination of heat exchanger tubing, which the Summer 1975 Addenda of ASME Section XI has no provisions for, meets the requirements of the 1974 Eddition, Summer 1976 Addenda of ASME Section XI. Steam generator tubing examination requirements are in accordance with a modification of Regulatory Guide 1.83, Revision 1.

The following categories shall be in accordance with the 1977 Edition, Summer 1978 Addenda of Section XI:

(1) Criteria for determining Class 1 and 2 pressure-retaining bolting subject to examination

(2) Class 2 valve body weld examinations

(3) Component support integrally welded attachment examinations for piping, pumps, valves and pressure vessels.

(4) Component support examinations for piping, pumps and valves.

(5) Technique for ultrasonic examination of piping welds shall be in accordance with IWA-2232(b) and IWA-2232(c). (See Request for Relief ISI-1, ISI-4 and ISI-13)

(6) Standards for examination evaluation of piping welds (IWA-3000) (See Request for Relief ISI-1)

(7) Interior clad surfaces of reactor vessels and other vessels examination are not required.

(8) Reactor vessel interior and core support structure examinations.

The repair and replacement program is in accordance with plant instruction AI-9.15 and DPM No. WB82M1.

The use of code cases N-234 and N-235 have been approved for TVA use by NRC.

4.0 METHOD OF IMPLEMENTATION AND RESPONSIBILITIES

Preliminary weld maps and other pertinent component drawings and tables are included in Appendix A of this program to define areas subject to examination (in addition to sections 5.0, 6.0, 7.0, and 8.0). The preliminary piping weld maps should be established by ISI Programs Section of the Nuclear Central Office Quality Engineering Branch from CONST's latest revision weld maps.

Prior to performance of the examinations, each system shall be walked down by the ISI Programs Section to verify that the NUC PR drawings depict field configurations. Any drawing revisions that are necessary as a result of the walkdown will be made before the drawings are included in this program.

The NDE Section shall prepare scan plans using component drawings for systems or components requiring examinations. The plans shall include as a minimum references to components to be examined, methods of examination, examination procedures, and calibration standards.

Prior to performing examinations on a system or component, the scan plans shall be established and submitted to the Plant Manager for information, and system or component weld maps incorporated in Appendix A of this program.

If variations in piping configurations are discovered or modifications or repairs to piping are made during the course of the PSI, these changes shall be marked on field copies of drawings. This information shall be communicated to the ISI Programs Section which shall be responsible for revising the original drawings. The NDE Section scan plan shall also be revised to reflect these changes. Following completion of each system examination, the revised drawings shall be incorporated into this program as a reference for inservice inspections. All latest revision scan plan information and other pertinent information shall be incorporated in this program as a reference for inservice inspections when all examinations required by this program have been completed.

The preservice examinations will be performed by either Quality Engineering Branch personnel or outside contractors. Contract preparation, administration, and supervision will be the responsibility of the NDE Section. Inspection plans and/or Quality Assurance Programs submitted by outside contractors shall be reviewed and approved by the Quality Engineering Branch prior to use. All specific NDE procedures used during the inspection program shall be reviewed and approved in accordance with OQAM Part II, Section 6.3.

Certain ASME Section III examinations performed in shop and/or by CONST will be identified by the ISI Programs Section and employed to serve for the ASME Section XI PSI. When in shop examination records are employed, the examination data sheets and the applicable data package form, with the ANI sign-off, shall be obtained by the ISI Programs Section. When CONST examination records are employed, CONST examination procedures shall be obtained by the NDE Section for reference (excluding pressure test procedures).

Additionally, the NDE Section representative will be responsible for notifying the Plant Manager of all unacceptable indications as soon as practical. Whenever an unacceptable indication is discovered, the procedure and form in Appendix C shall be utilized. In those cases where an outside contractor is furnishing preservice examination services, the contractor will normally initiate the form in Appendix C under the supervision of the NDE Section representative. See section 16.0 of this program.

As examinations are completed, the NDE Section representative shall sign for completion the appropriate sections of Data Sheet 1 in Appendix B of this program. When all examinations of this program have been completed, Data Sheet 1 shall be signed for completion by the NDE Section representative and reviewed by the NDE Section Supervisor. In the event system or component alterations or repairs are made which require component reexamination, or components are reexamined for other reasons, following sign-off of Data Sheet 1, the appropriate sections of Data Sheet 2 in Appendix B shall be completed and signed by the NDE Section representative.

All preservice examinations shall be completed prior to initial plant startup (Operational Mode 2). Prior to initial plant startup, Data Sheet 2, in addition to Data Sheet 1, in Appendix B shall be signed by the NDE Section representative and reviewed by the NDE Section Supervisor, and the ISI Programs Supervisor, and approved by the Supervisor of the Inservice Inspection Group. After the data sheets 1 and 2 have been approved, the data package cover sheet shall be signed by the QE Branch Chief and the Plant Manager. These data sheets shall be filed at the plant site with PSI examination data and final reports discussed in Section 15.0 of this program.

PSI program preparation is the responsibility of ISI Programs Section of the QE Branch. Any revisions initiated by other groups shall be submitted to the ISI Programs Section for approval prior to incorporating the revisions into this program.

5.0 ABBREVIATIONS AND DEFINITIONS

5.1 AIA - Authorized Inspection Agency

5.2 AI - Authorized Inspector (may denote an ANI or ANII)

5.3 ANI - Authorized Nuclear Inspector

5.4 ANII - Authorized Nuclear Inservice Inspector

5.5 Components - Denotes items in a nuclear plant such as pressure vessels, piping systems, pumps, valves, and component supports.

5.6 Examination - Denotes the performance of all visual observation and nondestructive testing such as radiography, ultrasonic, eddy current, liquid penetrant, and magnetic particle methods.

5.7 Inspection - Denotes verifying the performance of examinations and tests by an Inspector representing an Authorized Inspection Agency.

5.8 Maintenance - Routine servicing or work on an item undertaken to correct or prevent an unsatisfactory condition. Maintenance does not include welding, heat treatment, or defect removal which affects the pressure boundary. Maintenance includes operations such as lapping of seats, adjustment of stem packing, pump seal maintenance. Maintenance does not require the presence of or verification by the Authorized Nuclear Inspector or Authorized Nuclear Inservice Inspector.

5.9 Normal Operation - Normal plant operation conditions include reactor startup, operation at power, hot standby, and reactor cooldown to cold shutdown conditions. Test conditions are excluded.

5.10 Pressure-Retaining Material - Applies to items such as vessel heads, nozzles, pipes, tubes, fittings, valve bodies, bonnets, disks, pump castings, covers, and boltings which join pressure-retaining items.

5.11 Repair - Those operations involving welding, heat treatment, or defect removal which are required to restore an item to a safe and satisfactory operating condition.

5.12 Replacement - Spare and renewal components or pressure retaining parts of a component (e.g., valve body bonnet, disc, bolting). It also includes the addition of components such as valves, and system changes such as rerouting of piping. For the purpose of this procedure, the term replacement small apply where attachment to the pressure boundary is by welding or mechanical means. It does not include the addition of complete systems.

5.13 Nondestructive Examination (NDE) - Methods used for the detection and evaluation of discontinuities and the measurement of physical dimensions and properties of items. These methods do not impair the serviceability of the items.

6.0 COMPONENTS SUBJECT TO EXAMINATION - ASME CLASS 1

The ASME Class 1 (TVA Safety Class A) components to be examined for the PSI are outlined in the following paragraphs. The entire length of each weld described will be examined for the PSI.

All Class 1 components are subject to volumetric and/or surface examination except component connections, piping, and associated valves (and their supports) that are one-inch nominal pipe size and smaller (see section 6.7). Class 1 vessels shall not be examined prior to shop or field hydrostatic tests.

When examinations have been completed on the various components, the data sheet(s) in Appendix B shall be completed.

Table A in Appendix A supplies additional information such as reference drawing numbers and Section XI, Table IWB-2600, examination categories.

6.1 Reactor Vessel

6.1.1 Reactor Vessel Seam Welds

6.1.1.1 Circumferential Shell Welds - Beltline Region

There is one circumferential weld in the vessel cylinderical shell located behind the neutron shield pads. This weld will be ultrasonically examined using remote inspection devices from the vessel I.D. with the core internals removed. The vessel shell sections are machined forgings fabricated of SA-508, Class 2, manganese-molyedenum steel and are clad with weld deposited austenitic stainless steel.

6.1.1.2 Circumferential Shell Weld

There are three circumferential weld in the vessel cylinderical shell located outside of the beltline region. These weld will be ultrasonically examined using remote inspection devices from the vessel I.D. with the core internals removed.

The vessel shell section material is identified in section 6.1.1.1.

6.1.1.3 Lower Head Welds

There are six meridional welds and one circumferential weld in the lower head. The welds will be ultrasonically examined using remote inspection devices from the vessel I.D. with the core internals removed.

Base metal below the lower head circumferential weld is inaccessible for examination from the vessel I.D. due to instrumentation penetrations (weld No. W01-02). A manual ultrasonic examination of this area will be conducted from the vessel O.D. (see Request for Relief ISI-6).

The bottom head sections are fabricated of SA-533, Gr. B, Class 1, manganese-molybdenum steel, and are clad with weld deposited austenitic stainless steel.

6.1.1.4 Closure Head Circumferental Weld

The head cap weld will be manually ultrasonically examined from the head O.D. The closure head does not include any meridional welds.

The closure head ring is fabricated of SA-508, Class 2, manganese-molybedenum steel. The closure head hemispherical section is fabricated of SA-533, Gr. B, Class 1, manganese-molybdenum steel. Both sections are clad with weld deposited austenitic stainless steel.

6.1.1.5 Vessel-To-Flange And Head-To-Flange Weld

The vessel-to-flange weld will be ultrasonically examined from the vessel I.D. with remote inspection devices. The head-to-flange weld will be manually ultrasonically examined from the head O.D.

The vessel and closure head flange sections are fabricated of SA-508, Class 2, manganese-molybdenum steel and are clad internally and on the gasket face with weld deposited austenitic stainless steel.

6.1.2 Reactor Vessel Nozzle-To-Vessel Welds And Inside Radiused Sections

There are four inlet nozzles (27.441 inch I.D.) and four outlet nozzles (28.937 inch I.D.). The nozzle-to-vessel welds and nozzle inside radiused sections (including outlet nozzle integral extensions) will be ultrasonically examined from the I.D. using remote inspection devices.

The nozzle forgings are fabricated of SA-508, Class 2, manganese-molybdenum steel and are clad with weld deposited austenitic stainless steel.

6.1.3 Reactor Vessel Penetrations And Attachments

The 78 control rod drives, 4 upper head injection, 1 vent pipe, and 37 instrumentation penetrations shall be visually examined by CONST for leakage during the ASME Section III hydrostatic pressure test.

6.1.4 Reactor Vessel Nozzle-To-Safe End Welds

The nozzle-to-safe end welds shall be ultrasonically examined from the I.D. using remote inspection devices. In addition, these welds will be liquid penetrant examined (from O.D.).

The nozzle ends include a buttered safe-end of 309 and 308L and are extended with a stainless steel ring of SA-182, TP 304.

6.1.5 Reactor Vessel Pressure Retaining Bolting Larger Than 2 Inches in Diameter

All 54 of the vessel closure studs shall be ultrasonically and magnetic particle examined. The closure studs may be ultrasonically examined in place under tension, when the closure head is removed, or when the studs are removed.

The closure nuts shall be magnetic particle examined. The vessel flange ligaments (54) between threaded stud holes shall be ultrasonically examined. This examination is to be done manually. Threads in the base material do not require examination.

The 54 concave washers shall be visually examined.

Studs, nuts, and washers are fabricated of SA-540, GR.B24, nickle-chrome-molybdenum steel with a manganese-phosphate surface treatment.

6.1.6 Reactor Vessel Pressure Retaining Bolting 2 Inches and Smaller in Diameter

There is no pressure retaining bolting 2 inches and smaller in diameter.

6.1.7 Integrally-Welded Reactor Vessel Supports

There are no integrally-welded vessel supports. The vessel is supported by four support pads located on the bottom of two outlet nozzles (15 and 17) and two inlet nozzles (13 and 14).

6.1.8 Reactor Vessel And Closure Head Cladding

There are six clad patches (36 square inches each) in the vessel cladding and six clad patches (36 square inches each) in the closure head cladding. In accordance with the 1977 Edition, 1978 Summer Addenda of Section XI. No examination is required.

Reactor vessel and closure head cladding is of weld deposited austenitic stainless steel.

6.1.9 Reactor Vessel Interior And Removable Core-Support Structures

The space above and below the reactor core that is made accessible for visual examination by the removal of components during normal refueling outages shall be visually examined using visual examination method VT-3.

Visual examination method VT-3 shall also be performed on removable core support structures of the vessel. The examinations shall include 100 percent of the visually accessible attachment welds and visually accessible surfaces of the core support structure. The structures shall be removed from the vessel for these examinations.

6.1.10 Reactor Vessel Control Rod Drive Housings

The pressure-retaining welds in the peripheral control rod drive housings shall be ultrasonically examined.

The housings consist of a 6-inch O.D. adapter of SA-182, TP 304 and a 4-inch O.D. body of SB-167.

6.1.11 Reactor Vessel Auxiliary Head Adapters

The pressure-retaining welds in the four auxiliary head adapters shall be ultrasonically examined. The dissimilar metal welds shall also be liquid penetrant examined. The adapters consist of SA-182, TP 304 stainless steel (upper portion), SB-166 (lower portion), and a weld buildup from the vessel head. The weld buildup is considered an integral part of the vessel head and does not require examination.

6.2 Pressurizer

6.2.1 Pressurizer Longitudinal And Circumferential Welds

There are four longitudinal welds and five circumferential welds in the shell cylinderal region. These welds shall be ultrasonically examined. There are no circumferential or meridional head welds.

All shell and head sections are fabricated of SA-533, Gr. A, Class 2, manganese-molybdenum steel and are clad with austenitic stainless steel.

6.2.2 Pressurizer Nozzle-To-Vessel Welds And Inside Radiused Sections

There are four 6-inch nozzles, one 4-inch nozzle, and one 14-inch nozzle. The nozzle-to-vessel welds and nozzle inside radiused sections will be ultrasonically examined.

The nozzles are fabricated of SA-508, Class 2, manganese-molybdenum steel.

6.2.3 Pressurizer Heater Penetrations

The pressurizer lower head heater penetrations shall be visually examined by CONST for leakage during the ASME Section III hydrostatic pressure test.

6.2.4 Pressurizer Nozzle-To-Safe End Welds

Each nozzle includes a welded forging safe end. The nozzle-to-safe end welds shall be ultrasonically and liquid penetrant examined.

Safe-end connections are SA-182, Gr. F-316L forgings.

6.2.5 Pressurizer Pressure Retaining Bolting Larger Than 2 Inches in Diameter

There is no pressure-retaining bolting larger than 2 inches in diameter.

6.2.6 Pressurizer Pressure-Retaining Bolting 2 Inches and Smaller in Diameter

The bolting on the pressurizer manway shall be visually examined. The bolting may be examined either in place under tension or when the bolting is removed.

The manway includes 16 bolts at 1.88 inches in diameter. The bolts are fabricated to SA-193, Gr. B7.

6.2.7 Pressurizer Integrally-Welded Vessel Support

The pressurizer support skirt-to-vessel weld shall be ultrasonically examined.

The support skirt (1.5 inches thick) is fabricated of SA-516, Gr. 70, carbon steel plate.

6.2.8 Pressurizer Cladding

A clad patch (36 square inches) is in the pressurizer interior cladding near the manway. In accordance with the 1977 Edition, 1978 Addenda of Section XI, no examination is required.

Interior cladding is of austenitic stainless steel.

6.3 Steam Generators (4)

6.3.1 Steam Generator Primary Longitudinal And Circumferential Welds

The primary head-to-tube sheet weld on each generator shall be ultrasonically examined. There are no primary longitudinal welds.

The tube plate is a SA-508, Class 2, steel forging, clad on the primary side with NiCrFe alloy (Inconel). The hemispherical chamber is a SA-216, Gr. WCC, casing, clad with austenitic stainless steel.

6.3.2 Steam Generator Primary Nozzle-To-Head Welds And Inside Radiused Sections

The steam generator primary nozzles are integrally cast with the hemispherical chamber. The nozzles inside radiused sections cannot be ultrasonically examined and achieve meaningful results due to limitations of examining integrally cast material (see Request for Relief ISI-7).

The nozzles are fabricated to SA-216, Gr. WCC.

6.3.3 Steam Generator Primary Nozzle-To-Safe End Welds

The steam generator primary nozzle-to-safe end welds shall be ultrasonically and liquid penetrant examined.

The nozzles have buttered 308L safe ends.

6.3.4 Steam Generator Primary Pressure-Retaining Bolting Larger Than 2 Inches in Diameter

There is no pressure-retaining bolting larger than 2 inches in diameter.

6.3.5 Steam Generator Primary Pressure-Retaining Bolting 2 Inches and Smaller in Diameter

The bolting on the manway covers (2) on the primary side of all the generators shall be visually examined. The bolting may be examined either in place under tension or when the bolting is removed.

Each manway has 16 bolts at 1.88 inches in diameter. The bolts are fabricated to SA-193, Gr. B7.

6.3.6 Steam Generator Integrally-Welded Vessel Supports

There are no integrally-welded vessel supports. The four main support pads are secured to the steam generator field support system by high strength bolts.

6.3.7 Steam Generator Vessel Cladding

A clad patch (36 square inches) is in the steam generator interior cladding near each generator manway. In accordance with the 1977 Edition, 1978 Summer Addenda of Section XI, no examination is required.

The hemispherical chamber is clad with austenitic stainless steel.

6.3.8 Steam Generator Tubing

Each steam generator tube bundle consists of 4,674 NiCrFe alloy (Inconel SB-163) U-tubes of 0.750 O.D. by 0.042 average wall thickness.

All tubes shall undergo a preservice inspection by eddy current examination. The preservice examination shall be performed in accordance with Appendix IV of the 1974 Edition, Summer 1976 Addenda of Section XI and Regulatory Guide 1.83, Rev. 1.

6.3.8.1 Acceptance Criteria

6.3.8.1.1 As Used In This Section:

6.3.8.1.1.1 Imperfection means an exception to the dimensions, finish or contour of a tube from that required by fabrication drawings or specifications.

Eddy-current testing indications below 20 percent of the nominal tube wall thickness, if detectable, may be considered as imperfections.

6.3.8.1.1.2 Degradation means a service-induced cracking, wastage, wear, or general corrosion occuring on either inside or outside of a tube.

6.3.8.1.1.3 Degraded Tube means a tube containing imperfections > 20 percent of the nominal wall thickness caused by degradation.

6.3.8.1.1.4 Percent Degradation means the percentage of the tube wall thickness affected or removed by degradation.

6.3.8.1.1.5 Defect means an imperfection of such severity that it exceeds the plugging limit. A tube containing a defect is defective.

6.3.8.1.1.6 Plugging Limit means the imperfection depth at or beyond which the tube shall be removed from service because it may become unserviceable prior to the next inspection and is equal to 40 percent of the nominal tube wall thickness.

6.3.8.1.1.7 Unserviceable describes the condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of a seismic occurrence greater than the Operating Basis Earthquake, a loss-of-coolant accident requiring actuation of the engineered safeguards, or a steam line or feedwater line break.

6.3.8.1.1.8 Tube Inspection means an inspection of the steam generator tube from the point of entry (hot leg side) completely around the U-bend to the top support of the cold leg.

6.3.8.1.1.9 Preservice Inspection means a tube inspection of each steam generator tube performed by eddy current techniques prior to service to establish a baseline condition of the tubing. This inspection shall be performed prior to initial power operation using the equipment and techniques expected to be used during subsequent inservice inspections.

6.3.8.1.2 All defective tubes and tubes containing through-wall cracks shall be plugged.

6.4 Piping

All ASME Class 1 piping systems to be examined are fabricated of stainless steel. The reactor coolant main loop piping straight lengths are centrifugal cast and the elbows are static cast. The upper head injection auxiliary head adapter is included in Section 6.1.11. Specific material specifications for each piping system are included in weld map isometrics in Appendix A.

The following Class 1 piping systems are subject to examination:

Reactor Coolant
Chemical and Volume Control
Residual Heat Removal
Safety Injection
Upper Head Injection

6.4.1 Circumferential And Longitudinal Pipe Welds

The entire length of each circumferential and longitudinal pipe weld shall be ultrasonically examined as practical.

The following circumferential pipe welds will be radiographically examined (RHRF-D053-5, -1, -12, -4, UHIF-D040-13, UHIF-D041-7, UHIF-D042-13, and UHIF-D043-7.)

6.4.2 Branch Pipe Connection Welds

All branch pipe connection welds exceeding six inches in diameter shall be ultrasonically examined. Each branch pipe connection weld six inches in diameter and smaller shall be liquid penetrant examined.

6.4.3 Piping Socket Welds

Each socket weld shall be liquid penetrant examined as practical. Construction examination records will be used for welds done after 12/79. List of welds to be added later.

6.4.4 Piping Nozzle Weld

There is one 1½" nozzle weld located on the reactor coolant cold leg number four. CONST radiography examination data will be used. (Weld number RCF-B4-4)

6.4.5 Piping Integrally-Welded Supports

All piping integrally-welded external support attachments whose support base material design thickness is 5/8 inch and greater shall be surface examined. Integrally-welded external support attachments include those supports which have attachment welds to the piping pressure-retaining boundary. (See Appendix A, Table G)

6.4.6 Piping Support Components

All piping support components shall be visually examined. This examination includes integrally-welded and nonintegrally-welded support components. The support settings of constant and variable spring type hangers, snubbers, and shock absorbers shall also be verified. (See Appendix A, Table G)

6.4.7 Piping Pressure-Retaining Bolting Larger Than 2 Inches in Diameter

There is no Class 1 piping pressure-retaining bolting larger than 2 inches in diameter.

6.4.8 Piping Pressure-Retaining Bolting 2 Inches and Smaller in Diameter

Class 1 bolting 2 inches and smaller in diameter shall be visually examined. These examinations shall include bolts, studs, and nuts. (See Weld Map Isometrics in Appendix A for location of bolted connections).

The bolting may be examined either in place under tension, when the connection is disassembled, or when the bolting is removed.

6.4.9 Piping Safe-End Welds

There are no piping safe-end welds other than those discussed in Sections 6.1.4, 6.2.4, and 6.3.3.

6.5 Reactor Coolant Pumps (4)-RCP

6.5.1 RCP Pressure-Retaining Bolting Larger Than 2 Inches in Diameter

The main flange on each pump includes 24 bolts at 4-1/2 inches in diameter. The bolts shall be ultrasonically examined and shall be surface examined if removed. Threads in the base material and flange ligaments between threaded stud holes shall be ultrasonically examined if the connection is disassembled.

The bolting may be examined either in place under tension, when the connection is disassembled, or when the bolting is removed.

The main flange bolts are fabricated to SA-540, GR B24.

6.5.2 RCP Pressure Retaining Bolting 2 Inches and Smaller in Diameter

The No. 1 seal assembly bolting shall be visually examined.

All bolting may be examined either in place under tension when the connection is disassembled, or when the bolting is removed.

6.5.3 RCP Integrally-Welded Supports

There are no integrally-welded supports associated with the RCP.

6.5.4 RCP Support Components

Each RCP includes three support components bolted to pump feet, which are integrally cast with the pump. Each support component shall be visually examined.

6.5.5 RCP Casing Welds

Each pump includes a two-piece welded type 304SST casing. The casing welds cannot be ultrasonically examined and achieve meaningful results due to limitations of examining integrally cast material. In lieu of this requirement the casing welds shall be surface examined (see Request for Relief ISI-9).

6.5.6 RCP Casings

The internal pressure boundary surfaces of each pump shall be visually examined. In shop visual examinations will be used.

6.5.7 RCP Flywheel

Each RCP flywheel shall undergo a complete ultrasonic examination and shall also be surface examined in accordance with Regulatory Guide 1.14.

Preservice examination is not required by TVA.

The flywheel consists of two plates, approximately 5-inches and 8-inches thick, bolted together. Each plate is fabricated from vacuum degassed A-533, Gr. B, Class 1 steel.

6.6 Valves

6.6.1 Valve Pressure-Retaining Bolting Larger Than 2 Inches in Diameter

There is no Class 1 valve pressure retaining bolting larger than 2 inches in diameter.

6.6.2 Valve Pressure-Retaining Bolting 2 Inches and Smaller in Diameter

Class 1 valve pressure-retaining bolting 2 inches and smaller in diameter shall be visually examined. These examinations shall include bolts, studs, and nuts. (See Appendix A, Table E for valves).

The bolting may be examined either in place under tension, when the connection is disassembled, or when the bolting is removed.

6.6.3 Valve Integrally-Welded Supports

All valve integrally-welded external support attachments whose support base material design thickness is 5/8 inch and greater shall be surface examined.

Integrally-welded external support attachments include those supports which have attachment welds to the valve pressure-retaining boundary. (See Appendix A, Table E for valves).

6.6.4 Valve Support Components

All valve support components shall be visually examined. This examination includes integrally-welded and nonintegrally-welded support components. The support settings of constant and variable spring type hangers, snubbers, and shock absorbers shall also be verified. (See Appendix A, Table E for valves)

6.6.5 Valve Body Welds

There are no Class 1 valves with body welds.

6.6.6 Valve Bodies

The internal pressure boundary surfaces of one valve in each group of valves of the same constructional design (i.e., globe, gate, check), manufacturing method, and manufacturer that performs similar functions in the system shall be visually examined. The examinations shall include valves exceeding 4-inch nominal pipe size. (See Appendix A, Table D.)

6.7 Exempted Components

All components exempted from examination in accordance with IWB-1220 of ASME Section XI shall be visually examined for leakage during system hydrostatic pressure tests. See Section 9.0. Components exempted from examination include component connections, piping, and associated valves (and their supports) that are 1-inch nominal pipe size and smaller.

7.0 COMPONENTS SUBJECT TO EXAMINATION - ASME CLASS 2

The ASME Class 2 (TVA Safety Class B) components to be examined for the PSI are outlined in the following paragraphs. All components to be examined for inservice inspections during the service life of the plant will be examined for the PSI. Selection of areas for examination will be in accordance with paragraph IWC-2411 and Table IWC-2520 of ASME Section XI. The ISI Programs Section shall select areas to be examined or the NDE Section may assist in selecting areas to be examined.

Components that are exempted from examination in accordance with IWC-1220 of ASME Section XI are discussed in Section 7.14 of this program.

Class 2 vessels shall not be examined prior to the field hydrostatic tests.

Where examinations specify a percentage of the total length of weld be examined, the area(s) examined shall be physically marked on the component and documented in the examination report. Where a percentage of weld length is not referenced, the entire weld length shall be examined.

When examinations have been completed on the various components, the data sheet(s) in Appendix B shall be completed.

Table B in Appendix A supplies additional information such as reference drawing numbers and ASME Section XI Table-2520 examination categories.

7.1 Steam Generators (4)

7.1.1 Steam Generator Secondary Circumferential Welds

There are five circumferential shell welds located at structural discontinuities on the secondary side of each steam generator. A total of five welds, all at different locations from the four generators, will be selected for ultrasonic examination and shall be distributed among the four generators. The examinations shall cover at least twenty percent of each weld selected for examination, uniformly distributed among three areas around the vessel circumference.

One of the five welds selected for examination is partially inaccessible due to the upper steam generator support arrangement (weld nos. SG-4B-5-1, 2, 3, or 4; see Request for Relief ISI-5). The weld selected for examination will be ultrasonically examined on a best effort basis.

The vessel shell and head sections are fabricated of SA-533, Gr. A, Class 1 steel plate.

7.1.2 Steam Generator Secondary Nozzle-To-Vessel Welds

There is one feedwater nozzle (16-inch I.D.), one feedwater by-pass nozzle (6-inch I.D.), and one main steam nozzle (32-inch I.D.) per generator. A total of three nozzle-to-vessel welds from the four generators will be ultrasonically examined and shall be distributed among three of the generators (one feedwater, one feedwater by-pass, and one main steam nozzle).

The nozzles are fabricated of SA-508, Class 2, steel.

7.1.3 Steam Generator Integrally-Welded Supports

There are no integrally-welded vessel supports.

7.1.4 Steam Generator Pressure-Retaining Bolting Exceeding 2 Inches in Diameter

There is no steam generator secondary side bolting larger than two inches in diameter.

7.2 Residual Heat Removal Heat Exchangers (2) - RHRHX

7.2.1 RHRHX Circumferential Welds

There are two circumferential welds located at structural discontinuities on the tube side of each RHRHX. A total of two welds from the two heat exchangers will be selected for ultrasonic examination and shall be distributed among the two RHRHX. The welds selected shall be located at different areas. The examinations shall cover at least twenty percent of each weld selected for examination, uniformly distributed among three areas around the vessel circumference.

The welds include the channel cylinder section to channel flange weld and the channel cylinder section to channel head weld. The channel flange is fabricated from SS, SA-336-F8. The channel cylinder section and channel head are from SS, SA-240, TP-304.

7.2.2 RHRHX Nozzle-To-Vessel Welds

The channel cylinder section of each RHRHX includes one inlet nozzle (14-inch I.D.) and one outlet nozzle (14-inch I.D.). A total of two nozzle-to-vessel welds from the two RHRHX will be ultrasonically examined and shall be distributed among the two heat exchangers (one inlet nozzle and one outlet nozzle).

The nozzles are fabricated from SS, SA-336-F8.

7.2.3 RHRHX Integrally-Welded Supports

There are two integrally-welded support attachments on each RHRHX. A total of two support pad-to-vessel welds from the two heat exchangers will be liquid penetrant examined and shall be distributed among the two heat exchangers (a different support on each heat exchanger).

The support pad (attachment plate is 5/8 inch thick) is fabricated from SS, SA-240, TP-304.

7.2.4 RHRHX Pressure-Retaining Bolting Exceeding 2 Inches in Diameter

There is no RHRHX bolting larger than two inches in diameter.

7.3 Regenerative Heat Exchanger (1)-RHX

7.3.1 RHX Circumferential Welds

The regenerative heat exchanger is composed of three heat exchangers interconnected with piping. There are twelve circumferential welds located at structural discontinuities on the heat exchanger. These welds shall be ultrasonically examined. The examinations shall cover at least twenty percent of each weld and shall be uniformly distributed among three areas around the vessel circumference.

These welds include six channel cylinder section to channel head welds and six channel cylinder section to the tube sheet head welds. The channel cylinder sections are fabricated to SS, SA-351-CF8. The channel heads are fabricated to SS, SA-240-304L. The channel flanges are fabricated to SS, SA-182-F304.

7.3.2 RHX Nozzle-to-Vessel Welds

There are not any nozzles greater than 4 in. diameter. The nozzles are fabricated to SA-479-304 sch 160 material.

7.3.3 RHX Integrally - Welded Supports

There is one integrally welded support (1/4 inch thick) attachment and three lugs (5/8 inch thick) welded to the heat exchanger. Only the three lugs shall be liquid penetrant examined because the material design thickness exceeds 1/2 inch.

7.3.4 RHX Pressure Retraining Bolting Exceeding 2 Inches in Diameter

There is not any pressure retaining bolting included with the RHX.

7.4 Letdown Heat Exchanger (1)-LHX

7.4.1 LHX Circumferential Welds

There are two circumferential welds located at structural discontinuities on the tube side. These welds shall be ultrasonically examined. The examinations shall cover at least twenty percent of each weld, uniformly distributed among three areas around the vessel circumference.

7.4.2 LHX Nozzle-To-Vessel Welds

There are not any nozzles greater than 4 in. diameter. The nozzles are fabricated to SA-312, TP 304.

7.4.3 LHX Integrally-Welded Supports

There are two integrally-welded support attachments (1/2 inch and 3/4 inch thick) on the LHX. Only the 3/4 inch thick support to vessel welds shall be liquid penetrant examined.

The supports are fabricated to SA-240, TP 304.

7.4.4 LHX Pressure Retraining Bolting Exceeding 2 Inches in Diameter

There is no LHX bolting larger than two inches in diameter.

7.5 Excess Letdown Heat Exchanger (1)-ELHX

7.5.1 ELHX Circumferential Welds

There is one circumferential weld located at the structural discontinuity on the heat exchanger. This weld shall be ultrasonically examined. The examination shall cover at least twenty percent of the weld and be uniformly distributed among three areas around the vessel circumference.

The weld is the channel flange to the channel head weld. The channel flange and the channel head are fabricated to SA105II, F/S and SA-240, TP 304, respectively.

7.5.2 ELHX Nozzle To Vessel Welds

There are not any nozzles greater than 4 in. diameter. The nozzles are fabricated to SA-312, TP 304.

7.5.3 ELHX Integrally-Welded Supports

There are no integrally-welded supports to the tube side of the heat exchanger.

7.5.4 ELHX Pressure Retaining Bolting Exceeding 2 Inches in Diameter

There is no ELHX bolting larger than two inches.

7.6 Boron Injection Tank (1)-BIT

7.6.1 BIT Circumferential Welds

There are two circumferential welds located at structural discontinuities on the BIT. These welds shall be ultrasonically examined. The examinations shall cover twenty percent among three areas around the vessel circumference.

There are two head-to-shell welds. The head and shell are fabricated to SA-240, TP304 and SA-351, CF8A respectively.

7.6.2 BIT Nozzle-to-Vessel Welds

There is one nozzle located on each head, both with a 6 inch inside diameter. These nozzle-to-vessel welds shall be ultrasonically examined.

The nozzles are fabricated to SA-182, F304.

7.6.3 BIT Integrally-Welded Supports

There are four integrally-welded support attachment pads (5/8 inch thick) welded to the shell. These welds shall be liquid penetrant examined.

The pads are fabricated to SA-240, TP 304 material.

7.6.4 BIT Pressure Retaining Bolting Exceeding 2 Inches in Diameter

There are 16-2½ inch diameter manway cover studs and nuts. The bolting shall be volumetrically examined.

The studs and nuts are fabricated SA-193, GRB7 and SA-194 CL-2H respectively.

This bolting may be examined either in place under tension, when the connection is disassembled, or when the bolting is removed.

7.7 UHI Water Accumulator (1)-WA

7.7.1 WA-Circumferential Welds

There are two circumferential welds located at the structural discontinuities. These welds shall be ultrasonically examined. The examinations shall cover twenty percent of each weld and shall be uniformly distributed among three areas around the vessel circumference.

These welds include two head to shell welds. The shell and head are fabricated to SA-516-71, GR 70.

7.7.2 WA Nozzle-To-Vessel Welds

There are three 12 inch diameter nozzles on the accumulator, one on the top head and two on the bottom head. These welds shall be ultrasonically examined.

The nozzles are fabricated to SA-350-LF2.

7.7.3 WA Integrally-Welded Supports

The accumulator has an integrally welded support skirt (1 inch thick) attached to the bottom head. The support skirt-to-vessel weld shall be liquid penetrant examined.

The integrally welded portion of the skirt is fabricated to SA-516, GR70.

7.7.4 WA Pressure Retaining Bolting Exceeding 2 Inches in Diameter

There are 32-2½" diameter studs and nuts located on two manholes covers installed on the head and shell. The bolting shall be volumetrically examined.

The studs and nuts are fabricated to SA-193, GRB7 and SA-194, CLH2 respectively.

The bolting may be examined either in place under tension, when the connection is disassembled, or when the bolting is removed.

7.8 UHI Surge Tank (1)-ST

7.8.1 ST Circumferential Welds

There are two circumferential welds located at structural discontinuities. These welds shall be ultrasonically examined. The examinations shall cover twenty percent of each weld and shall be uniformly distributed among three areas around the vessel circumference.

These welds include two head-to-shell welds. The shell and heads are fabricated to SA-240, TP 304.

7.8.2 ST Nozzle-to-Vessel Welds

There are not any nozzles greater than 4 inch diameter located on the surge tank.

The nozzles are fabricated to SA-479, TP 304, and SA-182, F304.

7.8.3 ST Integrally-Welded Supports

There are two saddle type support pads (3/8 inch thick) integrally welded to the shell. The pad-to-vessel welds do not require a surface examination.

The support pads are fabricated to SA-240, TP 304.

7.8.4 ST Pressure Retaining Bolting Exceeding 2 Inches in Diameter

There is no ST bolting larger than two inches in diameter.

7.9 Piping

Material specifications for each piping system are included in weld map isometrics in Appendix A. The following ASME Class 2 piping systems are subject to examination:

Residual Heat Removal
Safety Injection
Main Steam
Feedwater
Auxiliary Feedwater
Chemical Volume Control
Upper Head Injection

7.9.1 Piping Circumferential Welds

Circumferential welds subject to examination shall include those welds at structural discontinuities and welds within three pipe diameters of the centerline of rigid pipe anchors, or anchors at the penetrations of primary containment, or at rigidly anchored components.

Selection of areas to be examined shall be in accordance with IWC-2411 and Table IWC-2520 of ASME Section XI.

The entire length of each weld selected shall be ultrasonically examined.

7.9.2 Piping Longitudinal Welds

Areas subject to examination include longitudinal welds in fittings (i.e., tees, elbows, reducers). The entire length of each weld selected for examination in accordance with IWC-2411 and Table IWC-2520 of ASME Section XI shall be ultrasonically examined.

7.9.3 Branch Pipe Connection Welds

The entire length of all branch pipe connection welds selected for examination in accordance with IWC-2411 and Table IWC-2520 of Section XI will be ultrasonically examined.

7.9.4 Piping Pressure-Retaining Bolting Exceeding 2 Inches in Diameter

There is no pressure-retaining bolting larger than 2 inches in diameter.

7.9.5 Piping Integrally-Welded Supports

All piping integrally-welded external support attachments whose base material design thickness exceeds 3/4 inch shall be surface examined. Integrally-welded external support attachments include those supports which have attachment welds to the piping pressure-retaining boundary. (See Appendix A, Table H)

7.9.6 Piping Support Components

All piping support components shall be visually examined. This examination includes integrally-welded and nonintegrally-welded support components. The support settings of constant and variable spring type hangers, snubbers, and shock absorbers shall also be verified. (See Appendix A, Table H)

7.10 Residual Heat Removal Pumps (2) - RHRP

7.10.1 RHRP Casing Welds

The RHRP casing does not include any casing welds. The casing is a one piece forging fabricated to SA-182, F304.

7.10.2 RHRP Pressure-Retaining Bolting Exceeding 2 Inches in Diameter

There is no RHRP bolting larger than two inches in diameter.

7.10.3 RHRP Integrally-Welded Supports

There are three integrally-welded supports greater than 3/4 inch thick associated with the RHRP. These welds shall be surface examined. The supports are fabricated to SA-240, TP 304.

7.10.4 RHRP Support Components

Each RHRP includes one support component bolted to the pump feet, which are integrally welded to the pump.

Each support component shall be visually examined.

7.11 CVCS Centrifugal Charging Pumps (2) CCP

7.11.1 CCP-Casing Welds

The CCP casing does not include any casing welds.

7.11.2 CCP Pressure Retaining Bolting Exceeding 2 Inches in Diameter

There is no CCP bolting larger than two inches in diameter.

7.11.3 CCP-Integrally-Welded Supports

There are four integrally-welded supports greater than 3/4 inch thick associated with the CCP. These supports shall be surface examined.

7.11.4 CCP-Support Components

Each CCP includes a support component bolted to the pump feet, which are integrally welded with the pump. The support component shall be visually examined.

7.12 Safety Injection Pumps (2)-SIP

7.12.1 The SIP casing does not include any casing welds. The casing consists of two pieces manufactured of SA-182, F304.

7.12.2 SIP Pressure-Retaining Bolting Exceeding 2 Inches in Diameter

There is no SIP bolting larger than two inches in diameter.

7.12.3 SIP Integrally-Welded Supports

There are no integrally-welded supports associated with the SIP.

7.12.4 SIP Support Components

Each SIP includes a support component bolted to the pump casing. The support component shall be visually examined.

7.13 Valves

7.13.1 Valve Body Welds

There are ASME Class 2 valves with body welds. These welds shall be surface examined. (See Appendix A Table C.)

7.13.2 Valve Pressure-Retaining Bolting Exceeding 2 Inches in Diameter

There is no ASME Class 2 valve pressure-retaining bolting larger than 2 inches in diameter.

7.13.3 Valve Integrally-Welded Supports

All valve integrally-welded external support attachments whose base material design thickness exceeds 3/4 inch shall be surface examined. Integrally-welded external support attachments include those supports which have attachment welds to the valve pressure-retaining boundary.

7.13.4 Valve Support Components

All valve support components shall be visually examined. This examination includes integrally welded and nonintegrally welded support components. The support settings of constant and variable spring type hangers, snubbers, and shock absorbers shall also be verified.

7.14 Exempted Components

All components exempted from examination in accordance with IWC-1220 of ASME Section XI shall be visually examined for leakage during system hydrostatic pressure tests. See Section 9.0 and Appendix A, Table J.

Components exempted from examination include (1) components in systems where both the design pressure and temperature are equal to or less than 275 psig and 200 F, respectively; (2) components in systems or portions of systems, other than emergency core cooling systems, which do not function during normal reactor operation; (3) component connections, piping, and associated valves, and vessels (and their supports), that are 4-inch nominal pipe size and smaller.

8.0 COMPONENTS SUBJECT TO EXAMINATION - ASME CLASS 3 (TVA SAFETY CLASS C AND D)

In accordance with 10CFR50, Section 50.55a(g)(2), a preservice examination of ASME Class 3 components is not required.

8.1 Hydrostatic Pressure Tests

ASME Class 3, components will be visually examined for leakage by CONST during the system hydrostatic pressure tests required by ASME Section III.

8.2 Supports And Hangers

Supports and hangers for components exceeding 4-inch nominal pipe size whose structural integrity is relied upon to withstand design loads when the system function is required, shall be visually examined to detect any loss of support capability, and evidence of inadequate restraint. (See Appendix A, Table C and I)

9.0 HYDROSTATIC PRESSURE TESTS

ASME Class 1, 2, and 3 components (including exempted components) shall be visually examined for leakage during system hydrostatic pressure tests. These examinations shall be performed by CONST during the ASME Section III hydrostatic tests. Additional pressure test shall be performed in accordance with DPM No. WB82E1.

10.0 AUTHORIZED INSPECTOR

TVA shall employ an Authorized Inspector(s) in accordance with ASME Section XI. The Inspector shall verify, assure, or witness that code requirements have been met. He shall have the prerogative and authorization to require requalification of any operator or procedure when he has reason to believe the requirements are not being met. TVA shall provide access for the ANI in accordance with IWA-2140 of ASME Section XI. Requirements for interface with the ANI and ANII are included in OQAM Part II, Section 2.3 and 5.1 respectively.

11.0 EXAMINATION METHODS

11.1 Visual Examination

A visual examination is employed to provide a report of the general condition of the part, component, or surface to be examined, including such conditions as scratches, wear, cracks, corrosion, or erosion on the surfaces; misalignment or movement of the part for component; or evidence of leakage.

Visual examination shall be conducted in accordance with Article 9, Section V, of the ASME Code, except that lighting shall be sufficient to resolve the 1/32-inch wide black line on an 18-percent neutral gray background.

11.2 Visual Examination (VT-3)

(a) The VT-3 visual examination shall be conducted to determine the general mechanical and structural conditions of components and their supports such as the presence of loose parts, debris, or abnormal corrosion products, wear, erosion, corrosion, and the loss of integrity at bolted or welded connections.

(b) The VT-3 visual examination may require, as applicable to determine structural integrity, the measurement of clearances, detection of physical displacement, structural adequacy of supporting elements, connections betweeen load carrying structural members, and tightness of bolting.

(c) For component supports and component interiors, the visual examination may be performed remotely with or without optical aids to verify the structural integrity of the component.

11.3 Visual Examination (VT-4)

(a) The VT-4 visual exmaination shall be conducted to determine conditions relating to the operability of components or devices such as mechanical and hydraulic snubbers, components supports, pumps, valves, and spring loaded and constant weight hangers.

(b) The VT-4 visual examination shall confirm functional adequacy, verification of the settings, or freedom of motion. This examination may require (1) disassembly of components or devices and (2) operability test.

11.4 Surface Examination (Magnetic Particle)

Magnetic particle examination shall be conducted in accordance with Article 7, Section V, of the ASME Code.

11.5 Surface Examination (Liquid Penetrant)

Liquid penetrant examination shall be conducted in accordance with Article 6, Section V, of the ASME Code.

11.6 Volumetric Examination (Radiographic)

Radiographic techniques, employing penetrating radiation such as X-rays, gamma rays, or thermalized neutrons, may be utilized with appropriate image recording devices such as photographic film or papers, electrostatic systems, direct-image orthicons, or image converters. For radiographic examinations employing either X-ray equipment or radioactive isotopes and photographic films, the procedure shall be as specified in Article 2, Section V, of the ASME Code.

11.7 Volumetric Examination (Ultrasonic)

Ultrasonic examination shall be conducted in accordance with the provisions of Appendix I of Section XI of the ASME Code. Where Appendix I (I-1200) is not applicable, the provisions of Article 5 of Section V of the ASME Code shall apply except as noted in Section 3.0 of this program.

11.8 Volumetric Examination (Eddy Current)

Eddy current examination of heat exchanger tubing shall be conducted in accordance with the provisions of Appendix IV of Section XI of the ASME Boiler and Pressure Vessel Code (Summer 1976 Addenda).

12.0 QUALIFICATIONS OF NONDESTRUCTIVE EXAMINATION PERSONNEL

Personnel performing nondestructive examination operations shall be qualified in accordance with IWA-2300 of ASME Section XI (DPM N75C01 for NUC PR). Contractor personnel shall possess evidence of certification.

13.0 ACCEPTANCE CRITERIA

All acceptance standards for ASME Class 1 and 2 components shall be in accordance with IWA-3000 of ASME Section XI except where ASME Section III examinations are employed to satisfy ASME Section XI requirements.

14.0 REPAIRS AND REPLACEMENTS

All repairs and replacements shall be performed in accordance with plant instruction AI-9.15 and DPM No. WB82M1, Preparation of Work Instructions for Repairs and Replacements of ASME Section XI Components, and N-OQAM, Part II, Section 2.3, Repairs and Replacements of ASME Section XI Components. Repairs and replacements as necessary may be coordinated with the Chemical, Metallurgy and Standards Group of the Mechanical Branch.

15.0 RECORDS AND REPORTS

15.1 Recording of and Report of Examinations

A detailed report of all examinations shall be prepared by the performing or responsible organization and shall contain but not be limited to the following information:

Title Page
Table of Contents

I. Introduction - The introduction should include the following information: plant, unit number, preservice or in-service inspection and cycle number, systems, components and vessels examinations were performed on, organization examinations were performed by, dates examinations were performed, ASME Section XI Code of Record.

II. Summary - The summary should include a brief description of the overall inspection: program, performance, personnel, equipment, procedures, evaluations, and results.

III. Discussion - The discussion should discuss the governing documents (ASME Code, Technical Specifications, etc.), inspection schedule, materials, calibration standards, calibration performance, reporting, recording, interpretation, and brief evaluation.

IV. Evaluation - Evaluation is based on the indication's location, metal path, general shape, and any tests that could be applied, such as damping. The evaluation section also should contain a listing of each examination performed and the evaluated results.

V. Summary of Notifications - The summary of notifications shall give a short summary of each notification report along with the indication discrepancy and its location. It should also contain the final disposition and the date of completion.

VI. Scan Plan - The Scan Plan shall give a detailed description of all areas subject to examination during the inspection. It shall contain the following information: examination area, code category, weld size and/or number, reference drawing, examination method, procedure, calibration block, and any reference details pertaining to the exam area, such as the weld number, meridional welds, pump studs.

VII. Weld and Hanger Maps - The Weld and Hanger Maps are the reference drawings for the inspection. The weld maps are isometric drawings showing the location of both field and shop welds on each vessel, components, and piping system subject to examination. The hanger maps are also isometrics showing the location of hangers, snubbers, and supports for each vessel, component, or piping system subject to examination.

VIII. Log by System - The log is the daily status of the inspection section representative of the areas subject to examination during the inspection. This log keeps an up-to-date status of work complete and incomplete.

IX. Personnel Certifications

X. Equipment Certifications

XI. NDE Procedures

XII. Calibration Block Drawings

XIII. Calibration Sheets

XIV. Examination Report Forms

For eddy current examination of heat exchanger tubing, the report shall include a record indicating the tube(s) examined (this may be marked on a tube sheet sketch or drawing), the extent to which each tube was examined, the location and depth of each reported indication, and the identification of the operator(s) and data evaluator(s) who conducted each examination or part thereof, and magnetic tape and strip charts.

All required and pertinent information will be recorded on the appropriate data sheets by the performing organization. When portions of the inspection work are contracted, a detailed report will be submitted to TVA by the contractor with all pertinent and required information. TVA will retain the original copies of all raw data taken.

The NCO NDE Section shall review and submit the final report to the Plant Manager for review. These final reports shall be filed at the plant site with the data sheets of Appendix C of this program as dicussed in section 4.0 of this program. Data Package Cover Sheet in Appendix C will be completed and used as a cover sheet for the final report and to document the review process.

15.1.1 Repair and Replacement Reports

The plant shall prepare a summary of repairs and replacements for all ASME Class 1 and 2 components. The report shall include the applicable requirements of IWA-6220 of ASME Section XI and shall be submitted to the NCO Quality Engineering Branch within 45 days after initial plant startup before the completion of PSI. After reviewing the summary report, the NCO Quality Engineering Branch shall submit it to the NRC via the Manager, Nuclear Licensing, Office of Power, within 90 days after completion of PSI.

15.2 PSI Report for ASME Class 1 and 2 Components

A PSI report(s) for ASME Class 1 and 2 components shall be prepared and submitted to NRC within ninety days after completion of the PSI.

The report shall be prepared by the NDE Section and submitted to the Nuclear Licensing Staff for submittal to NRC.

The PSI report shall have a cover sheet providing the following information:

(1) Date of completion of report

(2) Name of owner and address of corporate offices

(3) Name and address of nuclear generating plant in which the nuclear power unit is located

(4) Name or number assigned to the nuclear power unit by TVA

All reports shall have a summary providing the following information:

(1) National Board Number assigned by the manufacturer to the pressure vessel or component

(2) Names of the components or parts of the components for which this is a record, including such information regarding size, capacity, material, location, and drawings as may aid accurate identification.

(3) Name of the manufacturer of the components or parts for which this is a record, including the manufacturer's component or part numbers and such information regarding the manufacturer's corporate office or manufacturing plant locations as may aid in gaining access to the manufacturer's records regarding the components or parts that the manufacturer is maintaining in accordance with requirements of ASME Section III.

(4) Date of completion of the preservice inspection

(5) Name or names of the Inspector(s) when required

(6) Name and mailing address of the employer(s) of the Inspector(s)

(7) Abstract of examinations performed, conditions observed, corrective measures recommended and taken

(8) Signature of Inspector, when required

The PSI Report shall have an owner's data report for inservice inspection, Form NIS-1 as shown in Appendix II of ASME Section XI.

15.3 Records for ASME Class 1, 2, and 3 Components

The following records shall be available for review:

(1) Examination Plans

(2) Examination Results and Reports

(3) Examination Methods and Procedures

(4) Evaluation of Results

(5) Corrective Actions and Repairs

16.0 NOTIFICATION OF INDICATION

Plant management shall be formally notified of the presence of unacceptable indications detected during the performance of nondestructive examinations. Unacceptable indications are defined by the applicable NDE procedure. Formal notification shall consist of completing and submitting to the Plant Manager the "Notification of Indication" form in Appendix C of this program.

Part I of the "Notification of Indication" shall be completed and signed by the NDE Level II or III examiner detecting the indication. The NDE Section representative shall assign a sequential number and review and sign the form. If the indication is detected by an outside contractor, the contractor's field supervisor shall review and sign the form. The original shall be sent to the plant superintendent and a copy to the ISI Programs Section.

The plant manager or his assistant shall designate the organization (Outage, Plant Maintenance, or the Office of Engineering Design and Construction-OEDC) responsible for preparing a disposition in Part II of the form and performing the associated corrective action. If the organization assigned responsibility for disposition is unable to determine a satisfactory disposition then the form should be sent to the Mechanical Branch for disposition.

The individual responsible for preparation of the disposition shall sign and date Part II of the form. The cognizant supervisor of the appropriate organization shall review and approve the disposition and sign and date Part II of the form. Copies of the form shall be distributed to the plant manager and the ISI Programs Section. The original shall be returned to the NDE Section Representative. One copy shall be filed with the examination report.

If the organization assigned responsibility for disposition is within NUC PR, they shall determine if the unacceptable condition is significant and potentially reportable in accordance with the requirements of N-OQAM, Part III, Section 7.2 and Plant Instruction AI-7.3. Dispositions to correct the condition under the plant maintenance program shall be processed in accordance with N-OQAM, Part II, Section 2.1 and Plant Instruction AI-9.2. Dispositions other than restoring to original requirements shall be processed as modifications in accordance with N-OQAM, Part II, II, Section 3.0 and Plant Instruction AI-8.5 before licensing and AI-8.8 after licensing. Repair and replacement, activities, including coordination with the Authorized Inspection Agency (AIA), shall be performed in accordance with the requirements of N-OQAM, Part II, Section 2.3 and Plant Instruction AI-9.15. Dispositions to accept the condition as-is shall include in Part II of the form the basis for the disposition. In addition for dispositions to accept the condition as-is, a USQD shall be prepared by the appropriate organization in accordance with established procedures.

If Construction is responsible for corrective action, it shall be performed in accordance with the disposition on the Notification of Indication form and to the satisfaction of the NDE section representative. The organization responsible for corrective action shall include preservice examination requirements in the repair or replacement work instruction described in N-OQAM, Part II, Section 2.3.

Upon completion of corrective action the NDE Section Representative shall verify completion of corrective action, enter the work instruction and/or DCR numbers on the Notification of Indication form, enter the examination report number if re-examination was performed, and sign and date the form, Part III. The signed form shall remain with the examination report for use as a quality assurance record. If re-examination was performed, a copy of the signed form shall also remain with the re-examination report. Copies of the form shall also be distributed to the plant manager and the ISI Programs Section.

17.0 CALIBRATION BLOCKS

Calibration blocks will be used for ultrasonic examinations (a calibration tube will be used for eddy current examination of steam generator tubing). The blocks will be fabricated to the general requirements of ASME Section V and ASME Section XI. The blocks shall be fabricated of the material to be examined or equivalent P numbers. Mill test reports shall be obtained and retained by the NDE Section for all calibration blocks. The blocks shall employ drilled holes and/or notches for calibration reflectors (see Request For Relief ISI-1).

The NDE Section shall ensure that as built calibration block drawings are prepared. The calibration block drawings shall be maintained in accordance with N-OQAM, Part III, Section 3.3.

18.0 REQUESTS FOR RELIEF

Where TVA has determined that certain code requirements or examinations are impractical, TVA will submit written requests for relief to NRC with information to support the determinations with any proposed alternate examinations. The impractical code requirements or examinations shall be identified in this program, and references to particular requests for relief shall be included.

When impractical examination requirements are identified in the field, the NDE Section shall notify the ISI Programs Section such that the information may be included in this program and requests for relief may be prepared if necessary. The NDE Section shall submit sketches to the ISI Programs Section to identify areas which cannot be examined in accordance with code requirements.

19.0 AUGMENTED INSPECTIONS

19.1 Steam Generator Cold Leg Tubes

The augmented eddy-current test requirements of the steam generator cold leg tubes are TVA imposed and are included in C.E. Cantrell's memorandum to R.C. Parker (L26 811215 858). This is an inspection of the steam generator tubes from the point of entry (cold leg side) to the top support of the cold leg. This inspection will establish baseline data for future inservice examinations. Report to be submitted with final inservice report (section 15.0).

20.0 REFERENCES

20.1 ASME Boiler and Pressure Vessel Code - Section XI through Summer 1975 addenda, Summer 1976 addenda, Summer 1978 addenda.

20.2 ASME Boiler and Pressure Vessel Code - Section V through Summer 1975 addenda.

20.3 Instruction Manual - 173-inch I.D. Reactor Pressure Vessel - Rotterdam Dockyard Company, Contract No. 71C62-54114-1, N3M-2-3.

20.4 Watts Bar Nuclear Plant Administrative Instruction 3.

20.5 Watts Bar Nuclear Plant Final Safety Analysis Report.

20.6 Westinghouse Technical Manual - Pressurizer, TM 1440-C225, Contract No. 71C60-54114-1, N3M-2-6.

20.7 Westinghouse Technical Manual - Vertical Steam Generators, TM 1440-C254, Contract No. 71C62-54114-1, N3M-2-4.

20.8 Westinghouse Instruction Manual - Auxiliary Heat Exchangers, Contract No. 71C62-54114-1, N3M-2-30.

20.9 Westinghouse Instruction Book - Reactor Coolant Pump, Contract No. 71C62-54114-1, N3M-2-5.

20.10 Ingersoll-Rand Instruction Manual - Residual Heat Removal Pumps, Contract No. 71C62-54114-1, N3M-2-30.

20.11 Watts Bar Nuclear Plant Operational Quality Assurance Manual, Part II, Section 5.1.

20.12 Division Procedure Manual N80E3, N75C01, and N76A10.

TABLE A
WATTS BAR PRESERVICE INSPECTION PROGRAM - ASME CLASS 1 COMPONENTS

	Component	Program Reference Section (See Note 1)	Item No. From Table IWB-2600, Section XI	Examination Category From Table IWB-2600, Section XI	Method of Inspection	Reference Drawing No.
A.	Reactor Vessel					
1.	Circumferential Shell Weld-Beltline Region	6.1.1.1	B1.1	B-A	UT	CH-M-2551-A
2.	Circumferential Shell Welds	6.1.1.2	B1.2	B-B	UT	CH-M-2551-A
3.	Lower Head Welds	6.1.1.3	B1.2	B-B	UT	CH-M-2551-A
4.	Closure Head Circumferential Weld	6.1.1.4	B1.2	B-B	UT	CH-M-2549-A
5.	Vessel-to-Flange and Head-to-Flange Welds	6.1.1.5	B1.3	B-C	UT	CH-M-2549-A
6.	Nozzle-to-Vessel Welds and Inside Radiused Sections	6.1.2	B1.4	B-D	UT	CH-M-2547-B
7.	Vessel Penetrations and Attachments	6.1.3	B1.5	B-E	VT	CH-M-2551-A & CH-M-2684-C
8.	Nozzle-to-Safe End Welds	6.1.4	B1.6	B-F	UT, PT	CH-M-2547-B
9.	Closure Studs and Nuts	6.1.5	B6.10, B6.20, B6.30 (See Note 2)	B-G-1 (See Note 2)	UT, MT	CH-M-2551-A
10.	Ligaments Between Threaded Stud Holes	6.1.5	B6.40 (See Note 2)	B-G-1 (See Note 2)	UT	CH-M-2551-A
11.	Closure Washers	6.1.5	B6.50 (See Note 2)	B-G-1 (See Note 2)	VT	CH-M-2551-A

NOTE: 1. See Section 6.0 for additional information.
2. Item number and examination category from 1977 Edition, 1978 Summer Addenda of Section XI.

TABLE A (CONTINUED)
WATTS BAR PRESERVICE INSPECTION PROGRAM - ASME CLASS 1 COMPONENTS

Component	Program Reference Section (See Note 1)	Item No. From Table IWB-2600, Section XI	Examination Category From Table IWB-2600, Section XI	Method of Inspection	Reference Drawing No.
A. Reactor Vessel (Continued)					
12. Vessel Interior	6.1.9	B13.10 (See Note 2)	B-N-1 (See Note 2)	VT-3	See Sec 6.1.9
13. Removable Core-Support Structures	6.1.9	B13.30 (See Note 2)	B-N-3 (See Note 2)	VT-3	See Sec 6.1.9
14. Control Rod Drive Housings	6.1.10	B1.18	B-O	UT	ISI-0012-A
15. Auxiliary Head Adapter	6.1.11	B4.1, B4.5	B-F, B-J	UT, PT	CH-M-2685-B
B. Pressurizer					
1. Longitudinal and Circumferential Welds	6.2.1	B2.1	B-B	UT	CH-M-2570-A
2. Nozzle-to-Vessel Welds and Inside Radiused Sections	6.2.2	B2.2	B-D	UT	CH-M-2570-A
3. Heater Penetrations	6.2.3	B2.3	B-E	VT	CH-M-2570-A
4. Nozzle-to-Safe End Welds	6.2.4	B2.4	B-F	UT, PT	CH-M-2570-A
5. Pressure-Retaining Bolting Two Inches and Smaller in Diameter	6.2.6	B7.20 (See Note 2)	B-G-2 (See Note 2)	VT-1	CH-M-2570-A
6. Integrally-Welded Vessel Support	6.2.7	B8.20 (See Note 2)	B-H (See Note 2)	UT	CH-M-2570-A

NOTE: 1. See Section 6.0 for additional information.
2. Item number and examination category from 1977 Edition, 1978 Summer Addenda of Section XI.

TABLE A (CONTINUED)
WATTS BAR PRESERVICE INSPECTION PROGRAM - ASME CLASS 1 COMPONENTS

Component	Program Reference Section (See Note 1)	Item No. From Table IWB-2600, Section XI	Examination Category From Table IWB-2600, Section XI	Method of Inspection	Reference Drawing No.
C. Steam Generators					
1. Primary Head-to-Tube Sheet Weld	6.3.1	B3.1	B-B	UT	CH-M-2660-B
2. Primary Nozzle Inside Radiused Sections	6.3.2	B3.2	B-D	N/A	CH-M-2660-B
3. Primary Nozzle-to-Safe End Welds	6.3.3	B3.3	B-F	UT, PT	CH-M-2660-B
4. Pressure-Retaining Bolting Two Inches and Smaller in Diameter	6.3.5	B7.30 (See Note 2)	B-G-2 (See Note 2)	VT	CH-M-2660-B
5. Tubing	6.3.8	N/A	N/A	ET	N/A
D. Piping					
1. Circumferential Welds	6.4.1	B4.5	B-J	UT	Appendix A, Piping Weld Location Dwgs
2. Longitudinal Welds	6.4.1	B4.5	B-J	UT	Appendix A, Piping Weld Location Dwgs
3. Branch Pipe Connection Welds Exceeding 6" Diameter	6.4.2	B4.6	B-J	UT	Appendix A, Piping Weld Location Dwgs

NOTE: 1. See Section 6.0 for additional information.
2. Item number and examination category from 1977 Edition, 1978 Summer Addenda of Section XI.

TABLE A (CONTINUED)
WATTS BAR PRESERVICE INSPECTION PROGRAM - ASME CLASS 1 COMPONENTS

Component	Program Reference Section (See Note 1)	Item No. From Table IWB-2600, Section XI	Examination Category From Table IWB-2600, Section XI	Method of Inspection	Reference Drawing No.
D. Piping (Continued)					
4. Branch Pipe Connection Welds 6" Diameter and Smaller	6.4.2	B4.7	B-J	PT	Appendix A, Piping Weld Location Dwgs
5. Socket Welds	6.4.3	B4.8	B-J	PT	Appendix A, Piping Weld Location Dwgs
6. Piping Nozzle Weld	6.4.4			RT	CHM-2-2758-C
7. Integrally-Welded Supports	6.4.5	B10.10 (See Note 2)	B-K-1 (See Note 2)	PT	Appendix A, Table G
8. Support Components	6.4.6	B11.10 (See Note 2)	B-K-2 (See Note 2)	VT-3 VT-4	Appendix A, Hanger Location Dwgs
9. Pressure-Retaining Bolting Two Inches and Smaller in Diameter	6.4.8	B7.50 (See Note 2)	B-G-2 (See Note 2)	VT	Appendix A, Piping Weld Location Dwgs
E. Reactor Coolant Pumps					
1. Pressure-Retaining Bolting Larger Than Two Inches in Diameter	6.5.1	B6.180, B6.190 (See Note 2)	B-G-1 (See Note 2)	UT, VT-1, PT or MT	CH-M-2672-B
2. Pressure-Retaining Bolting Two Inches and Smaller in Diameter	6.5.2	B7.60 (See Note 2)	B-G-1 (See Note 2)	VT-1	CH-M-2672-B

NOTES: 1. See Section 6.0 for additional information.
2. Item number and examination category from 1977 Edition, 1978 Summer Addenda of Section XI.

TABLE A (CONTINUED)
WATTS BAR PRESERVICE INSPECTION PROGRAM - ASME CLASS 1 COMPONENTS

Component	Program Reference Section (See Note 1)	Item No. From Table IWB-2600, Section XI	Examination Category From Table IWB-2600, Section XI	Method of Inspection	Reference Drawing No.
E. Reactor Coolant Pumps (Continued)					
3. Support Components	6.5.4	B11.20 (See Note 2)	B-K-2 (See Note 2)	VT-3, VT-4	ISI-0121-A
4. Casing Welds	6.5.5	B5.6	B-L-1	PT	ISI-0048-B
5. Casings	6.5.6	B5.7	B-L-2	VT	ISI-0048-B
F. Valves					
1. Pressure-Retaining Bolting Two Inches and Smaller in Diameter	6.6.2	B7.70 (See Note 2)	B-G-2 (See Note 2)	VT	Appendix A, Table E
2. Integrally-Welded Supports	6.6.3	B10.30 (See Note 2)	B-K-1 (See Note 2)	PT	Appendix A Table E
3. Support Components	6.6.4	B11.30 (See Note 2)	B-K-2 (See Note 2)	VT-3 VT-4	Appendix A, Table E
4. Valve Bodies	6.6.6	B6.7	B-M-2	VT	Appendix A, Table D
G. Exempted Components	6.7	B1.19 B2.10 B3.9 B4.11 B5.8 B6.8	B-P	VT	N/A

NOTE: 1. See Section 6.0 for additional information.
2. Item number and examination category from 1977 Edition, 1978 Summer Addenda of Section XI.

TABLE B

WATTS BAR PRESERVICE INSPECTION PROGRAM - ASME CLASS 2 COMPONENTS

Component	Program Reference Section (See Note 1)	Examination Category Item No. From Table IWC-2600, Section XI	From Table IWC-2600, Section XI	Method of Inspection	Reference Drawing No.
A. Steam Generators					
1. Circumferential Welds	7.1.1	C1.1	C-A	UT	CH-M-2660-B
2. Nozzle-to-Vessel Welds	7.1.2	C1.2	C-B	UT	CH-M-2660-B
B. Residual Heat Removal Heat Exchangers					
1. Circumferential Welds	7.2.1	C1.1	C-A	UT	CH-M-2662-A
2. Nozzle-to-Vessel Welds	7.2.2	C1.2	C-B	UT	CH-M-2662-A
3. Integrally-Welded Supports	7.2.3	C3.10 (See Note 2)	C-C (See Note 2)	PT	CH-M-2662-A
C. Regenerative Heat Exchangers					
1. Circumferential Welds	7.3.1	C1.1	C-A	UT	ISI-0077-A
2. Integrally-Welded Supports	7.3.3	C3.10 (See Note 2)	C-C (See Note 2)	PT	ISI-0077-A
D. Letdown Heat Exchangers					
1. Circumferential Welds	7.4.1	C1.1	C-A	UT	ISI-0075-A
2. Integrally-Welded Supports	7.4.3	C3.10 (See Note 2)	C-C (See Note 2)	UT	ISI-0075-A

NOTES: 1. See Section 7.0 for additional information.
2. Item number and examination category from 1977 Edition, 1978 Summer Addenda of Section XI.

TABLE B (CONTINUED)

WATTS BAR PRESERVICE INSPECTION PROGRAM - ASME CLASS 2 COMPONENTS

Component	Program Reference Section (See Note 1)	Examination Category Item No. From Table IWC-2600, Section XI	From Table IWC-2600, Section XI	Method of Inspection	Reference Drawing No.
E. Excess Ledtown Heat Exchanger					
1. Circumferential Welds	7.5.1	C1.1	C-A	UT	ISI-0076-A
F. Boron Injection Tank					
1. Circumferential Welds	7.6.1	C1.1	C-A	UT	ISI-0053-B
2. Nozzle-to-Vessel Welds	7.6.2	C1.2	C-B	UT	ISI-0053-B
3. Integrally-Welded Supports	7.6.3	C3.10 (See Note 2)	C-C (See Note 2)	PT	ISI-0053-B
4. Pressure Retaining Bolting Exceeding Two Inches in Diameter	7.6.4	C4.10 (See Note 2)	C-D (See Note 2)	UT,PT, or MT	ISI-0053B
G. Upper Head Injection Water Accumulator					
1. Circumferential Welds	7.7.1	C1.1	C-A	UT	ISI-0073-B
2. Nozzle-to-Vessel Welds	7.7.2	C1.2	C-B	UT	ISI-0073-B
3. Integrally-Welded Supports	7.7.3	C1.3	C-C	PT	ISI-0073-B
4. Pressure Retaining Bolting Exceeding Two Inches in Diameter	7.7.4	C4.10 (See Note 2)	C-D (See Note 2)	UT,PT, or MT	ISI-0073B

NOTES: 1. See Section 7.0 for additional information.
2. Item number and examination category from 1977 Edition, 1978 Summer Addenda of Section XI.

TABLE B (CONTINUED)

WATTS BAR PRESERVICE INSPECTION PROGRAM - ASME CLASS 2 COMPONENTS

Component	Program Reference Section (See Note 1)	Examination Category Item No. From Table IWC-2600, Section XI	From Table IWC-2600, Section XI	Method of Inspection	Reference Drawing No.
H. Upper Head Injection Accumulator Surge Tank					
1. Circumferential Welds	7.8.1	C1.1	C-A	UT	ISI-0072-A
I. Piping					
1. Circumferential Welds	7.9.1	C2.1	C-F, C-G	UT	Appendix A, Piping Weld Location Dwg
2. Longitudinal Welds	7.9.2	C2.2	C-F, C-G	UT	Appendix A, Piping Weld Location Dwg
3. Branch Pipe Connection Welds	7.9.3	C2.3	C-F, C-G	UT	Appendix A, Piping Weld Location Dwg
4. Integrally-Welded Supports	7.9.5	C3.40 (See Note 2)	C-E (See Note 2)	PT or MT	Appendix A, Table H
5. Support Components	7.9.6	C3.50,C3.60 (See Note 2)	C-E (See Note 2)	VT-3 VT-4	Appendix A, Hanger Location Dwg
J. Residual Heat Removal Pumps					
1. Integrally-Welded Supports	7.10.3	C3.70 (See Note 2)	C-E (See Note 2)	PT	ISI-0117-A
2. Support Components	7.10.4	C3.80 (See Note 2)	C-E (See Note 2)	VT-3	ISI-0117-A

NOTES: 1. See Section 7.0 for additional information.
2. Item number and examination category from 1977 Edition, 1978 Summer Addenda of Section XI.

TABLE B (CONTINUED)

WATTS BAR PRESERVICE INSPECTION PROGRAM - ASME CLASS 2 COMPONENTS

Component	Program Reference Section (See Note 1)	Item No. From Table IWC-2600, Section XI	Examination Category From Table IWC-2600, Section XI	Method of Inspection	Reference Drawing No.
K. Chemical Volume Control Centrifugal Charging Pump					
1. Integrally-Welded Supports	7.11.3	C3.70 (See Note 2)	C-E (See Note 2)	PT	ISI-0118-A
2. Support Components	7.11.4	C3.80 (See Note 2)	C-E (See Note 2)	VT-3	ISI-0018-A
L. Safety Injection Pumps					
1. Support Components	7.12.3	C3.80 (See Note 2)	C-E (See Note 2)	VT-3	ISI-0120-A
M. Valves					
1. Valve Body Welds	7.13.1	C6.20 (See Note 2)	C-G (See Note 2)	PT	ISI-0081-A ISI-0082-A
2. Integrally-Welded Supports	7.13.3	C3.70 (See Note 2)	C-E (See Note 2)	PT or MT	Appendix A, Table F
3. Support Components	7.13.4	C3.80 (See Note 2)	C-E (See Note 2)	VT-3 UT-4	Appendix A, Table F
N. Exempted Components	7.14	N/A	N/A	VT	N/A

NOTES: 1. See Section 7.0 for additional information.
2. Item number and examination category from 1977 Edition, 1978 Summer Addenda of Section XI.

TABLE C

LIST OF DRAWINGS -UNIT #1

REACTOR VESSEL

DRAWING NO.	TITLE	APPENDIX A PAGE NO.
CH-M-2549-A	Reactor Vessel Closure Head	13
CH-M-2551-A	Reactor Vessel	14-20
CH-M-2684-C	Upperhead Penetrations	29
CH-M-2685-B	Auxiliary Head Adapter	30
ISI-0012-A	Control Rod Drive Housing	31
	REACTOR COOLANT PUMPS	
ISI-0048-B	Reactor Coolant Pump Casing Weld Locations	32
CHM-2672-B	RCP Main Flange Bolt Circle	28
	PRESSURIZER	
CH-M-2570	Pressurizer	21-24
	STEAM GENERATORS	
CH-M-2660-B	Steam Generator	25-26
	RESIDUAL HEAT REMOVAL HEAT EXCHANGERS	
CH-M-2662	Residual Heat Removal Heat Exchanger Channel Welds	27
	BORON INJECTION TANK	
ISI-0053-B	Boron Injection Tank Weld Locations	33
	ACCUMULATOR SURGE TANK	
ISI-0072-A	Accumulator Surge Tank Weld Locations	34
	LETDOWN HEAT EXCHANGER	
ISI-0075-A	Letdown Heat Exchanger Weld Locations	36
	EXCESS LETDOWN HEAT EXCHANGER	
ISI-0076-A	Excess Letdown Heat Exchanger Weld Location	37

TABLE C (CONTINUED)

LIST OF DRAWINGS -UNIT #1

REACTOR VESSEL

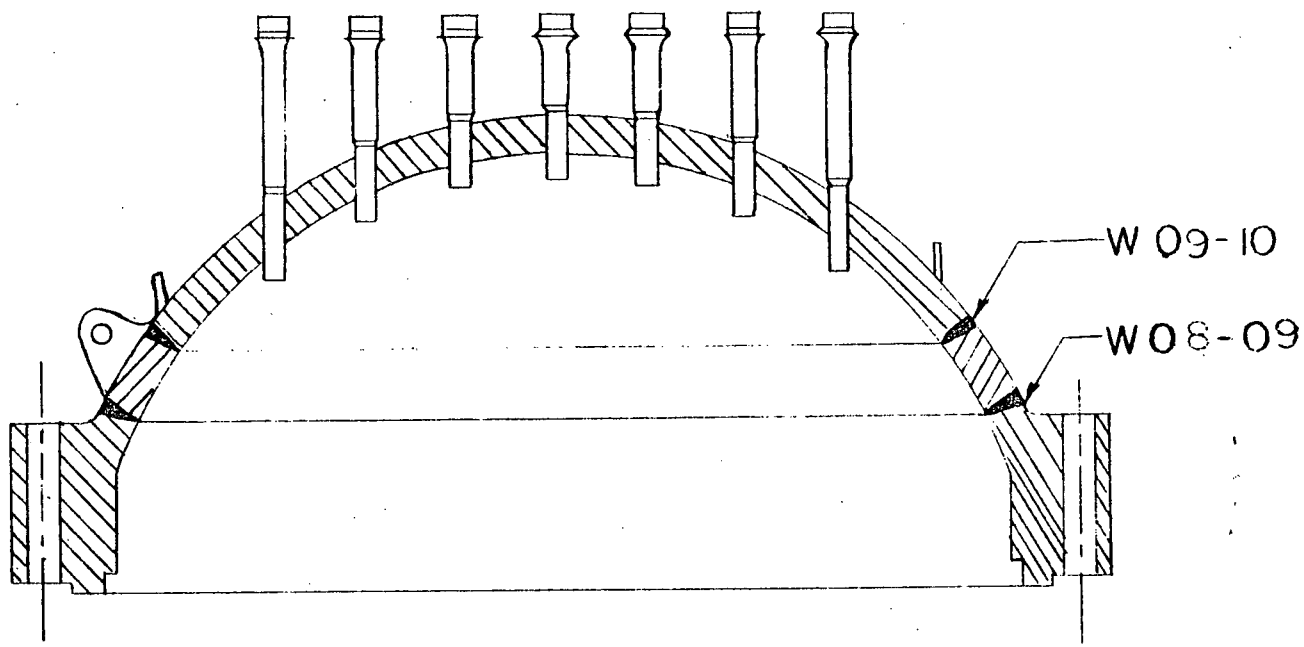
DRAWING NO.	TITLE	APPENDIX A PAGE NO.
	REGENERATIVE HEAT EXCHANGER	
ISI-0077-A	Regenerative Heat Exchanger Weld Locations	38-40
	UPPER HEAD INJECTION WATER ACCUMULATOR	
ISI-0073-B	Upper Head Injection Water Accumulator Weld Locations	35
	PIPING AND VALVE WELD MAPS	
ISI-0081-A	Mainsteam Relief Valve	41
ISI-0082-A	Feedwater Check Valve	42
CH-M-2547-B	Reactor Coolant Piping	47-48
CH-M-2636-C	Residual Heat Removal	49-56
CH-M-2669-C	Mainsteam	57-60
CH-M-2671-C	Feedwater	61-68
CH-M-2758-C	Safety Injection	69-81
ISI-0004-C	Upperhead Injection	82-86
ISI-0005-C	Chemical and Volume Control	87-88
ISI-0017-C	Reactor Coolant System	89-99
ISI-0050-C	CVCS Seal Water Injection	100-103
	HANGER LOCATION DRAWING CLASS 1 AND CLASS 2	
ISI-0010-C	Reactor Coolant System	104-114
ISI-0020-C	Residual Heat Removal	119-126
ISI-0011-C	Mainsteam	115-118
ISI-0062-C	Feedwater	147-154
ISI-0021-C	Safety Injection	127-139

TABLE C (CONTINUED)

LIST OF DRAWINGS -UNIT #1

REACTOR VESSEL

DRAWING NO.	TITLE	APPENDIX A PAGE NO.
	HANGER LOCATION DRAWINGS CLASS 1 AND CLASS 2 (CONTINUED)	
ISI-0025-C	Upper Head Injection	140-144
ISI-0026-C	Chemical and Volume Control	145-146
ISI-0063-C	CVCS Seal Water Injection	155-158
ISI-0117-A	Residual Heat Removal Pump Supports	43
ISI-0118-A	Centrifugal Charging Pump Supports	44
ISI-0120-A	Safety Injection Pump Supports	45
ISI-0121-A	Reactor Coolant Pump Supports	46
ISI-0124-C	Pressurizer Surge Line	159
	HANGER LOCATION DRAWINGS CLASS 3	
ISI-0106-C	Safety Injection	160-162
ISI-0107-C	Residual Heat Removal	163
ISI-0108-C	Containment Spray	164
ISI-0109-C	Chemical and Volume Control	165
ISI-0110-C	Fuel Pool Cooling and Cleaning	166-170
ISI-0111-C	Auxiliary Feedwater	171-174
ISI-0112-C	Essential Raw Cooling Water	175-216
Later	Component Cooling	220-223
Later	Raw Service Water and Fire Protection	217-219



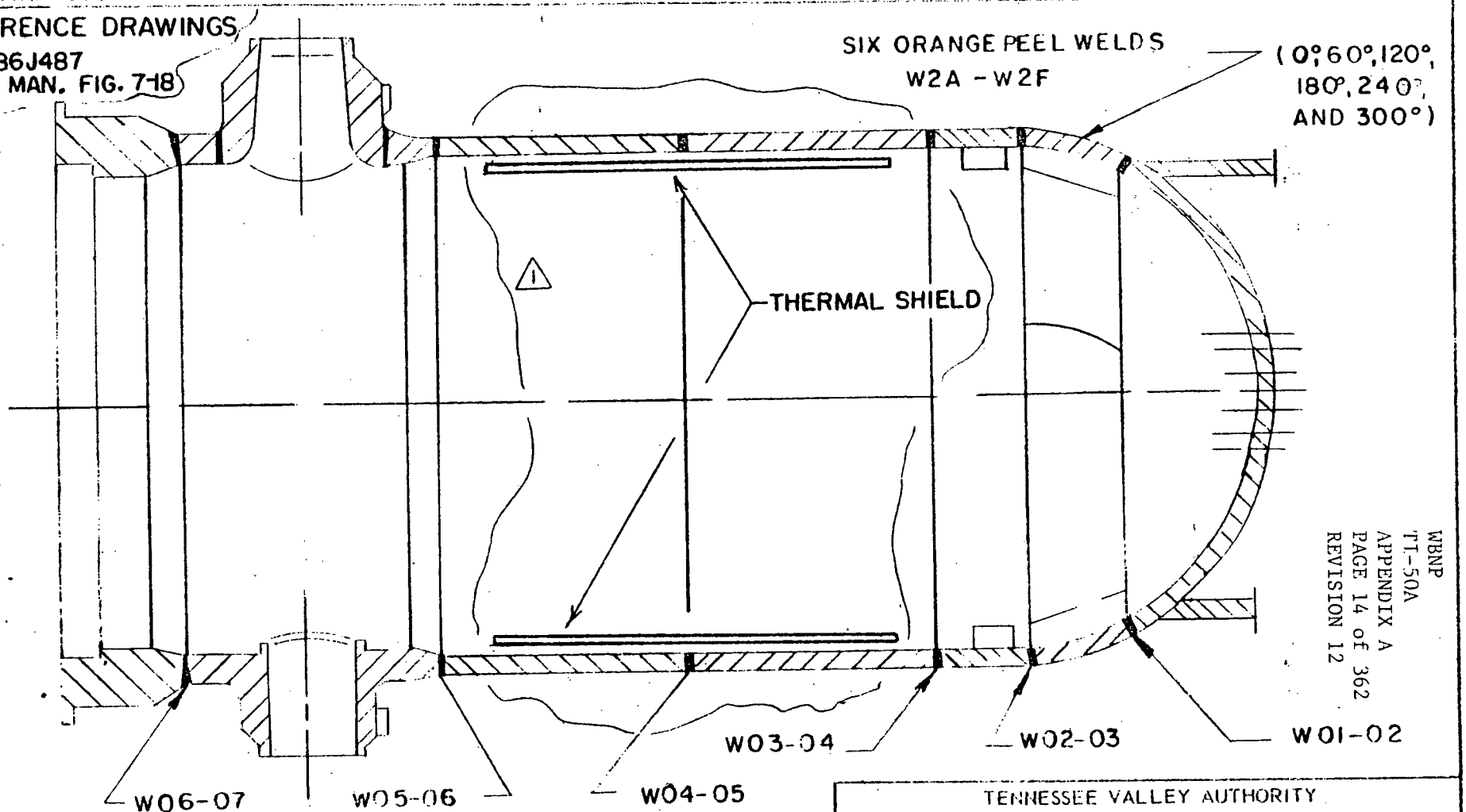
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR VESSEL
CLOSURE HEAD

SCALE: NTS	SUBMITTED	APPROVED	DATE 10-2-78
DRAWN			SHEET 1 OF 1 SHEETS
TRACED RAS			Ch-m 2549 A
CHECKED DAD			

TVA 5690-A (PP 2-60)

REFERENCE DRAWINGS
W686J487
RPV MAN. FIG. 7-18



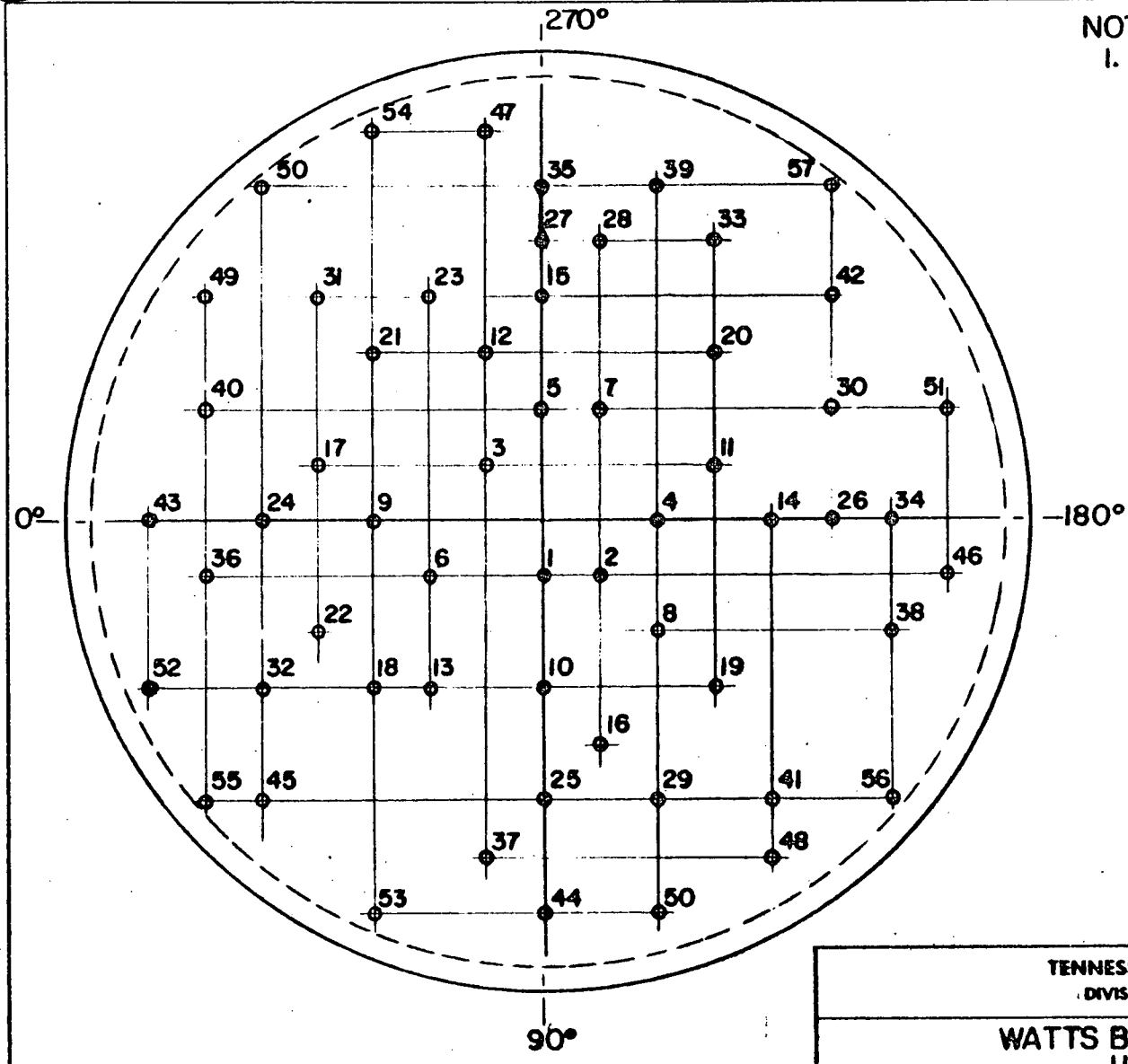
NO.	DATE	REVISIONS	CK'D	APP.
1	4-7-82	ADD THERMAL SHIELD AND REF. DWG.	DAD	

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR VESSEL
(SEAM WELDS)

SCALE: NTS
DRAWN
TRACED RAS
CHECKED
SUBMITTED
APPROVED
DATE 10-3-78
SHEET 1 OF 7 SHEETS
CH-M 2551 A
R1

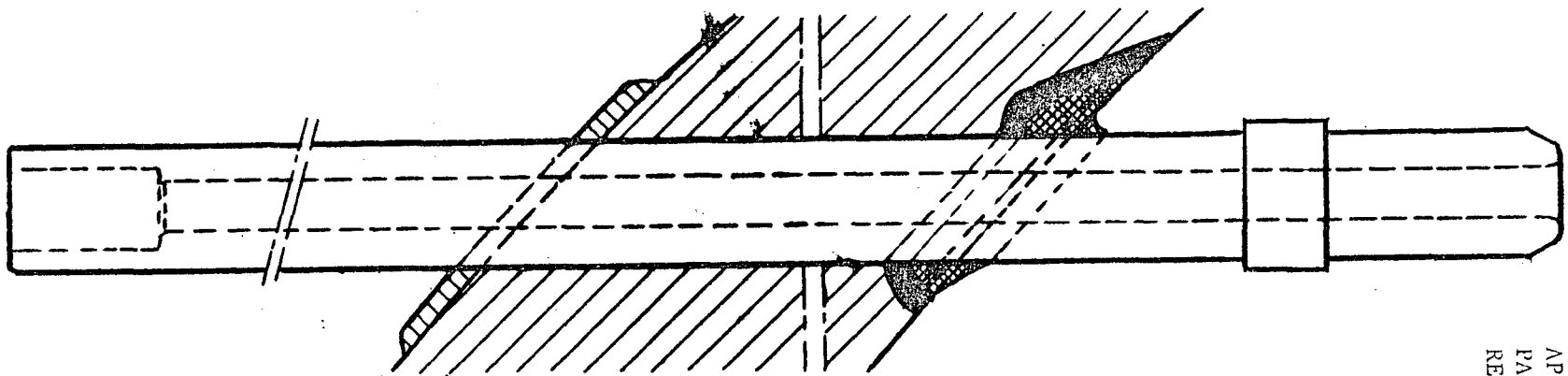
NOTES:
1. FOR PENETRATION DETAIL SEE SHEET 3



TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR VESSEL
(BOTTOM HEAD PENETRATIONS)

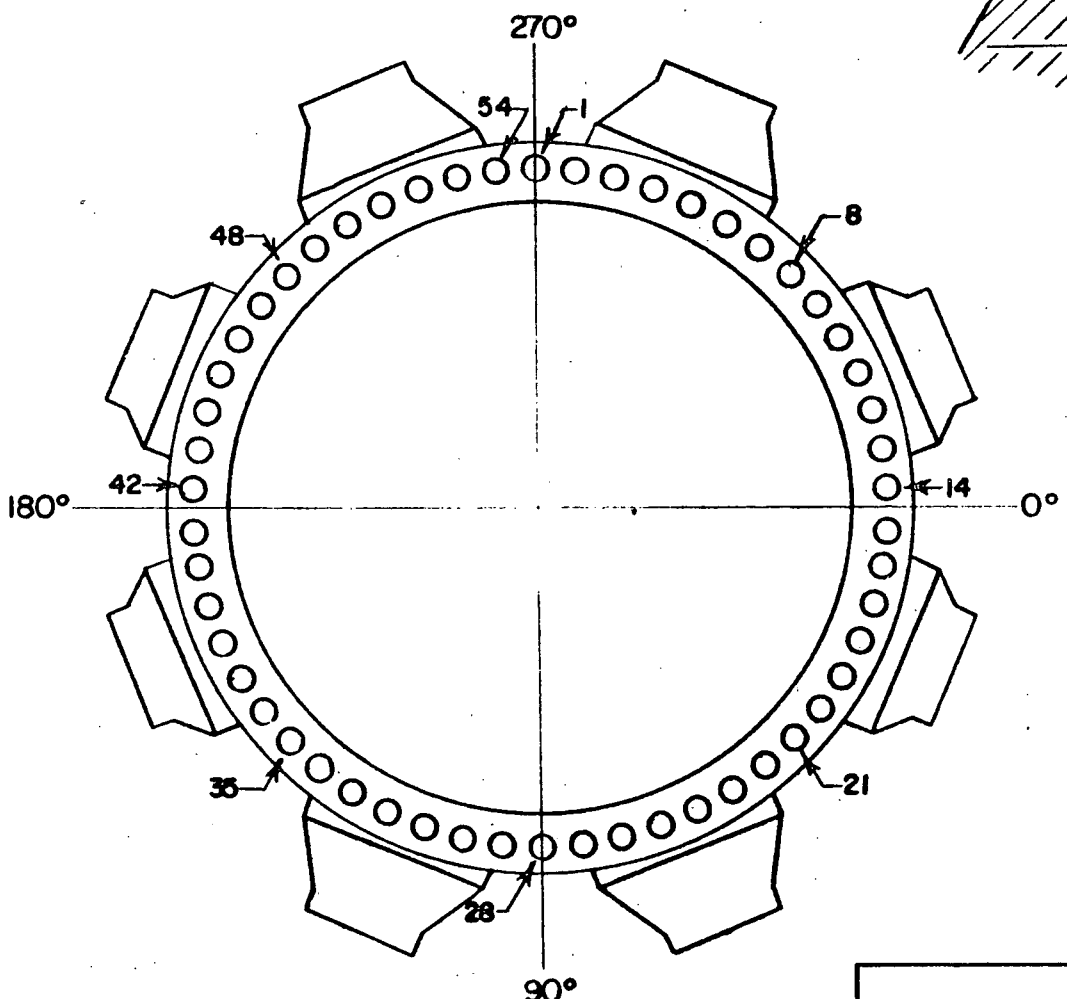
SCALE: NTS DRAWN KEV TRACED CHECKED JCG	SUBMITTED	APPROVED BJB	DATE 12/23/80 SHEET 2 OF 7 SHEETS CH-M-2551-A

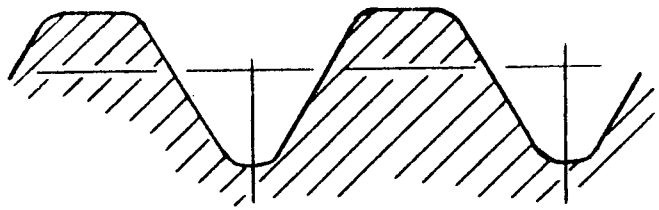


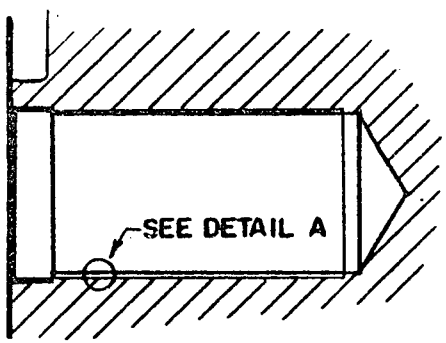
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR VESSEL
(BOTTOM HEAD PENETRATION DETAIL)

SCALE: NTS DRAWN TRACED KEV CHECKED JCG	SUBMITTED	APPROVED	DATE 12/24/80 SHEET 3 OF 7 SHEETS CH-M-2551-A





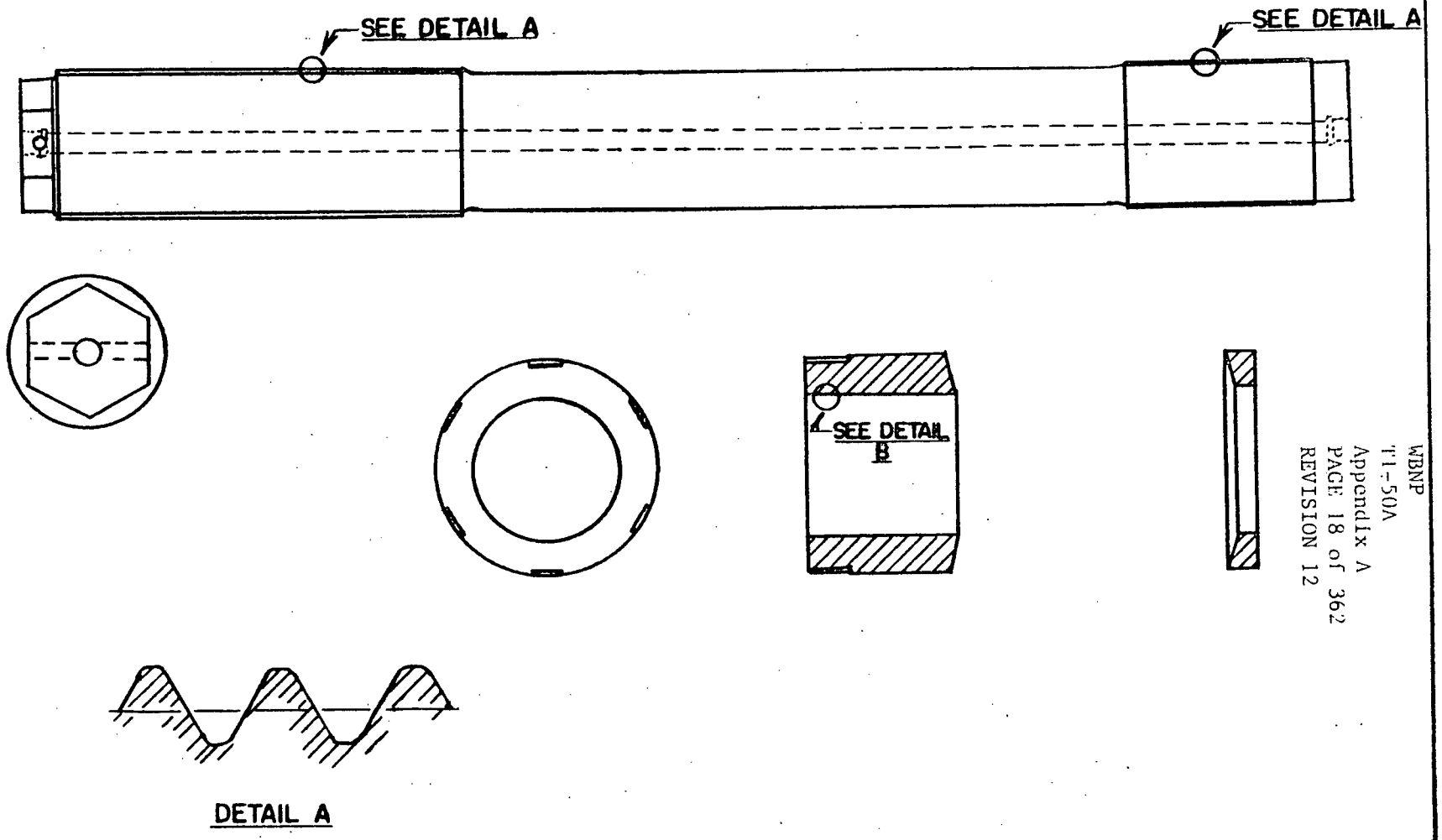


DETAIL OF STUD HOLE

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR VESSEL
(BOLTING PATTERN)

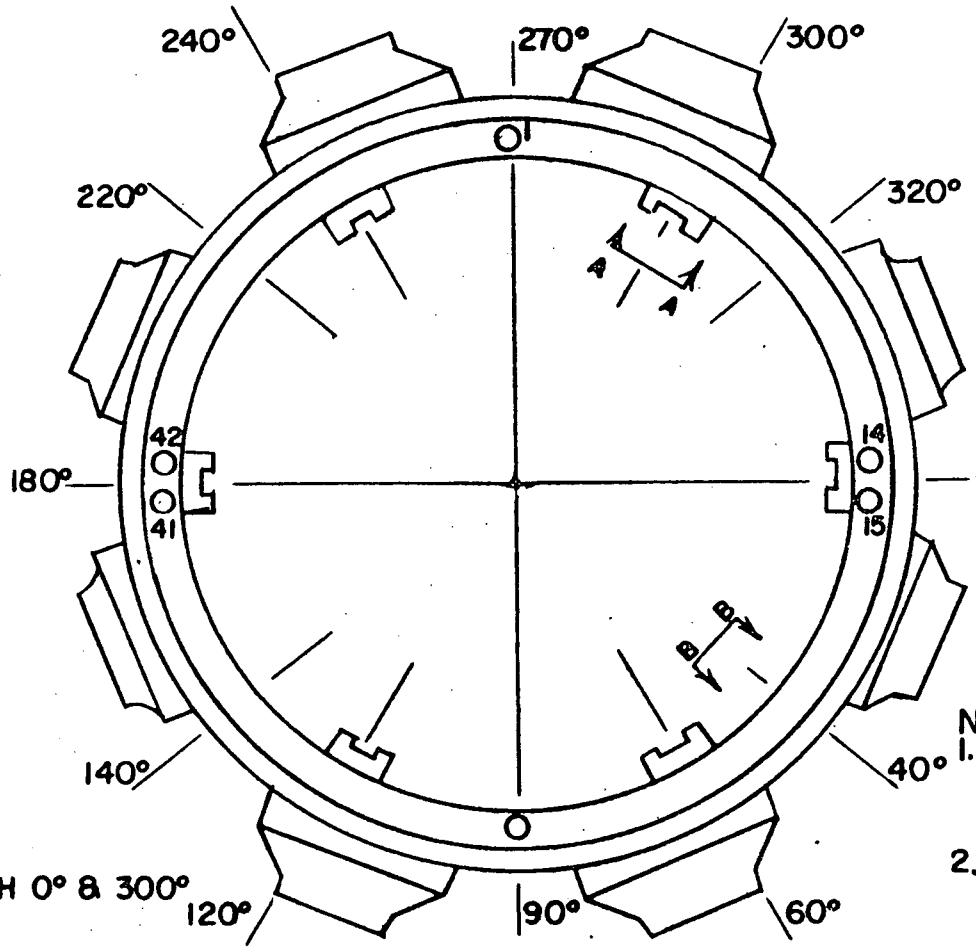
SCALE: NTS	SUBMITTED	APPROVED	DATE 12/24/80
DRAWN			SHEET 4 OF 7 SHEETS
TRACED BCV			CH-M-2551-A
CHECKED DAD			

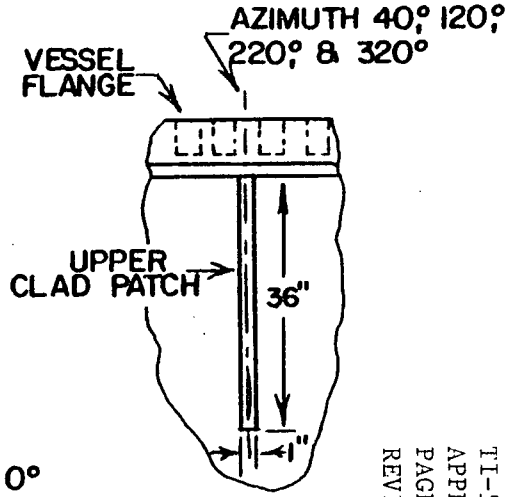


TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR VESSEL
(CLOSURE STUDS, NUTS AND WASHERS)

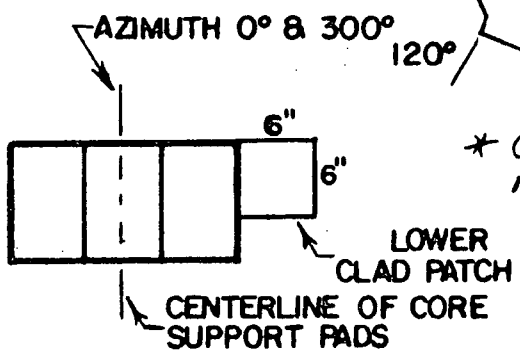
SCALE: NTS	SUBMITTED	APPROVED	DATE 12/24/80
DRAWN			SHEET 5 OF 7 SHEETS
TRACED			CH-M-2551-A
CHECKED JCG			





SECTION B-B

NOTES:
1. UPPER CLAD PATCH EXAMINATIONS SHALL BE DONE THROUGH THE RADIATION SPECIMEN ACCESS PORTS.
2. AZIMUTHS ARE TAKEN OFF OF REACTOR CENTERLINE.



SECTION A-A

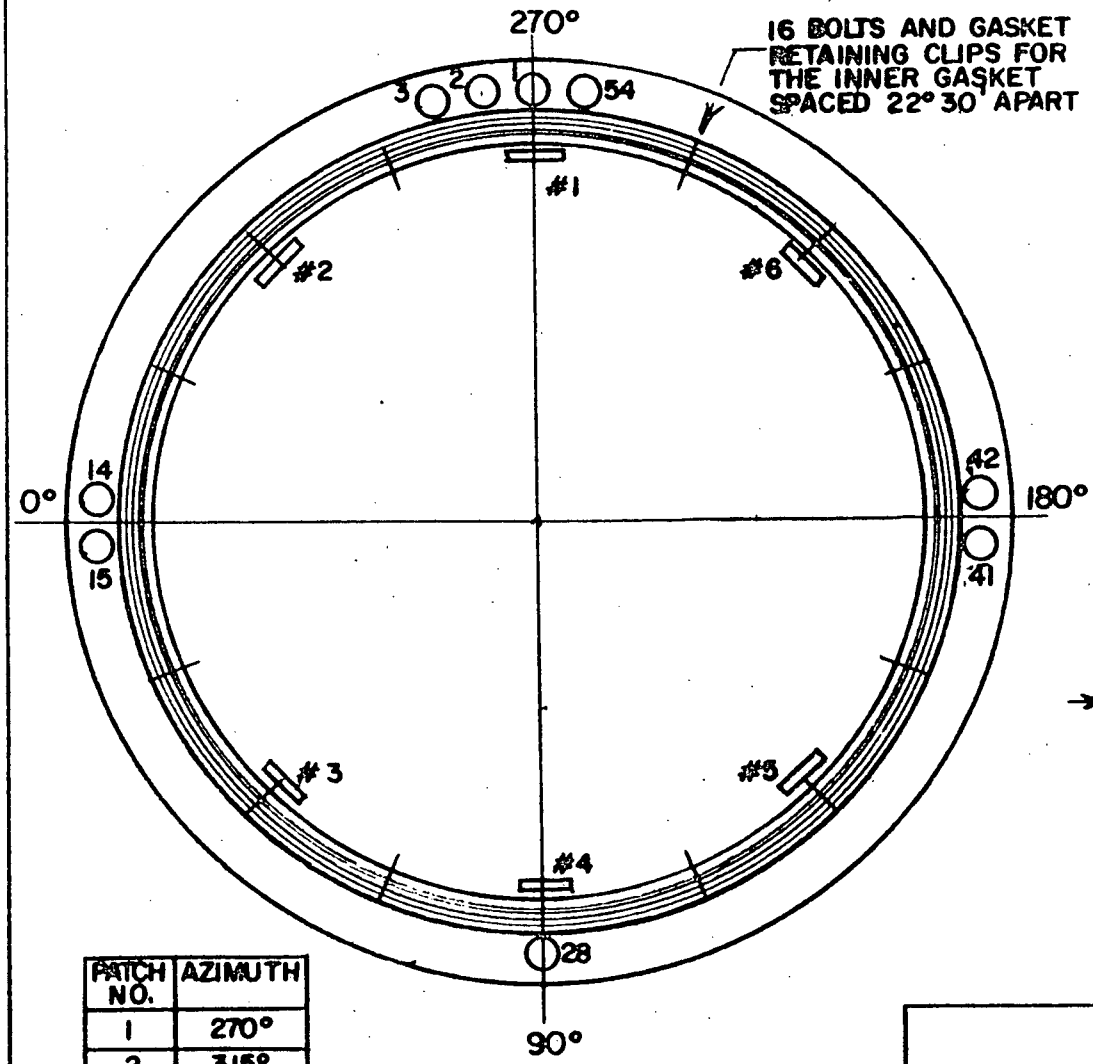
* CLAD PATCH EXAMINE NOT REQUIRED

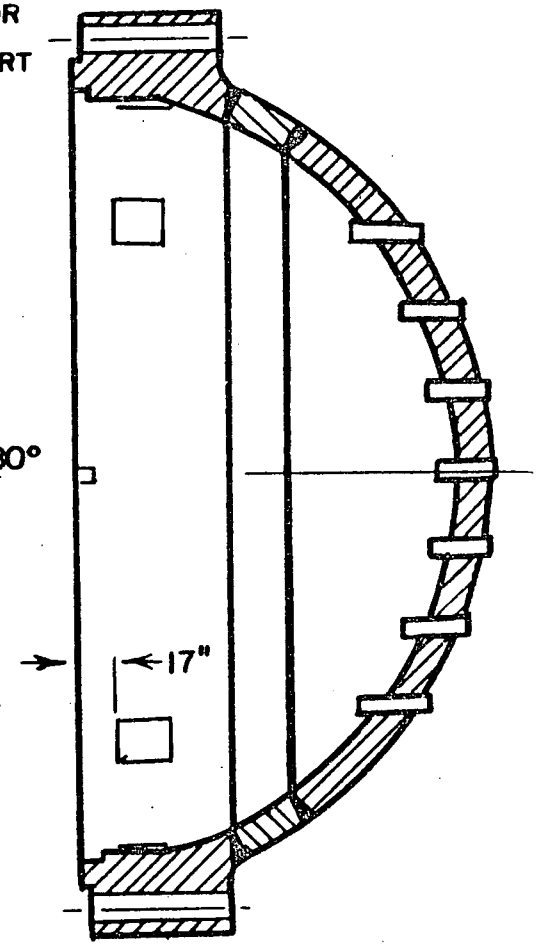
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR VESSEL
(CLAD PATCHES)

SCALE: NTS	SUBMITTED	APPROVED	DATE 12/24/80
DRAWN			SHEET 6 OF 7 SHEETS
TRACED MEF			CH-M-2551-A
CHECKED JCG			

RD





PATCH NO.	AZIMUTH
1	270°
2	315°
3	45°
4	90°
5	135°
6	225°

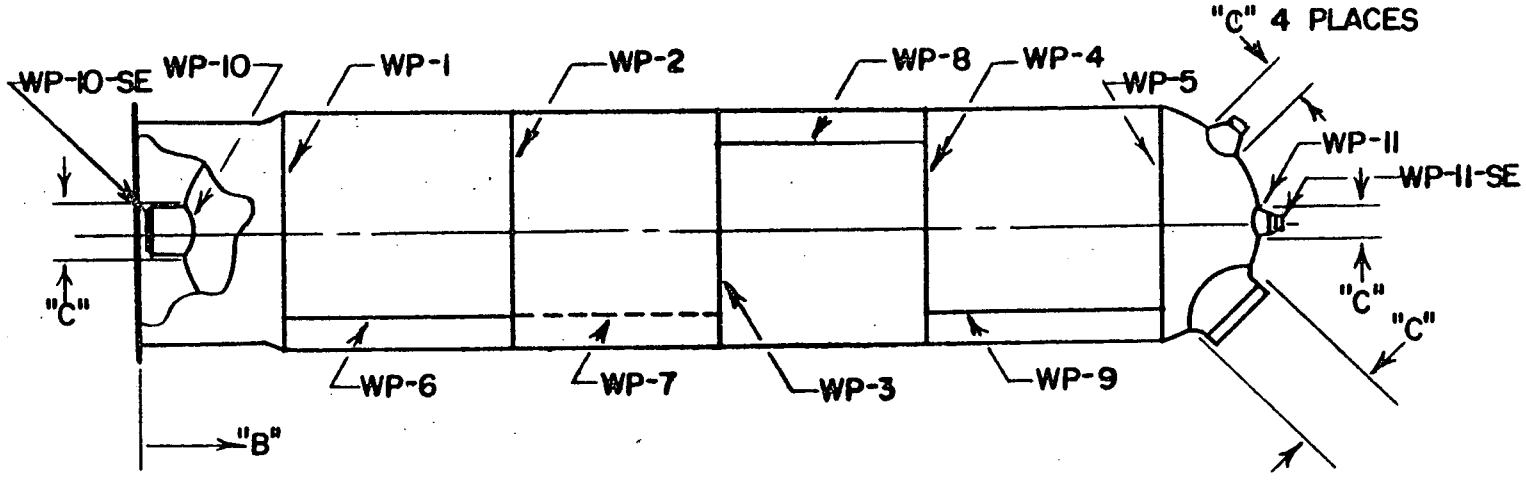
*CLAD PATCH EXAMINE NOT REQUIRED

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

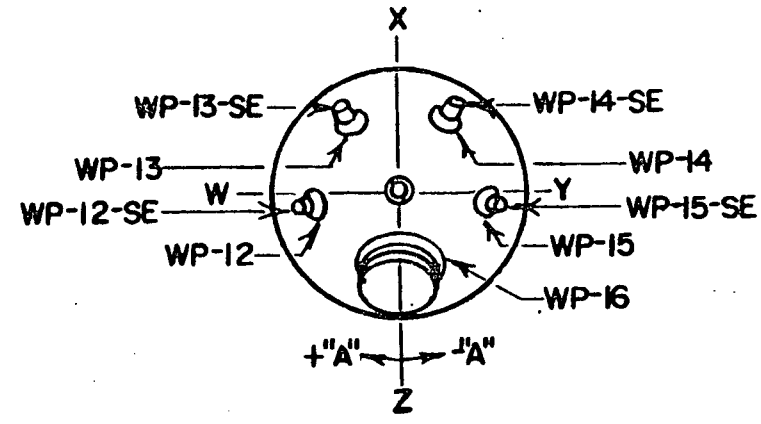
WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR VESSEL
(CLOSURE HEAD CLADDING PATCHES)

SCALE: NTS	SUBMITTED	APPROVED	DATE 1/5/81
DRAWN			SHEET 7 OF 7 SHEETS
TRACED REV			CH-M-2551-A
CHECKED KCC			

RO



AS BUILT DIMENSIONS				
TITLE	SEAM NO.	"A"	"B"	"C"
GIRTH WELDS	1		96.44"	
	2		193.25"	
	3		322.12"	
	4		450.87"	
	5		588.12"	
LONGITUDINAL WELDS	6	+30°		
	7	-29°		
	8	+135°		
	9	+47°		
SURGE NOZ.	10	0°		24.50"
SPRAY NOZ.	11	0°		12.75"
SAFETY NOZ.	12	+81°		15.00"
SAFETY NOZ.	13	+146° 59'		15.00"
SAFETY NOZ.	14	-147° 7'		15.00"
RELIEF NOZ.	15	-82°		15.00"
MANWAY	16	-1°		32.50"

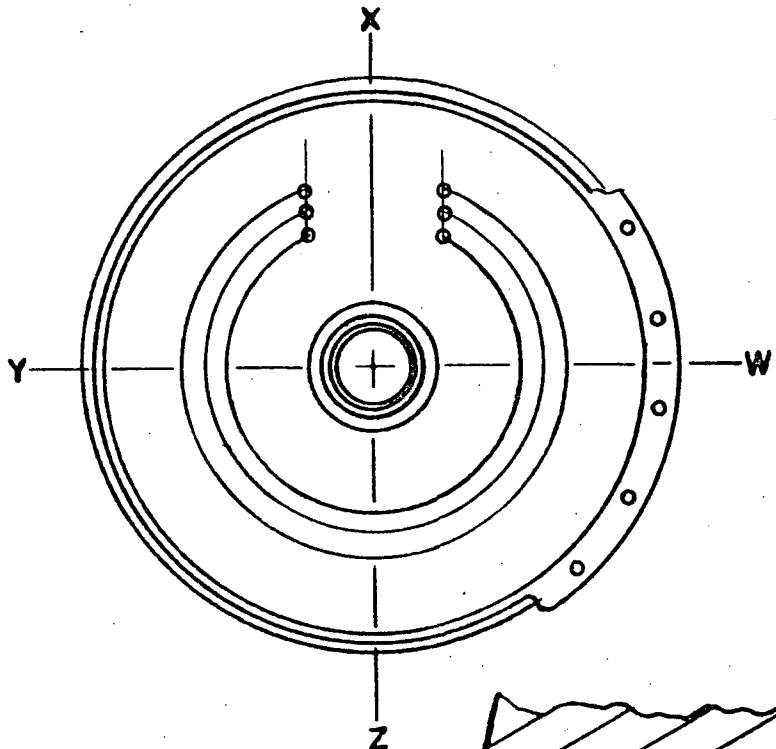


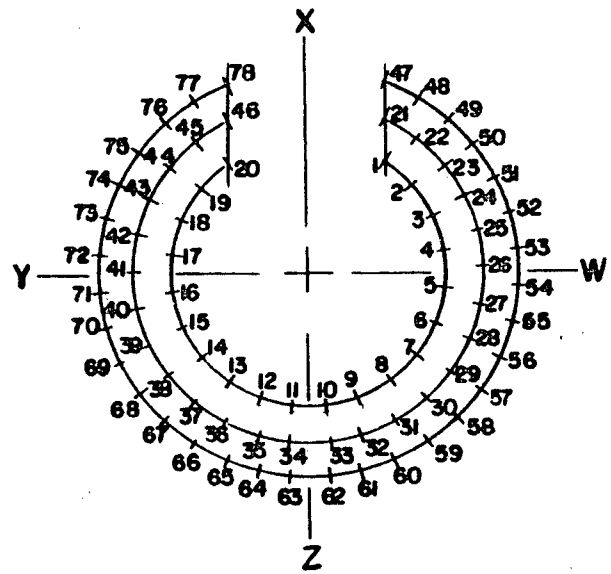
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

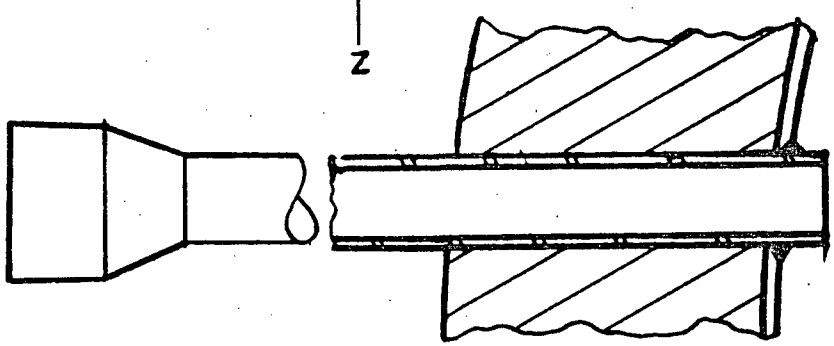
WATTS BAR NUCLEAR PLANT
UNIT #1
PRESSURIZER

SCALE: NTS	SUBMITTED	APPROVED	DATE 12/9/80
DRAWN / TRACED / CHECKED			SHEET 1 OF 4 SHEETS
			CH-M-2570-A

PARTIAL BOTTOM VIEW





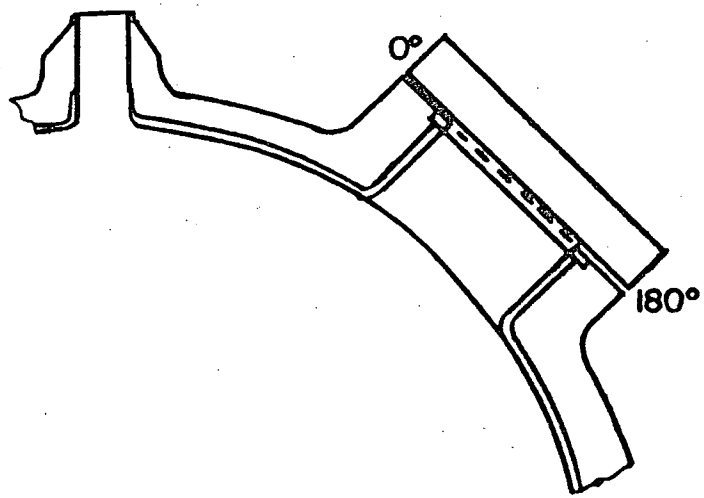


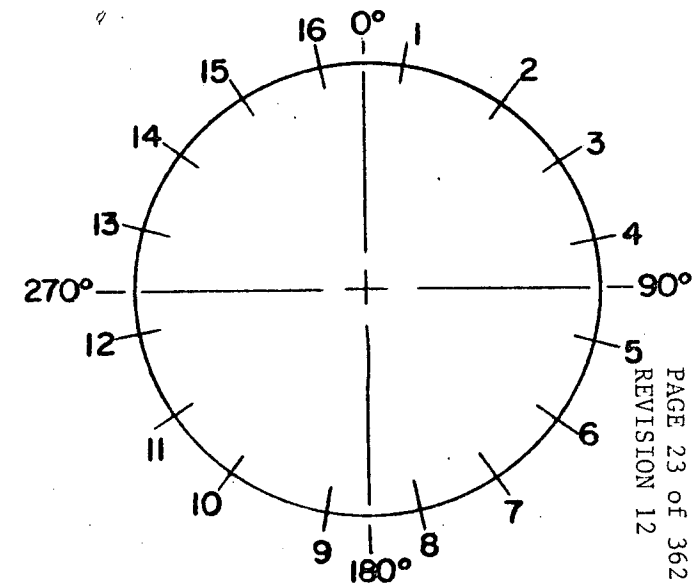
HEATER PENETRATION DETAIL

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
PRESSURIZER
(HEATER PENETRATIONS)

SCALE: NTS	SUBMITTED	APPROVED	DATE 12/9/80
DRAWN			SHEET 2 OF 4 SHEETS
TRACED KEV			CH-M-2570-A
CHECKED JCG			





NOTE:
TO DO THE CLAD PATCH INSPECTION, PLACE THE CLAD PATCH FRAME (SEE DRAWING NO. CH-M-2525-A) ON STUDS #8 AND #9.

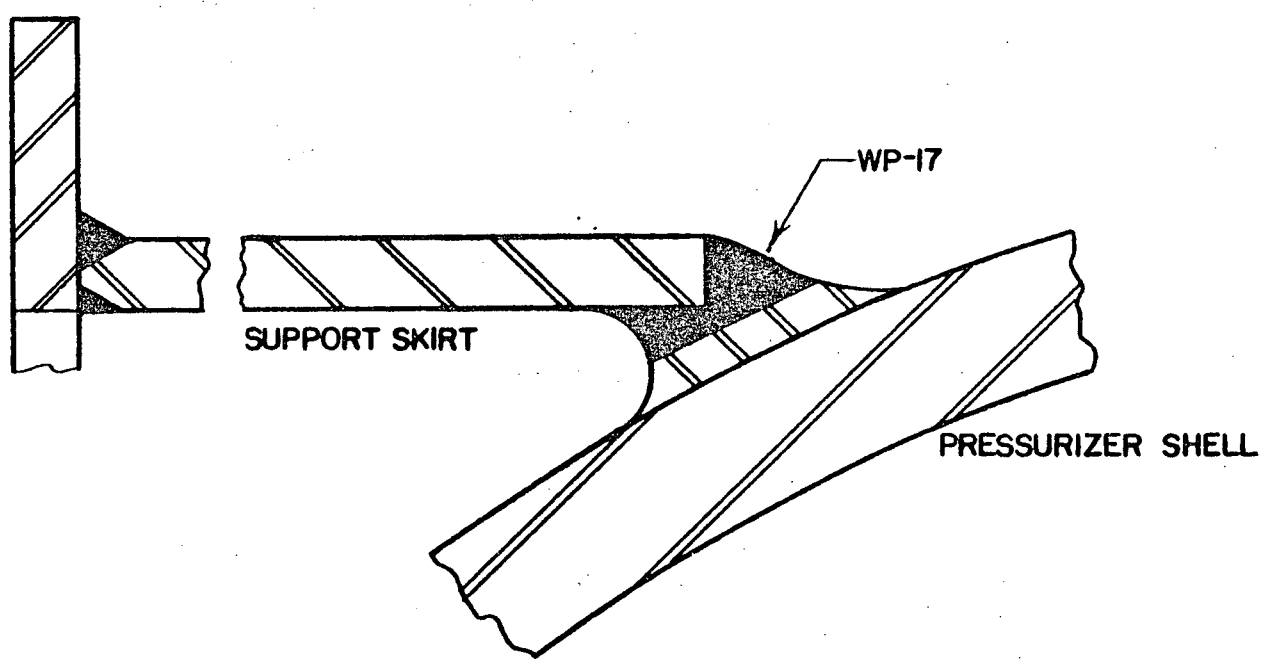
*-CLAD PATCH EXAMINE NOT REQUIRED

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
PRESSURIZER
(MANWAY BOLT PATTERN)

SCALE: NTS	SUBMITTED	APPROVED	DATE 12/9/80
DRAWN			SHEET 3 OF 4 SHEETS
TRACED BRR			CH-M-2570-A
CHECKED KG			

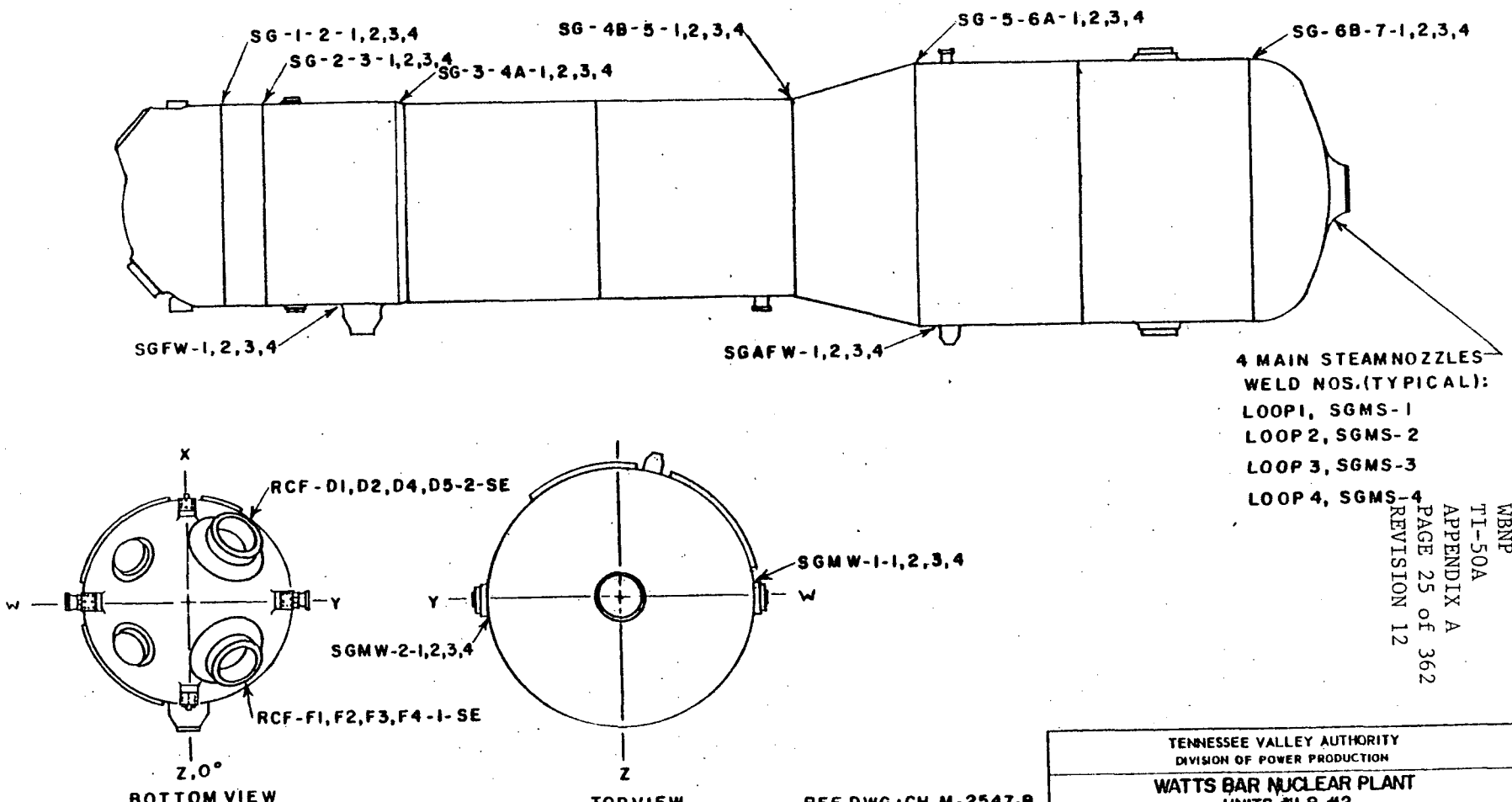
R0

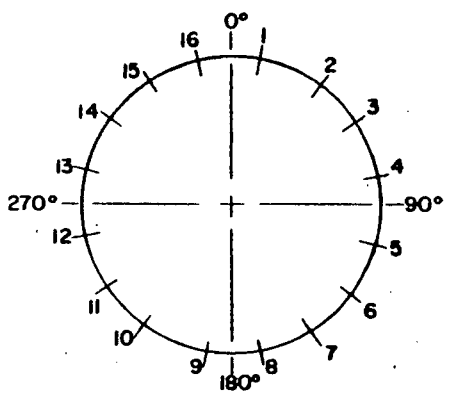


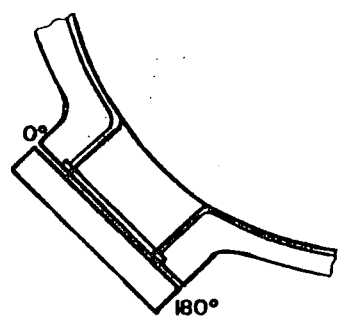
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
PRESSURIZER
(SUPPORT SKIRT WELD)

SCALE: NTS	SUBMITTED	APPROVED	DATE 12/10/80
DRAWN			SHEET 4 OF 4 SHEETS
TRACED KEK			CH-M-2570-A
CHECKED JCG			


SG-1-2-1,2,3,4
SG-2-3-1,2,3,4
SG-3-4A-1,2,3,4
SG-4B-5-1,2,3,4
SG-5-6A-1,2,3,4
SG-6B-7-1,2,3,4
SGFW-1,2,3,4
SGAFW-1,2,3,4
4 MAIN STEAM NOZZLES
WELD NOS.(TYPICAL):
LOOP1, SGMS-1
LOOP2, SGMS-2
LOOP3, SGMS-3
LOOP4, SGMS-4
X
RCF-D1,D2,D4,D5-2-SE
W
Y
RCF-F1,F2,F3,F4-1-SE
Z,0°
BOTTOM VIEW
SGMW-1-1,2,3,4
SGMW-2-1,2,3,4
Z
TOPVIEW
LOOPS 1&3 AS SHOWN
LOOPS 2&4 OPPOSITE HAND
REF. DWG.:CH-M-2547-B
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION
WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
STEAM GENERATOR
SCALE: NTS
DRAWN
TRACED
CHECKED
SUBMITTED
APPROVED
DATE 4-26-79
SHEET 1 OF 2 SHEETS
CH-M-2660-B





NOTE:
TO DO THE CLAD PATCH INSPECTION, PLACE CLAD PATCH FRAME (SEE DRAWING NO. CH-M-2525-A) ON STUDS #8 AND #9.

* CLAD PATCH EXAMINE NOT REQUIRED

WBNP
TI-50A
APPENDIX A
PAGE 26 of 362
REVISION 12

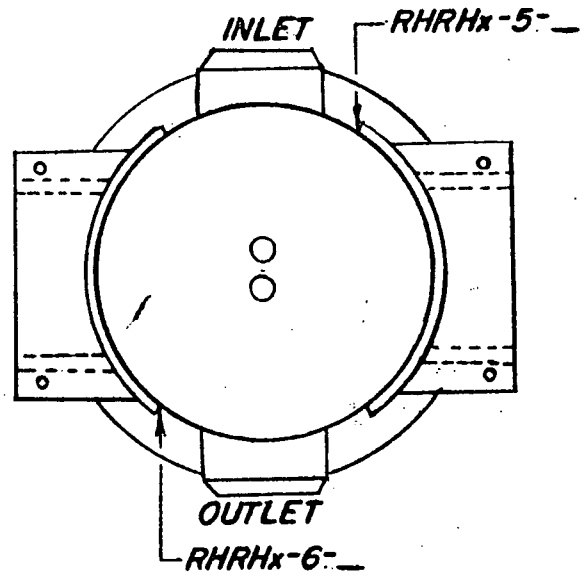
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

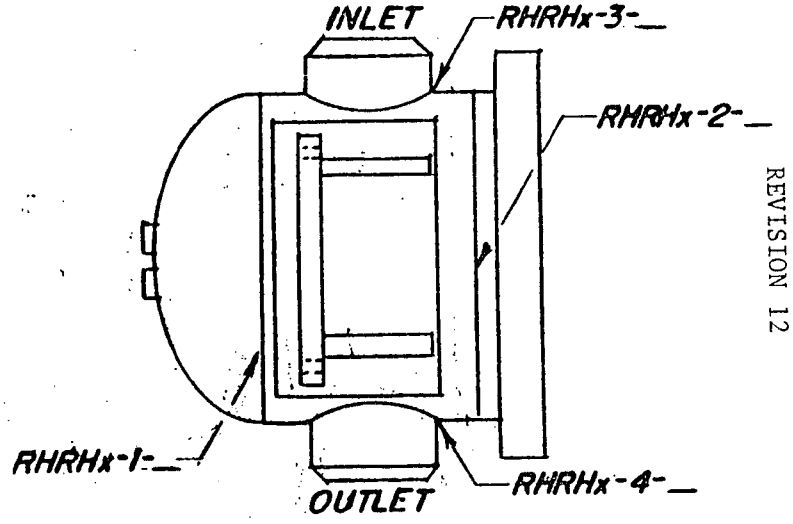
WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
STEAM GENERATOR
(PRIMARY MANWAY BOLTING)

SCALE: NTS	SUBMITTED	APPROVED	DATE 1/5/81
DRAWN: KEV			SHEET 2 OF 2 SHEETS
CHECKED:			CH-M-2660-B
CHECKED: RG			

RD

TVA 6690-A (PP-2-60)





NOTE: PLACE HEAT EXCHANGER NUMBERS AT END OF WELD NUMBER

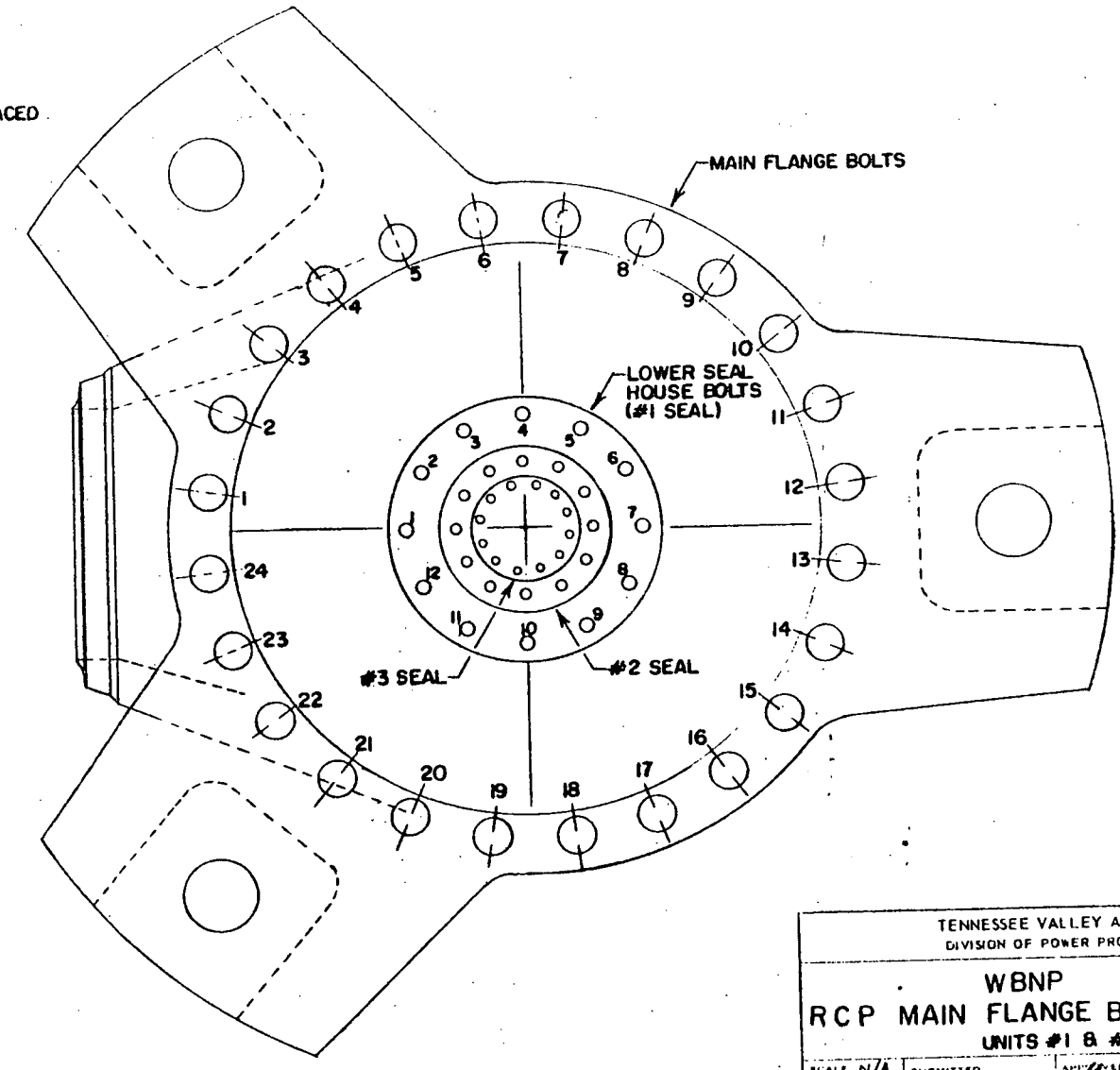
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
RESIDUAL HEAT REMOVAL
HEAT EXCHANGER
CHANNEL WELDS

SCALE: NTS	SUBMITTED	APPROVED	DATE 5/3/79
DRAWN KEV			SHEET 1 OF 1 SHEETS
TRACED			CH-M-2662-A
CHECKED DAO			

NOTES

1. ALL MAIN FLANGE BOLTS ARE PRECEDED BY RCP-X-Y-_ WHERE X IS REPLACED BY THE UNIT NUMBER AND Y IS REPLACED BY THE PUMP NUMBER.
2. THE LOWER SEAL HOUSE CAP SCREWS ARE PRECEDED BY LSH-X-Y-_ WHERE X IS REPLACED BY THE UNIT NUMBER AND Y IS REPLACED BY THE PUMP NUMBER.



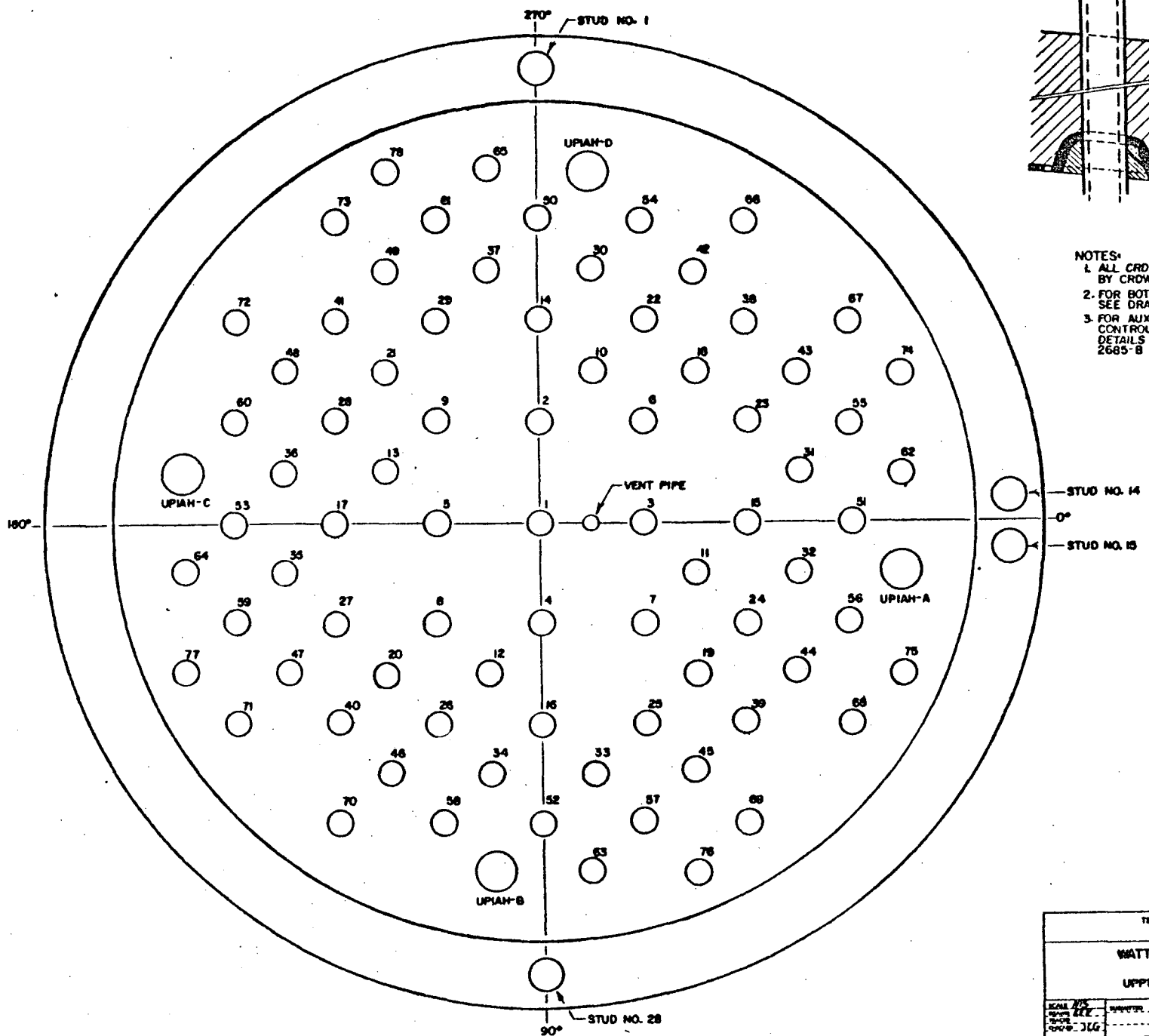
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

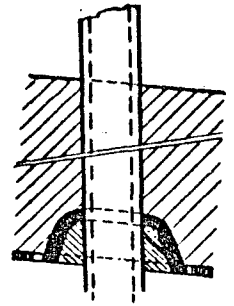
WBNP
RCP MAIN FLANGE BOLT CIRCLE
UNITS #1 & #2

SCALE N/A	SUBMITTED	APPROVED BJB	DATE 5-25-1979
DRAWN JLG			SHEET 1 OF 1 SHEETS
TRACED			CHM-2672-B
CHECKED			

RO

WBNP
TI-50A
APPENDIX A
PAGE 28 of 362
REVISION 12





NOTES:
1. ALL CRDM NUMBERS ARE PRECEDED BY CROW FOR THE WELD NUMBERS
2. FOR BOTTOM HEAD PENETRATIONS SEE DRAWING NO. CH-M-2551-A
3. FOR AUXILIARY HEAD ADAPTER AND CONTROL ROD DRIVE PENETRATION DETAILS SEE DRAWING NOS. (2685-B AND 151-0012-A RESPECTIVELY

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

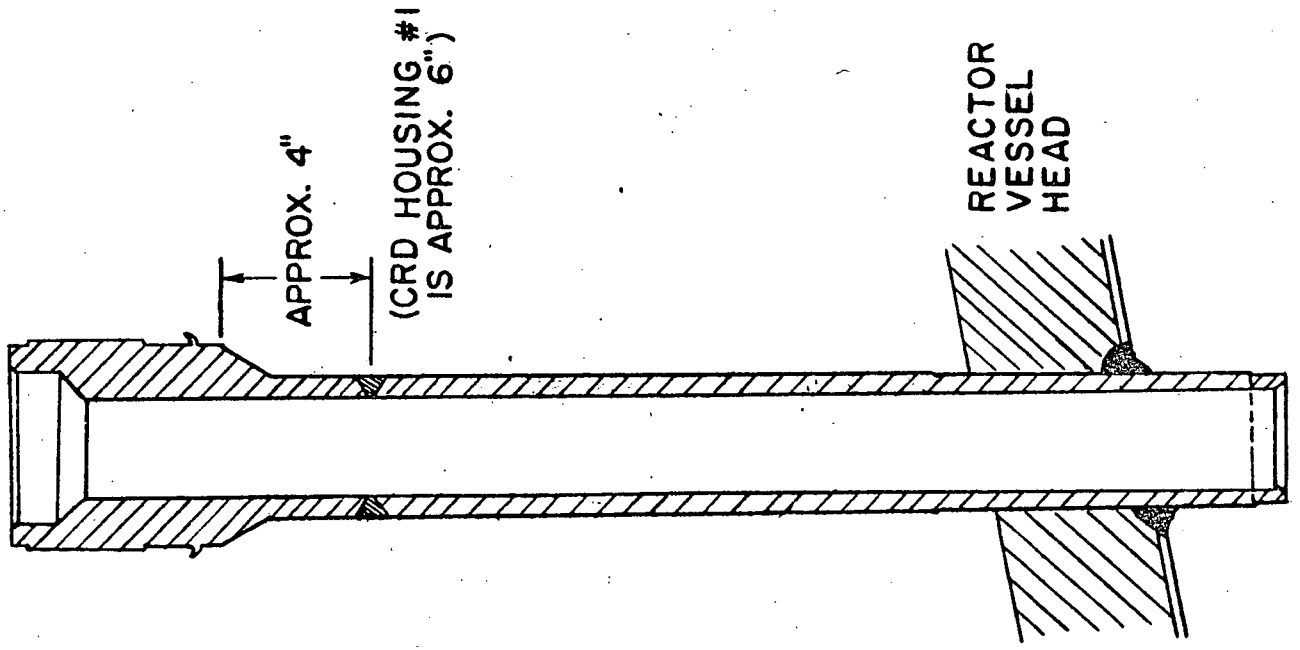
WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
UPPER HEAD PENETRATIONS

CH-M-2684-C

WBNP
TI-50A
APPENDIX A
PAGE 29 of 362
REVISION 12

DETAIL-B
INCONEL
SA-182
304 SS
APPROXIMATELY 8" EXAMINER TO DETERMINE EXACT LOCATION ULTRASONICALLY
SEE DETAIL-B
UPIAH-4-A,B,C&D*
UPIAH-3-A,B,C&D*
INCONEL
UPIAH-2-A,B,C&D*
SB-166
SA-533
INCONEL BUTTER
UPIAH-1-A,B,C&D*
LOW ALLOY BUTTER
CL OF AUXILIARY HEAD ADAPTER TYPICAL FOR 4 PLACES WELD NO'S. UPIAH-1,2,3&4
* REF. TO CHM-2684-C FOR LOCATION ON HEAD
NO. DATE REVISIONS
1 6-16-81 ADD DIMENSION NOTE
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION
WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
AUXILIARY HEAD ADAPTER
SCALE: NTS
DRAWN
TRACED
CHECKED
SUBMITTED
APPROVED
DATE 6-15-78
SHEET 1 OF 1
CHM-2685-B
R1

TVA 6690-A (PP-2-60)



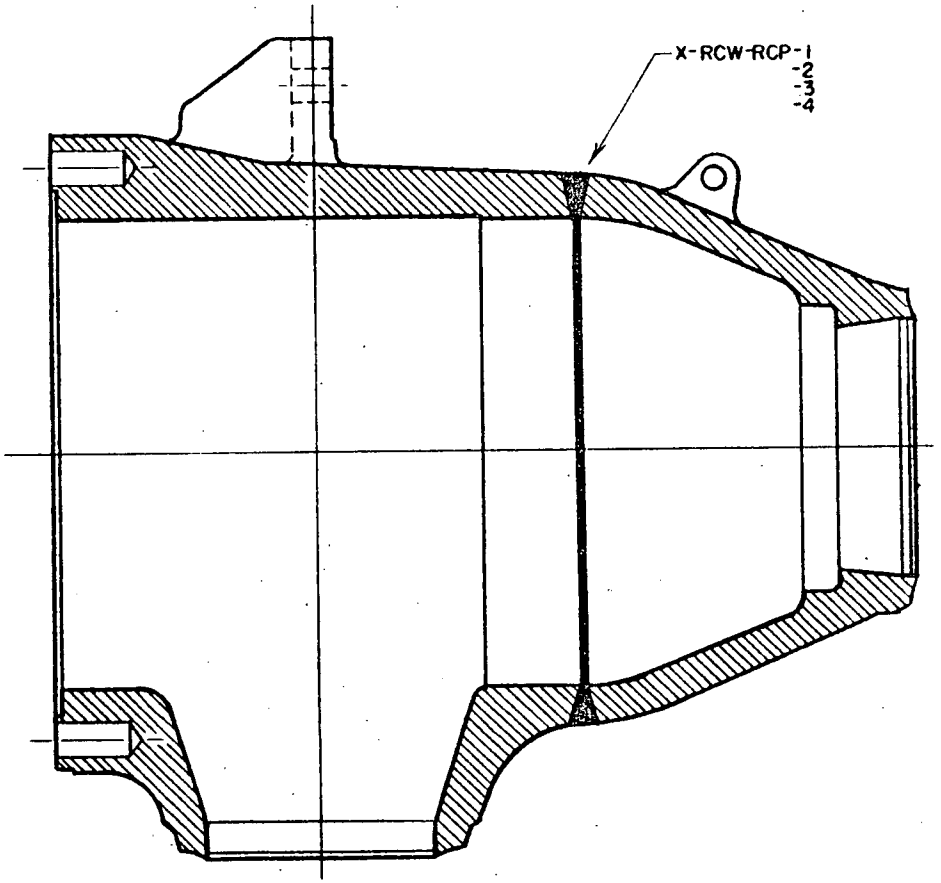
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
CONTROL ROD
DRIVE HOUSING

SCALE: NTS	SUBMITTED	APPROVED	DATE 12-22-80
DRAWN			SHEET 1 OF 1 SHEETS
TRACED			ISI-0012-A
CHECKED XG			

NOTES

1. REPLACE THE X IN THE WELD NUMBER WITH THE APPROPRIATE UNIT NUMBER.

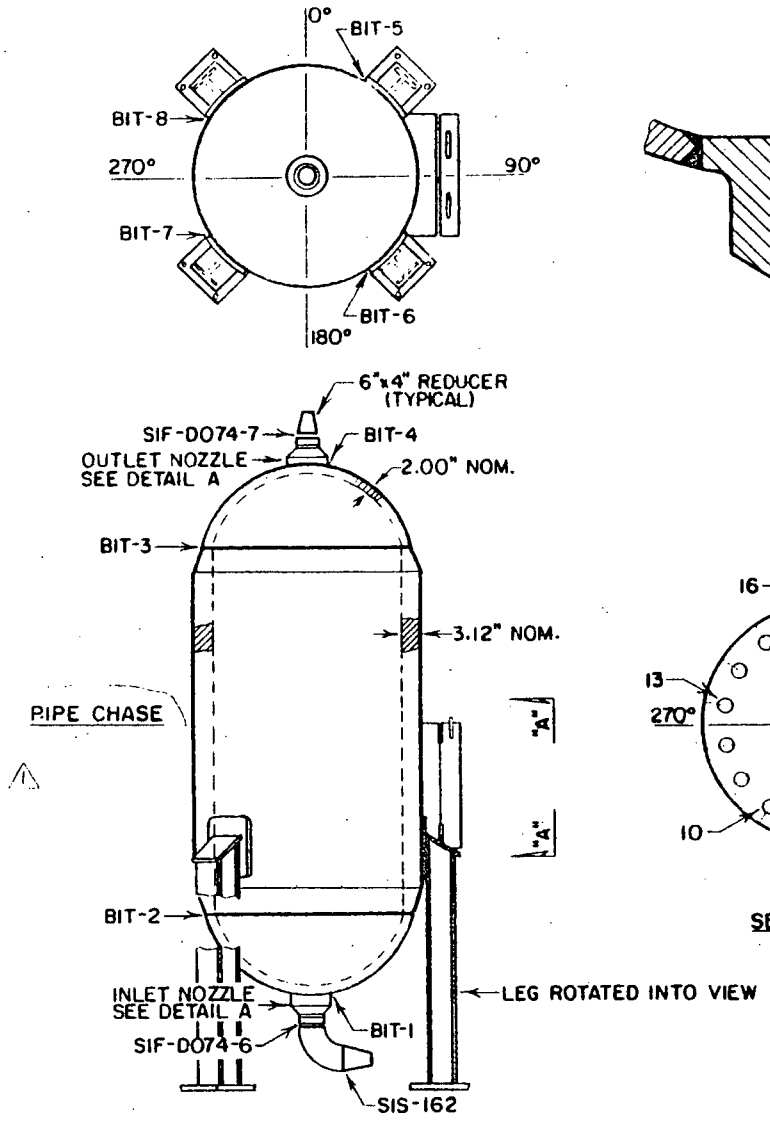


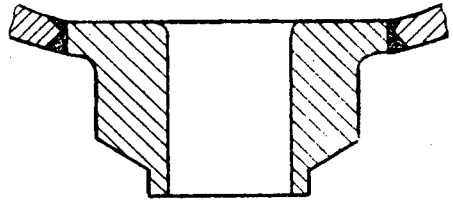
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR COOLANT PUMP CASING
WELD LOCATIONS

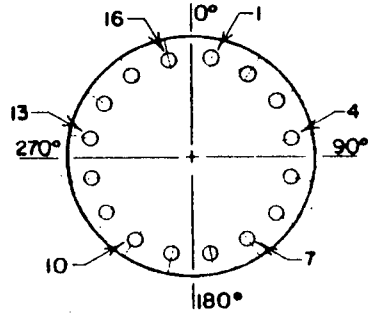
SCALE: NTS	SUBMITTED	APPROVED	DATE 1/8/82
DRAWN			SHEET 1 OF 1 SHEETS
VERIFIED KCY			251-0048-B RO
CHECKED DND			

WBNP
TI-50A
Appendix A
Page 32 of 362
Revision 12





DETAIL A



SECTION "A"-"A"

REFERENCE DRAWINGS
WESTINGHOUSE 1100E48
WBN E-2879 IC-74

MATERIAL SPECIFICATIONS
CLASS 2 ⚠
TANK
SHELL
SA-351 CF8A
3.12" NOM.
HEADS
SA 240 TP 304
2.00 NOM.
NOZZLES
SA 182 F 304
BOLTING
STUDS
SA 193 GR. B7
2.50-8UN-2A x 13.50
NUTS
SA 193 GR. 2H
2.50-8UN-2B HVY.
FITTINGS
SA 403 WP 304
6" SCH 160

WBNP
TI-50A
Appendix A
Page 33 of 362
Revision 12

NO.	DATE	REVISIONS	CK'D	APP.
1	1-14-83	CHANGED CLASS DESIGNATIONS AND ADD ROOM LOCATION REV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
BORON INJECTION TANK
WELD LOCATIONS

SCALE: NTS
DRAWN
TRACED
CHECKED
SUBMITTED
APPROVED
DATE 2-19-82
SHEET 1 OF 1 SHEETS
ISI-0053-B
R1

REFERENCE DRAWINGS

NW 5751

MATERIAL SPECIFICATIONS

CLASS 2 △1

SHELL

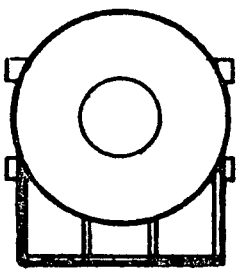
SA 240 TP 304

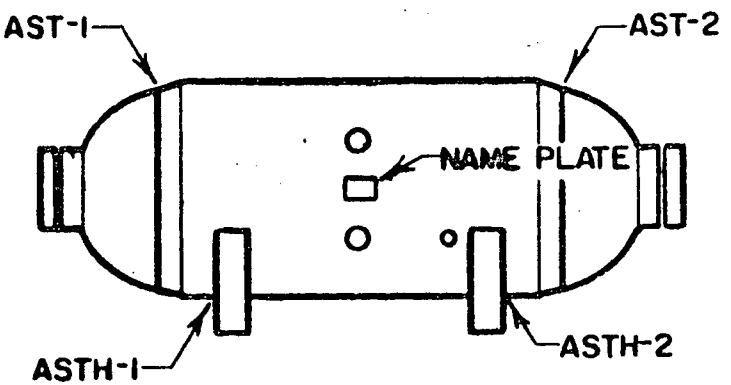
1 7/8" THK

HEADS

SA 240 TP 304

1" THK.





ADDITIONAL EQUIPMENT BUILDING

NO.	DATE	REVISIONS	CK'D	APP.
1	1-14-83	CHANGED CLASS DESIGNATIONS KEV	JCG	[illegible]

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

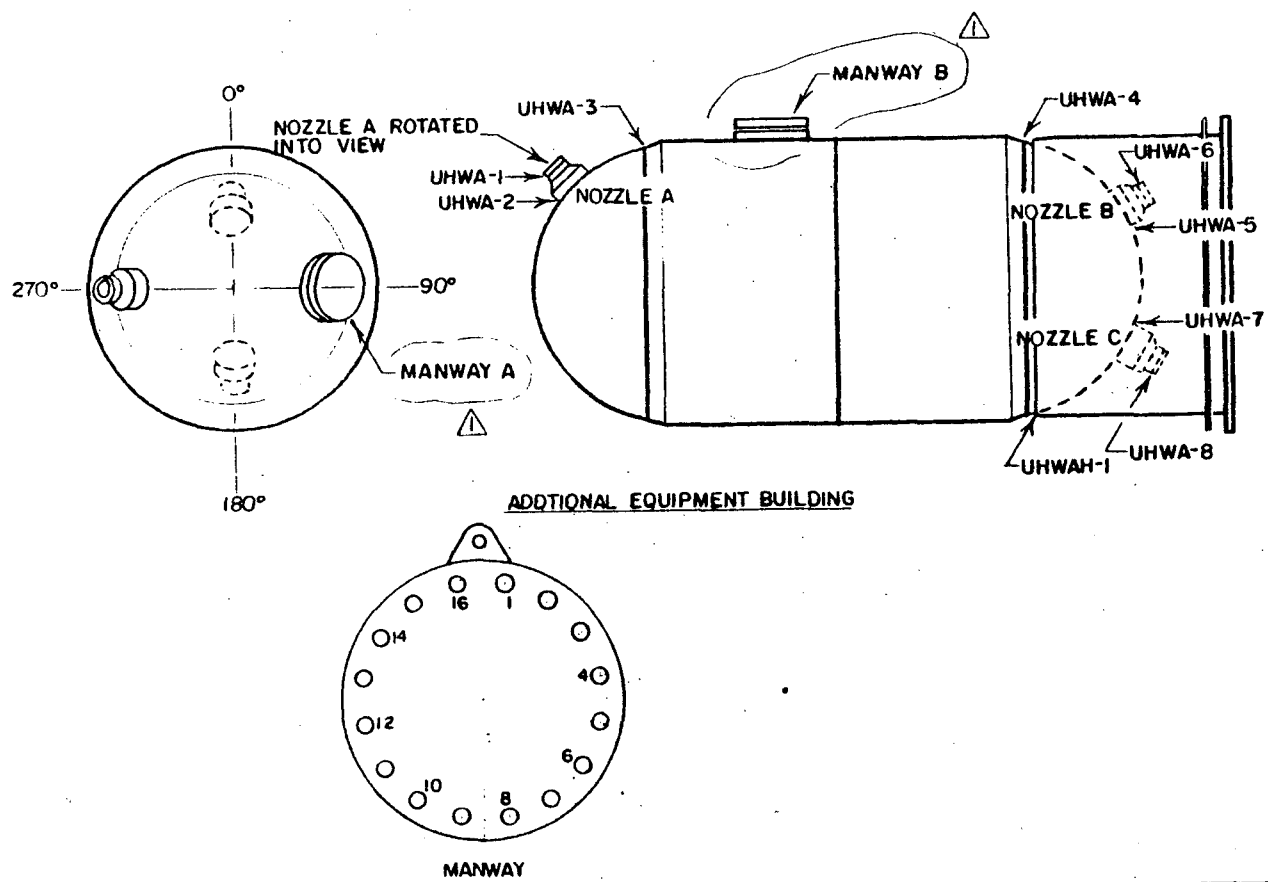
WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
ACCUMULATOR SURGE TANK

SCALE: NTS	SUBMITTED	APPROVED	DATE 7-15-82
DRAWN / TRACED KEV / CHECKED DAD	DAD	[illegible]	SHEET 1 OF 1 SHEETS
			ISI-0072-A

R1

REFERENCE DRAWINGS
HWE-53167

MATERIAL SPECIFICATIONS
CLASS 2 ⚠
SHELL
SA 516-71 GR. 70
308 CLADDING
5 5/16" THK.
HEADS
SA 516-71 GR. 70
308 CLADDING
3" THK.
SAFE ENDS
SA 182 F 304
1 1/8" THK.
NOZZLES
SA 350 LF 2
SUPPORT SKIRT
SA 516 Gr. 70



NO.	DATE	REVISIONS	CK'D	APP.
1	1-14-84	ADDED MANWAY B, MANWAY DESIGNATIONS, AND CHANGED CLASS DESIGNATIONS REV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
UPPER HEAD INJECTION
WATER ACCUMULATOR

SCALE: NTS
DRAWN
TRACED REV.
CHECKED DRL
SUBMITTED DRL
APPROVED
DATE 7-19-82
SHEET OF SHEETS
ISI-0073-B R1

REFERENCE DRAWINGS

C-4149-1
D-4054-6

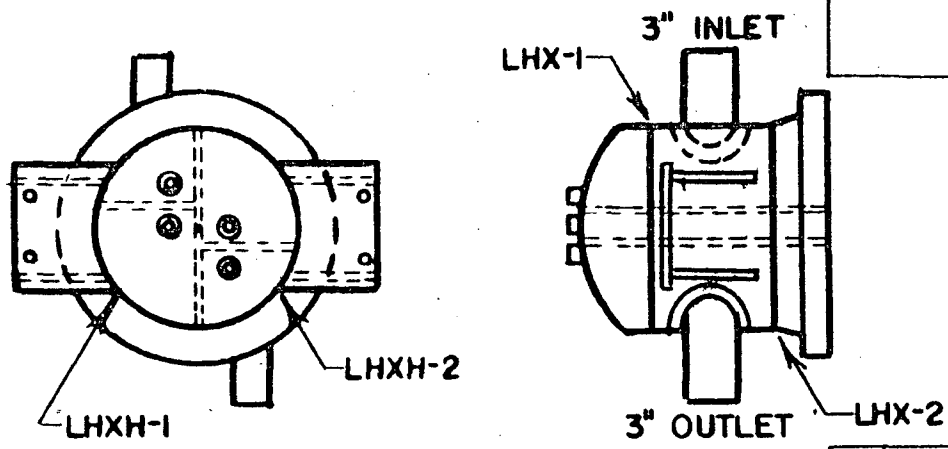
MATERIAL SPECIFICATIONS

CLASS 2 △1

HEAD
SA 240 TP 304
.375" THK.

SHELL
SA 240 TP 304
.375" THK.

FLANGE
SA 182 F 304



LETDOWN HEAT EXCHANGER
ROOM IA

NO.	DATE	REVISIONS	CK'D	APP.
1	1-14-83	CHANGED CLASS DESIGNATION KEV	JCG	[illegible]

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
LETDOWN HEAT EXCHANGER

SCALE: NTS	SUBMITTED	APPROVED	DATE 8-4-82
DRAWN / TRACED KEV / CHECKED DAD	DAD	[illegible]	SHEET 1 OF 1 SHEETS
			ISI-0075-A

R1

REFERENCE DRAWINGS

D-4060-6

MATERIAL SPECIFICATIONS

CLASS 2 △1

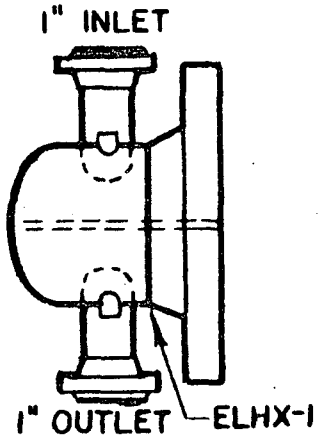
HEAD

SA 240 TP 304

.750" THK.

FLANGE

SA 105 II



REGENERATIVE AND EXCESS LETDOWN

HEAT EXCHANGER ROOM

NO.	DATE	REVISIONS	CK'D	APP.
1	1-19-84	CHANGED CLASS DESIGNATION KEY	JCG	

TENNESSEE VALLEY AUTHORITY

DIVISION OF NUCLEAR POWER

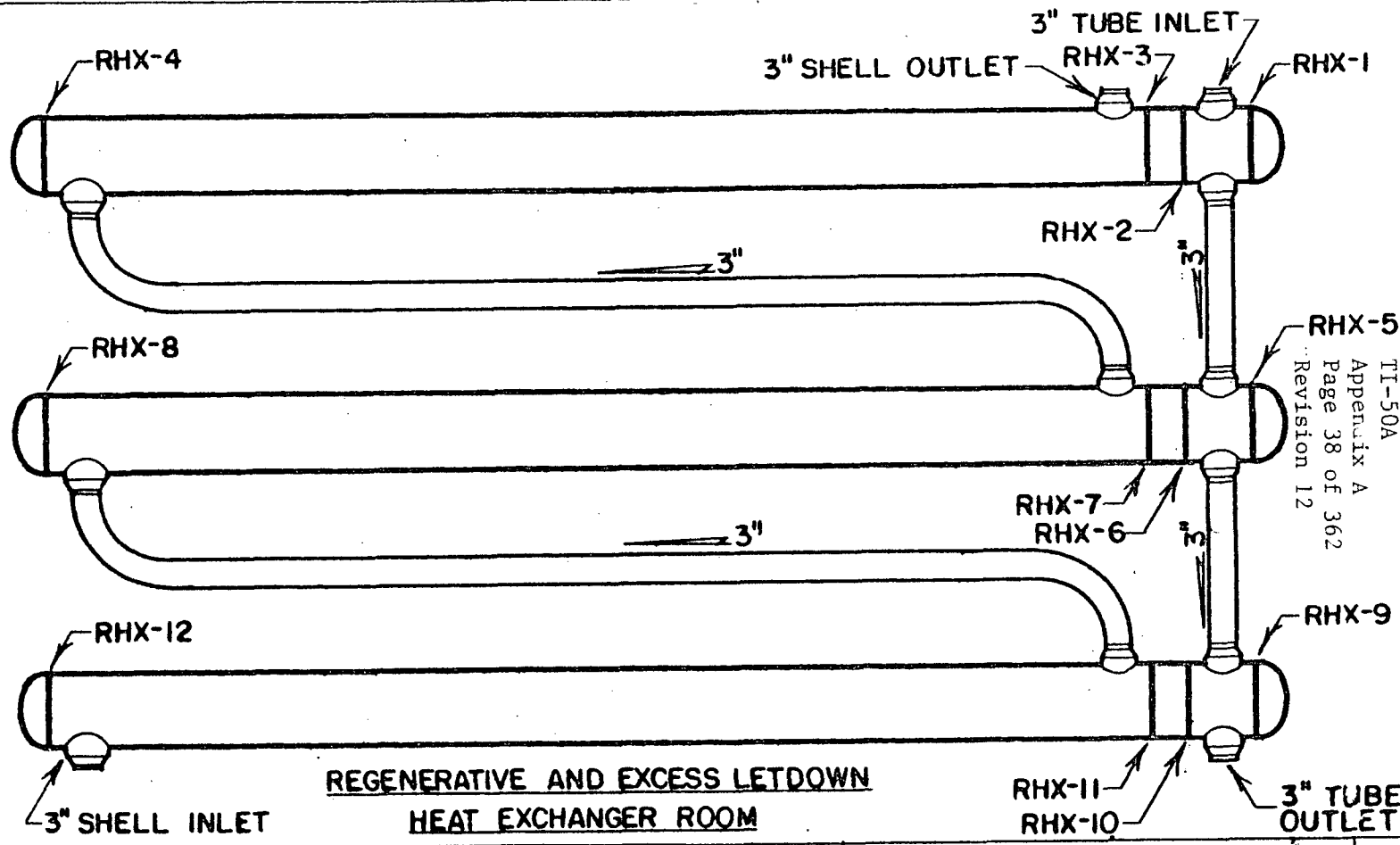
WATTS BAR NUCLEAR PLANT

UNITS #1 & #2

EXCESS LETDOWN HEAT EXCHANGER

SCALE: NTS	SUBMITTED	APPROVED	DATE 8-4-82
DRAWN			SHEET 1 OF 1 SHEETS
TRACED KEY	DAO		ISI-0076-A
CHECKED DAO			

R1



REGENERATIVE AND EXCESS LETDOWN
HEAT EXCHANGER ROOM

REFERENCE DRAWINGS
5578
5579
5580

MATERIAL SPECIFICATIONS
CLASS 2 ⚠1
SHELL
SA 351 CF 8
HEADS
SA 240 TP 304L
TUBE SHEET
SA 182 F 304

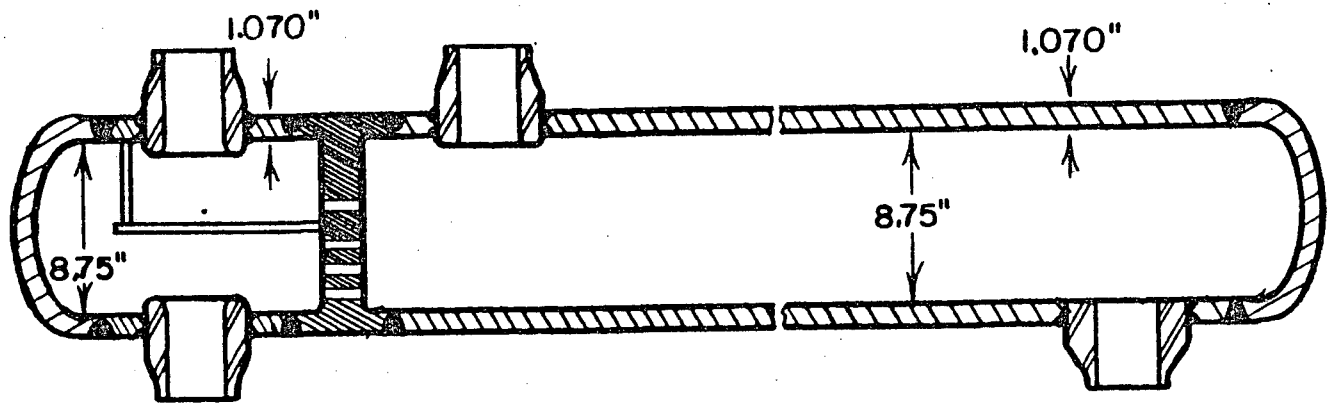
NO.	DATE	REVISIONS	CK'D	APP.
1	1-14-84	CHANGED CLASS DESIGNATIONS KEV	JCG	[illegible]

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REGENERATIVE HEAT EXCHANGER

SCALE: NTS
DRAWN
TRACED KEV
CHECKED DAU
SUBMITTED DAD
APPROVED [illegible]
DATE 8-5-82
SHEET 1 OF 3 SHEETS
ISI-0077-A

R1



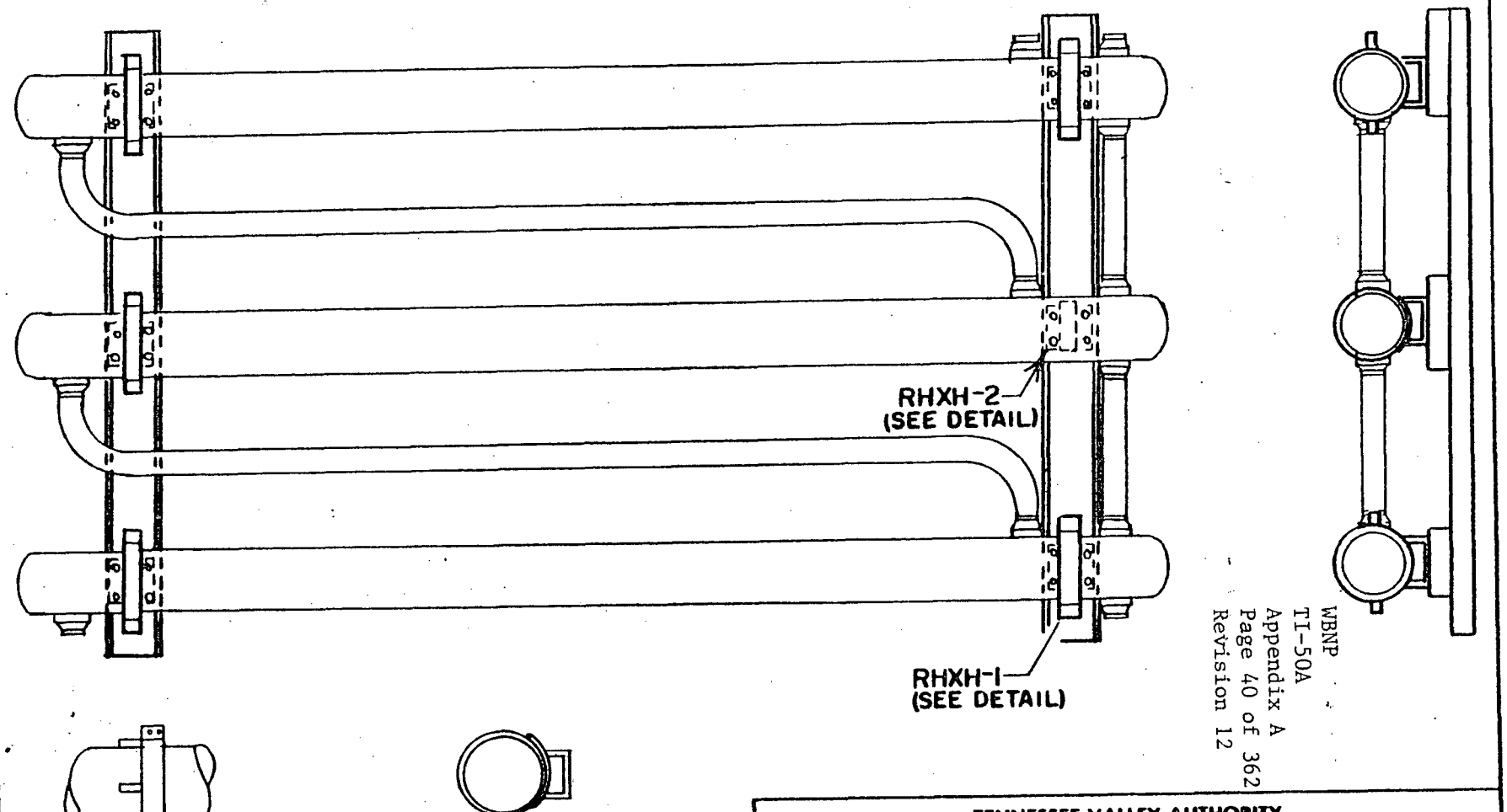
SECTIONAL VIEW

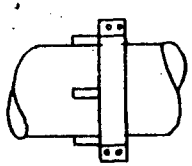
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REGENERATIVE HEAT EXCHANGER

SCALE: NTS	SUBMITTED	APPROVED	DATE 8-5-82
DRAWN / TRACED REY	DAD	AJB	SHEET 2 OF 3 SHEETS
CHECKED DAD			ISI-0077-A

RO





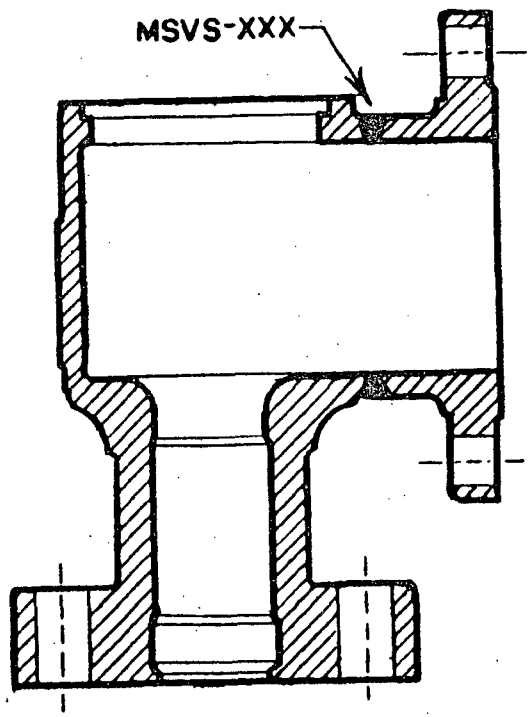
WBNP
TI-50A
Appendix A
Page 40 of 362
Revision 12

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REGENERATIVE HEAT EXCHANGER

SCALE: NTS DRAWN TRACED REJ CHECKED DBO	SUBMITTED DAD	APPROVED RFB	DATE 8-5-82 SHEET 3 OF 3 SHEETS ISI-0077-A

RO



REFERENCE DRAWINGS

3NC-040
CHM-2669-C (UNIT #1)
ISI-0063-C (UNIT #2)

MATERIAL SPECIFICATIONS

CLASS 2 △1

VALVE BODY AND FLANGE

SA 105

NOTES

1. REPLACE XXX WITH THE VALVE IDENTIFICATION NUMBER.
2. VALVE NUMBERS △1

1-512	1-517	1-522	1-527
1-513	1-518	1-523	1-528
1-514	1-519	1-524	1-529
1-515	1-520	1-525	1-530
1-516	1-521	1-526	1-531

WBNP
TI-50A
Appendix A
Page 41 of 362
Revision 12

NO.	DATE	REVISIONS	CK'D	APP.
1	1-14-84	CHANGED CLASS DESIGNATION AND ADD NOTE NO. 2 KEV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
MAINSTEAM RELIEF VALVE
WELD LOCATIONS

SCALE: NTS	SUBMITTED	APPROVED	DATE 11-24-82
DRAWN			SHEET 1 OF 1 SHEETS
TRACED KEV	DAD		ISI-0081-A
CHECKED DAD			

R1

REFERENCE DRAWINGS

455KABI-001
CHM-2671-C (UNIT #1)
ISI- LATER (UNIT #2)

MATERIAL SPECIFICATIONS

CLASS 2 △1

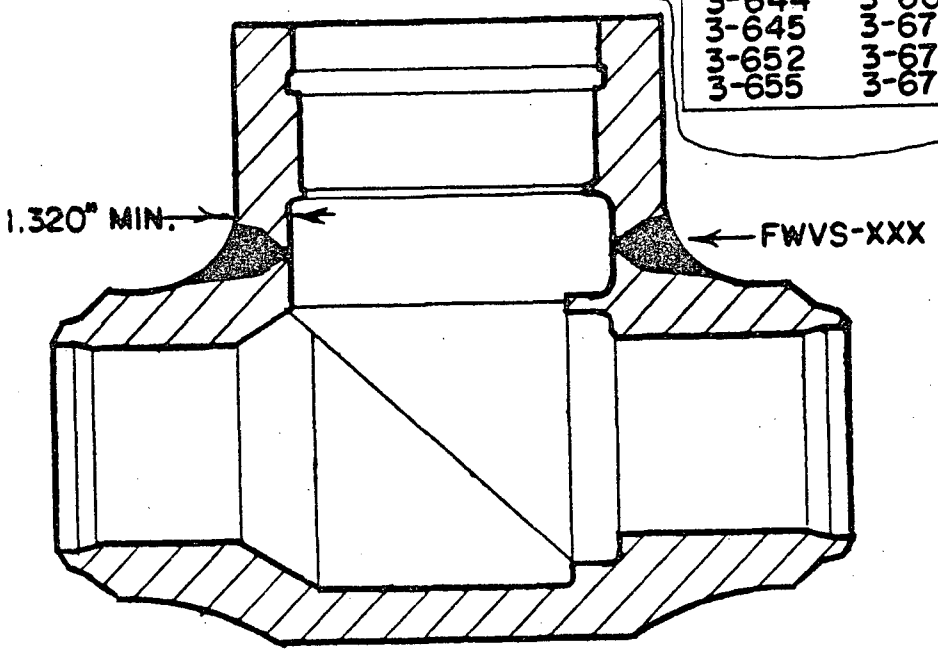
VALVE BODY AND NECK

SA 350 GR. LF 1

NOTES

1. REPLACE XXX WITH THE VALVE IDENTIFICATION NUMBER
2. VALVE NUMBERS △1

3-638	3-656
3-644	3-669
3-645	3-670
3-652	3-678
3-655	3-679



NO.	DATE	REVISIONS	CK'D	APP.
1	1-14-84	CHANGED CLASS DESIGNATION AND ADD NOTE NO. 2 KEV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

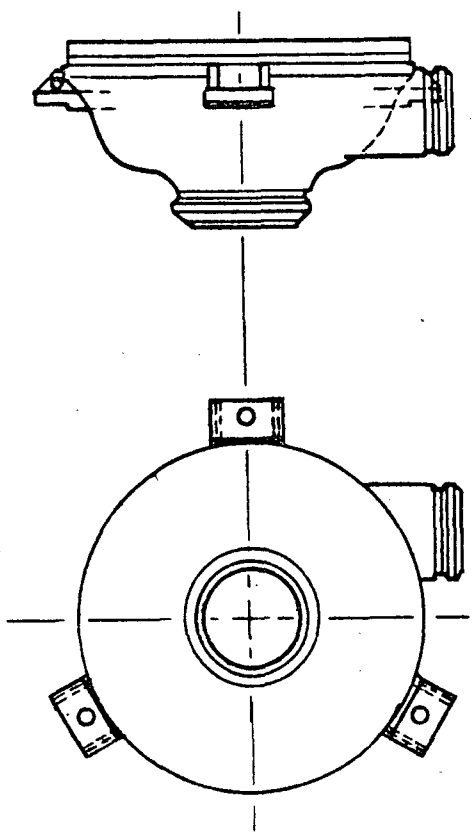
WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
FEEDWATER CHECK VALVE
WELD LOCATIONS

SCALE: NTS	SUBMITTED	APPROVED	DATE 11-26-82
DRAWN			SHEET 1 OF 1 SHEETS
TRACED KEV			ISI-0082-A R1
CHECKED QTZ			

REFERENCE DRAWINGS
C-8X20WDF86X9-D

NOTES

1. THE THREE PUMP FEET ARE BOLTED TO A COMMON SUPPORT.
2. PUMP SUPPORT NUMBERS
   RHRPH-1A-A
   RHRPH-1B-B
   RHRPH-2A-A
   RHRPH-2B-B
3. THE PUMP FEET ARE INTERGRALLY WELDED TO THE CASING.



BOTTOM VIEW

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
RESIDUAL HEAT REMOVAL PUMP SUPPORTS

SCALE: NTS	SUBMITTED	APPROVED	DATE 8-31-83
DRAWN			SHEET | OF | SHEETS
TRACED RGV			ISI-0117-A
CHECKED JCG			

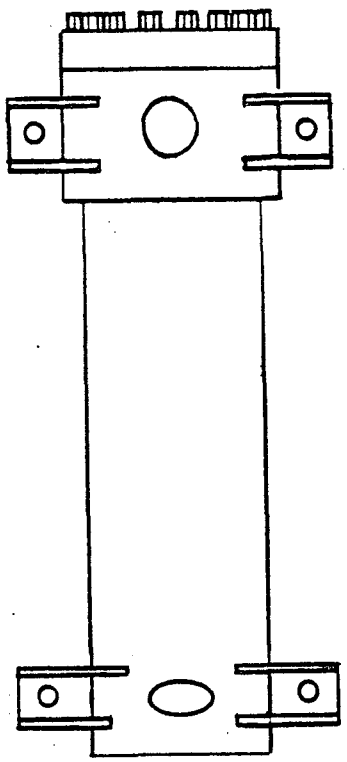
RO

REFERENCE DRAWINGS

FC-48590

NOTES

1. THE PUMP FEET ARE BOLTED TO A COMMON SUPPORT.
2. PUMP SUPPORT NUMBERS
   CCPH-1A-A
   CCPH-1B-B
   CCPH-2A-A
   CCPH-2B-B
3. THE PUMP FEET ARE INTERGALLY WELDED TO THE CASING.



TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
CENTRIFUGAL CHARGING PUMP SUPPORTS

SCALE: NTS	SUBMITTED	APPROVED	DATE 9-2-83
DRAWN KEV			SHEET OF SHEETS
TRACED			ISI-0118-A
CHECKED JCG			

RO

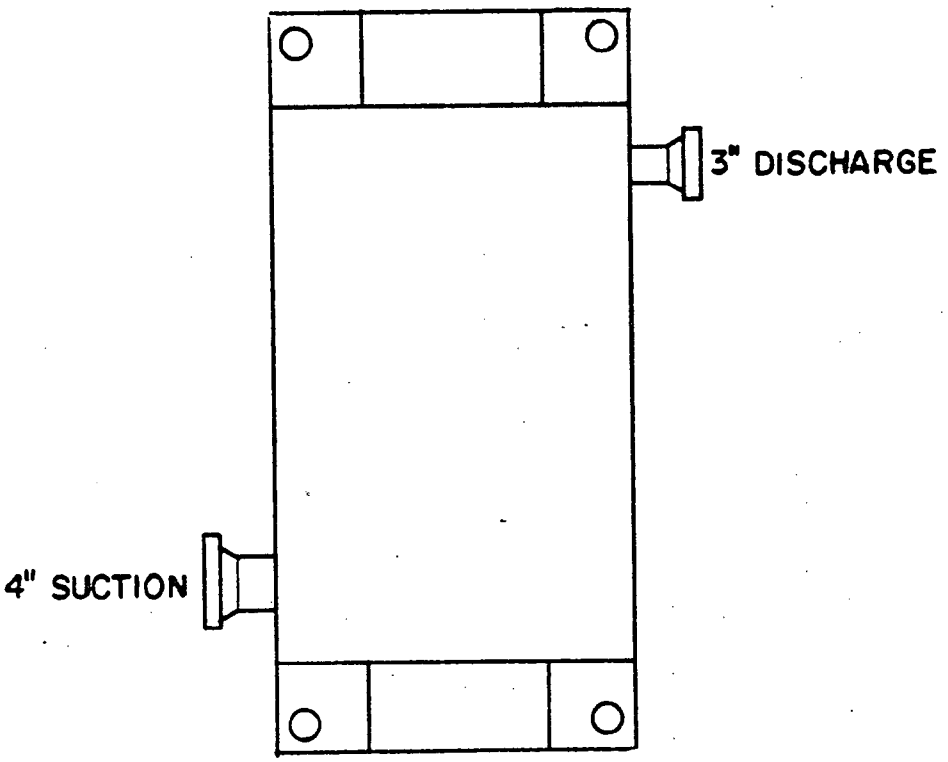
REFERENCE DRAWINGS

FC-49351

NOTES

1. THE PUMP FEET ARE BOLTED TO A COMMON SUPPORT
2. PUMP SUPPORT NUMBERS

   SIPH-1A-A
   SIPH-1B-B
   SIPH-2A-A
   SIPH-2B-B



TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

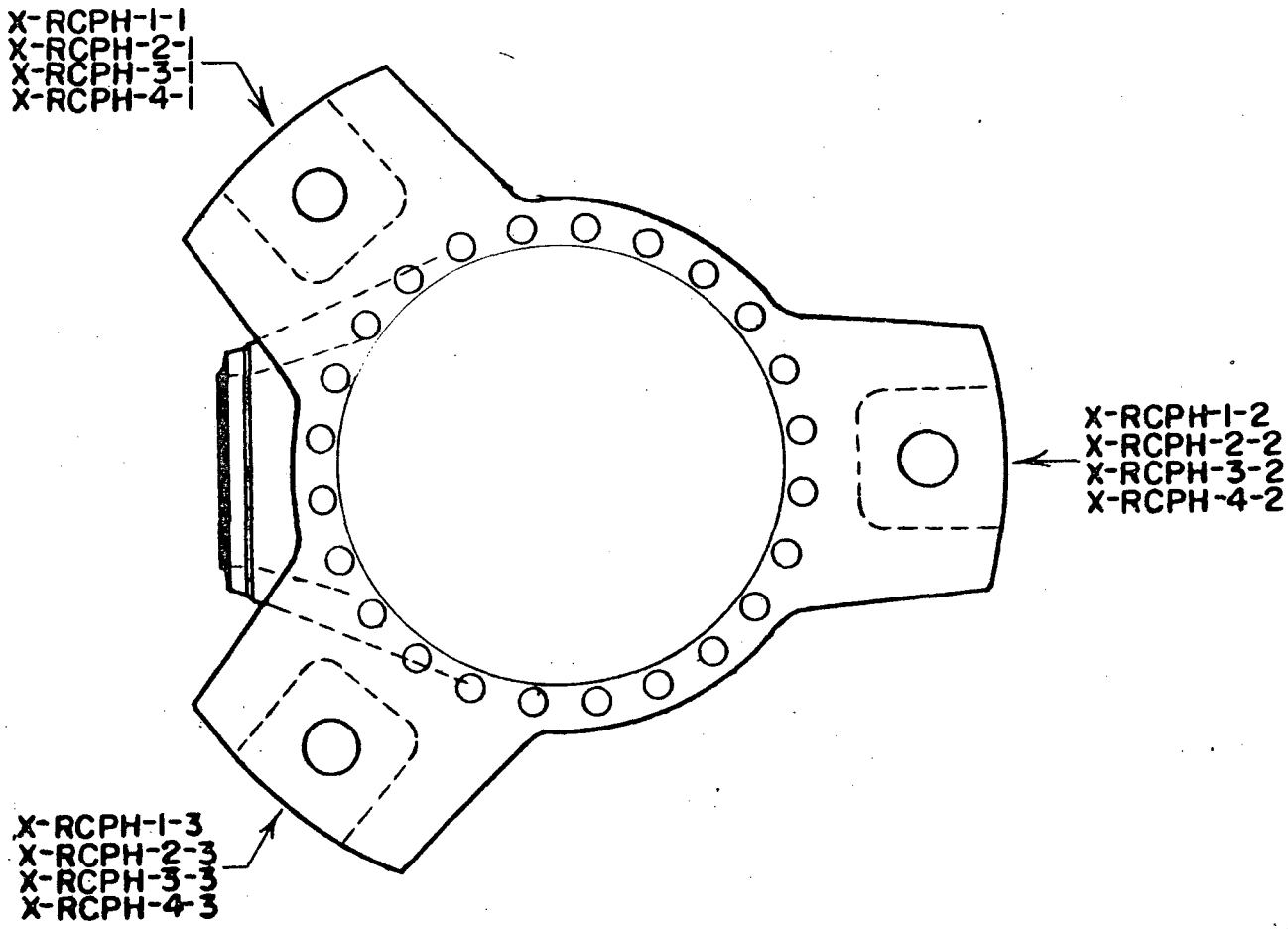
WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
SAFETY INJECTION PUMP SUPPORTS

SCALE: NTS	SUBMITTED	APPROVED	DATE 9-6-83
DRAWN BEV			SHEET | OF | SHEETS
TRACED			ISI-0120-A
CHECKED JCG			

R0

NOTES

1. REPLACE X WITH UNIT NUMBER

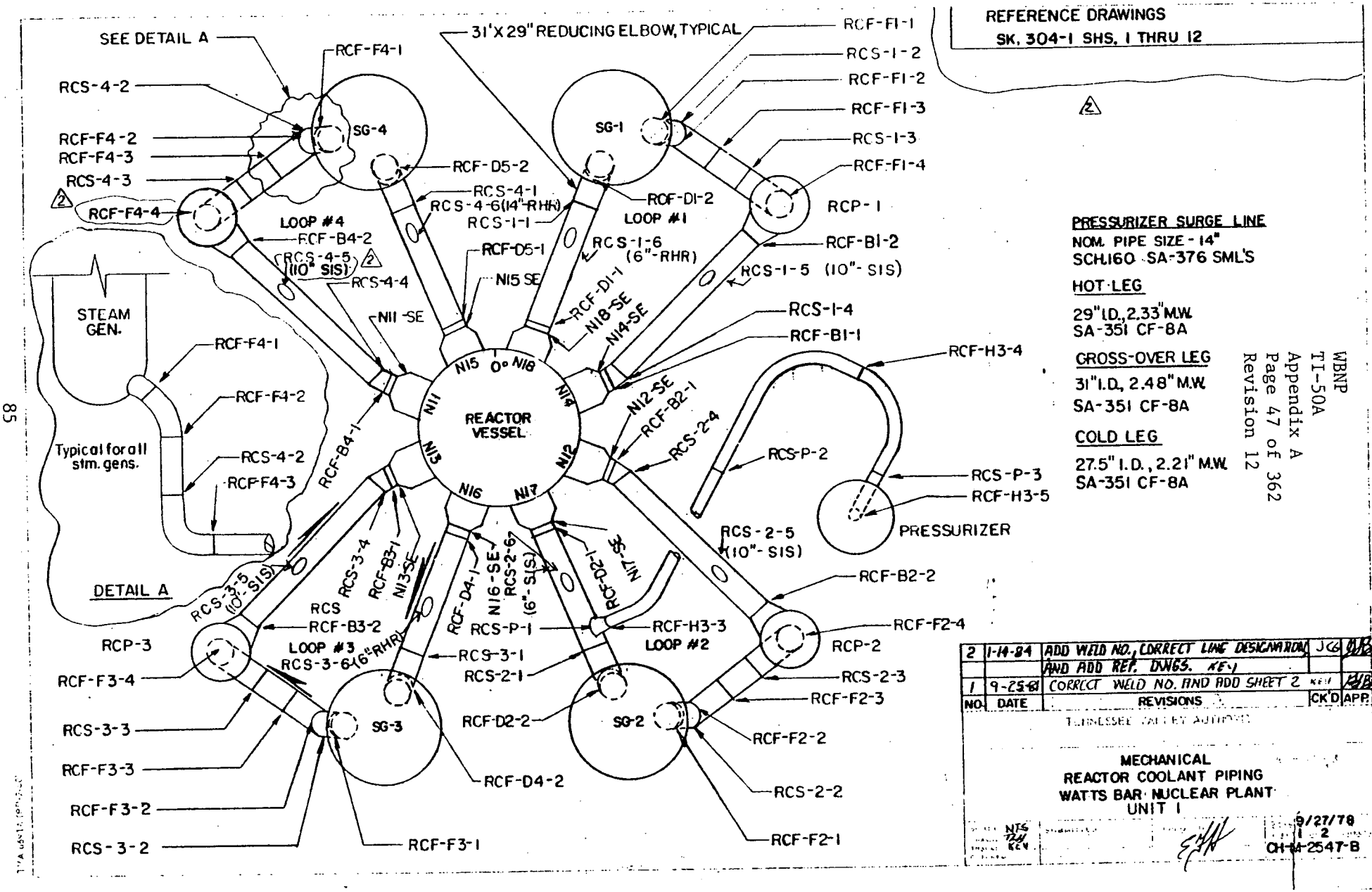


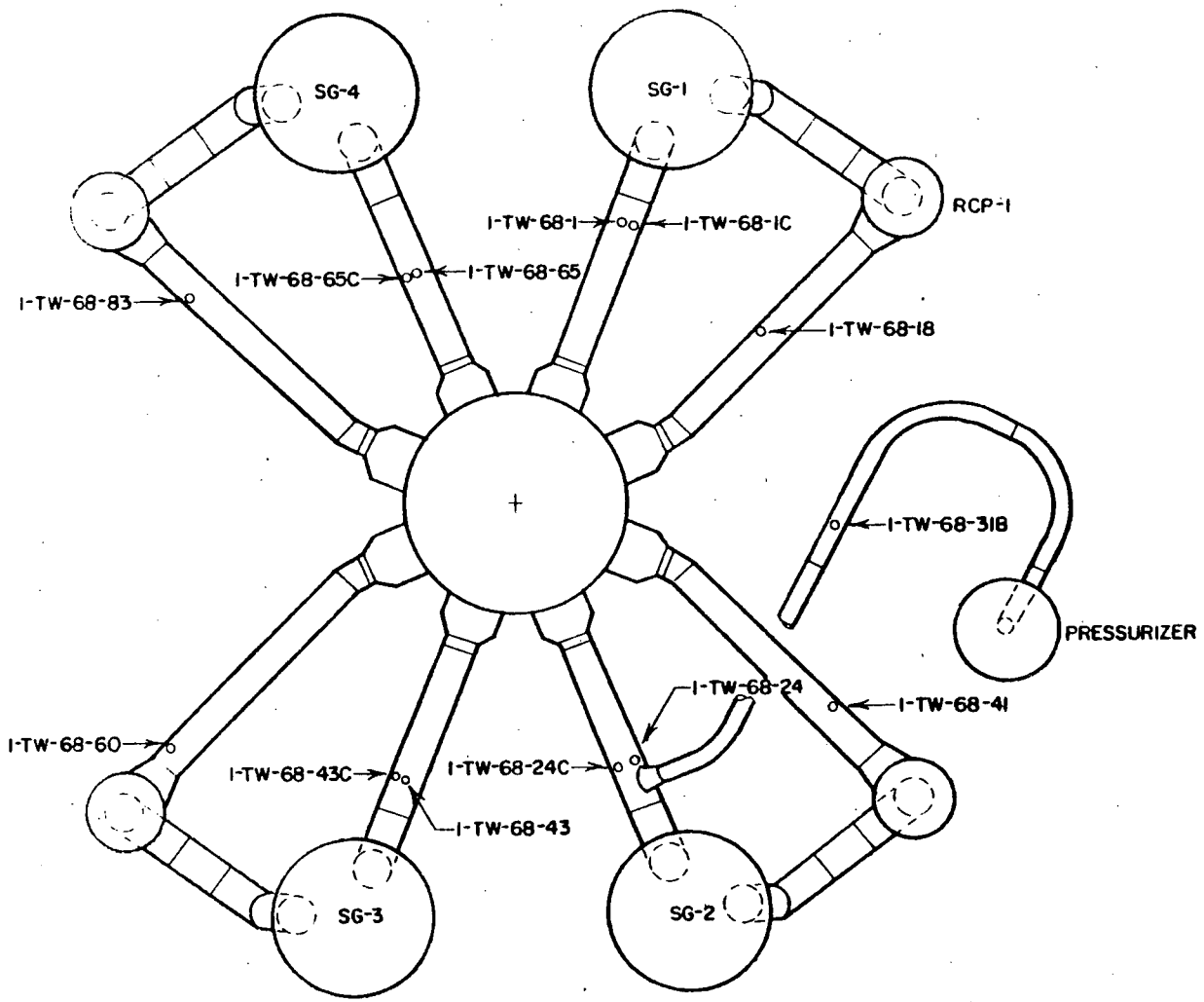
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR COOLANT PUMP SUPPORTS

SCALE: NTS	SUBMITTED	APPROVED	DATE 9-6-83
DRAWN RCV			SHEET 1 OF 1 SHEETS
TRACED			ISI-0121-A
CHECKED			

RO


REFERENCE DRAWINGS
SK. 304-1 SHS. 1 THRU 12
SEE DETAIL A
31"X29" REDUCING ELBOW, TYPICAL
RCF-F4-1
RCS-4-2
RCF-F4-2
RCF-F4-3
RCS-4-3
RCF-F4-4
SG-4
SG-1
RCF-D5-2
RCS-4-1
RCS-4-6(14"-RHR)
RCS-1-1
LOOP #4
RCF-B4-2
RCS-4-5 (10" SIS)
RCS-4-4
RCF-D5-1
N15 SE
N11-SE
RCF-D1-2
LOOP #1
RCS-1-6 (6"-RHR)
RCF-D1-1
N18-SE
N14-SE
RCF-F1-1
RCS-1-2
RCF-F1-2
RCF-F1-3
RCS-1-3
RCF-F1-4
RCP-1
RCF-B1-2
RCS-1-5 (10"-SIS)
RCS-1-4
RCF-B1-1
RCF-H3-4
STEAM GEN.
RCF-F4-1
RCF-F4-2
Typical for all stm. gens.
RCS-4-2
RCF-F4-3
DETAIL A
RCF-B4-1
N15
0°
N16
N11
N14
REACTOR VESSEL
N13
N12
N16
N17
N12-SE
RCF-B2-1
RCS-2-4
RCS-P-2
RCS-P-3
RCF-H3-5
PRESSURIZER
RCS-2-5 (10"-SIS)
RCF-B2-2
RCF-F2-4
RCP-2
RCS-2-3
RCF-F2-3
RCF-F2-2
RCS-2-2
RCF-F2-1
RCS-3-5 (10"-SIS)
RCS-3-4
RCF-B3-1
N13-SE
N16-SE
RCS-2-6 (6"-SIS)
RCF-D4-1
RCF-D2-1
N17-SE
RCS
RCF-B3-2
LOOP #3
RCS-3-6(16"-RHR)
RCS-P-1
RCF-H3-3
LOOP #2
RCS-3-1
RCS-2-1
RCP-3
RCF-F3-4
RCS-3-3
RCF-F3-3
RCF-F3-2
RCS-3-2
SG-3
SG-2
RCF-D2-2
RCF-D4-2
RCF-F3-1
PRESSURIZER SURGE LINE
NOM. PIPE SIZE - 14"
SCH.160 SA-376 SML'S
HOT LEG
29" I.D., 2.33" M.W.
SA-351 CF-8A
GROSS-OVER LEG
31" I.D., 2.48" M.W.
SA-351 CF-8A
COLD LEG
27.5" I.D., 2.21" M.W.
SA-351 CF-8A
NO. DATE REVISIONS CK'D APP.
2 1-14-84 ADD WELD NO., CORRECT LINE DESIGNATION AND ADD REF. DWGS. KEY
1 9-25-83 CORRECT WELD NO. AND ADD SHEET 2
TENNESSEE VALLEY AUTHORITY
MECHANICAL
REACTOR COOLANT PIPING
WATTS BAR NUCLEAR PLANT
UNIT 1
NTS
9/27/78
CH-M-2547-B
R2



REFERENCE DRAWINGS

SK. 304-1 SH. 1
SK. 304-1 SH. 2
SK. 304-1 SH. 3
SK. 304-1 SH. 4
SK. 304-1 SH. 5
SK. 304-1 SH. 6
SK. 304-1 SH. 7
SK. 304-1 SH. 8

MATERIAL SPECIFICATIONS

CLASS 1

TEMPERATURE WELLS

STAINLESS STEEL
SA 182 F 316

2½" O.D. BOSS

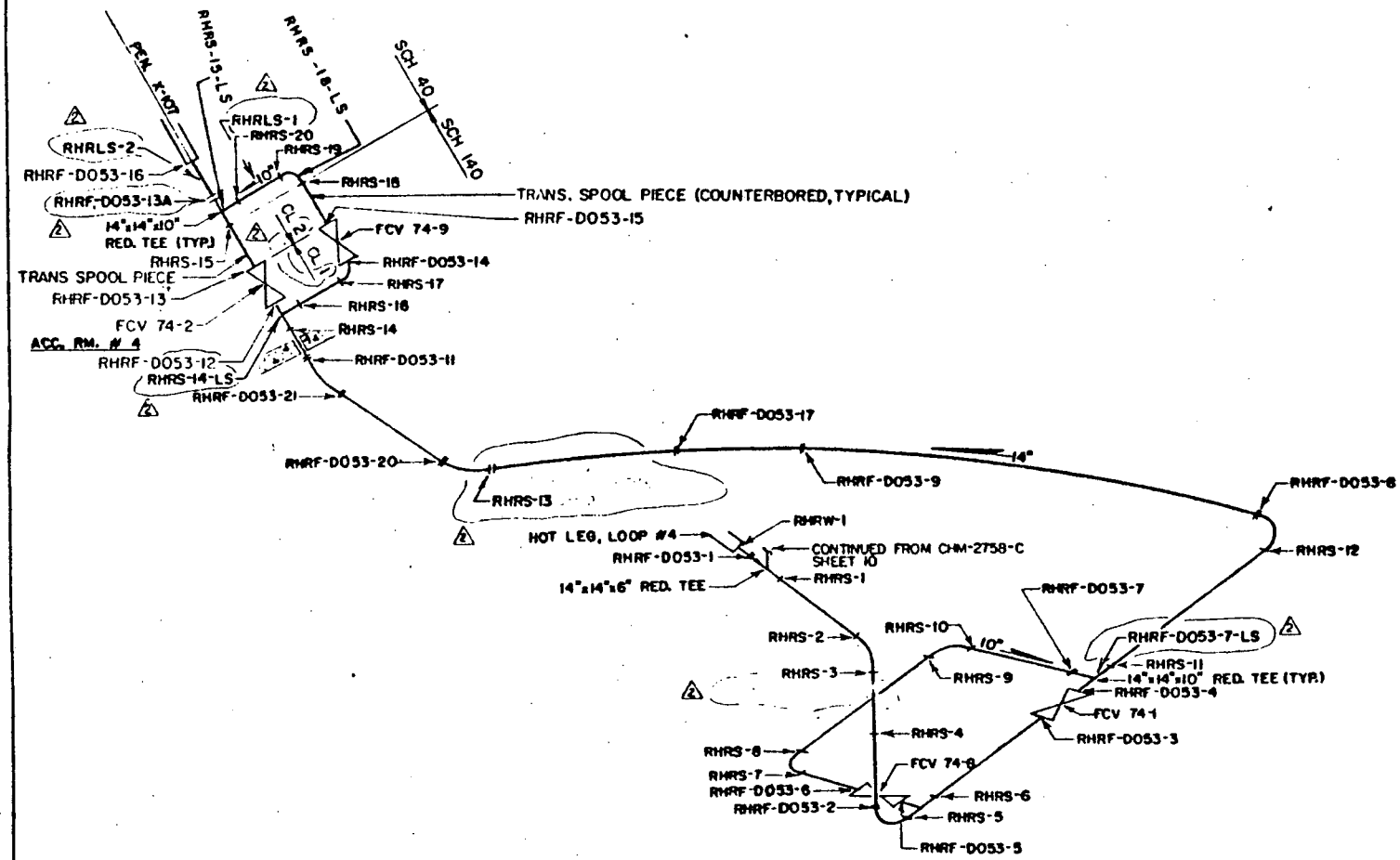
NO.	DATE	REVISIONS	CK'D	APP.
1	1-19-84	CHANGED CLASS DESIGNATIONS AND DELETED REFERENCE DRAWING REVISION LEVELS KEY		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT PIPING
WELD LOCATIONS

SCALE: NTS
DATE: 9-25-81
SHEET 2 OF 2
CHM-2547-B
R1

CONT. ON SHEET 2 OF 7



CLASS 1
PIPE
14" & 10" SCH. 140, SA-376 TP. 316 S
FITTINGS
14" & 10" SCH. 140, SA-403 WP. 316 S

CLASS 2
PIPE
14" SCH. 40, SA-358 CL. 1 TP 304 W
10" SCH. 40S, SA-312 TP 304 W
FITTINGS
14" SCH. 40, SA-403 WP304 W
10" SCH. 40S, SA-403 WP 304 WWO
TRANSITION SPOOL PIECES
14" SCH. 140, SA-358 CL. 1 TP 304 S
10" SCH. 140, SA-312 TP 304 S

REF. DWGS.
DRAVO E-2879-IC-53

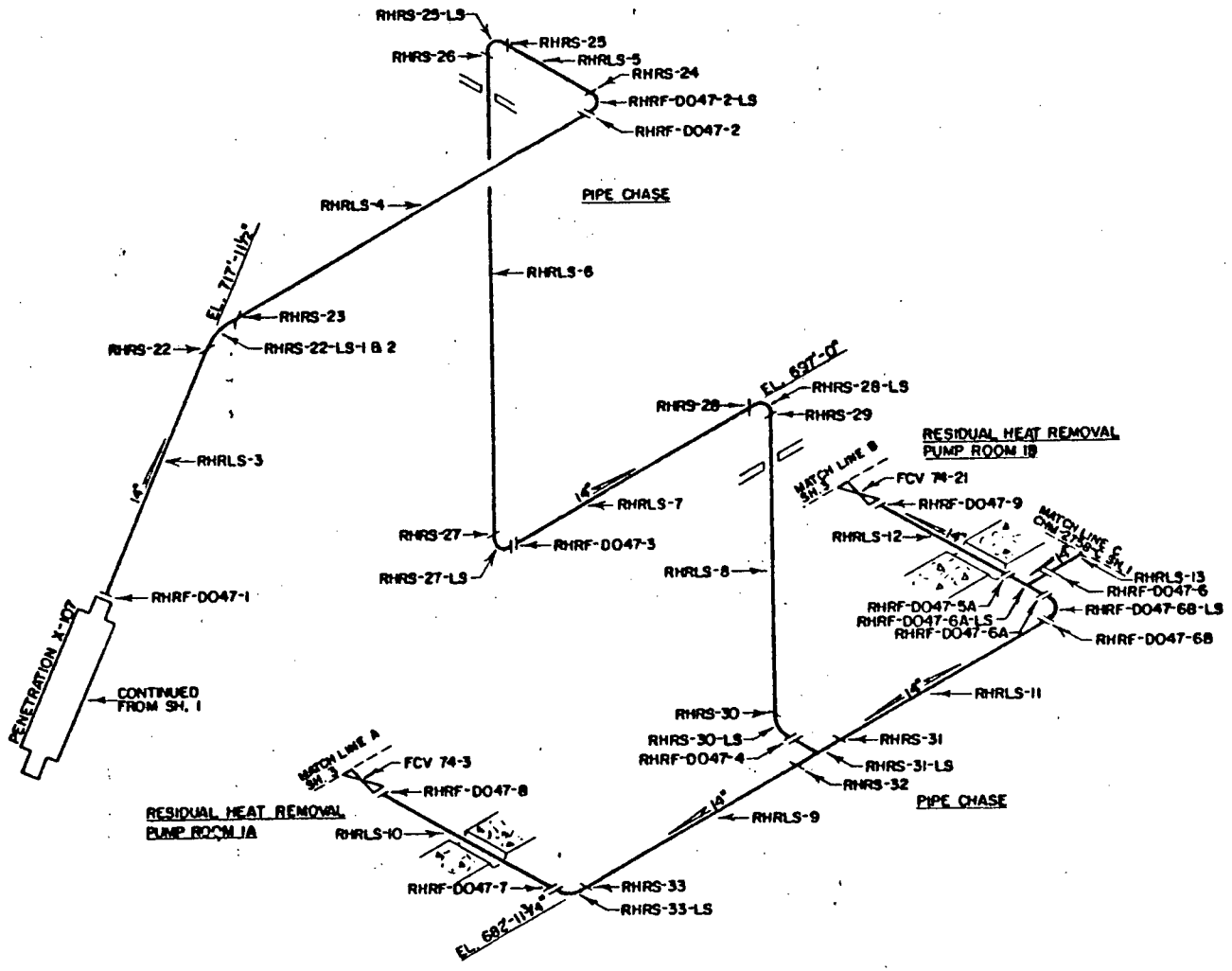
SHOT WELDS RHRS-1 THRU RHRS-21 AND RHRW-1

NO.	DATE	REVISIONS	CKD	APP
2	1-14-84	CORRECT NOT. FOR [illegible] WELD NOS.		
		SHOWS CLASS DESIGNATION [illegible]		
		REF DWG. REVISION LEVEL REV		
1	10-16-81	NOTE CONTINUATIONS AND CORRECT		
		WELD NUMBERS REV		

TENNESSEE VALLEY AUTHORITY
DIVISION OF [illegible] CONSTRUCTION
WBNP
RESIDUAL HEAT REMOVAL
WELD MAP
UNIT 1
CH-M-2636-C 12

REFERENCE DRAWINGS
WBN-E-2879 IC-47

MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-358 CL 1 TP-304-W
14" SCH 40
FITTINGS
SA-403 WP-304-W
14" SCH 40



SHOP WELDS RHRS-22 THRU RHRS-33
PIPE LONG SEAM WELDS RHRLS-3 THRU RHRLS-13

NO.	DATE	REVISIONS	CK'D	APP.
2	5-13-83	REDRAWN AND ADD LONG SEAMS REV	JCC	
1	6-17-81	CORRECT CONTINUATIONS REV	DAD	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

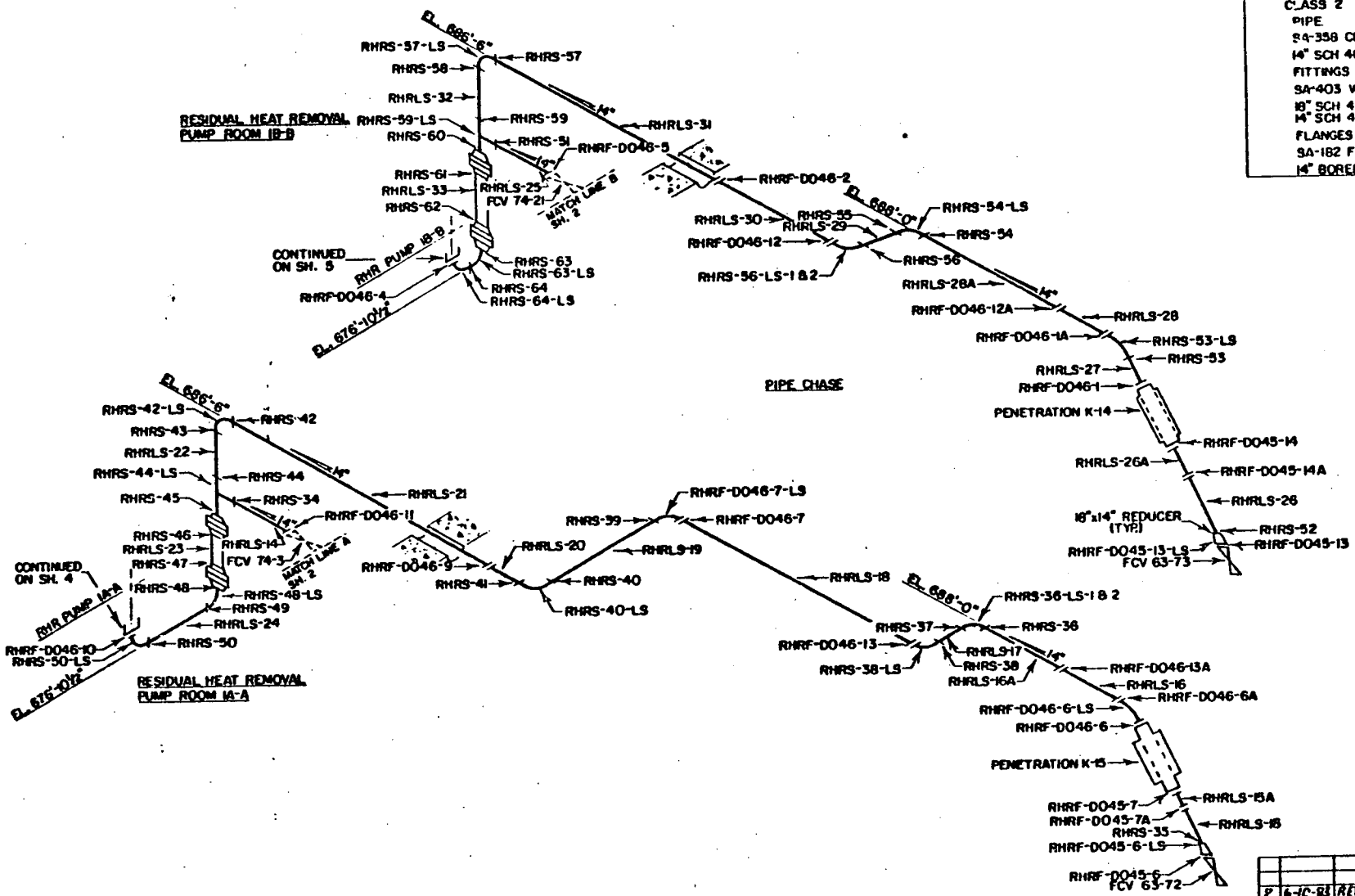
WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
WELD LOCATIONS

SCALE NTS. | DATE 5-13-83 | SHEET 2 OF 8 | CHM-2636-C | R2

WBNP
TI-50A
Page 50 of 362
Revision 12

REFERENCE DRAWINGS
WBN-E-2879 IC-45
WBN-E-2879 IC-46

MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-358 CL 1 TP-304W
14" SCH 40
FITTINGS
SA-403 WP-304W
18" SCH 40
14" SCH 40
FLANGES
SA-182 F-316
14" BORED SCH 40



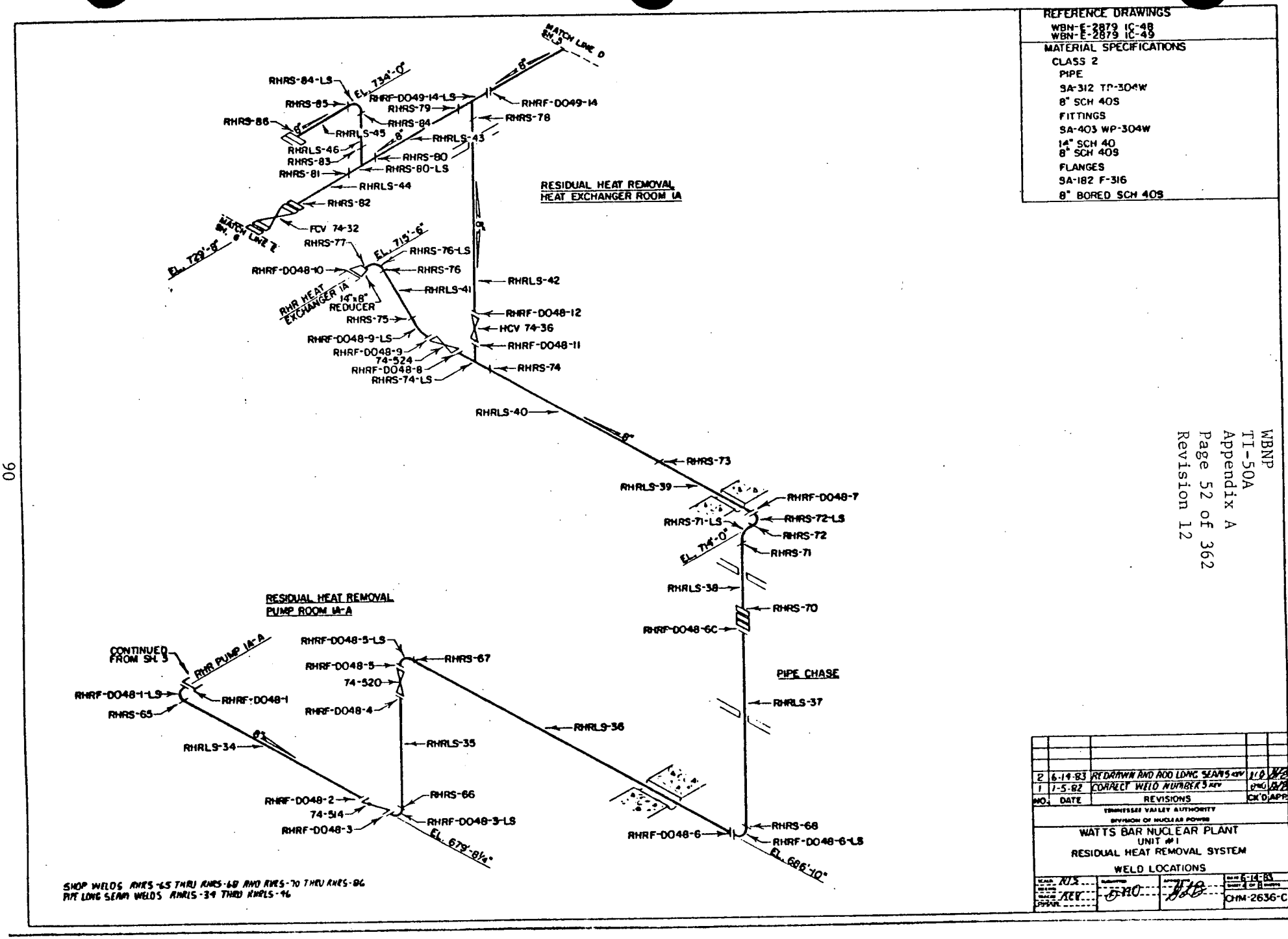
SHOP WELDS RHRS-34 THRU RHRS-64
PIPE LONG SEAM WELDS RHRS-14 THRU RHRLS-33, RHRLS-15A, RHRLS-16A, RHRLS-21A, AND RHRLS-28A

NO.	DATE	REVISIONS	CK'D	APP.
2	6-10-83	REDRAWN AND ADD LONG SEAMS	JCG	
1	1-6-82	CORRECT CONTINUATIONS AND ADD REDUCER SPECS.		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

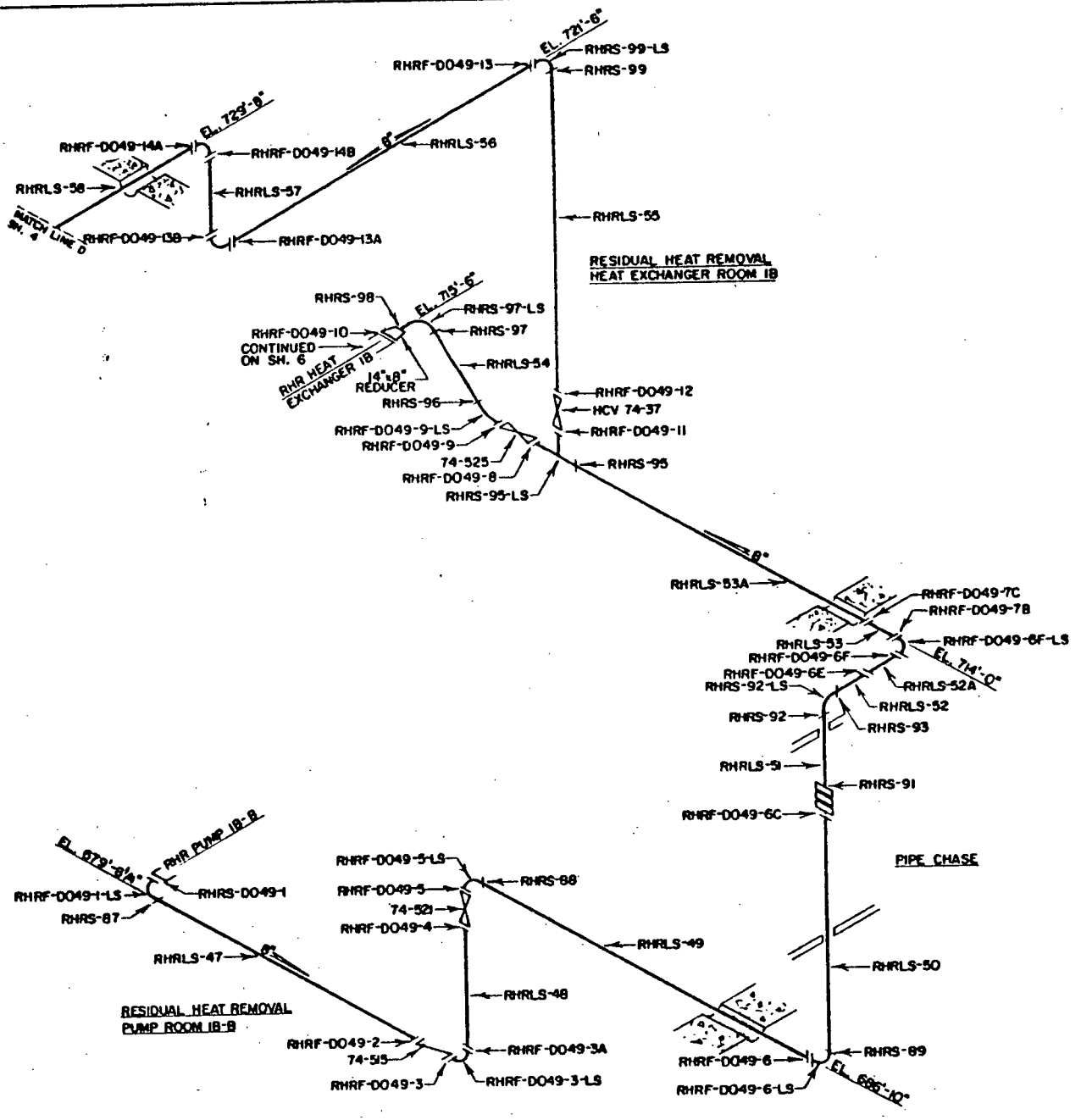
WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
WELD LOCATIONS

DRAWN VS
CHECKED KEF
REVIEWED JCG
SCALE NONE
DATE 6-10-83
SHEET 5 OF 5 SHEETS
CHM-2636-C
A2


REFERENCE DRAWINGS
WBN-E-2879 IC-48
WBN-E-2879 IC-49
MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-312 TP-304W
8" SCH 40S
FITTINGS
SA-403 WP-304W
14" SCH 40
8" SCH 40S
FLANGES
SA-182 F-316
8" BORED SCH 40S
RESIDUAL HEAT REMOVAL
HEAT EXCHANGER ROOM 1A
RESIDUAL HEAT REMOVAL
PUMP ROOM 1A-A
PIPE CHASE
MATCH LINE D SH. 3
MATCH LINE 2 SH. 6
CONTINUED FROM SH. 3
RHR HEAT EXCHANGER 1A
RHR PUMP 1A-A
14"x8" REDUCER
EL. 734'-0"
EL. 719'-6"
EL. 714'-0"
EL. 679'-8 1/4"
EL. 686'-10"
EL. 729'-8"
RHRS-84-LS
RHRS-85
RHRS-86
RHRF-D049-14-LS
RHRS-79
RHRS-84
RHRS-78
RHRF-D049-14
RHRLS-45
RHRLS-43
RHRLS-46
RHRS-83
RHRS-80
RHRS-81
RHRS-80-LS
RHRLS-44
RHRS-82
FCV 74-32
RHRS-77
RHRS-76-LS
RHRF-D048-10
RHRS-76
RHRLS-41
RHRLS-42
RHRF-D048-12
HCV 74-36
RHRF-D048-11
RHRS-75
RHRF-D048-9-LS
RHRF-D048-9
74-524
RHRF-D048-8
RHRS-74-LS
RHRS-74
RHRLS-40
RHRS-73
RHRLS-39
RHRF-D048-7
RHRS-71-LS
RHRS-72-LS
RHRS-72
RHRS-71
RHRLS-38
RHRS-70
RHRF-D048-6C
RHRS-67
RHRF-D048-5-LS
RHRF-D048-5
74-520
RHRF-D048-4
RHRF-D048-1-LS
RHRF-D048-1
RHRS-65
RHRLS-34
RHRLS-35
RHRLS-36
RHRLS-37
RHRF-D048-2
74-514
RHRF-D048-3
RHRS-66
RHRF-D048-3-LS
RHRF-D048-6
RHRS-68
RHRF-D048-6-LS
SHOP WELDS RHRS-65 THRU RHRS-68 AND RHRS-70 THRU RHRS-86
PIPE LONG SEAM WELDS RHRLS-34 THRU RHRLS-46
2 6-14-83 REDRAWN AND ADD LONG SEAMS
1 1-5-82 CORRECT WELD NUMBER 3
NO. DATE REVISIONS CK'D APP'D
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
WELD LOCATIONS
6-14-83
CHM-2636-C A2

REFERENCE DRAWINGS
WBN-E-2879 IC-49

MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-312 TP-304W
8" SCH 40S
FITTINGS
SA-403 WP-304W/S
14" SCH 40
8" SCH 40S
FLANGES
SA-182 F-316
8" BORED SCH 40S



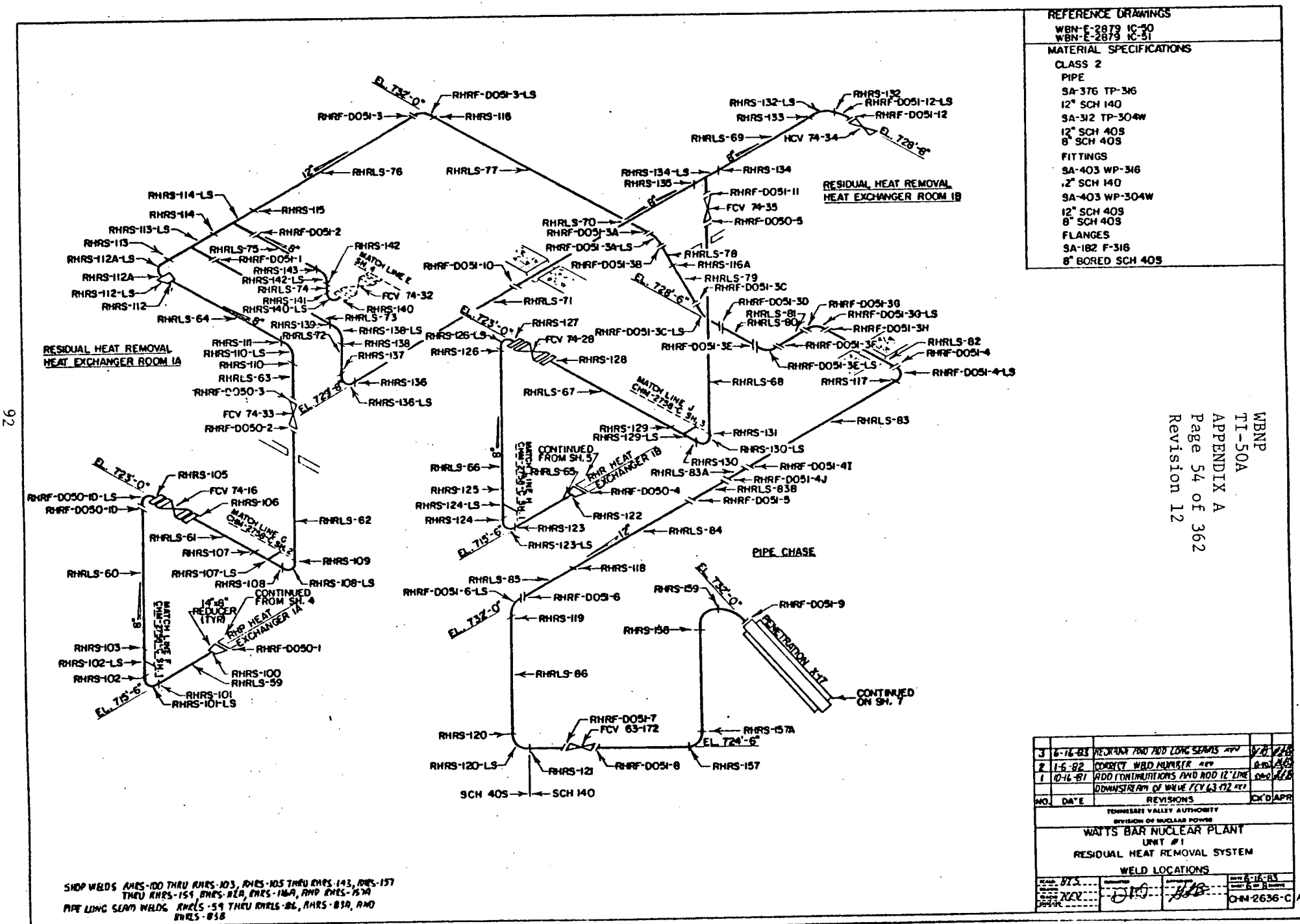
SHOP WELDS RHRS-83 THRU RHRS-89, RHRS-91 THRU RHRS-93, AND RHRS-95 THRU RHRS-99
PIPE LONG SEAM WELDS RHRLS-47 THRU RHRLS-58, RHRLS-52A, AND RHRLS-53A

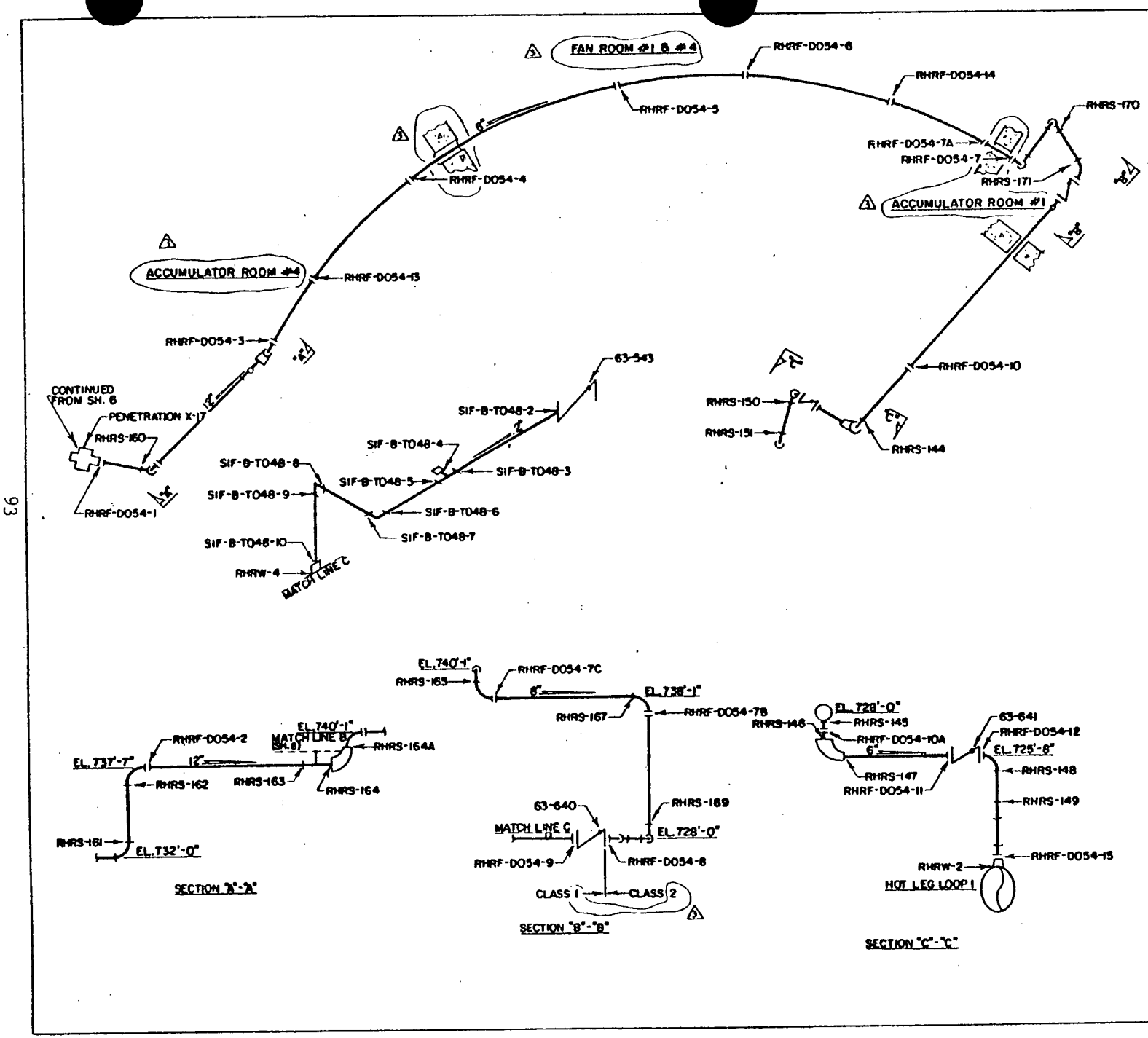
NO.	DATE	REVISIONS	CK'D	APP
2	6-15-83	REDRAWN AND ADD LONG SEAMS		
1	11-6-82	CORRECT WELD NUMBER KEY		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
WELD LOCATIONS

CHM-2636-C R2


REFERENCE DRAWINGS
WBN-E-2879 IC-50
WBN-E-2879 IC-51
MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-376 TP-316
12" SCH 140
SA-312 TP-304W
12" SCH 40S
8" SCH 40S
FITTINGS
SA-403 WP-316
12" SCH 140
SA-403 WP-304W
12" SCH 40S
8" SCH 40S
FLANGES
SA-182 F-316
8" BORED SCH 40S
RESIDUAL HEAT REMOVAL HEAT EXCHANGER ROOM 1A
RESIDUAL HEAT REMOVAL HEAT EXCHANGER ROOM 1B
PIPE CHASE
RHR HEAT EXCHANGER 1A
RHR HEAT EXCHANGER 1B
MATCH LINE E CHM-2758-C SH. 4
MATCH LINE F CHM-2758-C SH. 1
MATCH LINE G CHM-2758-C SH. 2
MATCH LINE J CHM-2758-C SH. 3
MATCH LINE H CHM-2758-C SH. 5
CONTINUED FROM SH. 4
CONTINUED FROM SH. 5
CONTINUED ON SH. 7
PENETRATION 237
14"x8" REDUCER (TYP)
EL. 732'-0"
EL. 728'-6"
EL. 723'-0"
EL. 723'-8"
EL. 715'-6"
EL. 737'-0"
EL. 724'-6"
RHRF-D051-3-LS
RHRF-D051-3
RHRS-118
RHRLS-76
RHRLS-77
RHRS-114-LS
RHRS-114
RHRS-115
RHRS-113-LS
RHRS-113
RHRS-112A-LS
RHRS-112A
RHRS-112-LS
RHRS-112
RHRF-D051-2
RHRLS-75
RHRF-D051-1
RHRS-143
RHRS-142-LS
RHRLS-74
RHRS-141
RHRS-140-LS
RHRS-142
RHRS-140
FCV 74-32
RHRLS-73
RHRS-139
RHRLS-72
RHRS-138-LS
RHRS-138
RHRS-137
RHRLS-64
RHRS-111
RHRS-110-LS
RHRS-110
RHRLS-63
RHRF-D050-3
FCV 74-33
RHRF-D050-2
RHRS-136
RHRS-136-LS
RHRS-105
FCV 74-16
RHRS-106
RHRF-D050-10-LS
RHRF-D050-10
RHRLS-62
RHRLS-61
RHRS-107
RHRS-107-LS
RHRS-109
RHRS-108
RHRS-108-LS
RHRLS-60
RHRS-103
RHRS-102-LS
RHRS-102
RHRS-101
RHRS-101-LS
RHRS-100
RHRLS-59
RHRF-D050-1
RHRS-132-LS
RHRS-132
RHRF-D051-12-LS
RHRS-133
RHRF-D051-12
RHRLS-69
HCV 74-34
RHRS-134-LS
RHRS-134
RHRS-135
RHRF-D051-11
FCV 74-35
RHRF-D050-5
RHRLS-70
RHRF-D051-3A
RHRF-D051-3A-LS
RHRF-D051-10
RHRF-D051-3B
RHRLS-78
RHRS-116A
RHRLS-79
RHRF-D051-3C
RHRF-D051-3C-LS
RHRF-D051-3D
RHRF-D051-3G
RHRLS-81
RHRLS-80
RHRF-D051-3G-LS
RHRF-D051-3H
RHRF-D051-3E
RHRF-D051-3F
RHRLS-82
RHRF-D051-4
RHRF-D051-3E-LS
RHRF-D051-4-LS
RHRS-117
RHRLS-68
RHRLS-83
RHRS-127
RHRS-126-LS
RHRS-126
FCV 74-28
RHRS-128
RHRLS-71
RHRLS-67
RHRS-129
RHRS-129-LS
RHRS-131
RHRS-130-LS
RHRS-130
RHRF-D051-4I
RHRLS-83A
RHRF-D051-4J
RHRLS-83B
RHRF-D051-5
RHRLS-66
RHRLS-65
RHRS-125
RHRS-124-LS
RHRS-124
RHRF-D050-4
RHRS-122
RHRS-123
RHRS-123-LS
RHRLS-84
RHRS-118
RHRLS-85
RHRF-D051-6-LS
RHRF-D051-6
RHRS-119
RHRS-159
RHRF-D051-9
RHRS-158
RHRLS-86
RHRF-D051-7
FCV 63-172
RHRS-157A
RHRS-120
RHRS-120-LS
RHRS-121
RHRF-D051-8
RHRS-157
SCH 40S
SCH 140
SHOP WELDS RHRS-100 THRU RHRS-103, RHRS-105 THRU RHRS-143, RHRS-157 THRU RHRS-159, RHRS-82A, RHRS-116A, AND RHRS-157A
PIPE LONG SEAM WELDS RHRLS-59 THRU RHRLS-86, RHRS-83A, AND RHRLS-83B
NO. DATE REVISIONS CK'D APR
3 6-16-83 RECHAM AND ADD LONG SEAMS
2 1-6-82 CORRECT WELD NUMBER
1 10-16-81 ADD CONTINUATIONS AND ADD 12" LINE DOWNSTREAM OF VALVE FCV 63-172
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
WELD LOCATIONS
CHM-2636-C
R3



REFERENCE DRAWINGS

WBN-E-2879 IC-54
SK. 435-7 SH. 6

MATERIAL SPECIFICATION

CLASS 1

PIPING

SEAMLESS STAINLESS STEEL
SA 376 TP 304

8" SCH. 160
6" SCH. 160
2" SCH. 160

FITTINGS

SEAMLESS STAINLESS STEEL
SA 403 WP 304

8" SCH. 160
6" SCH. 160

STAINLESS STEEL
SA 182 F 304

2" 6000# S/W

CLASS 2

PIPING

SEAMLESS STAINLESS STEEL
SA 376 TP 316

12" SCH. 140

SA 376 TP 304

8" SCH. 160

FITTINGS

SEAMLESS STAINLESS STEEL
SA 403 WP 316

12" SCH. 140

SA 403 WP 304

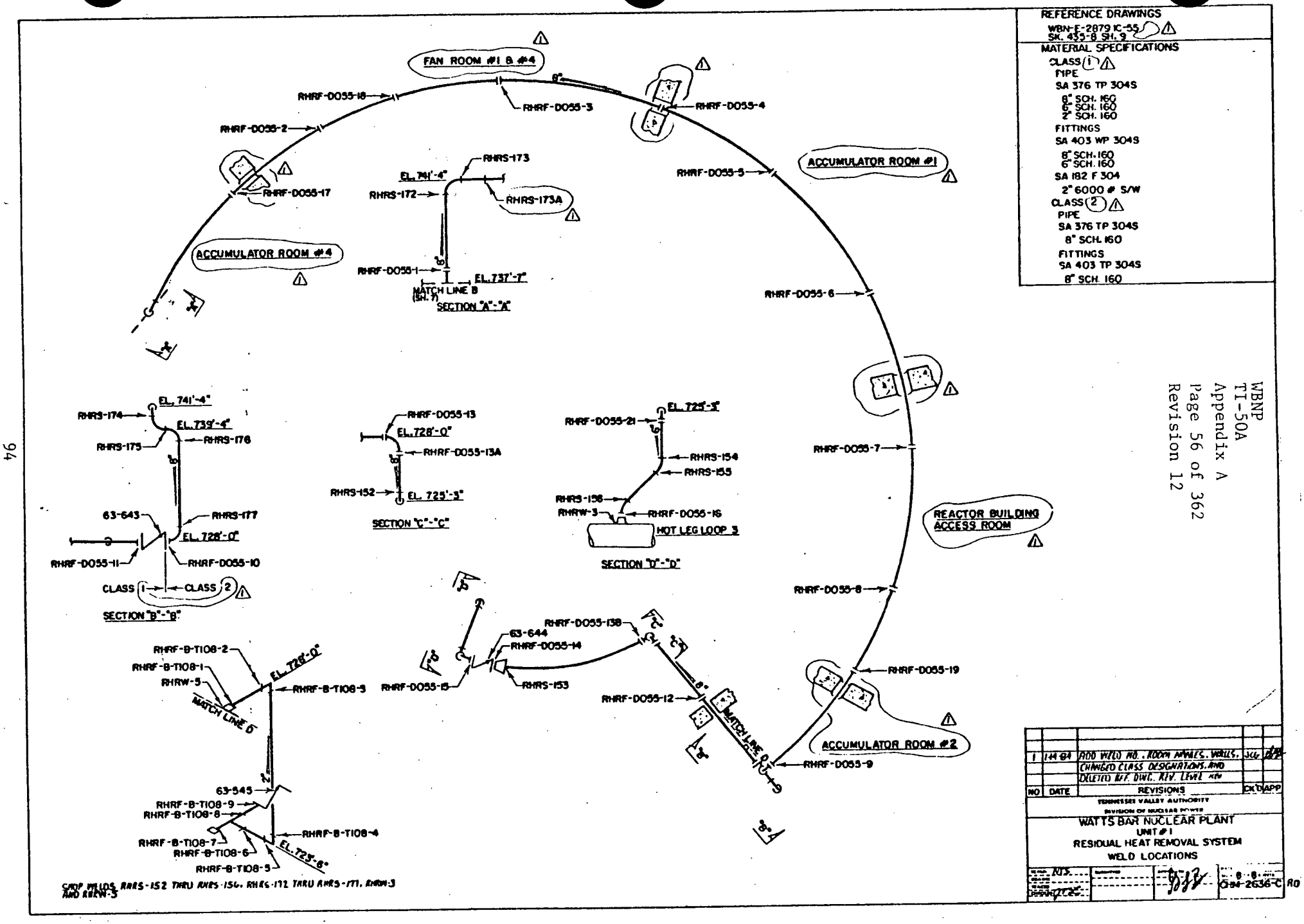
8" SCH. 160

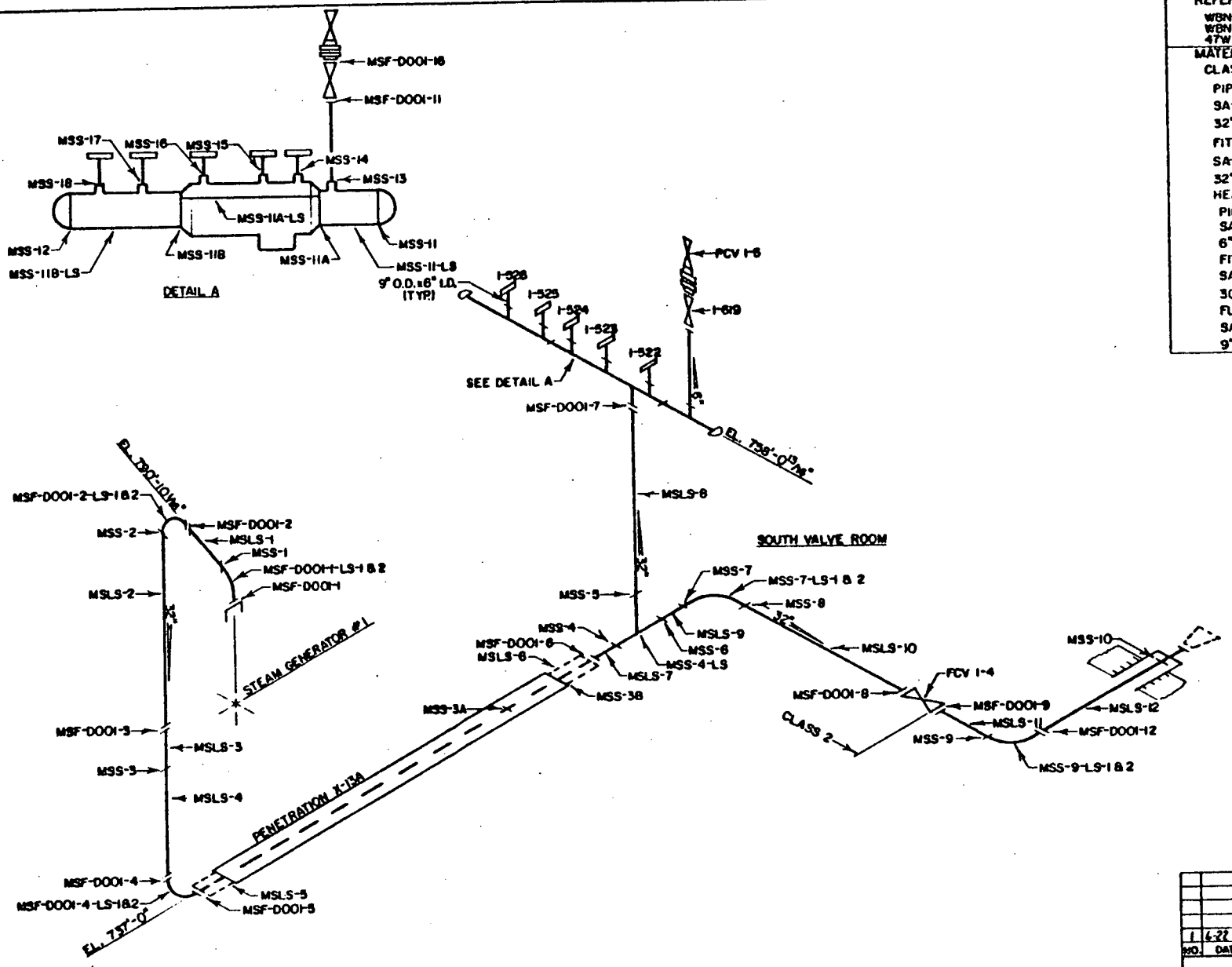
NO	DATE	REVISIONS	CK'D	APP'D
3	1-14-84	ADD ROOM NAMES AND WALLS AND CHANGE CLASS DESIGNATIONS AND DELETED REF DWG REV. LEVEL REV	JCG	
2	6-16-83	CORRECT CONT. AND WELD NOS. REV		
1	10-16-81	REDRAWN - GENERAL REVISION REV		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
WELD LOCATIONS

CHM-2636-C


REFERENCE DRAWINGS
WBN-E-2879 IC-55
SK. 435-8 SH. 9
MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SA 376 TP 304S
8" SCH. 160
6" SCH. 160
2" SCH. 160
FITTINGS
SA 403 WP 304S
8" SCH. 160
6" SCH. 160
SA 182 F 304
2" 6000 # S/W
CLASS 2
PIPE
SA 376 TP 304S
8" SCH. 160
FITTINGS
SA 403 TP 304S
8" SCH. 160
FAN ROOM #1 & #4
ACCUMULATOR ROOM #1
ACCUMULATOR ROOM #4
REACTOR BUILDING ACCESS ROOM
ACCUMULATOR ROOM #2
RHRF-D055-18
RHRF-D055-3
RHRF-D055-4
RHRF-D055-2
RHRF-D055-17
RHRF-D055-5
RHRF-D055-6
RHRF-D055-7
RHRF-D055-8
RHRF-D055-19
RHRF-D055-9
RHRF-D055-12
RHRF-D055-1
RHRS-173
RHRS-172
RHRS-173A
EL. 741'-4"
EL. 737'-7"
MATCH LINE B (SH. 7)
SECTION "A"-"A"
RHRS-174
RHRS-175
RHRS-176
EL. 739'-4"
63-643
RHRS-177
EL. 728'-0"
RHRF-D055-11
RHRF-D055-10
CLASS 1
CLASS 2
SECTION "B"-"B"
RHRF-D055-13
EL. 728'-0"
RHRF-D055-13A
RHRS-152
EL. 725'-3"
SECTION "C"-"C"
RHRF-D055-21
EL. 725'-3"
RHRS-154
RHRS-155
RHRS-156
RHRW-3
RHRF-D055-16
HOT LEG LOOP 3
SECTION "D"-"D"
RHRF-D055-138
63-644
RHRF-D055-14
RHRF-D055-15
RHRS-153
RHRF-B-T108-2
RHRF-B-T108-1
RHRW-5
EL. 728'-0"
RHRF-B-T108-3
MATCH LINE 6
63-545
RHRF-B-T108-9
RHRF-B-T108-8
RHRF-B-T108-7
RHRF-B-T108-6
RHRF-B-T108-5
RHRF-B-T108-4
EL. 725'-6"
CAP WELDS RHRS-152 THRU RHRS-156, RHRS-172 THRU RHRS-177, RHRW-3 AND RHRW-5
1 1-14-84 ADD WELD NO., ROOM NAMES, WALLS, CHANGED CLASS DESIGNATIONS AND DELETED REF. DWG. REV. LEVEL
NO DATE REVISIONS CK'D APP
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
WELD LOCATIONS
DWN-2636-C R0



REFERENCE DRAWINGS
WBN-E-2878 IC-1
WBN-E-2880 IC-203
47W331

MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-155 KCF 70 CL. 1
32" O.D. x 1.175" M.W.
FITTINGS
SA-234 WPB-W
32" O.D. x 1.175" M.W.
HEADER
PIPE
SA-106 GR. B
6" XXS
FITTINGS
SA-234 WPB
30" x 1.109" M.W. WELDED CAP
FLANGES
SA-105
9" O.D. x 6" I.D. 1500#

SHOP WELD MSS-1 THRU MSS-18, MSS-3A, MSS-11A, AND MSS-11B
PIPE LONG SEAM WELDS MSLS-1 THRU MSLS-12

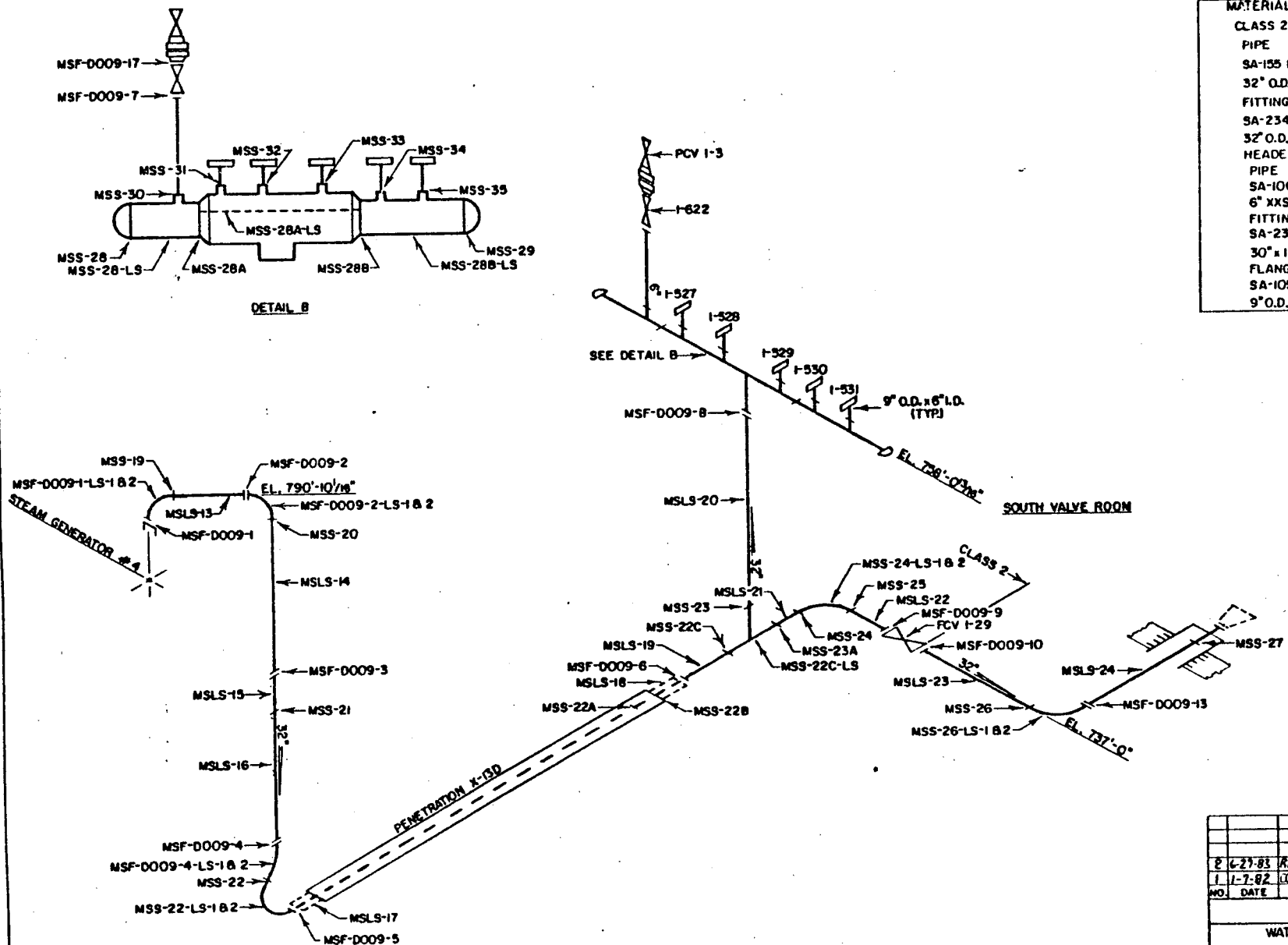
NO.	DATE	REVISIONS	CK'D	APPR
1	6-22-83	REDRAWN AND ADD LONG SEAMS		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
WELD LOCATIONS

DRAWN RTS | DATE 6-22-83
CHM-2669-C R1

REFERENCE DRAWINGS
WBN-E-2878 IC-9
WBN-E-2880 IC-204
97W331

MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-155 KCF 70 CL. 1
32" O.D. x 1.175" M.W.
FITTINGS
SA-234 WPB-W
32" O.D. x 1.175 M.W.
HEADER
PIPE
SA-106 GR. B
6" XXS
FITTINGS
SA-234 WPB
30" x 1.109" M.W. WELDED CAP
FLANGES
SA-105
9" O.D. x 6" I.D. 1500#



SHOP WELDS MSS-19 THRU MSS-35, MSS-22A, MSS-22B, MSS-22C, MSS-23A, MSS-28A, AND MSS-28B
PIPE LONG SEAM WELDS MSLS-13 THRU MSLS-24

NO.	DATE	REVISIONS	CK'D	APP
2	6-27-83	REDRAWN AND ADD LONG SEAMS ADD	JLG	[illegible]
1	1-7-82	CORRECT AND ADD WELD NOS. ADD	JLG	[illegible]

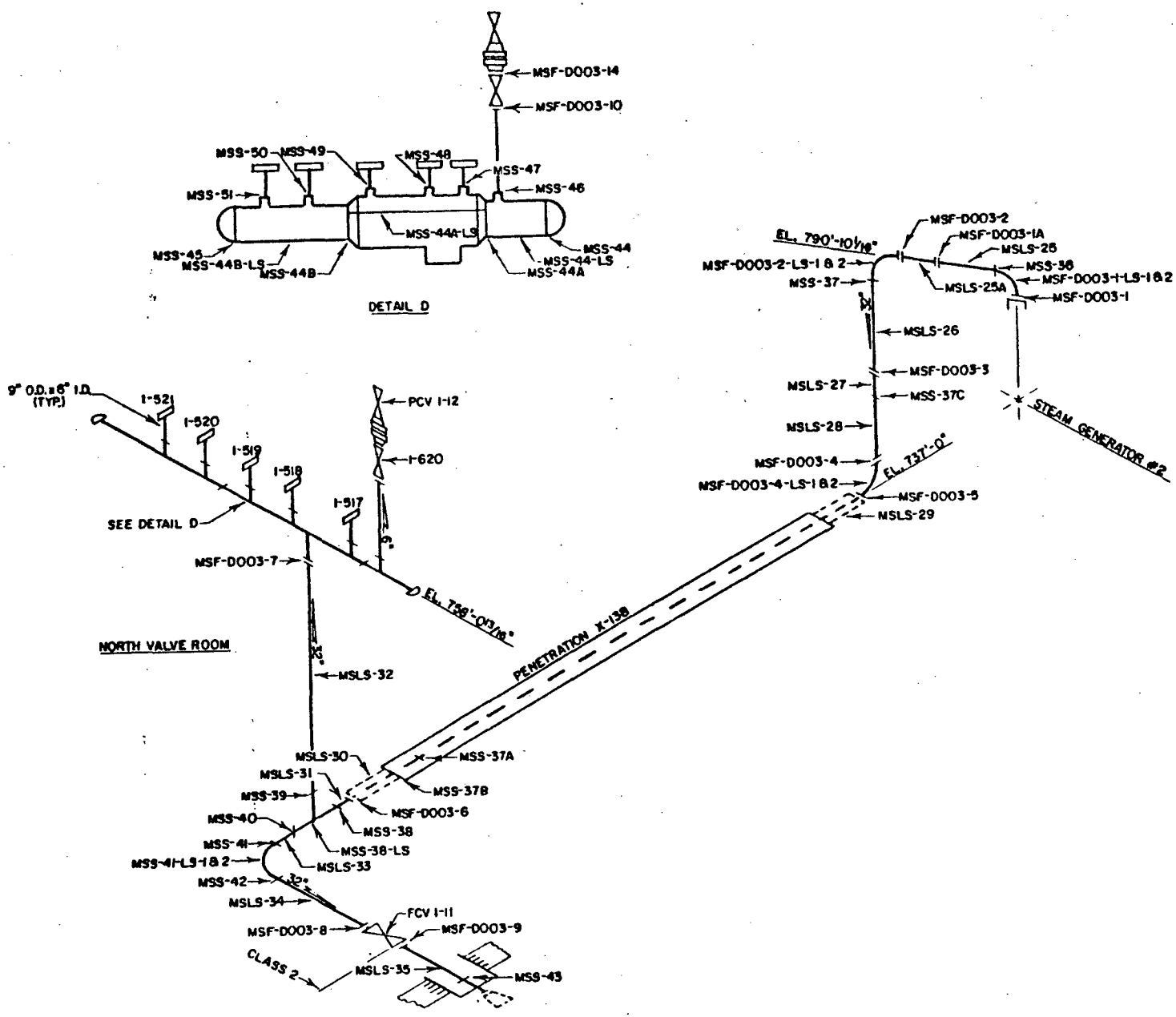
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
WELD LOCATIONS

DRAWN BTS. DESIGNED JRD APPROVED 6-27-83 DATE
CHM-2669-C R2

REFERENCE DRAWINGS
WBN-E-2878 IC-3
WBN-E-2880 IC-205
47W331

MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-155 KCF 70 CL. 1
32" O.D. x 1.175" M.W.
FITTINGS
SA-234 WPB-W
32" O.D. x 1.175" M.W.
HEADER
PIPE
SA-106 GR. B
6" XXS
FITTINGS
SA-234 WPB
30" x 1.109" M.W. WELDED CAP
FLANGES
SA-105
9" O.D. x 6" I.D. 1500#



SHOP WELDS MSS-34 THRU MSS-51, MSS-37A, MSS-37B, MSS-37C, MSS-44A, AND MSS-44B
PIPE LONG SEAM WELDS MSLS-25 THRU MSLS-35 AND MSLS-25A

NO.	DATE	REVISIONS	CK'D	APP.
1	6-23-83	REDRAWN AND ADD LONG SEAMS	JCG	

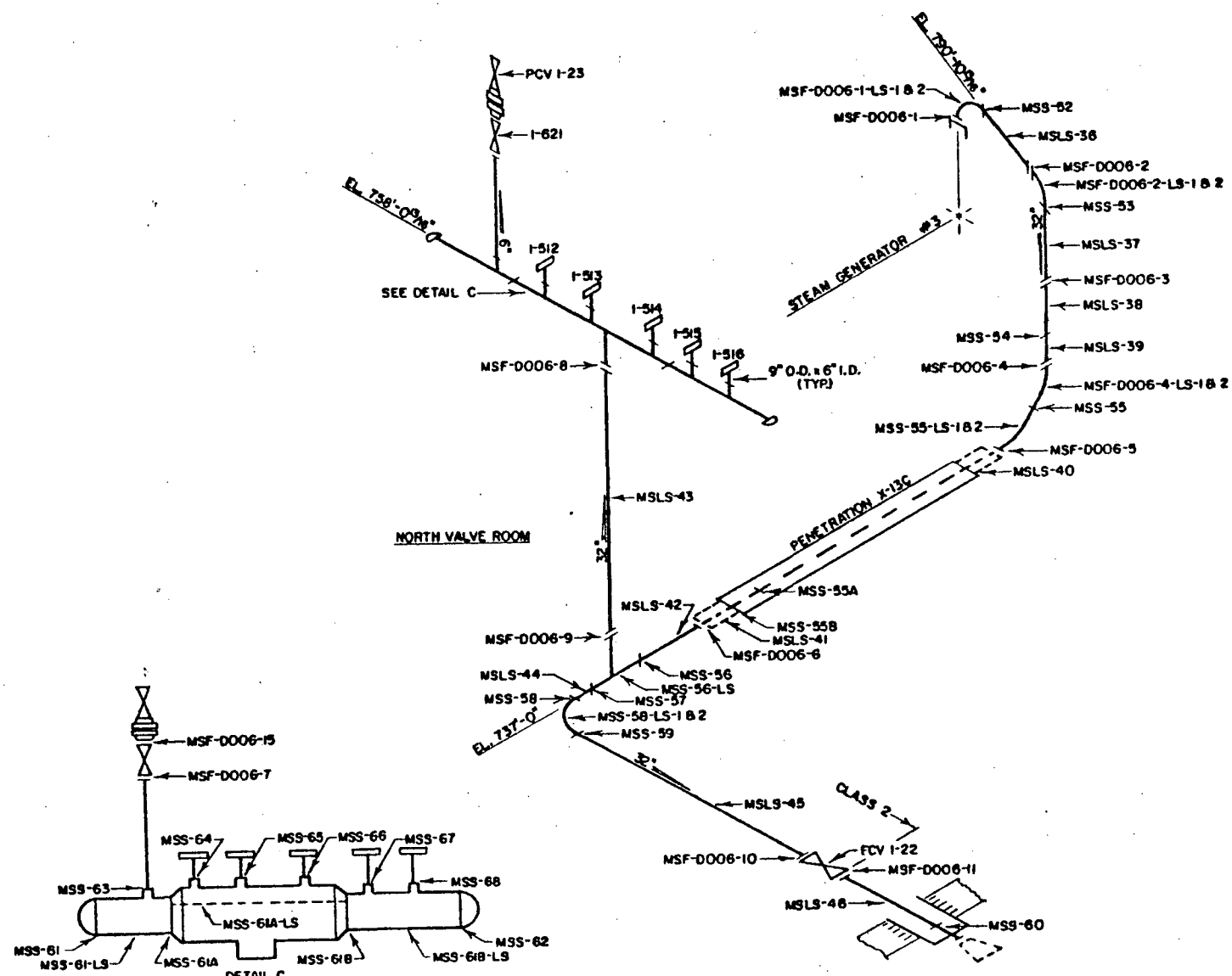
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
WELD LOCATIONS

DRAWN NLS
DESIGNED
SUBMITTED
APPROVED
DATE 6-23-83
SCALE NONE
CHM-2669-C R1

REFERENCE DRAWINGS
WBN-E-2878 IC-6
WBN-E-2880 IC-206
47W331

MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-155 KCF 70 CL. 1
32" O.D. x 1.175 M.W.
FITTING
SA-234 WPB-W
32" O.D. x 1.175 M.W.
HEADER
PIPE
SA-106 GR. B
6" XXS
FITTINGS
SA-234 WPB
30" x 1.109" M.W. WELDED CAP
FLANGES
SA-105
9" O.D. x 6" I.D. 1500#

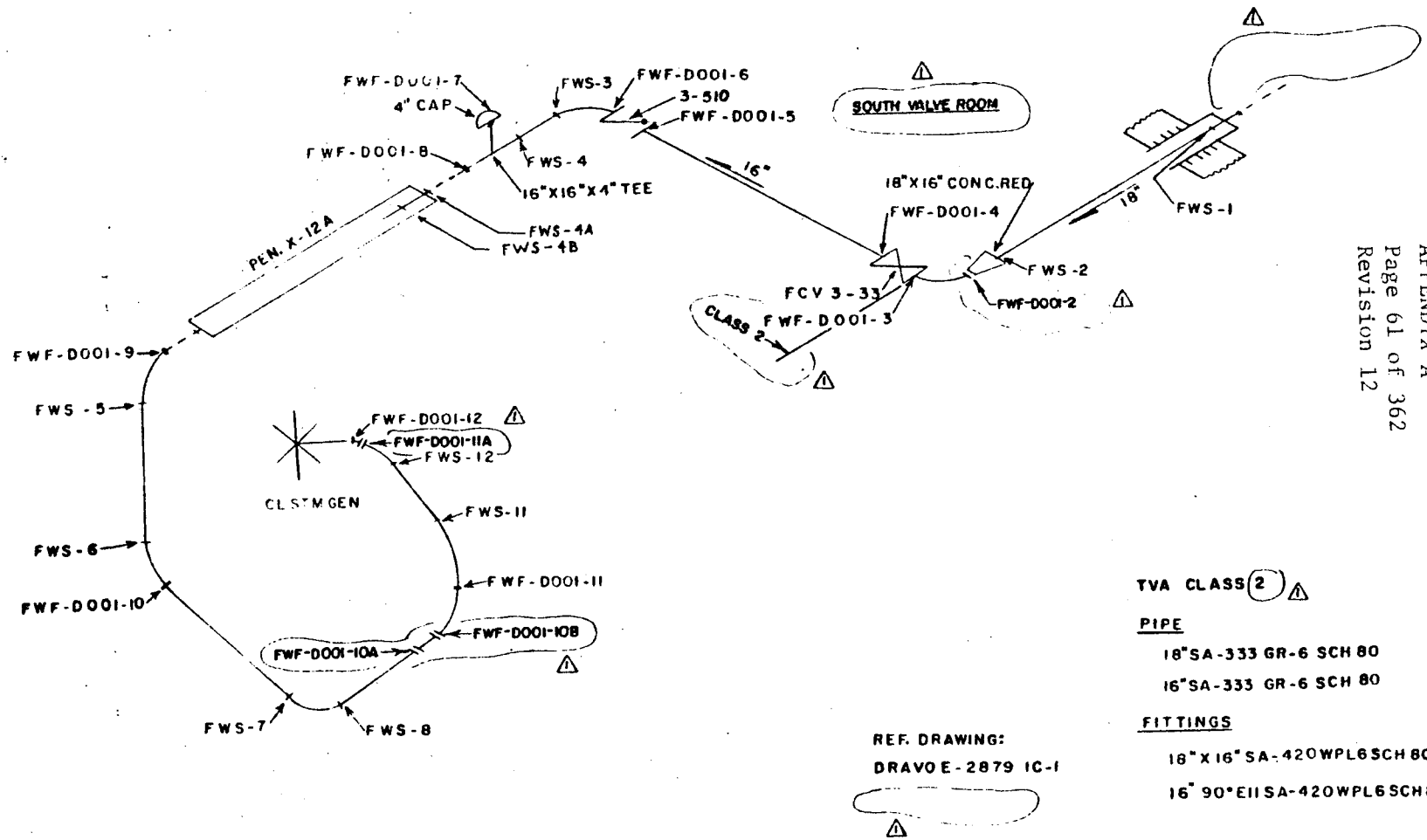


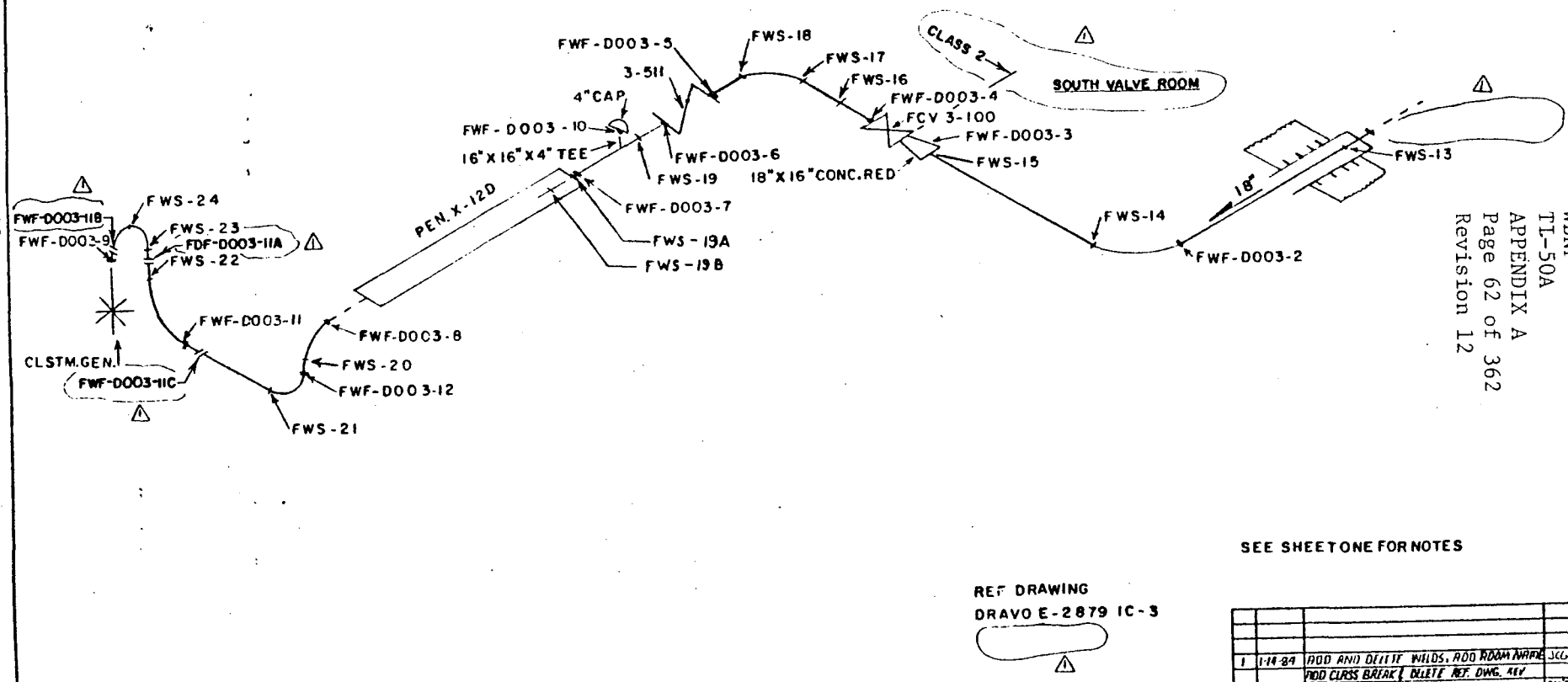
NO.	DATE	REVISIONS	CK'D	APP
1	6-27-83	ELEVATION AND ADD LONG SEAMS REV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
WELD LOCATIONS

DRAWN RJS | DESIGNED | APPROVED | DATE 6-27-83 | SHEET 4 OF 4 SHEETS
REVIEWED RPP | REVIEWED JCG | CHM-2669-C R1


FWF-D001-7
4" CAP
FWS-3
FWF-D001-6
3-510
FWF-D001-5
SOUTH VALVE ROOM
FWF-D001-8
FWS-4
16"X16"X4" TEE
16"
18"X16" CONC.RED
FWF-D001-4
18"
FWS-1
PEN. X-12A
FWS-4A
FWS-4B
FWS-2
FCV 3-33
FWF-D001-2
CLASS 2
FWF-D001-3
FWF-D001-9
FWS-5
FWF-D001-12
FWF-D001-11A
FWS-12
CL STM GEN
FWS-11
FWS-6
FWF-D001-11
FWF-D001-10
FWF-D001-10B
FWF-D001-10A
FWS-7
FWS-8
TVA CLASS 2
PIPE
18"SA-333 GR-6 SCH 80
16"SA-333 GR-6 SCH 80
FITTINGS
18"X16" SA-420WPL6 SCH 80,SMLS
16" 90°ELL SA-420WPL6 SCH 80,SMLS
REF. DRAWING:
DRAVO E-2879 IC-1
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION
WBNP
FEEDWATER WELD MAP
UNIT 1 LOOP 1
CHM-2671-C
R1
NO. DATE REVISIONS CK'D APP.
1 1-19-84 ADD ROOM NAME, ADD, DELETE, AND CHANGE WELD NOS., CHANGE CLASS DESIGNATIONS, ADD CLASS BREAK & DELETE REF. DWG.



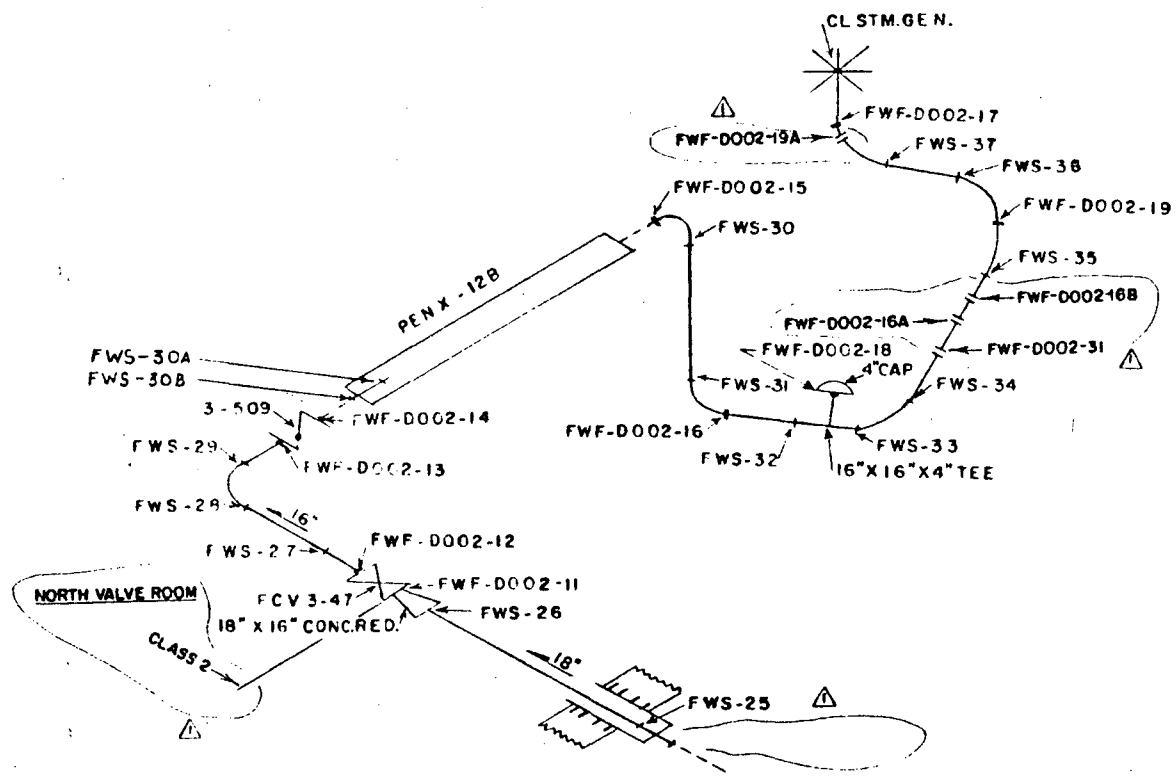
SEE SHEET ONE FOR NOTES

NO.	DATE	REVISIONS	CK'D	APP
1	1-14-84	ADD AND DELETE WELDS, ADD ROOM NAME ADD CLASS BREAK, DELETE REF. DWG. REV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
FEEDWATER WELD MAP
UNIT 1 LOOP 4

SCALE
DRAWN LRS
CHM-2671-C R1



SEE SHEET ONE FOR NOTES

REF DRAWINGS

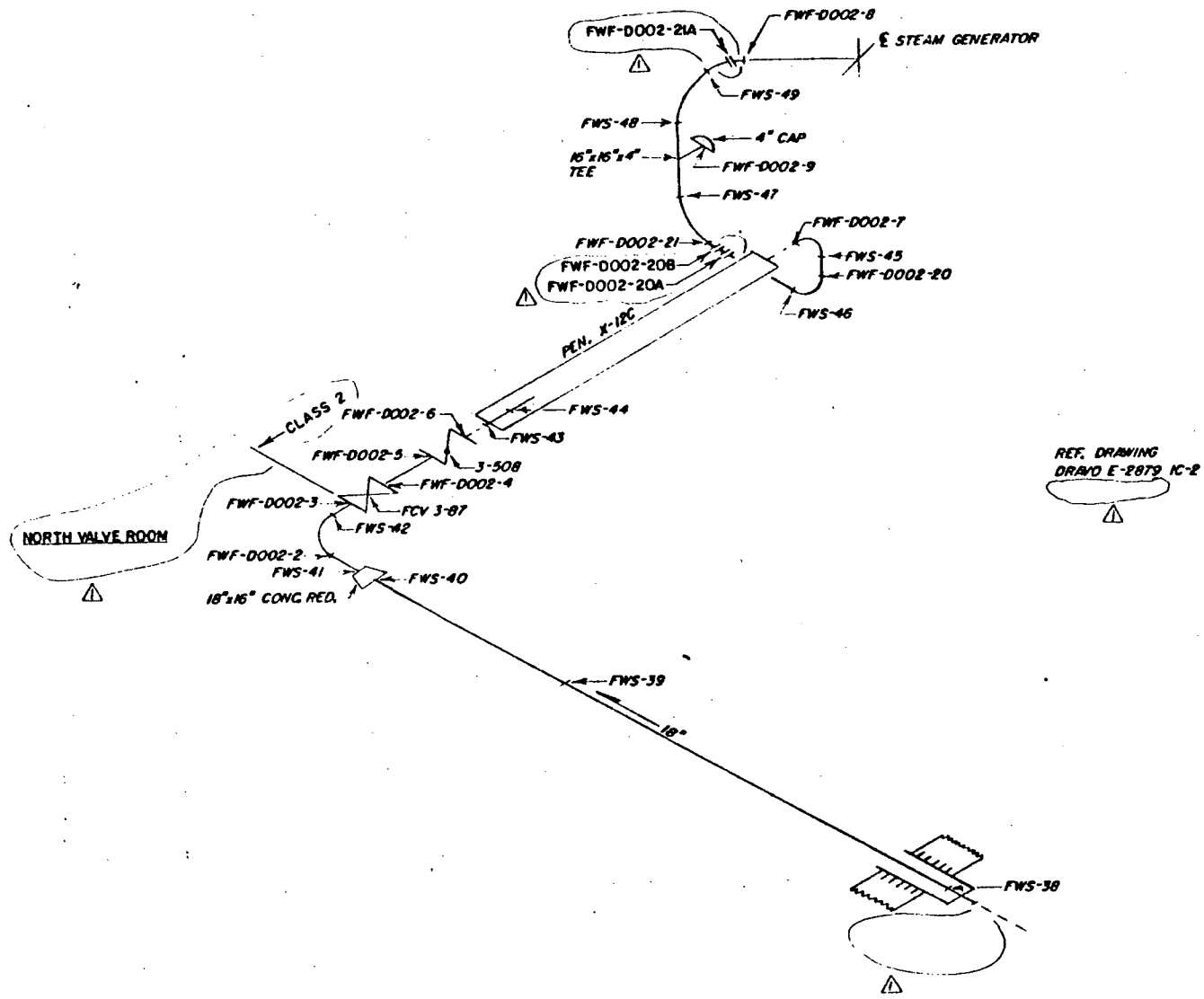
DRAVO E-2879 IC-2

NO.	DATE	REVISIONS	CK'D	APP.
1	1-11-84	ADD AND DELETE WELDS, ADD [illegible] ADD CORS BRACKET & DELETE REF. DWG. [illegible]	[illegible]	[illegible]

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
FEEDWATER WELD MAP
UNIT 1 LOOP 2

SCALE NONE | DRAWN CES | CHECKED [illegible] | SUBMITTED | APPROVED [illegible] | DATE [illegible] | SHEET 3 OF 4 SHEETS | CHM-2671-C R1



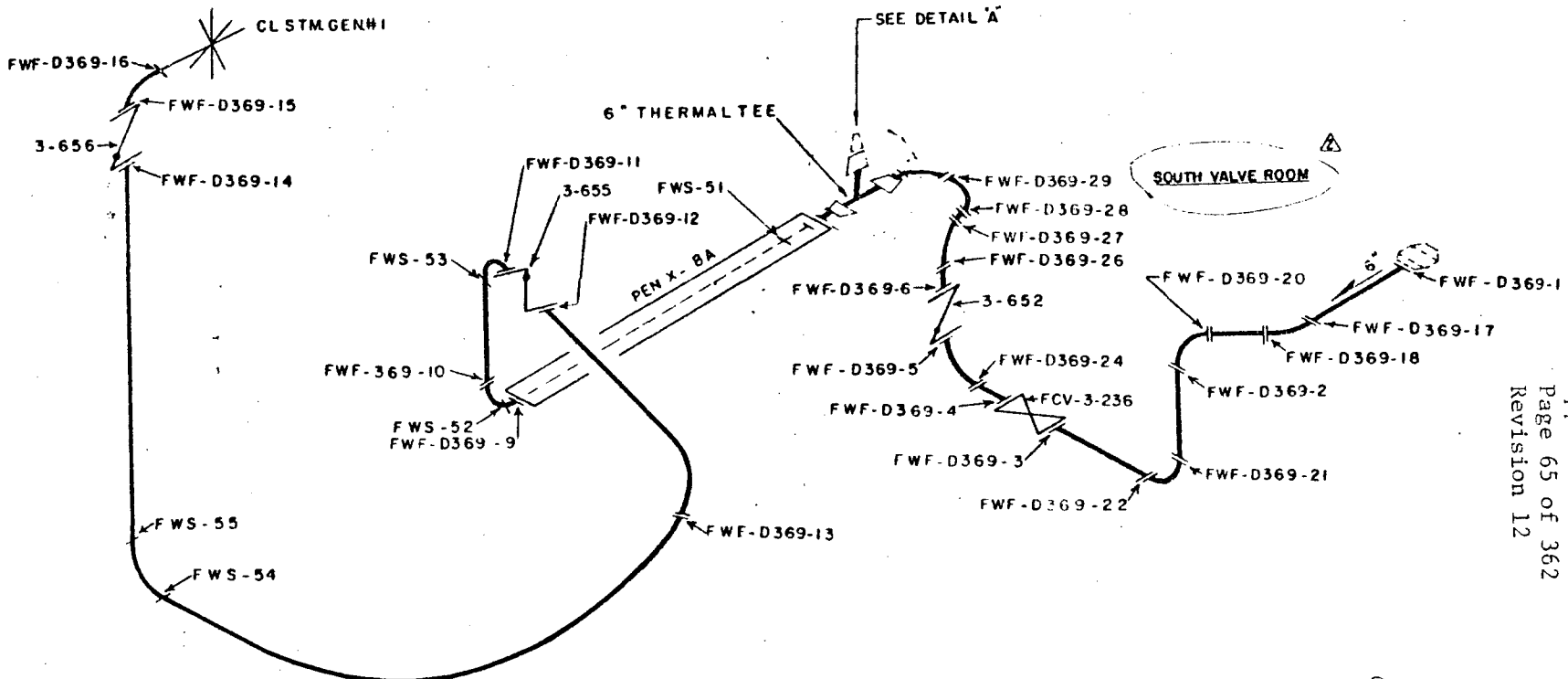
SEE SHEET 1 FOR NOTES

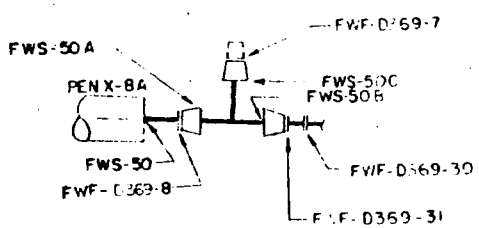
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WATTS BAR NUCLEAR PLANT
UNIT 1
FEEDWATER
WELD MAP LOOP 3

NO.	DATE	REVISIONS	CK'D	APP
1	1-14-84	ADD AND DELETE WELDS, ADD ROOM NAME CLASS BREAK & DELETE REF. DWG. KEY	SCG	

SCALE NTS
DATE 8/4/83
CH-M-2671-C
A1





DETAIL 'A'

REF DRAWING

DRAVO E-2879 IC 369

TVA CLASS (2)

PIPE

6" SA-333 GR6 SCH 80

FITTINGS

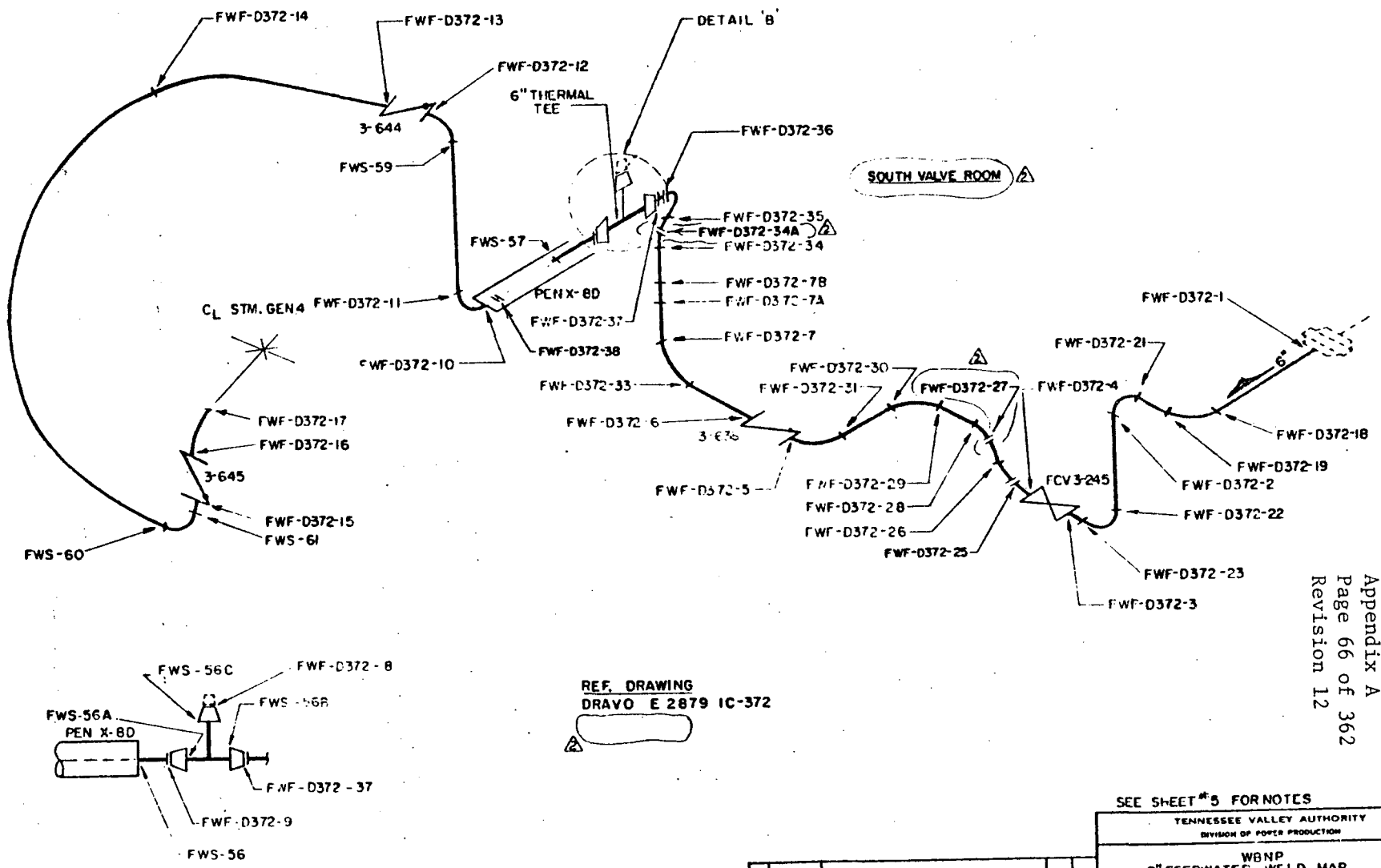
6" SA-420 WPL6 SCH80

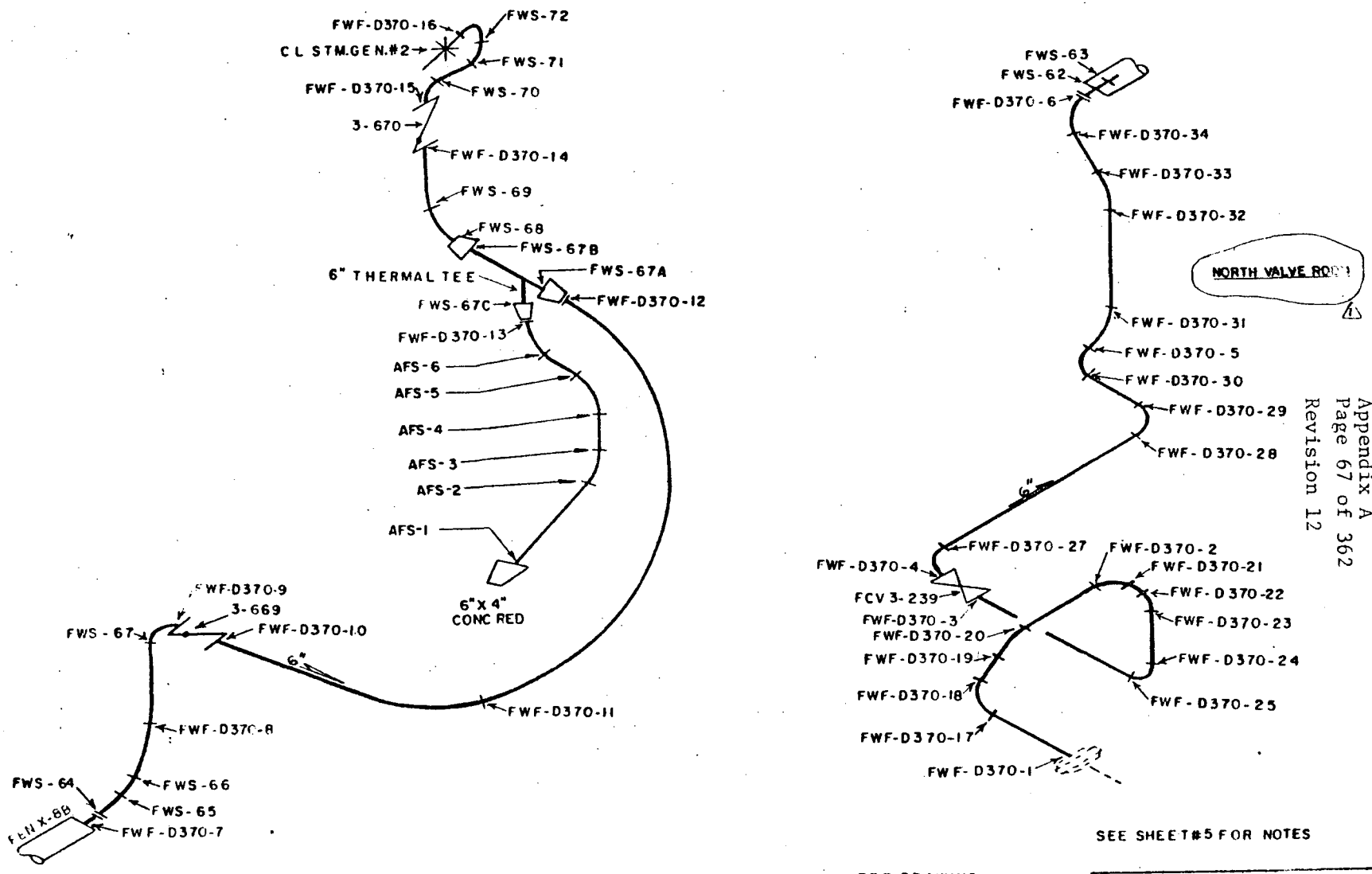
NO.	DATE	REVISIONS	CK'D	APP'D
2	1-14-89	CHANGE CLASS DESIGNATION AND ADD ROOM NAME AND DELETE REF. DWG. NO.		
1	1-6-82	DELETE REPEATED WELD NOS. ETC		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
6" FEEDWATER WELD MAP
UNIT 1 (OOF)

CHM-2671-C R2


FWF-D372-14
FWF-D372-13
FWF-D372-12
6" THERMAL TEE
DETAIL 'B'
3-644
FWS-59
FWF-D372-36
SOUTH VALVE ROOM
FWF-D372-35
FWF-D372-34A
FWF-D372-34
FWS-57
FWF-D372-7B
FWF-D372-7A
FWF-D372-7
PEN X-8D
FWF-D372-37
FWF-D372-38
CL STM. GEN 4
FWF-D372-11
FWF-D372-10
FWF-D372-33
FWF-D372-6
3-636
FWF-D372-5
FWF-D372-30
FWF-D372-31
FWF-D372-27
FWF-D372-4
FWF-D372-29
FWF-D372-28
FWF-D372-26
FWF-D372-25
FCV 3-245
FWF-D372-1
FWF-D372-21
6"
FWF-D372-18
FWF-D372-19
FWF-D372-2
FWF-D372-22
FWF-D372-23
FWF-D372-3
FWF-D372-17
FWF-D372-16
3-645
FWF-D372-15
FWS-61
FWS-60
FWS-56C
FWF-D372-8
FWS-56B
FWS-56A
PEN X-8D
FWF-D372-37
FWF-D372-9
FWS-56
DETAIL 'F'
REF. DRAWING
DRAVO E 2879 IC-372
SEE SHEET #5 FOR NOTES
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION
WBNP
6" FEEDWATER WELD MAP
UNIT 1
LOOP 4
CHM-2671-C
R2
NO. DATE REVISIONS CK APR
2 1-14-94 ADD WELDS, ROOM NAMES / DELETE ALL DWG
1 1-8-92 DELETE REPEATED WELD NUMBERS AND ADD WELDS



SEE SHEET #5 FOR NOTES

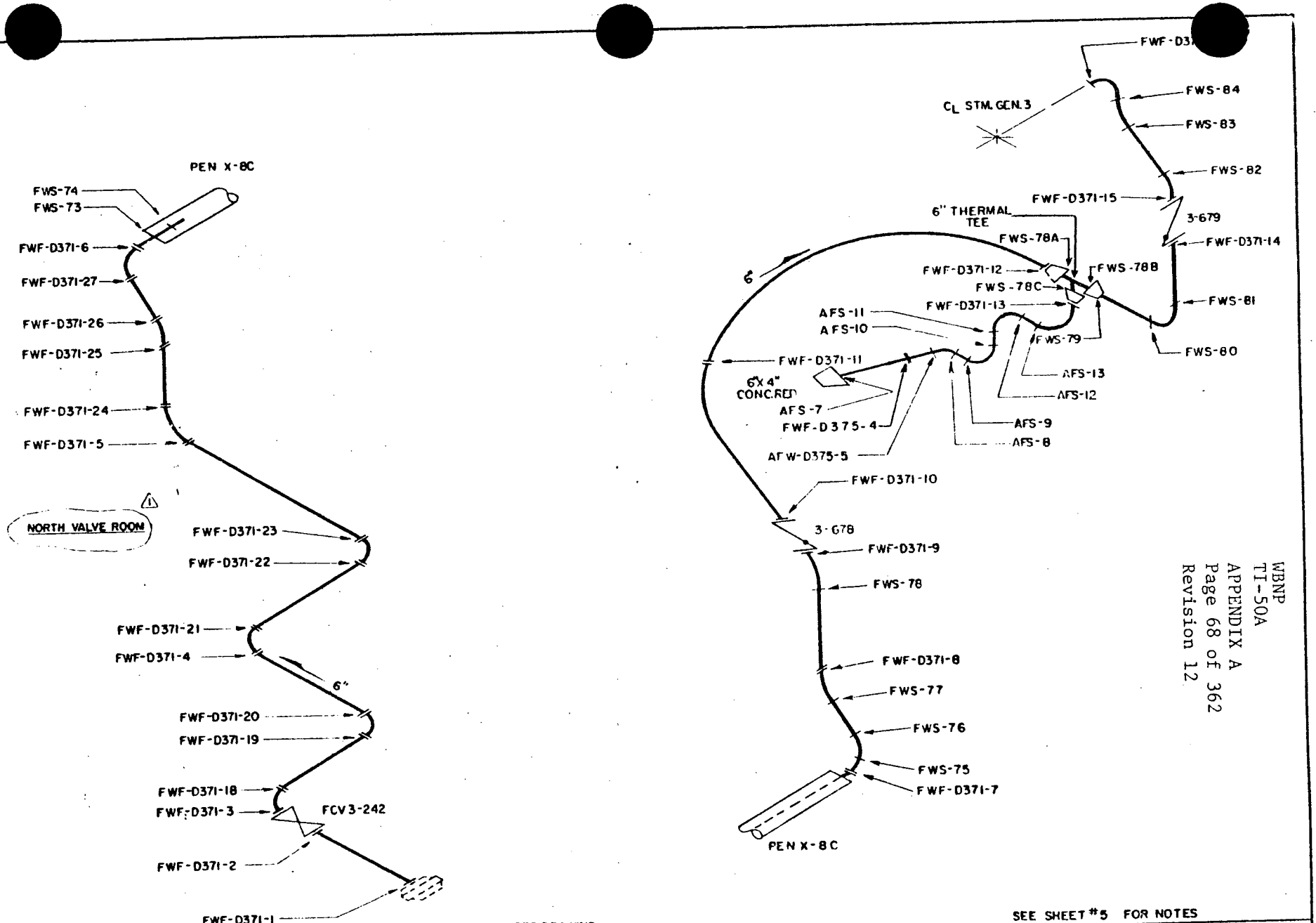
REF DRAWING
DRAVO E-2879 IC-370
IC-374

NO.	DATE	REVISIONS	CK'D	APP
1	1-19-89	ADD ROOM NAME & DELETE REF. DWG.		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
6" FEEDWATER WELD MAP
UNIT 1 LOOP 2

SCALE
DRAWN
TRACED
CHECKED
SUBMITTED
APPROVED
DATE
SHEET 7 OF 8 SHEETS
CHM-2671-C R1



REF. DRAWING
DRAVO E-2879 IC-371, IC-375

SEE SHEET #5 FOR NOTES

NO.	DATE	REVISIONS	CK'D	APP
1	1-14-84	ADD ROOM NAME & DELETE REF. DWG.		

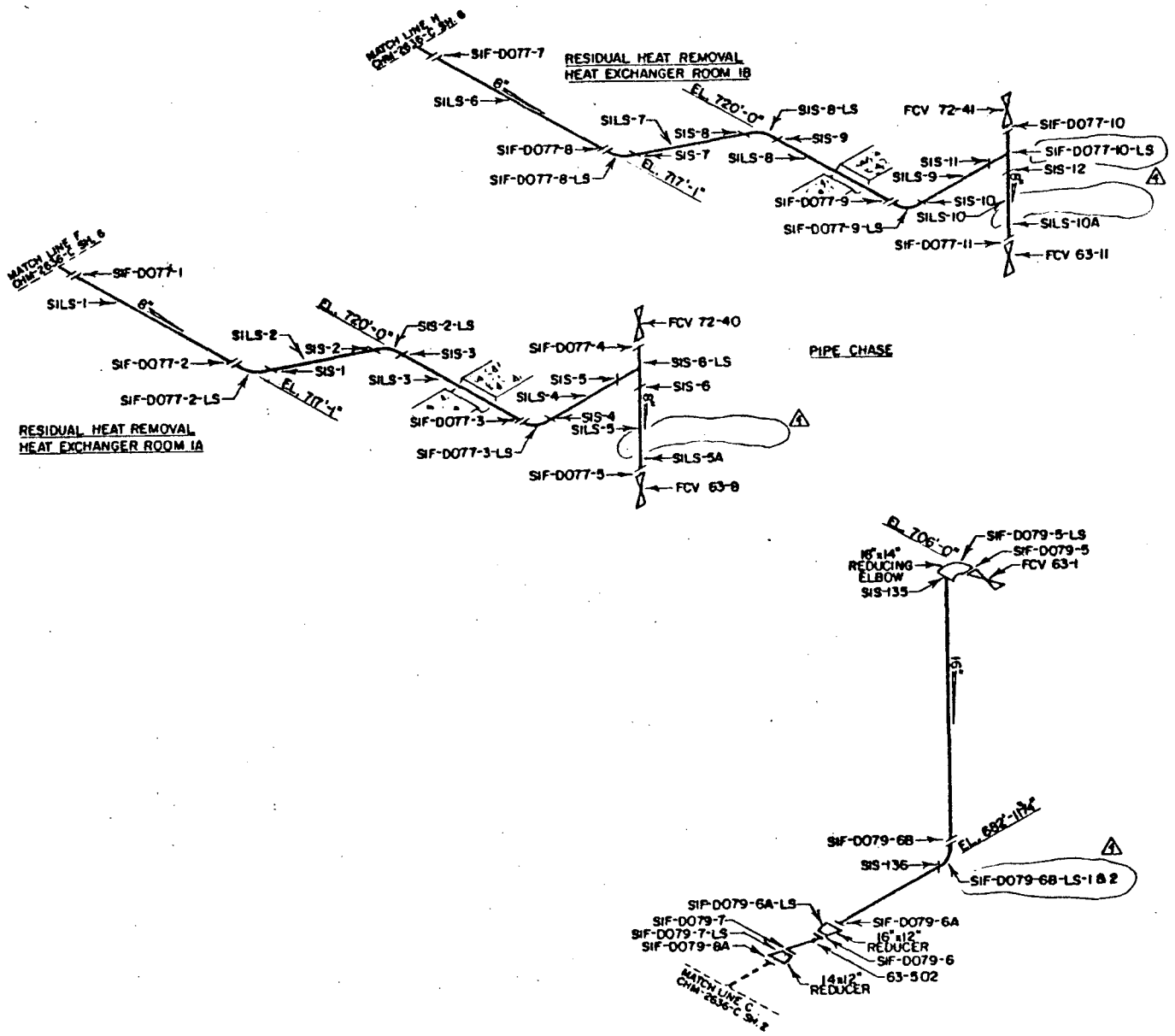
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
6" FEEDWATER WELD MAP
UNIT 1 LOOP 3

SCALE N.T.S. SUBMITTED
DATE 5-18-79
CHM-2671-C A1

REFERENCE DRAWINGS
WBN-E-2879 IC-77
WBN-E-2879 IC-79

MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-358 CL 1 TP-304
16" XS
SA-312 TP-304W
8" SCH 40S
FITTINGS
SA-403 WP-304W
16" XS
16" XS x 14" SCH 40
16" XS x 12" SCH 40
14" SCH 40 x 12" SCH 40
8" SCH 40S



SHOP WELDS SIS-1 THRU SIS-12, SIS-135, AND SIS-136
PIPE LONG SEAM WELDS SILS-1 THRU SILS-10, SILS-5A, AND SILS-10A

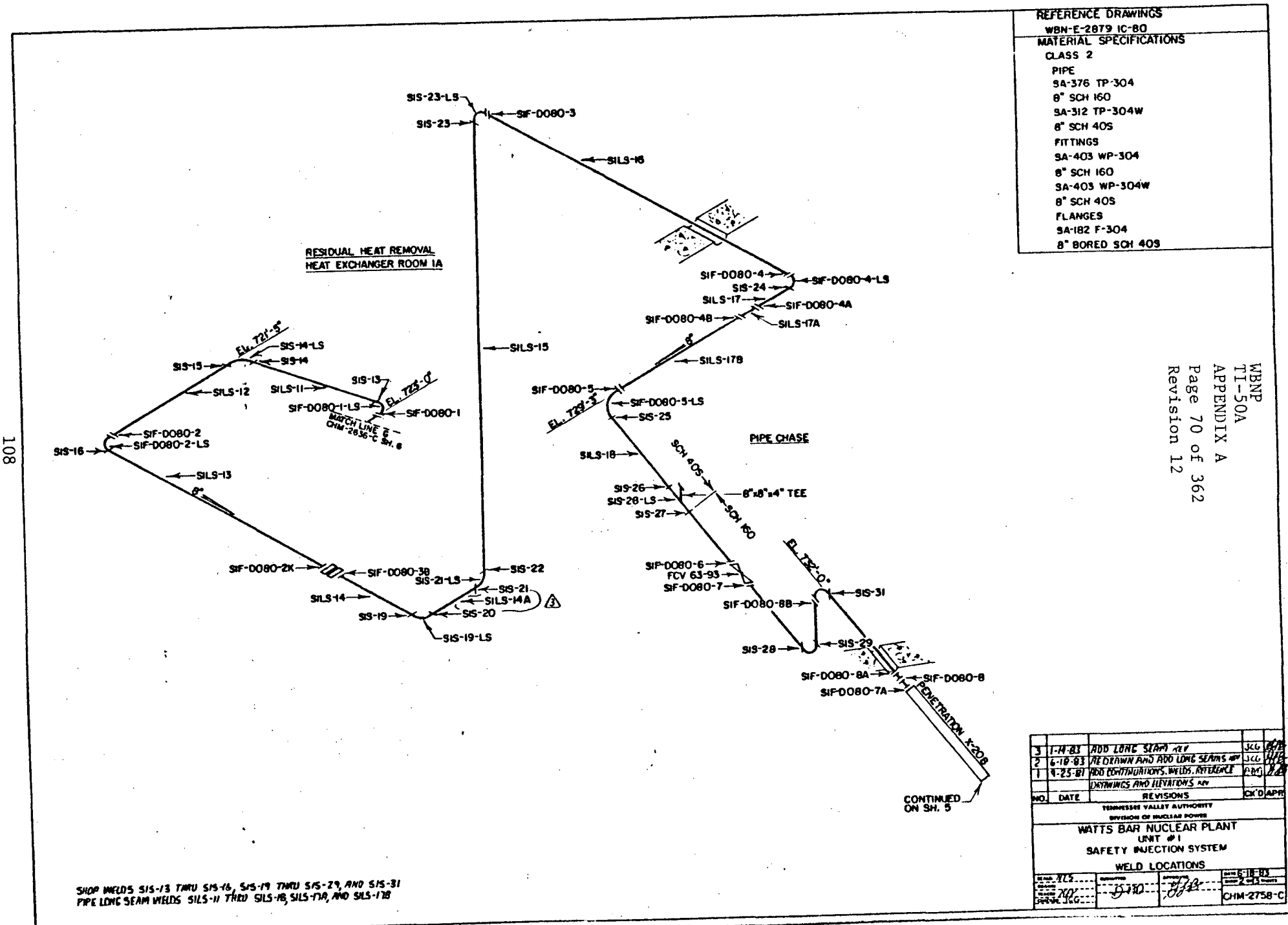
NO.	DATE	REVISIONS	CK'D	APP.
4	1-14-84	CORRECT AND DELETE WELDS NOS. AND LONG SEAMS REV	JCG	
3	6-17-83	REDRAWN ADD 16" LINE AND ADD LONG SEAMS REV	JCG	
2	11-5-82	DELETE SHEET 14 REV		
1	9-25-81	ADD CONTINUATIONS, VALVE NOS, REF. DWGS., WELDS AND ELEVATIONS REV		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM

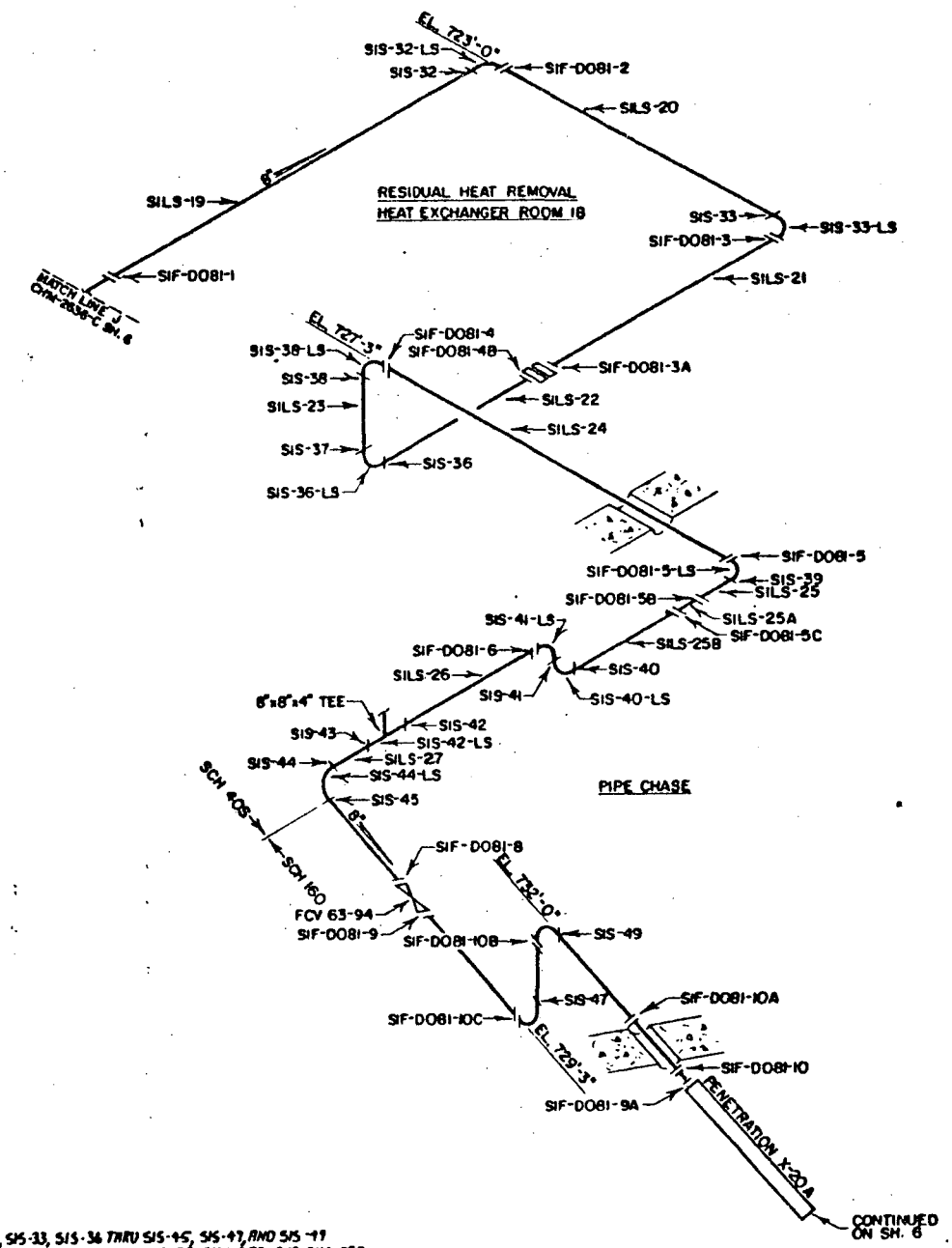
WELD LOCATIONS

DRAWN NDS
REVIEWED RDZ
SUBMITTED
APPROVED
DATE 6-17-83
SHEET 1 OF 3 SHEETS
CHM-2758-C R4


REFERENCE DRAWINGS
WBN-E-2879 IC-80
MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-376 TP-304
8" SCH 160
SA-312 TP-304W
8" SCH 40S
FITTINGS
SA-403 WP-304
8" SCH 160
SA-403 WP-304W
8" SCH 40S
FLANGES
SA-182 F-304
8" BORED SCH 40S
RESIDUAL HEAT REMOVAL
HEAT EXCHANGER ROOM 1A
PIPE CHASE
SIS-23-LS
SIS-23
SIF-0080-3
SILS-16
SIF-0080-4
SIF-0080-4-LS
SIS-24
SILS-17
SIF-0080-4A
SIF-0080-4B
SILS-17A
SILS-17B
SILS-15
SIF-0080-5
SIF-0080-5-LS
SIS-25
EL. 729'-5"
SILS-18
SCH 40S
SCH 160
8"x8"x4" TEE
SIS-26
SIS-26-LS
SIS-27
SIF-0080-6
FCV 63-93
SIF-0080-7
SIF-0080-8B
SIS-31
SIS-28
SIS-29
SIF-0080-8A
SIF-0080-8
SIF-0080-7A
PENETRATION X-208
CONTINUED ON SH. 5
EL. 721'-5"
SIS-14-LS
SIS-14
SIS-15
SILS-12
SILS-11
SIS-13
EL. 725'-0"
SIF-0080-1-LS
SIF-0080-1
MATCH LINE E
CHM-2836-C SH. 6
SIF-0080-2
SIF-0080-2-LS
SIS-16
SILS-13
8"
SIF-0080-2X
SIF-0080-3B
SIS-21-LS
SIS-22
SIS-21
SILS-14A
SILS-14
SIS-19
SIS-20
SIS-19-LS
SHOP WELDS SIS-13 THRU SIS-16, SIS-19 THRU SIS-29, AND SIS-31
PIPE LONG SEAM WELDS SILS-11 THRU SILS-18, SILS-17A, AND SILS-17B
3 1-14-83 ADD LONG SEAM REV JCG
2 6-10-83 RE DRAWN AND ADD LONG SEAMS REV JCG
1 9-25-81 ADD CONTINUATIONS, WELDS, REFERENCE DRAWINGS AND ELEVATIONS REV
NO. DATE REVISIONS CK'D APP'D
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
WELD LOCATIONS
CHM-2758-C
A3

REFERENCE DRAWINGS
WBN-E-2879 IC-81

MATERIAL SPECIFICATIONS
CLASS 2
PIPE
SA-376 TP-304
8" SCH 160
SA-312 TP-304W
8" SCH 40S
FITTINGS
SA-403 WP-304
8" SCH 160
SA-403 WP-304W
8" SCH 40S
FLANGES
SA-182 F-304
8" BORED SCH 40S



SHOP WELDS SIS-32, SIS-33, SIS-36 THRU SIS-45, SIS-47, AND SIS-49
PIPE LONG SEAM WELDS SILS-19 THRU SILS-21, SILS-25A, AND SILS-25B

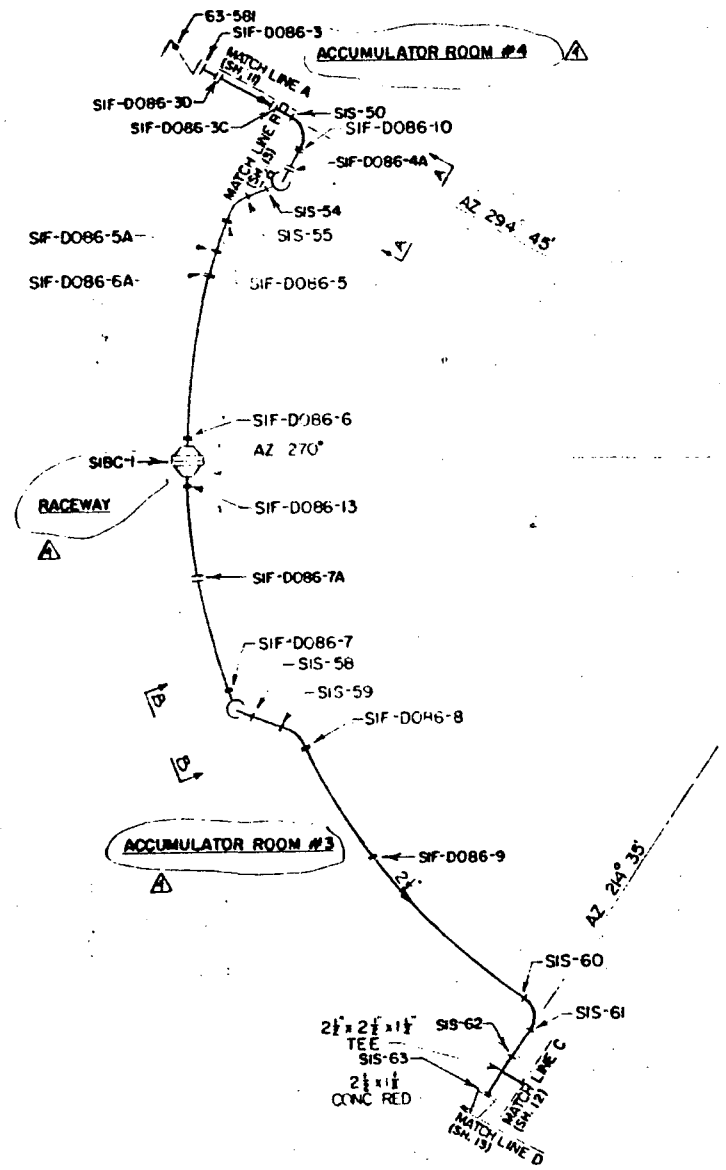
NO.	DATE	REVISIONS	CK'D	APP.
2	6-18-83	REDRAWN ADD ADD LONG SEAMS REV	JCG	
1	9-25-81	ADD REF. DWGS. ELEVATIONS WELDS AND CONTINUATIONS REV		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

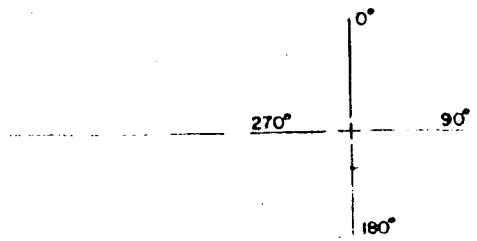
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
WELD LOCATIONS

SCALE NTS. DATE 6-18-83
CHM-2758-C R2

REFERENCE DRAWINGS
WBN-E-2879 IC-86



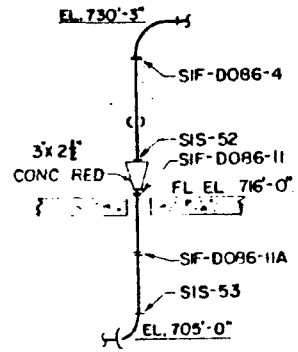
SHOP WELDS SIS-50, SIS-52 THRU SIS-63, AND SIS-56A



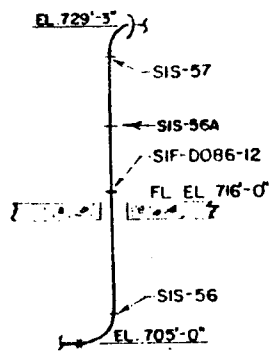
TVA CLASS 1

PIPE
3" SCH 160 SA-376 TP 304
2½" SCH 160 SA-376 TP 304

FITTINGS
3" SCH 160 SA-403 WP 304S
2½" SCH 160 SA-403 WP 304S



SEC A-A



SEC B-B

NO.	DATE	REVISIONS	CK'D	APP
4	1-19-84	OMITTED REFERENCE DRAWING REVISION LEVEL. CHANGE CLASS DESIGNATION. ADD ROOM		

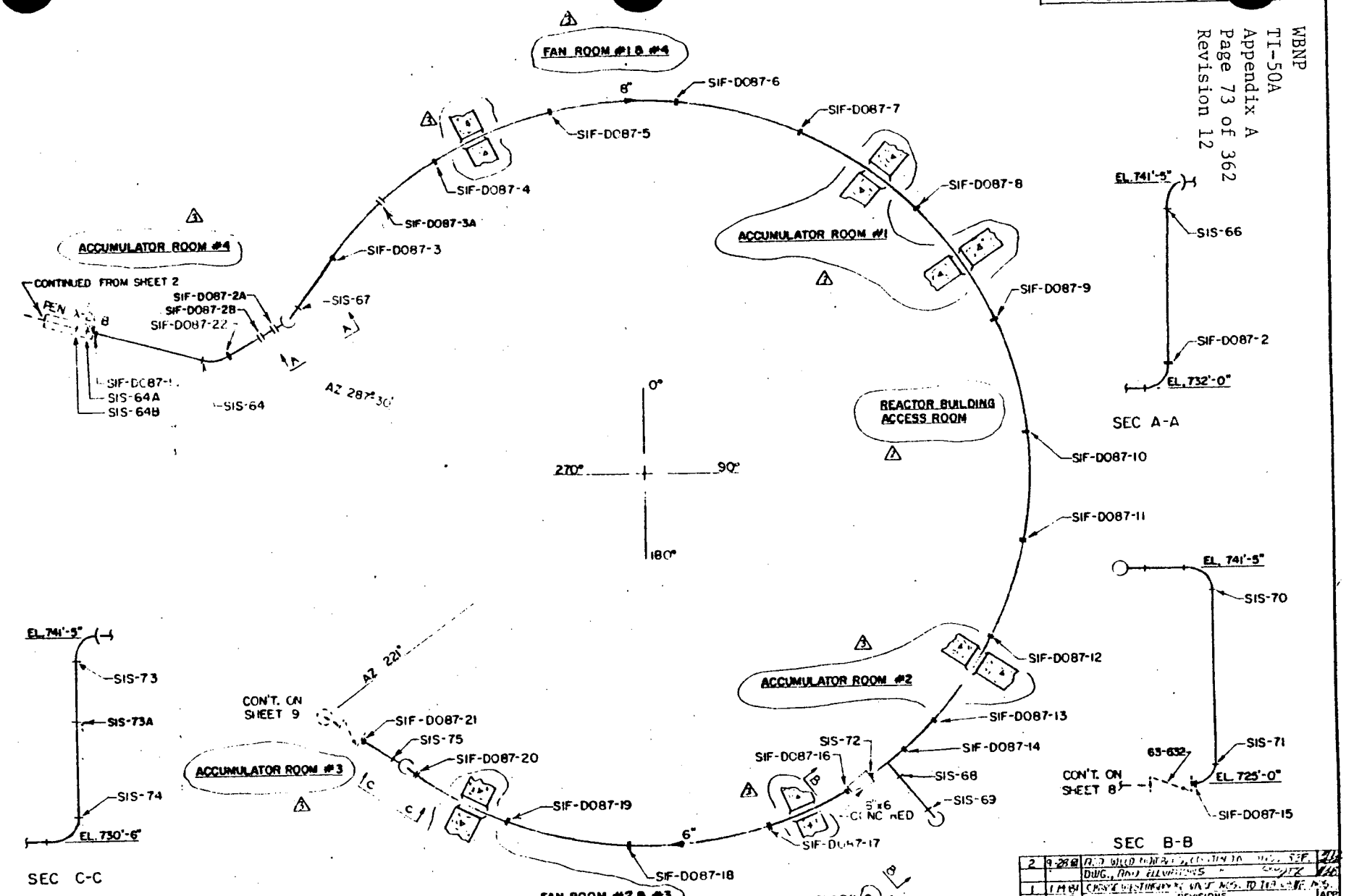
NO.	DATE	REVISIONS	CK'D	APP
3	2-3-82	NOW YIELDS SIS-1006L-3, 3C & 3D		
2	[illegible]	[illegible]		
1	1-14-81	[illegible]		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
SAFETY INJECTION WELD MAP
UNIT 1

SCALE NTS
CHM-2758-C
R1

REFERENCE DRAWINGS
WBN-E-2879 IC-87



NO	DATE	REVISIONS	CK'D	APP
3	1-14-84	DELETE REFERENCE DRAWING REVISION LEVEL	JCG	
		CHANGE CLASS DES. SHOWN (INCLUDED KNOTS, AND DETAILS KEY		

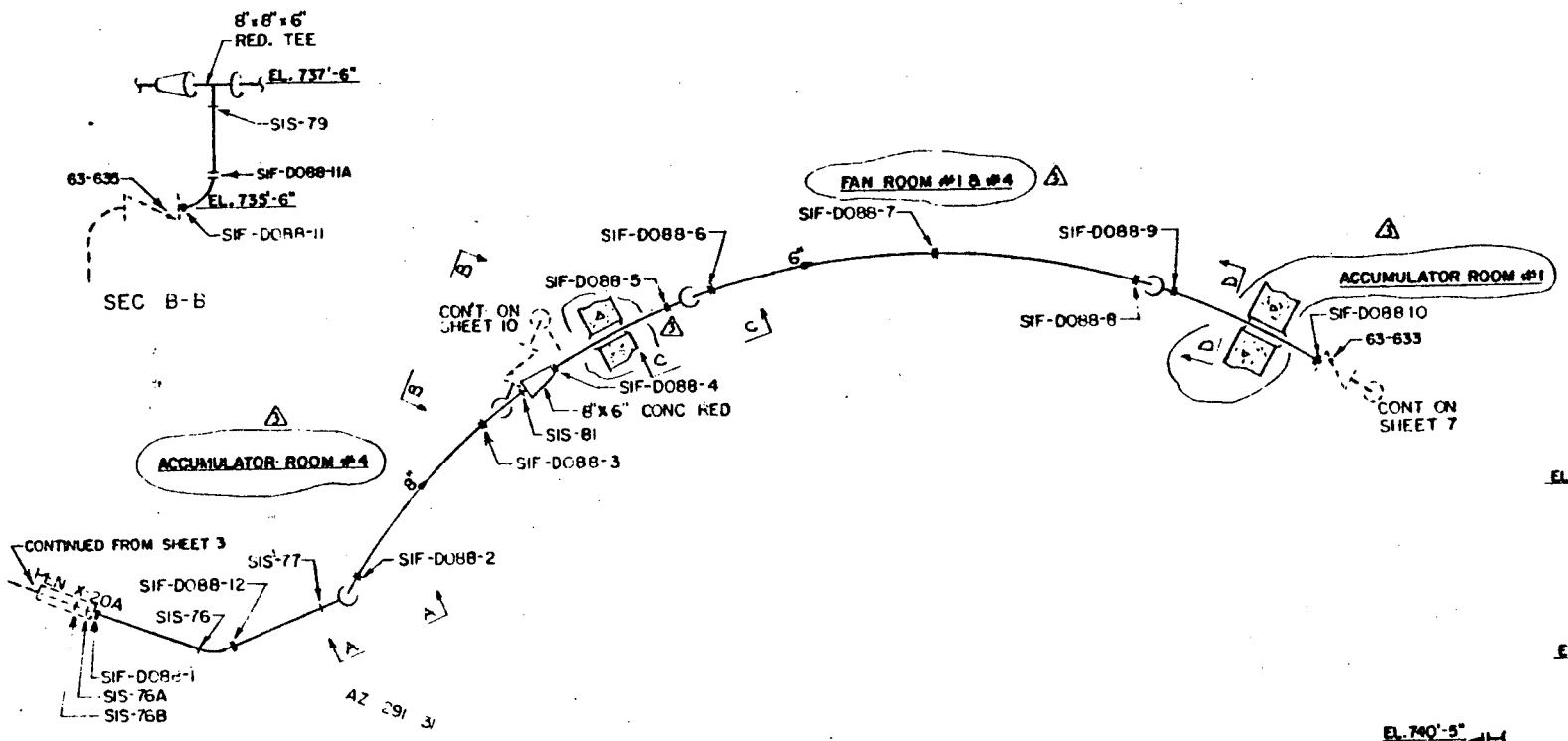
NO.	DATE	REVISIONS	APP
2	9-28-8	ADD WELD NUMBERS, CORRECTION TO [illegible] DWG., ADD ELEVATIONS	
1	1-14-84	CHANGE WELD NUMBERS, ADD NOS. TO [illegible]	

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
SAFETY INJECTION WELD MAP
UNIT 1

CHM-2758-C R3

REFERENCE DRAWINGS
WBN-E-2879 IC-88



SHOP WELDS SIS-76 THRU SIS-79, SIS-81 THRU SIS-84, SIS-76A & SIS-76B AND SIS-77A

TVA CLASS 2

PIPE
6" SCH 160 SA-376 TP 316
8" SCH 160 SA-376 TP 316

FITTINGS
6" SCH 160 SA-403 WP 316S
8" SCH 160 SA-403 WP 316S

NO.	DATE	REVISIONS	CK'D	APP.
3	1-14-84	CHANGE CLASS DESIGNATION, ADD ROOM NAMES AND WALLS, AND DELETE REFERENCE DRAWING REVISION LEVEL REV		
2	1-28-81	[illegible]		
1	1-14-81	[illegible]		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
SAFETY INJECTION WELD MAP
UNIT 1

SCALE
DRAWN
TRACED
DESIGNED
SUBMITTED
APPROVED
DATE
CHM-2758-C R3

NOTES

1. THE FITTING BETWEEN WELDS SIS-91 AND SIF-D089-12 HAS A LONGITUDINAL WELD.

REFERENCE DRAWING

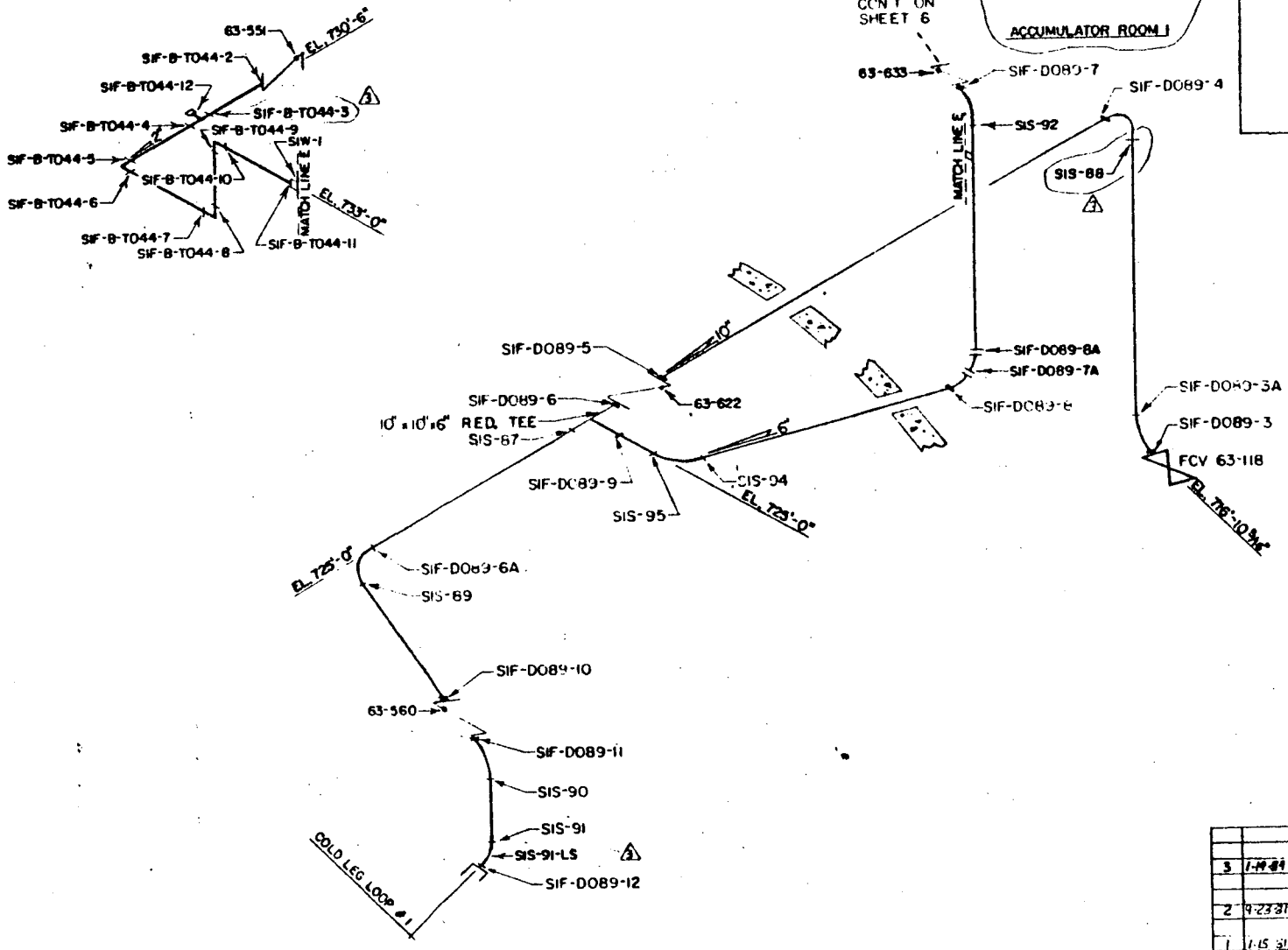
WBN-E-2879 IC-89
SK. 435-7 SH. 2

MATERIAL SPECIFICATIONS

CLASS 1/2

PIPE
SA 376 TP 316
10" SCH 140
6" SCH 160
SA 376 TP 304
2" SCH 160

FITTINGS (SEE NOTE 1)
SA 403 WP 316
10" SCH 140
6" SCH 160
SA 182 F 304
2" 6000# S/W



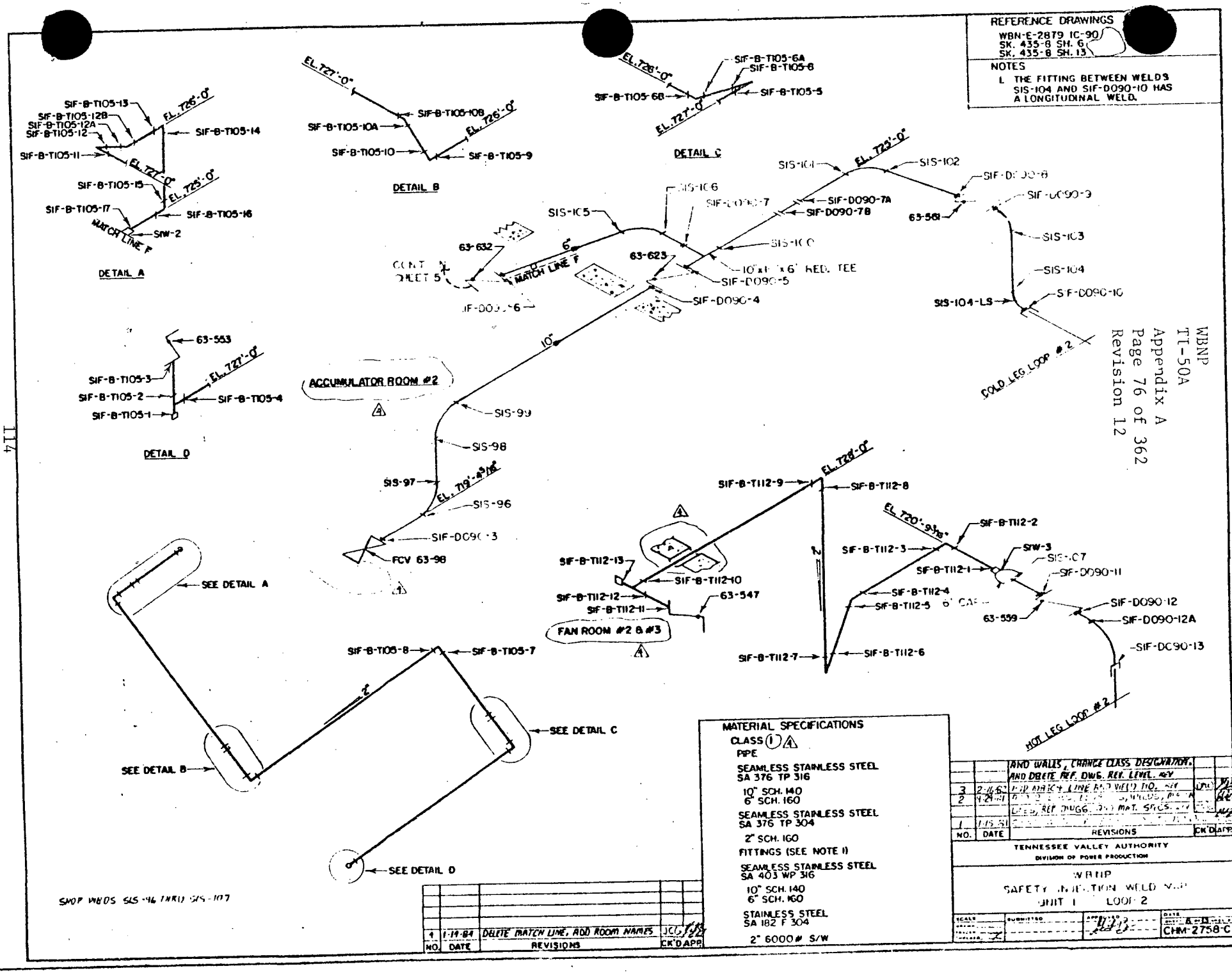
SHOP WELDS SIS-87 SIS-87 THRU SIS-92, SIS-94, THRU SIS-95, SIS-135 THRU SIS-139

NO.	DATE	REVISIONS	CK'D	APP
3	1-14-89	CORRECT AND ADD WELD NOS., NOTES, ROOM NAMES, CHANGE CLASS DESIGNATIONS, AND DELETE REF. DWG. REV LEVEL NOV	XG	
2	9-23-87	[illegible]		
1	1-15-87	[illegible]		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
SAFETY INJECTION WELD MAP
UNIT 1 [illegible]

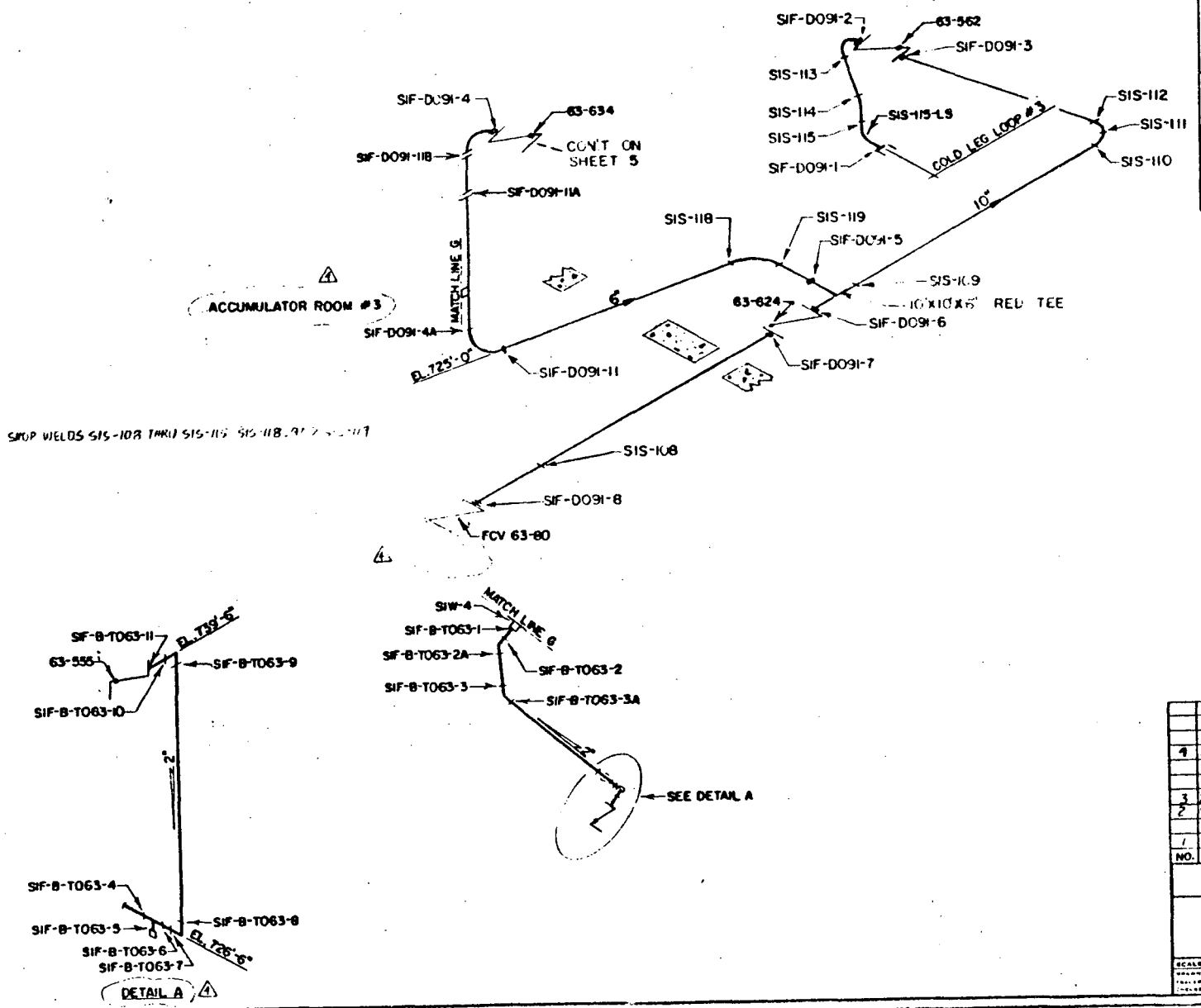
SCALE NTS
DRAWN
TRACED
CHECKED
SUBMITTED
APPROVED
DATE
SHEET 7 OF 13 SHEETS
CHM-2758-C


REFERENCE DRAWINGS
WBN-E-2879 IC-90
SK. 435-8 SH. 6
SK. 435-8 SH. 13
NOTES
1. THE FITTING BETWEEN WELDS SIS-104 AND SIF-D090-10 HAS A LONGITUDINAL WELD.
DETAIL A
DETAIL B
DETAIL C
DETAIL D
EL. 727'-0"
EL. 726'-0"
EL. 725'-0"
EL. 728'-0"
EL. 719'-8 3/16"
EL. 720'-9 3/16"
MATCH LINE F
ACCUMULATOR ROOM #2
FAN ROOM #2 & #3
FCV 63-98
SEE DETAIL A
SEE DETAIL B
SEE DETAIL C
SEE DETAIL D
COLD LEG LOOP #2
HOT LEG LOOP #2
SHOP WELDS SIS-96 THRU SIS-107
MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SEAMLESS STAINLESS STEEL
SA 376 TP 316
10" SCH. 140
6" SCH. 160
SEAMLESS STAINLESS STEEL
SA 376 TP 304
2" SCH. 160
FITTINGS (SEE NOTE 1)
SEAMLESS STAINLESS STEEL
SA 403 WP 316
10" SCH. 140
6" SCH. 160
STAINLESS STEEL
SA 182 F 304
2" 6000# S/W
NO. DATE REVISIONS CK'D APP
1 1-19-84 DELETE MATCH LINE, ADD ROOM NAMES
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION
WBNP
SAFETY INJECTION WELD MAP
UNIT 1 LOOP 2
CHM-2758-C

REFERENCE DRAWINGS
WBN-E-2879 IC-91
SK. 435-9 SH. 4

MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SEAMLESS STAINLESS STEEL
SA 376 TP 316
10" SCH. 140
6" SCH. 160
SEAMLESS STAINLESS STEEL
SA 376 TP 304
2" SCH. 160
FITTINGS (SEE NOTE 1)
SEAMLESS STAINLESS STEEL
SA 403 WP 316
10" SCH. 140
6" SCH. 160
STAINLESS STEEL
SA 182 F 304
2" 6000# S/W

NOTES
1. THE FITTING BETWEEN WELDS SIS-115 AND SIF-D091-1 HAS A LONGITUDINAL WELD.



NO.	DATE	REVISIONS	CK'D	APP.
4	1-16-89	DELETE MATCH LINE, ADD SUBTITLE, ADD ROOM NAME, CHANGE CLASS DESIGNATION, AND DELETE REF. DWGS. REV. LINEL REV	JCG	
3	2-16-82	ADD MATCH LINES & WELD NO.		
2	[illegible]	[illegible]		
1	1-15-81	[illegible]		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
SAFETY INJECTION WELD MAP
UNIT 1 LOOP 3

SCALE
DRAWN
TRACED
DESIGNED
SUBMITTED
APPROVED
DATE
CHM-2758-C

NOTES

1. THE FITTING BETWEEN WELDS SIS-127 AND SIF-D092-12 HAS A LONGITUDINAL WELD.

REFERENCE DRAWINGS

WBN-E-2879 IC-92
SK. 435-6 SH. 1
SK. 435-6 SH. 9

MATERIAL SPECIFICATIONS

CLASS 1

PIPE

SEAMLESS STAINLESS STEEL
SA 376 TP 316
10" SCH. 140
6" SCH. 160

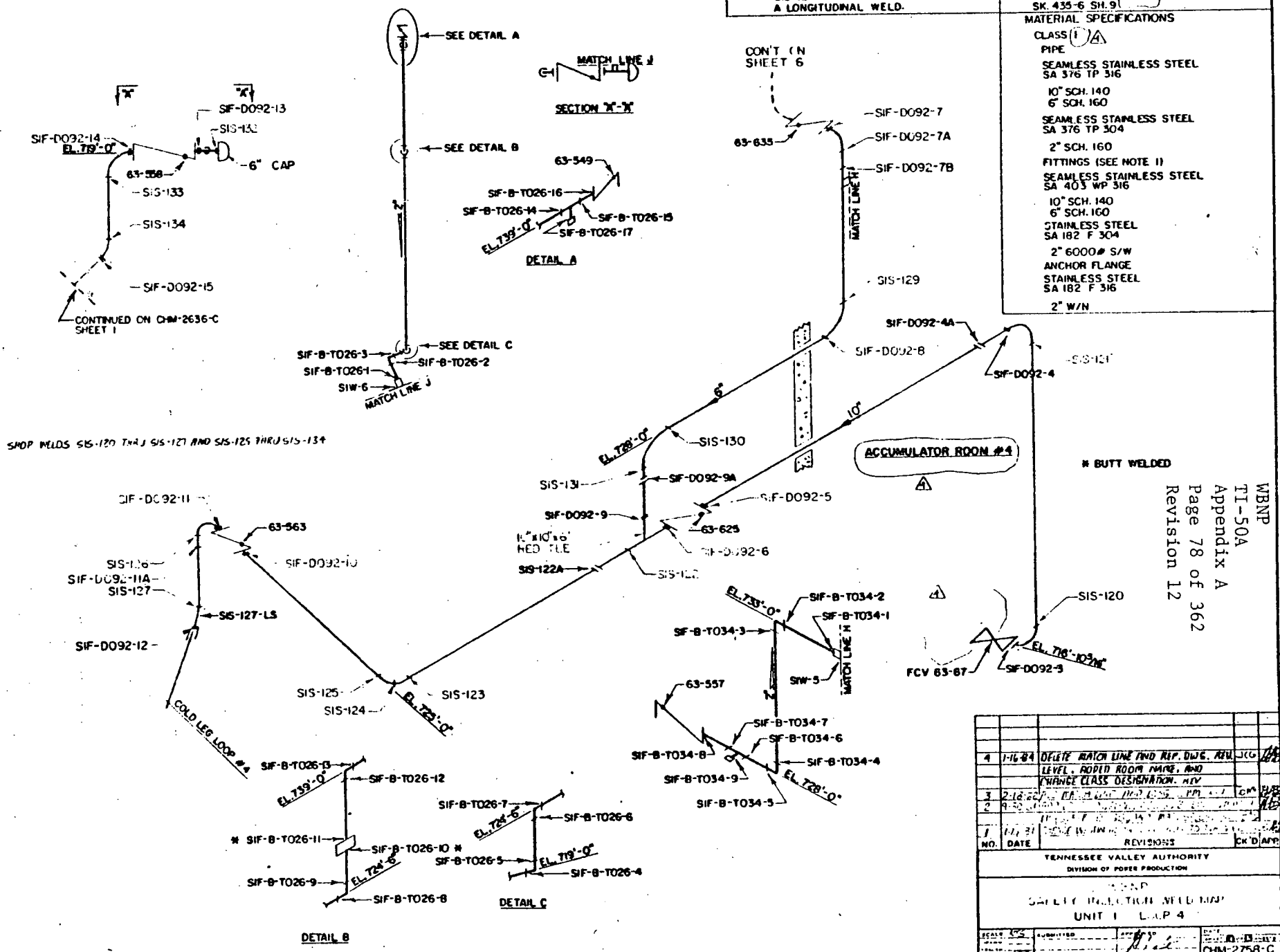
SEAMLESS STAINLESS STEEL
SA 376 TP 304
2" SCH. 160

FITTINGS (SEE NOTE 1)

SEAMLESS STAINLESS STEEL
SA 403 WP 316
10" SCH. 140
6" SCH. 160

STAINLESS STEEL
SA 182 F 304
2" 6000# S/W

ANCHOR FLANGE
STAINLESS STEEL
SA 182 F 316
2" W/N

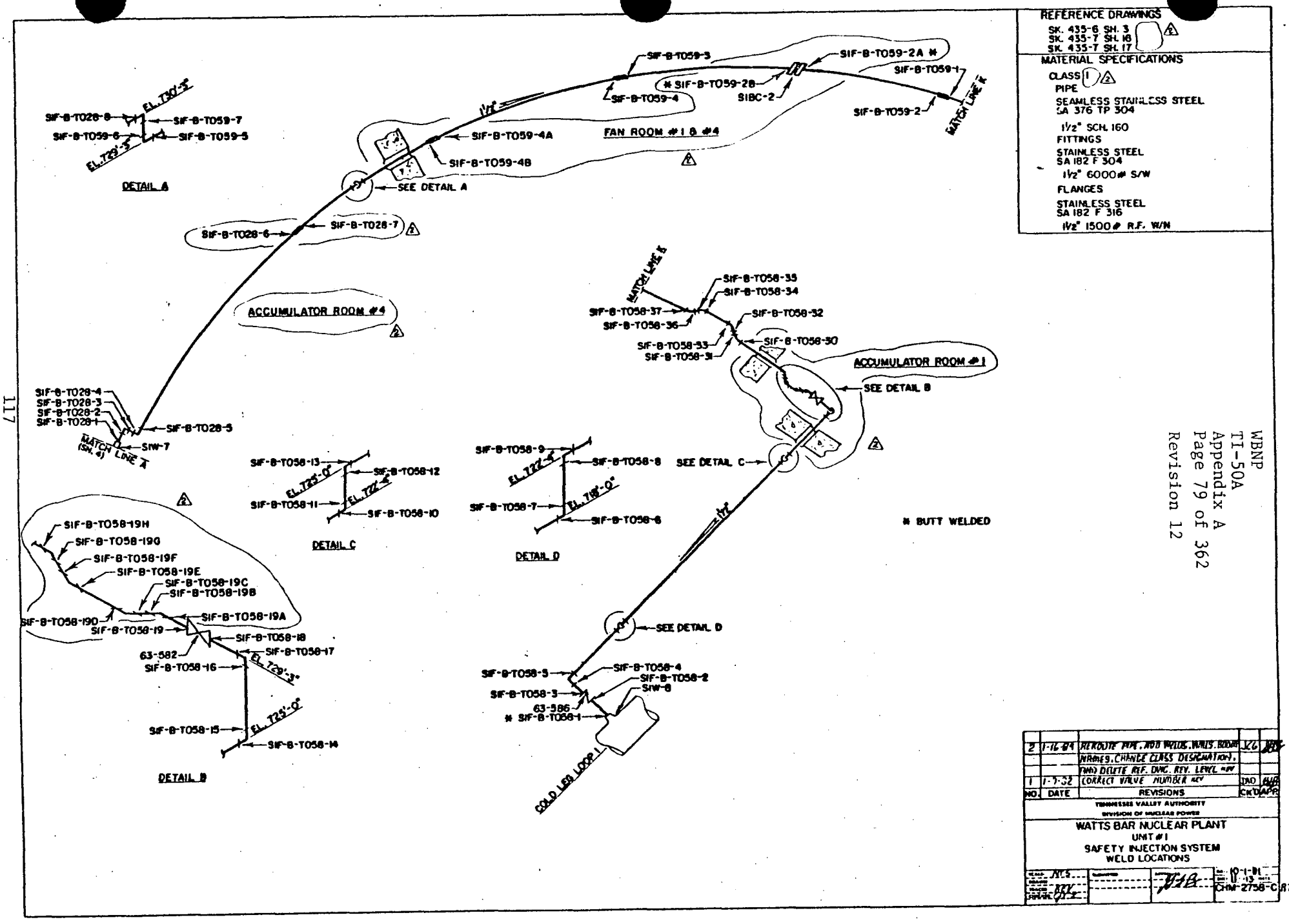


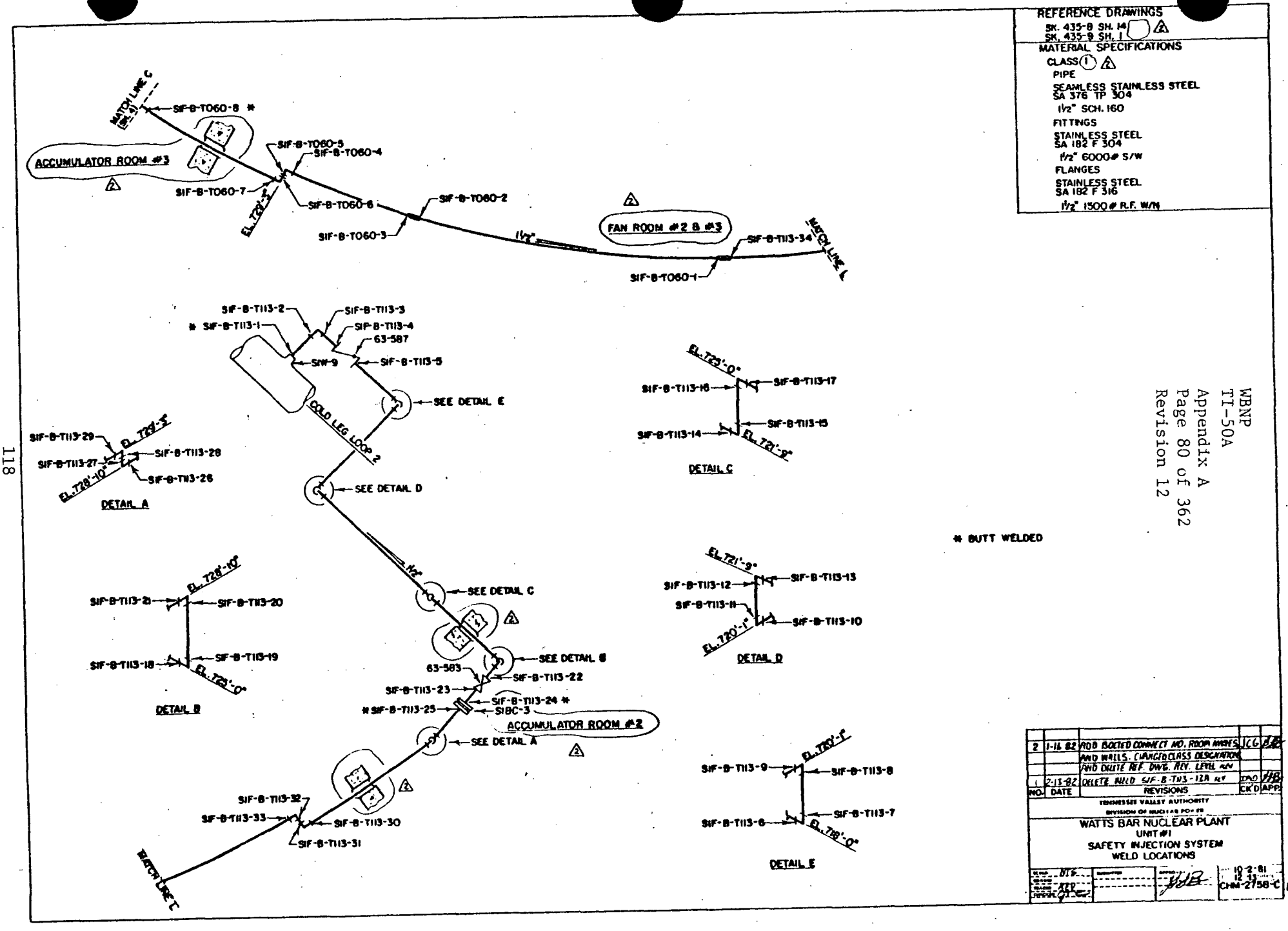
NO.	DATE	REVISIONS	CK'D	APP
4	1-16-84	DELETE MATCH LINE AND REF. DWG. REV. LEVEL, ADDED ROOM NAME, AND CHANGE CLASS DESIGNATION. REV	JCG	
3	2-16-82	[illegible]	CMS	
2	9-30-[illegible]	[illegible]		
1	[illegible]	[illegible]		

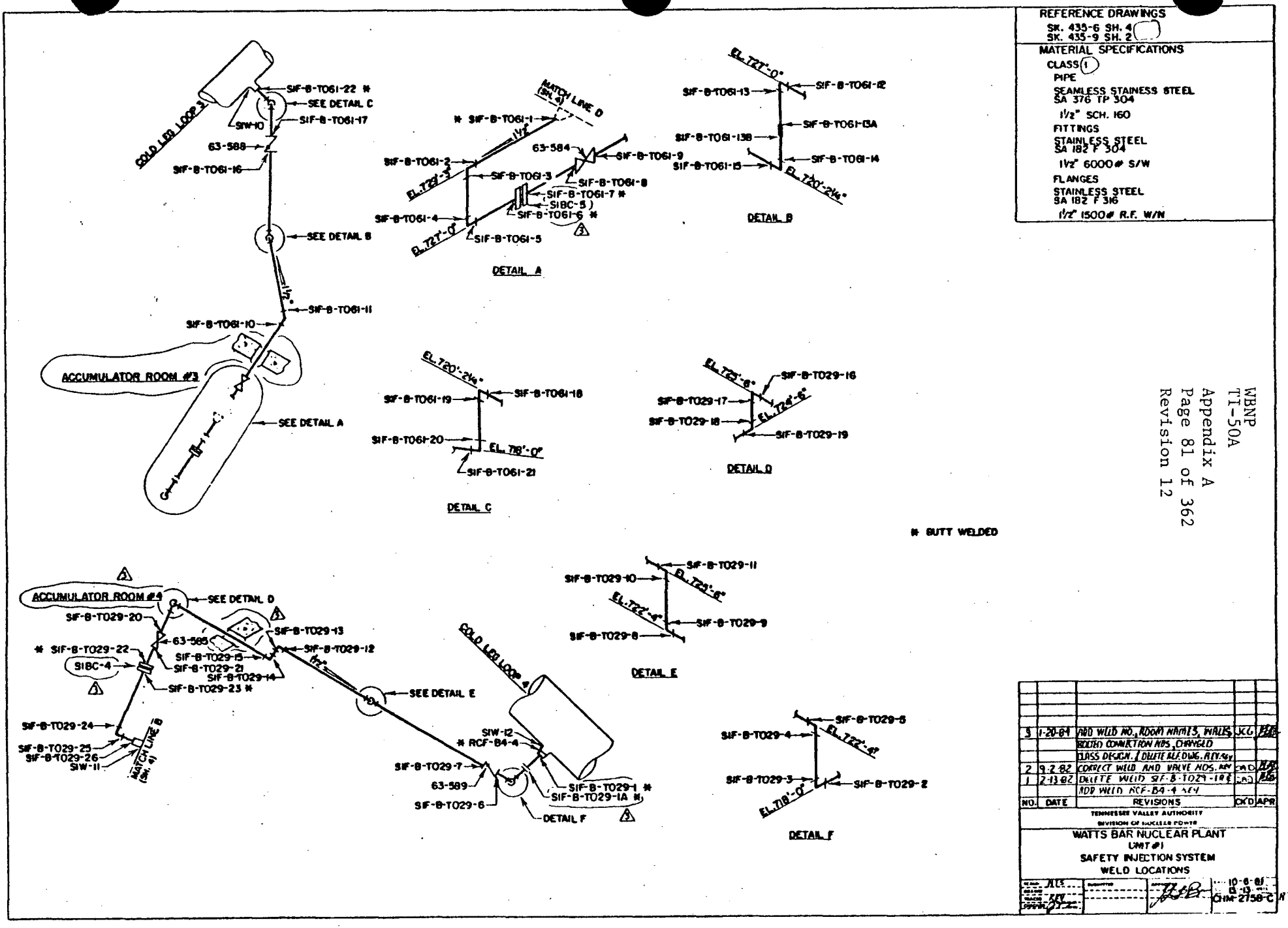
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WBNP
SAFETY INJECTION WELD MAP
UNIT 1 LOOP 4

CHM-2758-C

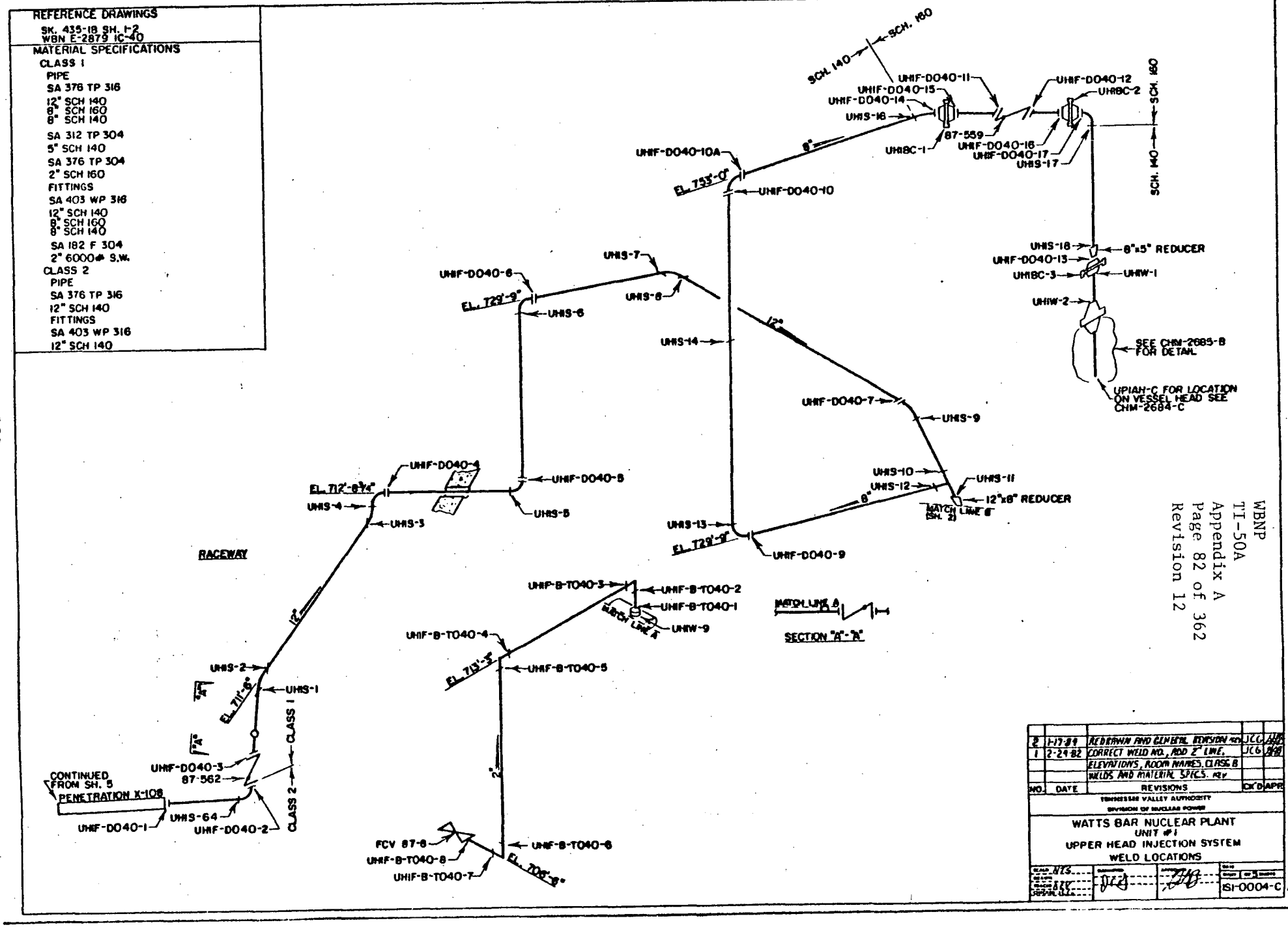

REFERENCE DRAWINGS
SK. 435-6 SH. 3
SK. 435-7 SH. 16
SK. 435-7 SH. 17
MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SEAMLESS STAINLESS STEEL
SA 376 TP 304
1½" SCH. 160
FITTINGS
STAINLESS STEEL
SA 182 F 304
1½" 6000# S/W
FLANGES
STAINLESS STEEL
SA 182 F 316
1½" 1500# R.F. W/N
SIF-B-T059-3
SIF-B-T059-2A *
SIF-B-T059-1
* SIF-B-T059-2B
SIBC-2
SIF-B-T059-4
SIF-B-T059-2
MATCH LINE K
FAN ROOM #1 & #4
SIF-B-T059-4A
SIF-B-T059-4B
SEE DETAIL A
SIF-B-T028-8
SIF-B-T059-7
SIF-B-T059-6
SIF-B-T059-5
EL. 730'-3"
EL. 729'-3"
DETAIL A
SIF-B-T028-6
SIF-B-T028-7
ACCUMULATOR ROOM #4
SIF-B-T028-4
SIF-B-T028-3
SIF-B-T028-2
SIF-B-T028-1
SIF-B-T028-5
SIW-7
MATCH LINE A
MATCH LINE E
SIF-B-T058-35
SIF-B-T058-34
SIF-B-T058-37
SIF-B-T058-36
SIF-B-T058-32
SIF-B-T058-33
SIF-B-T058-31
SIF-B-T058-30
ACCUMULATOR ROOM #1
SEE DETAIL B
SIF-B-T058-13
SIF-B-T058-12
SIF-B-T058-11
SIF-B-T058-10
EL. 723'-0"
EL. 722'-4"
DETAIL C
SIF-B-T058-9
SIF-B-T058-8
SIF-B-T058-7
SIF-B-T058-6
EL. 722'-4"
EL. 718'-0"
DETAIL D
SEE DETAIL C
* BUTT WELDED
SIF-B-T058-19H
SIF-B-T058-19G
SIF-B-T058-19F
SIF-B-T058-19E
SIF-B-T058-19C
SIF-B-T058-19B
SIF-B-T058-19D
SIF-B-T058-19
SIF-B-T058-19A
SIF-B-T058-18
63-582
SIF-B-T058-17
SIF-B-T058-16
EL. 729'-3"
SIF-B-T058-15
EL. 725'-0"
SIF-B-T058-14
DETAIL B
SEE DETAIL D
SIF-B-T058-5
SIF-B-T058-4
SIF-B-T058-2
SIF-B-T058-3
SIW-8
63-586
* SIF-B-T058-1
COLD LEG LOOP 1
2 1-16-84 REROUTE PIPE, ADD WELDS, WELDS, ROOM NAMES, CHANGE CLASS DESIGNATION, (NRC) DELETE REF. DWG. REV. LEVEL
1 1-7-82 CORRECT VALVE NUMBER
NO. DATE REVISIONS CK'D APP'D
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
WELD LOCATIONS
10-1-81
CHM-2758-C R2


REFERENCE DRAWINGS
SK. 435-8 SH. 14
SK. 435-9 SH. 1
MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SEAMLESS STAINLESS STEEL
SA 376 TP 304
1½" SCH. 160
FITTINGS
STAINLESS STEEL
SA 182 F 304
1½" 6000# S/W
FLANGES
STAINLESS STEEL
SA 182 F 316
1½" 1500# R.F. W/N
MATCH LINE C
SIF-B-T060-8 *
ACCUMULATOR ROOM #3
SIF-B-T060-5
SIF-B-T060-4
SIF-B-T060-7
SIF-B-T060-6
SIF-B-T060-2
SIF-B-T060-3
1½"
FAN ROOM #2 & #3
SIF-B-T113-34
MATCH LINE A
SIF-B-T060-1
SIF-B-T113-2
SIF-B-T113-3
* SIF-B-T113-1
SIF-B-T113-4
63-587
SW-9
SIF-B-T113-5
SEE DETAIL E
COLD LEG LOOP 2
SEE DETAIL D
SEE DETAIL C
SEE DETAIL B
63-583
SIF-B-T113-22
SIF-B-T113-23
SIF-B-T113-24 *
* SIF-B-T113-25
SIBC-3
ACCUMULATOR ROOM #2
SEE DETAIL A
SIF-B-T113-32
SIF-B-T113-33
SIF-B-T113-30
SIF-B-T113-31
MATCH LINE C
EL. 729'-9"
SIF-B-T113-29
SIF-B-T113-27
SIF-B-T113-28
SIF-B-T113-26
EL. 728'-10"
DETAIL A
EL. 728'-10"
SIF-B-T113-21
SIF-B-T113-20
SIF-B-T113-18
SIF-B-T113-19
EL. 725'-0"
DETAIL B
EL. 725'-0"
SIF-B-T113-16
SIF-B-T113-17
SIF-B-T113-15
SIF-B-T113-14
EL. 721'-9"
DETAIL C
EL. 721'-9"
SIF-B-T113-12
SIF-B-T113-13
SIF-B-T113-11
SIF-B-T113-10
EL. 720'-1"
DETAIL D
EL. 720'-1"
SIF-B-T113-9
SIF-B-T113-8
SIF-B-T113-6
SIF-B-T113-7
EL. 718'-0"
DETAIL E
* BUTT WELDED
2 1-16-82 ADD BOLTED CONNECT NO. ROOM NAMES AND WALLS. CHANGED CLASS DESCRIPTION AND DELETE REF. DWG. REV. LEVEL NOTE JCG
1 2-13-82 DELETE WELD SIF-B-T113-12A REV
NO. DATE REVISIONS CKD APP.
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
WELD LOCATIONS
10-2-81
CHM-2758-C
R2


REFERENCE DRAWINGS
SK. 435-6 SH. 4
SK. 435-9 SH. 2
MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SEAMLESS STAINESS STEEL
SA 376 TP 304
1½" SCH. 160
FITTINGS
STAINLESS STEEL
SA 182 F 304
1½" 6000# S/W
FLANGES
STAINLESS STEEL
SA 182 F 316
1½" 1500# R.F. W/N
COLD LEG LOOP 3
SIF-B-T061-22 *
SEE DETAIL C
SIF-B-T061-17
SIW-10
63-588
SIF-B-T061-16
SEE DETAIL B
1½"
SIF-B-T061-11
SIF-B-T061-10
ACCUMULATOR ROOM #3
SEE DETAIL A
MATCH LINE D (SH. 4)
* SIF-B-T061-1
1½"
63-584
SIF-B-T061-9
SIF-B-T061-2
SIF-B-T061-3
SIF-B-T061-8
SIF-B-T061-7 *
SIBC-5
SIF-B-T061-6 *
SIF-B-T061-4
SIF-B-T061-5
EL. 722'-3"
EL. 721'-0"
DETAIL A
EL. 721'-0"
SIF-B-T061-12
SIF-B-T061-13
SIF-B-T061-13A
SIF-B-T061-13B
SIF-B-T061-14
SIF-B-T061-15
EL. 720'-2¼"
DETAIL B
EL. 720'-2¼"
SIF-B-T061-18
SIF-B-T061-19
SIF-B-T061-20
EL. 718'-0"
SIF-B-T061-21
DETAIL C
EL. 723'-6"
SIF-B-T029-16
SIF-B-T029-17
SIF-B-T029-18
EL. 724'-6"
SIF-B-T029-19
DETAIL D
* BUTT WELDED
ACCUMULATOR ROOM #4
SEE DETAIL D
SIF-B-T029-20
SIF-B-T029-13
63-585
* SIF-B-T029-22
SIF-B-T029-12
SIF-B-T029-15
SIBC-4
SIF-B-T029-21
SIF-B-T029-14
SIF-B-T029-23 *
1½"
SEE DETAIL E
SIF-B-T029-24
SIF-B-T029-25
SIF-B-T029-26
SIW-11
MATCH LINE B (SH. 4)
COLD LEG LOOP 4
SIW-12
* RCF-B4-4
SIF-B-T029-7
63-589
SIF-B-T029-6
SIF-B-T029-1 *
SIF-B-T029-1A *
DETAIL F
SIF-B-T029-11
SIF-B-T029-10
EL. 723'-6"
EL. 722'-4"
SIF-B-T029-9
SIF-B-T029-8
DETAIL E
SIF-B-T029-5
SIF-B-T029-4
EL. 722'-4"
SIF-B-T029-3
SIF-B-T029-2
EL. 718'-0"
DETAIL F
NO. DATE REVISIONS CK'D APR
3 1-20-84 ADD WELD NO., ROOM NAMES, WALLS, WELDED CONNECTION NOS. CHANGED CLASS DESIGN. / DELETE REF. DWG. REV. REF
2 9-2-82 CORRECT WELD AND VALVE NOS. REV
1 2-13-82 DELETE WELD SIF-B-T029-1A E ADD WELD RCF-B4-4 NEW
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
WELD LOCATIONS
10-8-81
CHM-2758-C N3

REFERENCE DRAWINGS
SK. 435-18 SH. 1-2
WBN E-2879 IC-40

MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SA 376 TP 316
12" SCH 140
8" SCH 160
8" SCH 140
SA 312 TP 304
5" SCH 140
SA 376 TP 304
2" SCH 160
FITTINGS
SA 403 WP 316
12" SCH 140
8" SCH 160
8" SCH 140
SA 182 F 304
2" 6000# S.W.
CLASS 2
PIPE
SA 376 TP 316
12" SCH 140
FITTINGS
SA 403 WP 316
12" SCH 140



NO.	DATE	REVISIONS	CK'D	APR
2	1-17-89	REDRAWN AND GENERAL REVISION REV	JCG	[illegible]
1	2-24-82	CORRECT WELD NO., ADD 2" LINE, ELEVATIONS, ROOM NAMES, CLASS B WELDS AND MATERIAL SPECS. REV	JCG	[illegible]

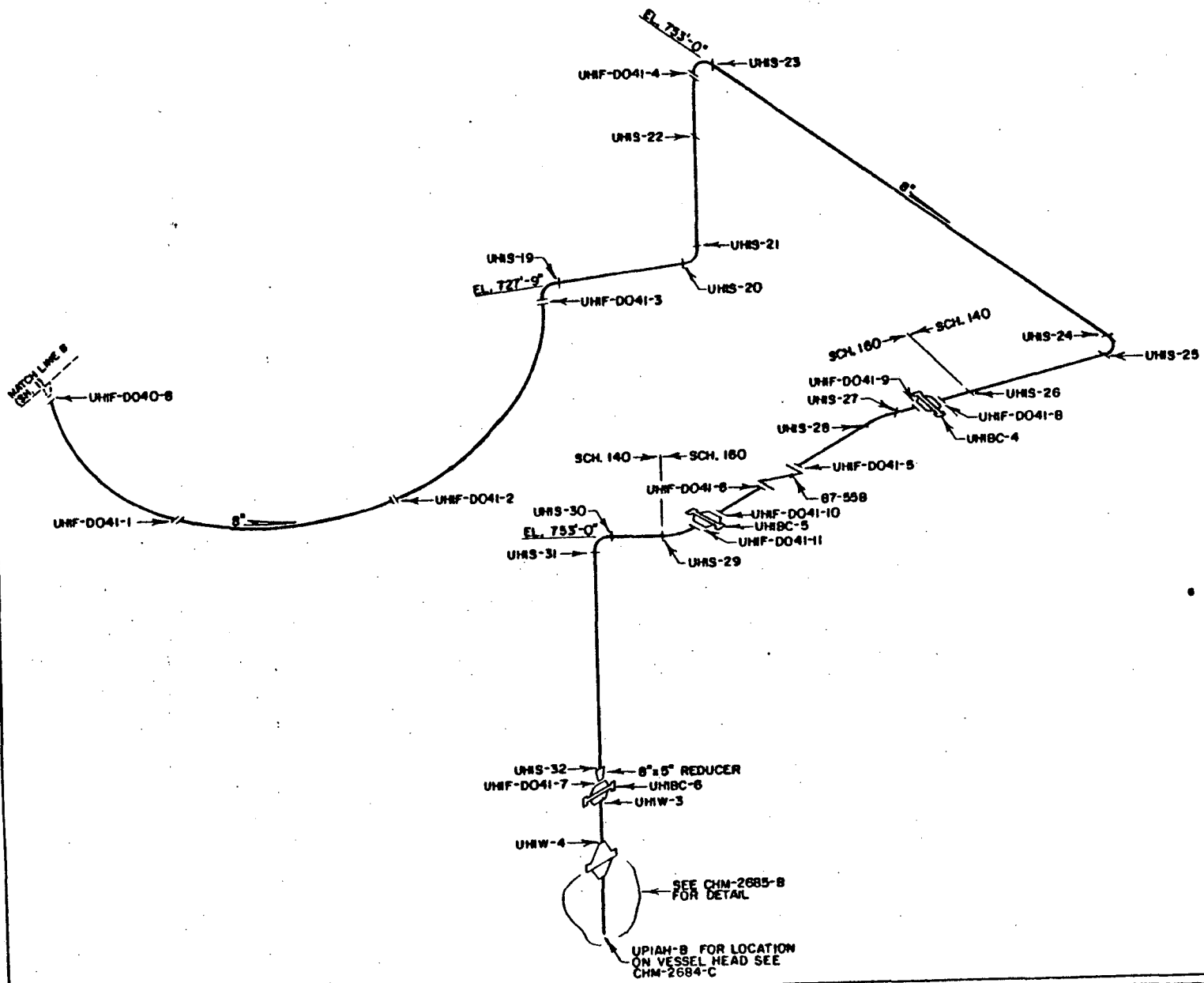
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
UPPER HEAD INJECTION SYSTEM
WELD LOCATIONS

ISI-0004-C R2

REFERENCE DRAWING
WBN E-2879 IC-40
WBN E-2879 IC-41

MATERIAL SPECIFICATIONS
CLASS I
PIPE
SA 376 TP 316
8" SCH 160
6" SCH 140
SA 312 TP 304
5" SCH 140
FITTINGS
SA 403 WP 316
8" SCH 160
8" SCH 140



NO.	DATE	REVISIONS	CK'D	APP
2	1-17-84	REDRAWN & GENERAL REVISION REV	JCG	
1	1-7-82	CORRECT VALVE NUMBER REV	JCG	

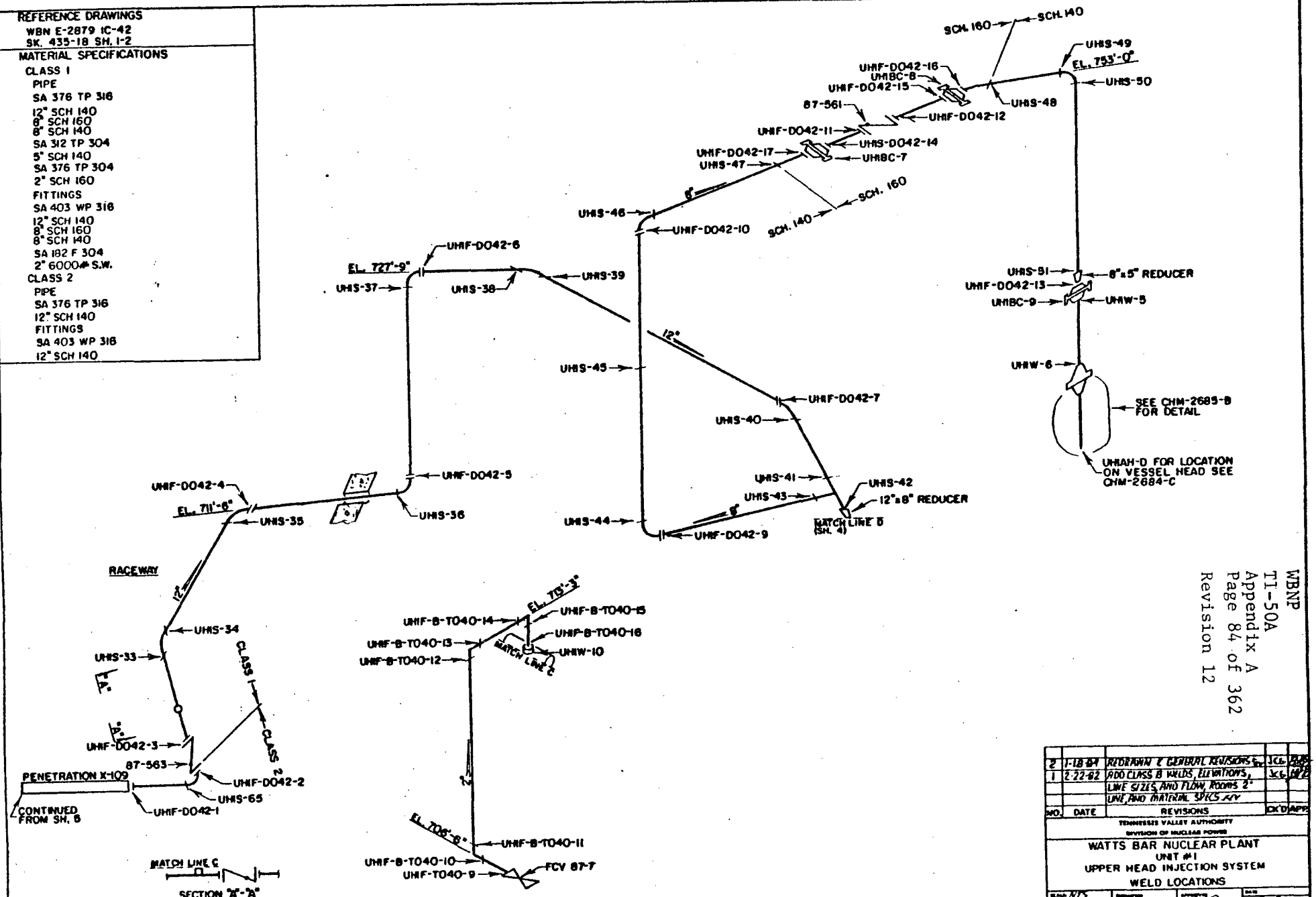
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
UPPER HEAD INJECTION SYSTEM
WELD LOCATIONS

ISI-0004-C R2

REFERENCE DRAWINGS
WBN E-2879 IC-42
SK. 435-18 SH. 1-2

MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SA 376 TP 316
12" SCH 140
8" SCH 160
8" SCH 140
SA 312 TP 304
5" SCH 140
SA 376 TP 304
2" SCH 160
FITTINGS
SA 403 WP 316
12" SCH 140
8" SCH 160
8" SCH 140
SA 182 F 304
2" 6000# S.W.
CLASS 2
PIPE
SA 376 TP 316
12" SCH 140
FITTINGS
SA 403 WP 316
12" SCH 140

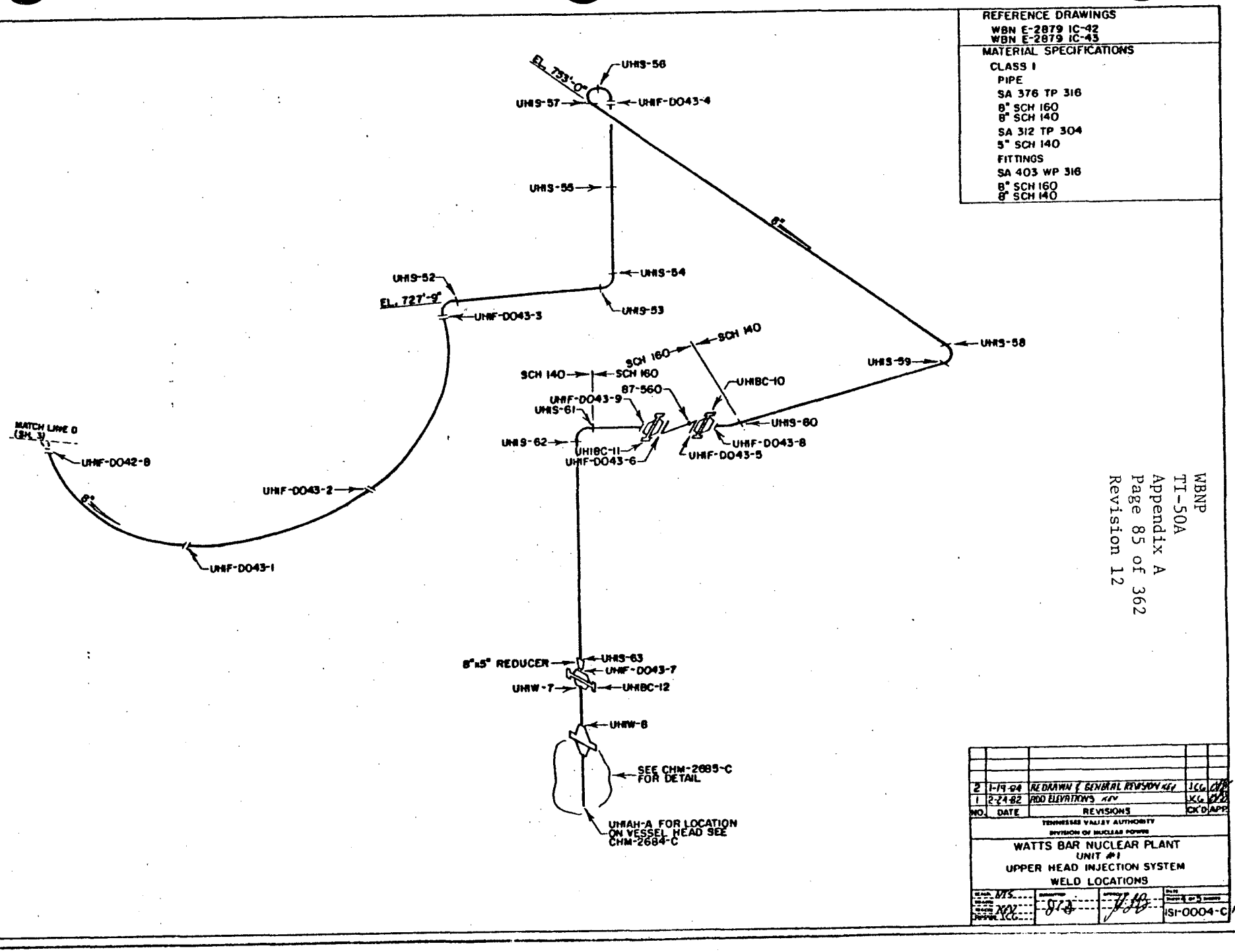


NO.	DATE	REVISIONS	CK'D	APP.
2	1-18-84	REDRAWN & GENERAL REVISIONS	JCG	
1	2-22-82	ADD CLASS B WELDS, ELEVATIONS, LINE SIZES AND FLOW, ROOMS 2" LINE AND MATERIAL SPECS ACV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

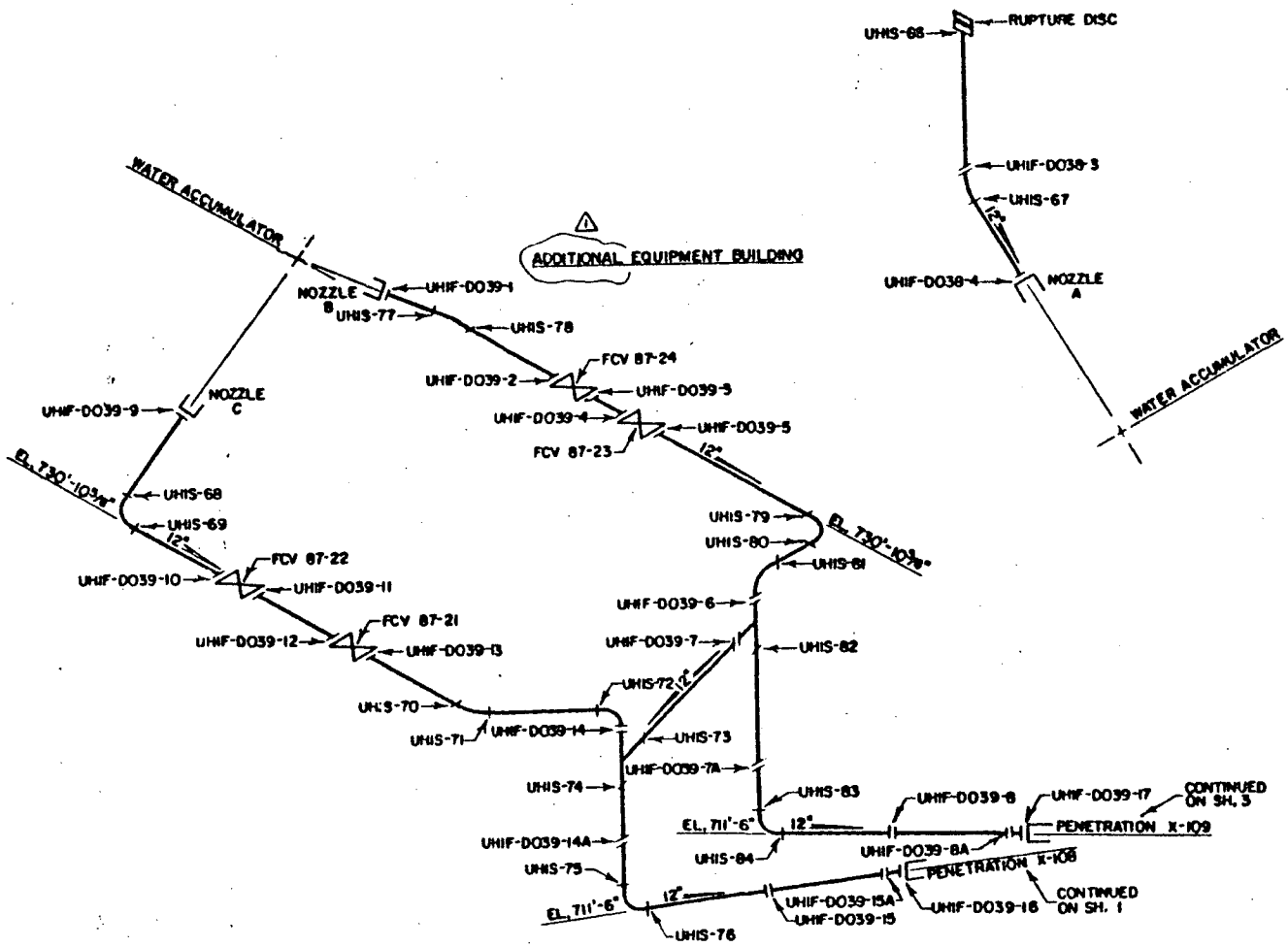
WATTS BAR NUCLEAR PLANT
UNIT #1
UPPER HEAD INJECTION SYSTEM
WELD LOCATIONS

ISI-0004-C R2


REFERENCE DRAWINGS
WBN E-2879 IC-42
WBN E-2879 IC-43
MATERIAL SPECIFICATIONS
CLASS I
PIPE
SA 376 TP 316
8" SCH 160
8" SCH 140
SA 312 TP 304
5" SCH 140
FITTINGS
SA 403 WP 316
8" SCH 160
8" SCH 140
EL. 733'-0"
UHIS-56
UHIS-57
UHIF-D043-4
UHIS-55
8"
UHIS-54
UHIS-52
EL. 727'-9"
UHIS-53
UHIF-D043-3
SCH 160
SCH 140
UHIS-58
UHIS-59
SCH 140
SCH 160
UHIBC-10
87-560
UHIF-D043-9
UHIS-61
UHIS-60
UHIS-62
UHIBC-11
UHIF-D043-6
UHIF-D043-8
UHIF-D043-5
MATCH LINE D (SH. 3)
UHIF-D042-8
UHIF-D043-2
8"
UHIF-D043-1
8"x5" REDUCER
UHIS-63
UHIF-D043-7
UHIW-7
UHIBC-12
UHIW-6
SEE CHM-2685-C FOR DETAIL
UHIAH-A FOR LOCATION ON VESSEL HEAD SEE CHM-2684-C
2 1-19-84 REDRAWN & GENERAL REVISION
1 2-24-82 ADD ELEVATIONS
NO. DATE REVISIONS CK'D APP.
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
UPPER HEAD INJECTION SYSTEM
WELD LOCATIONS
ISI-0004-C

REFERENCE DRAWINGS
WBN E-2879 IC-38
WBN E-2879 IC-39

MATERIAL SPECIFICATIONS
CLASS 1 ⚠
PIPE
SA 376 TP 316
12" SCH 140
FITTINGS
SA 403 WP 316
12" SCH 140
FLANGES
SA 182 F 316
12" BORED SCH 140



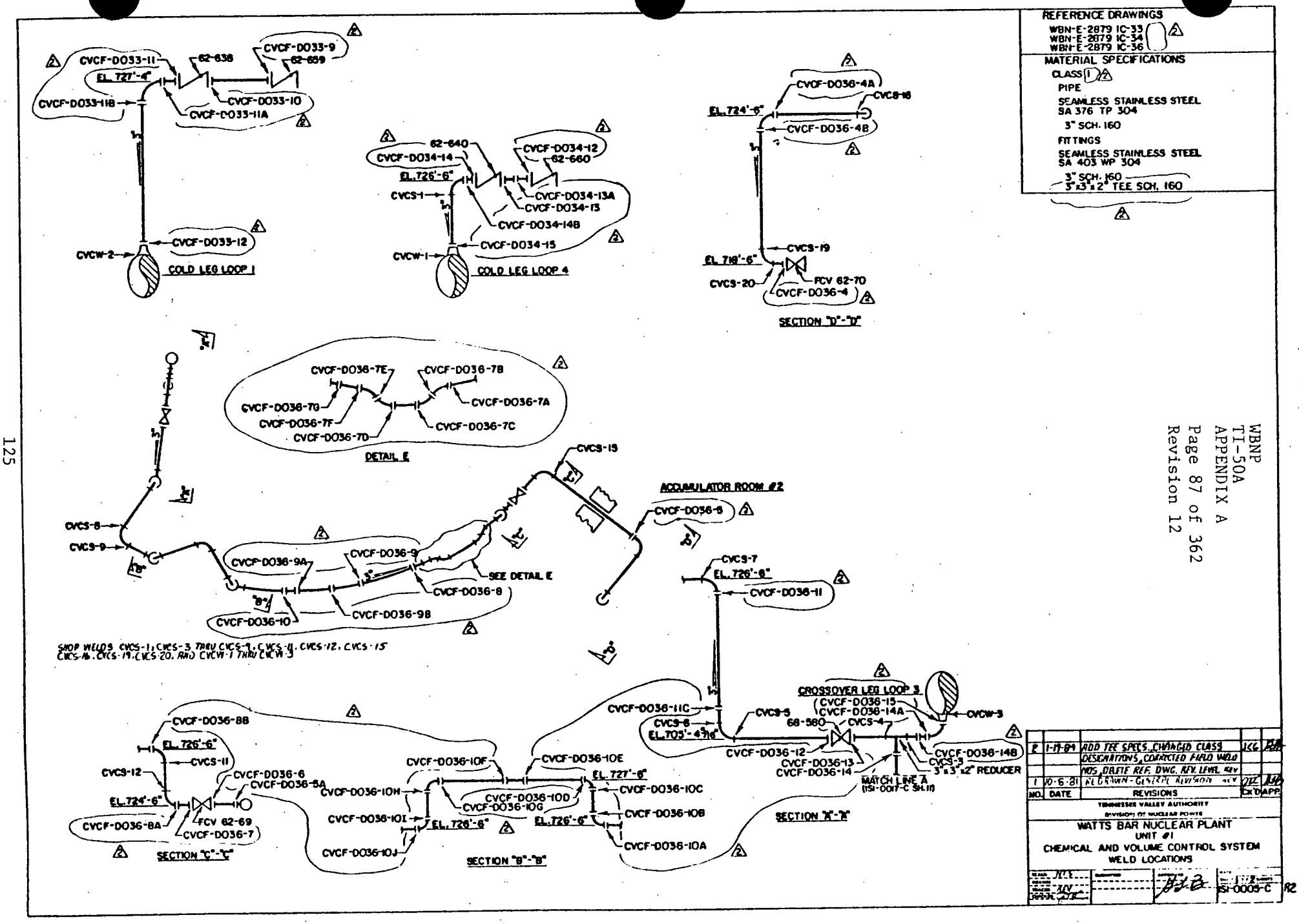
SHOP WELDS UHIS-66 thru UHIS-84

NO.	DATE	REVISIONS	CK'D	APP.
1	1-11-84	CHANGED CLASS DESIGNATION AND CORRECTED ROOM NAME	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

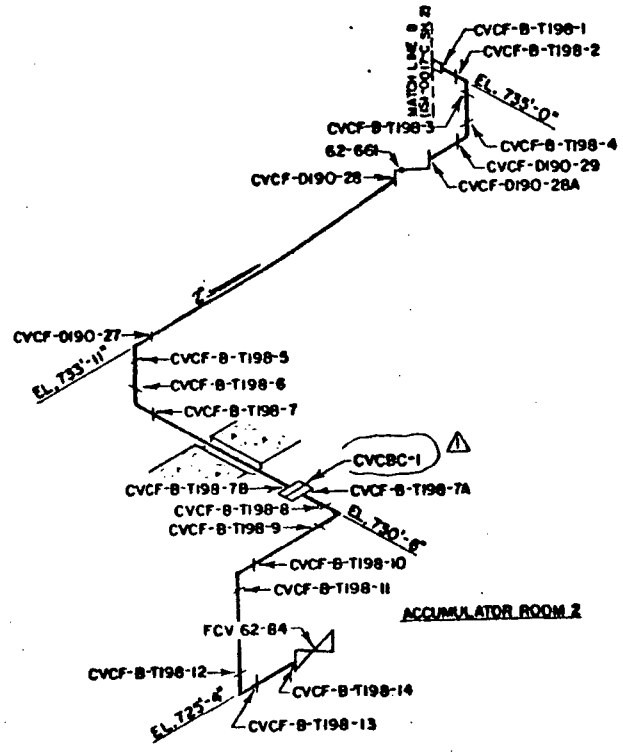
WATTS BAR NUCLEAR PLANT
UNIT #1
UPPER HEAD INJECTION SYSTEM
WELD LOCATIONS

SCALE NTS
DRAWN KEP
APPR. JCAG
1-23-82
1SI-0004-C R1


REFERENCE DRAWINGS
WBN-E-2879 IC-33
WBN-E-2879 IC-34
WBN-E-2879 IC-36
MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SEAMLESS STAINLESS STEEL
SA 376 TP 304
3" SCH. 160
FITTINGS
SEAMLESS STAINLESS STEEL
SA 403 WP 304
3" SCH. 160
3"x3"x2" TEE SCH. 160
CVCF-D033-11
EL. 727'-4"
62-638
CVCF-D033-9
62-639
CVCF-D033-11B
CVCF-D033-10
CVCF-D033-11A
CVCF-D033-12
CVCW-2
COLD LEG LOOP 1
62-640
CVCF-D034-14
CVCF-D034-12
62-660
EL. 726'-6"
CVCS-1
CVCF-D034-13A
CVCF-D034-13
CVCF-D034-14B
CVCF-D034-15
CVCW-1
COLD LEG LOOP 4
CVCF-D036-4A
CVCS-18
EL. 724'-6"
CVCF-D036-4B
CVCS-19
EL. 718'-6"
CVCS-20
FCV 62-70
CVCF-D036-4
SECTION "D"-"D"
CVCF-D036-7E
CVCF-D036-7B
CVCF-D036-7G
CVCF-D036-7A
CVCF-D036-7F
CVCF-D036-7C
CVCF-D036-7D
DETAIL E
CVCS-15
ACCUMULATOR ROOM #2
CVCF-D036-6
CVCS-8
CVCS-9
CVCF-D036-9A
CVCF-D036-9
SEE DETAIL E
CVCF-D036-8
CVCF-D036-10
CVCF-D036-9B
SHOP WELDS CVCS-1, CVCS-3 THRU CVCS-9, CVCS-11, CVCS-12, CVCS-15
CVCS-16, CVCS-19, CVCS-20, AND CVCW-1 THRU CVCW-3
CVCS-7
EL. 726'-6"
CVCF-D036-11
CVCF-D036-11C
CVCS-5
CVCS-6
EL. 703'-4 5/16"
CROSSOVER LEG LOOP 3
CVCF-D036-15
CVCF-D036-14A
68-580
CVCS-4
CVCW-3
CVCF-D036-12
CVCF-D036-13
CVCF-D036-14
CVCF-D036-14B
CVCS-3
3"x3"x2" REDUCER
MATCH LINE A
(1SI-0017-C SH.11)
SECTION "A"-"A"
CVCF-D036-8B
EL. 726'-6"
CVCS-11
CVCS-12
CVCF-D036-6
CVCF-D036-5A
EL. 724'-6"
FCV 62-69
CVCF-D036-8A
CVCF-D036-7
SECTION "C"-"C"
CVCF-D036-10F
CVCF-D036-10E
EL. 727'-6"
CVCF-D036-10H
CVCF-D036-10D
CVCF-D036-10G
CVCF-D036-10C
CVCF-D036-10I
EL. 726'-6"
EL. 726'-6"
CVCF-D036-10B
CVCF-D036-10J
CVCF-D036-10A
SECTION "B"-"B"
R 1-19-84 ADD TEE SPECS, CHANGED CLASS DESIGNATIONS, CORRECTED FIELD WELD NOS, DELETE REF. DWG. REV. LEVEL REV
1 10-6-81 REDRAWN - GENERAL REVISION REV
NO. DATE REVISIONS CK'D APP.
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
WELD LOCATIONS
1SI-0005-C
R2

REFERENCE DRAWINGS
SK. 406-9 SH. 16

MATERIAL SPECIFICATIONS
CLASS 1 ⚠
PIPE
SA 376 TP 304
2" SCH 160
FITTINGS
SA 182 F 304
2" BORED SCH 160
FLANGES
SA 182 F 304
2" BORED SCH 160



NO.	DATE	REVISIONS	CK'D	APP.
1	1-20-84	ADD BOLTED CONNECT NO. AND CHANGED CLASS DESIGNATIONS	JCL	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
WELD LOCATIONS

ISI-0005-C R1

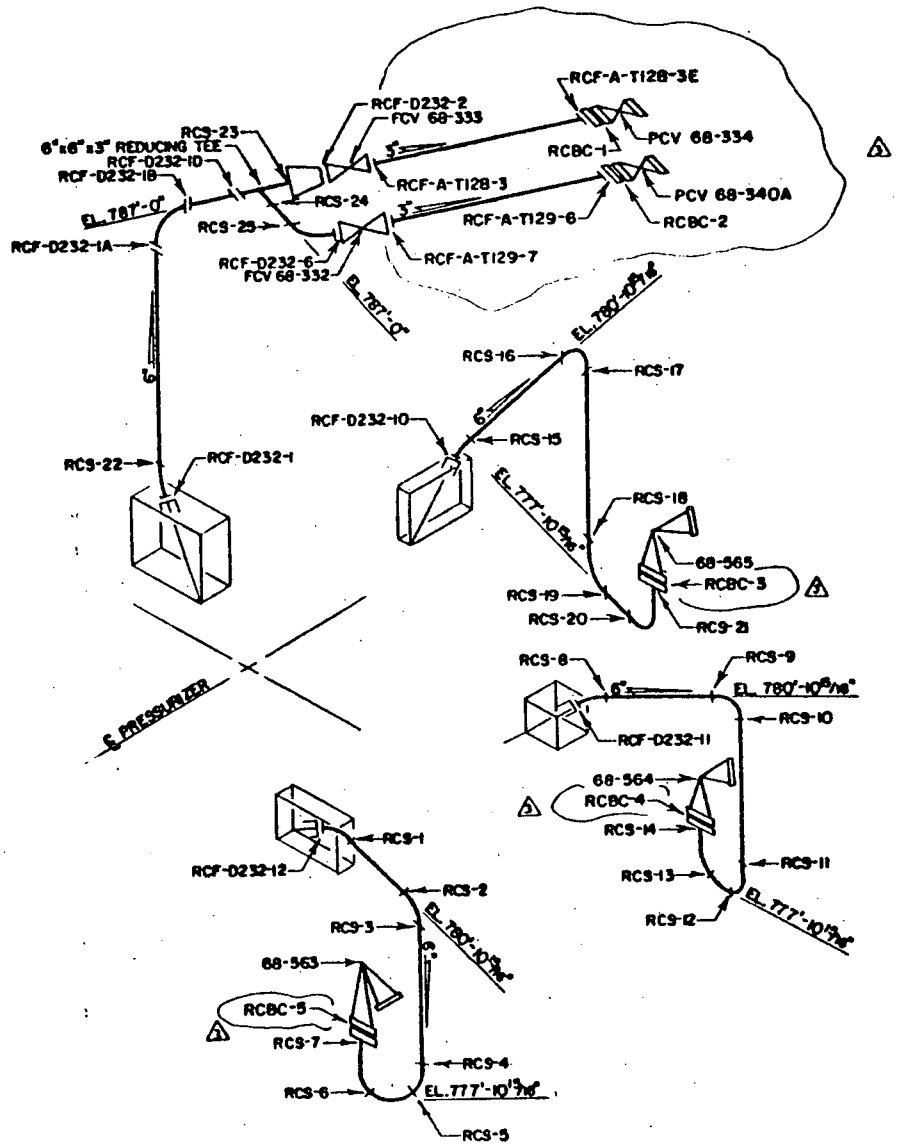
WBNP
TI-50A
Appendix A
Page 88 of 362
Revision 12

REFERENCE DRAWINGS

WBN-E-2879 IC-232 △3
SK-465-2 SH. 1
SK-465-2 SH. 2

MATERIAL SPECIFICATIONS

CLASS A
PIPE
SEAMLESS STAINLESS STEEL
SA 376 TP 304
6" SCH. 160
3" SCH. 160
FITTINGS
SEAMLESS STAINLESS STEEL
SA 403 WP 304
6" SCH. 160
3" SCH. 160
FLANGES
SA 182 F 316
6" SCH 160
SA 182 F 304 △3
3" SCH 160



SHOP WELD NUMBERS RCS-1 THRU RCS-25

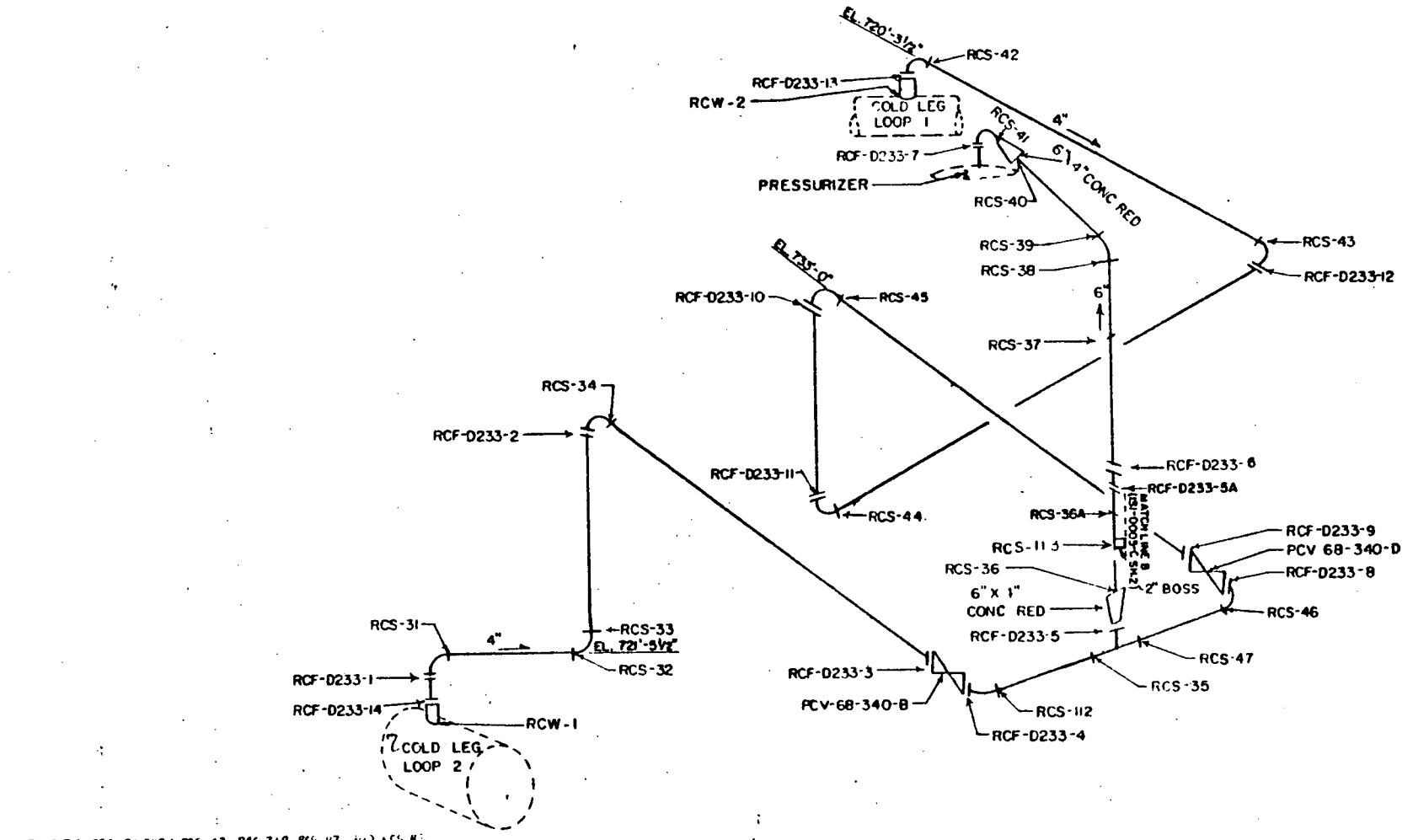
NO.	DATE	REVISIONS	CK'D	APP.
3	12-2-83	DELETE REVISION NUMBERS AND CORRECT PIPE CONFIGURATION, ADD BOLT CONNECT NO. & 3" FLANGE SPEC NO	JCG	
2	6-29-83	CORRECT ELEVATIONS	JCG	
1	9-15-81	REORDER	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

9-15-81
TSI-0017-C R3

REFERENCE DRAWINGS
WBN-E-2879 IC-233



SHOP WELDS RCS-31 THRU RCS-47, RCS-36A, RCS-112, AND RCS-113

NOTE (CLASS 1) 3
A 376 SEAMLESS STNL STL PIPE
6" SCH 160 TP 304
4" SCH 160 TP 304

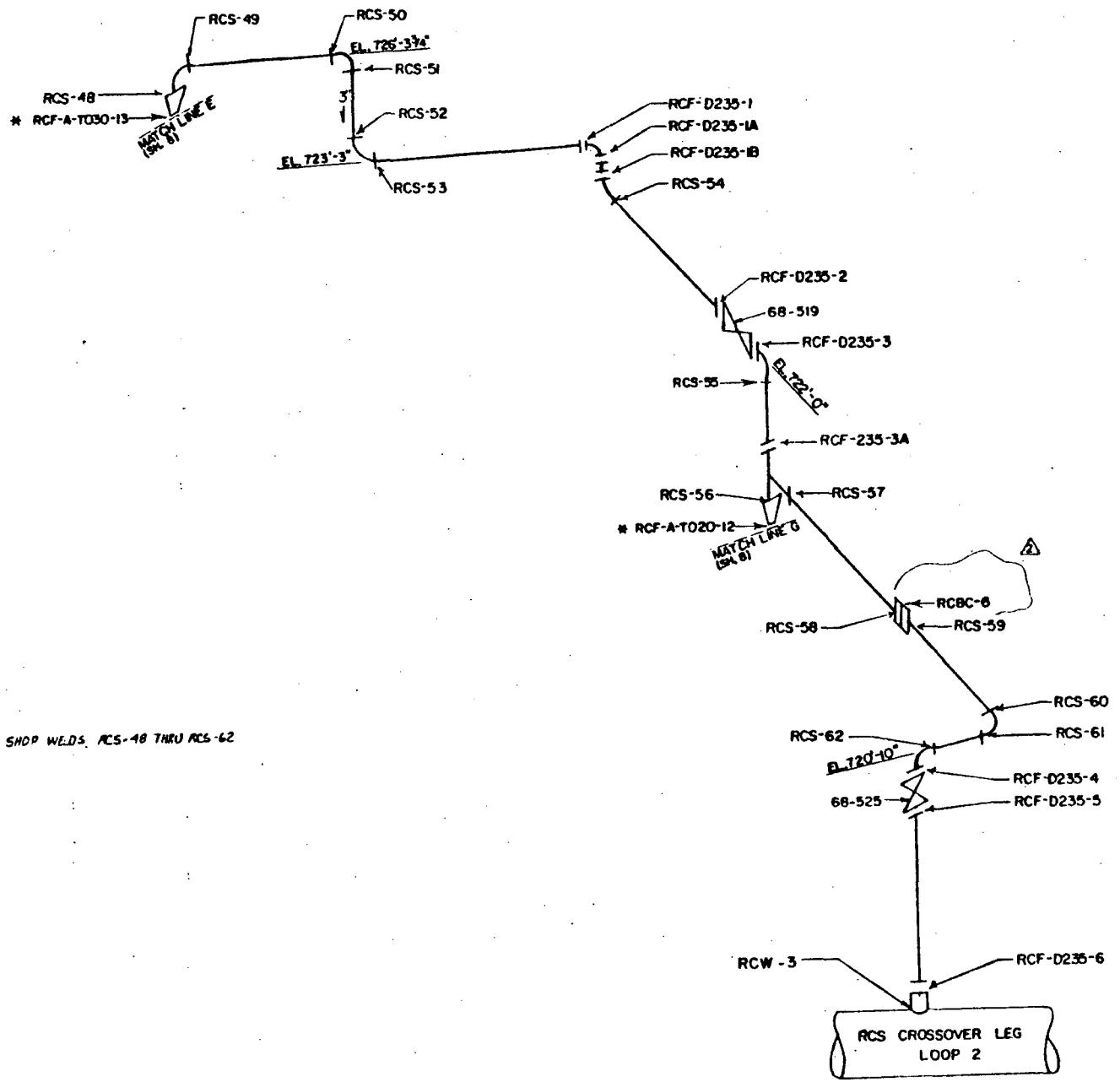
NO.	DATE	REVISIONS	CK'D	APP.
3	1-20-84	ADD CLASS DESIGNATION, CHANGE TITLE BLOCK, AND DELETE REF. DWG. REV. LEVEL KEY		
2	2-23-82	ADD MATCH LINE KEY		
1	9-21-81	ADD ELEVATIONS AND WELD NUMBERS KEY		
		NEW REFERENCE DRAWINGS KEY		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

SCALE NTS
DRAWN
DESIGN
SUBMITTED
APPROVED
DATE
1SI-0017-C R3

REFERENCE DRAWINGS
WBN-E-2879 IC-235
SK. 465-6 SH. 1-2
SK. 465-6 SH. 1-12



SHOP WELDS RCS-48 THRU RCS-62

* BUTT WELDED

NOTE CLASS 1
A376 SEAML. STNL. STL.
PIPE

3" SCH. 160 TP 304

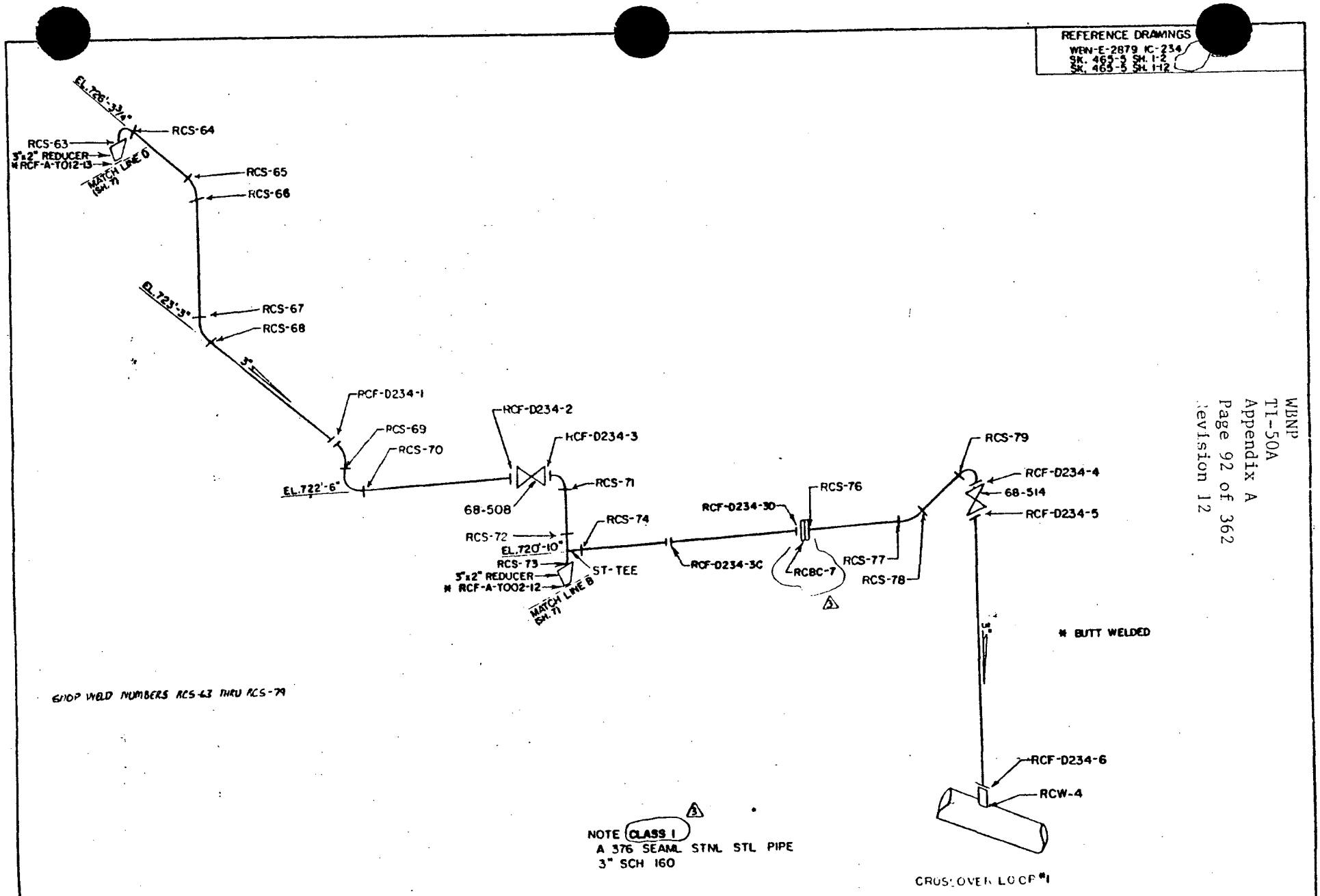
NO.	DATE	REVISIONS	CK'D	APP
2	1-20-89	ADD CLASS DESIGNATION, ADD BOLTED CONNECT NUMBER, CORRECTED TITLE BLOCK DELETED REF. DWG. REV. LEVEL REV	JCG	
1	9-21-81	ADD [illegible] ELIMINATE [illegible]		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

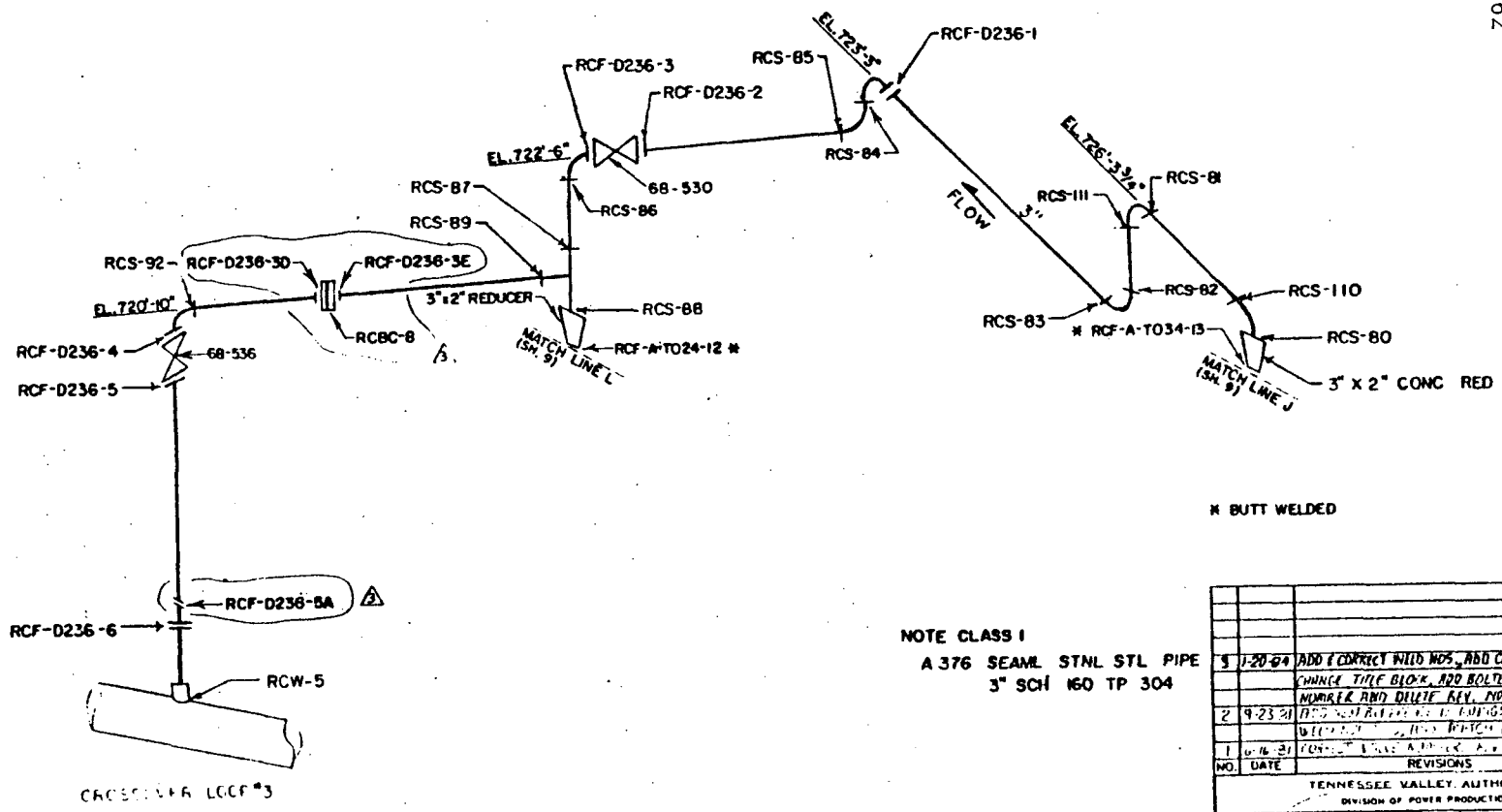
WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

SCALE 1/2"
DRAWN LEW
SUBMITTED
APPROVED
DATE
ISI-C017-C

R2


REFERENCE DRAWINGS
WBN-E-2879 IC-234
SK. 465-5 SH. 1-2
SK. 465-5 SH. 1-12
EL.726'-3 1/4"
RCS-63
3"x2" REDUCER
* RCF-A-T012-13
MATCH LINE 6 (SH. 7)
RCS-64
RCS-65
RCS-66
EL.723'-3"
RCS-67
RCS-68
3"
RCF-D234-1
RCS-69
RCS-70
EL.722'-6"
RCF-D234-2
RCF-D234-3
RCS-71
68-508
RCS-74
RCS-72
EL.720'-10"
RCS-73
3"x2" REDUCER
* RCF-A-T002-12
ST-TEE
MATCH LINE 8 (SH. 7)
RCF-D234-30
RCF-D234-3C
RCS-76
RCBC-7
RCS-77
RCS-78
RCS-79
RCF-D234-4
68-514
RCF-D234-5
3"
* BUTT WELDED
RCF-D234-6
RCW-4
CROSSOVER LOOP #1
NOTE CLASS I
A 376 SEAML STNL STL PIPE
3" SCH 160
GROUP WELD NUMBERS RCS-63 THRU RCS-79
TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION
WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS
REVISIONS
NO. DATE
ADD CLASS DESIGNATION, CHANGED TITLE BLOCK, ADD ROLLED CONNECTION NO. & DELETED REF. DWG. REV. LEVEL
ADD AND CORRECT WELD NUMBERS
R3

REFERENCE DRAWINGS
WBN-E-2879 IC-236
SK. 465-6 SH. 1-6
SK. 465-6 SH. 1-16



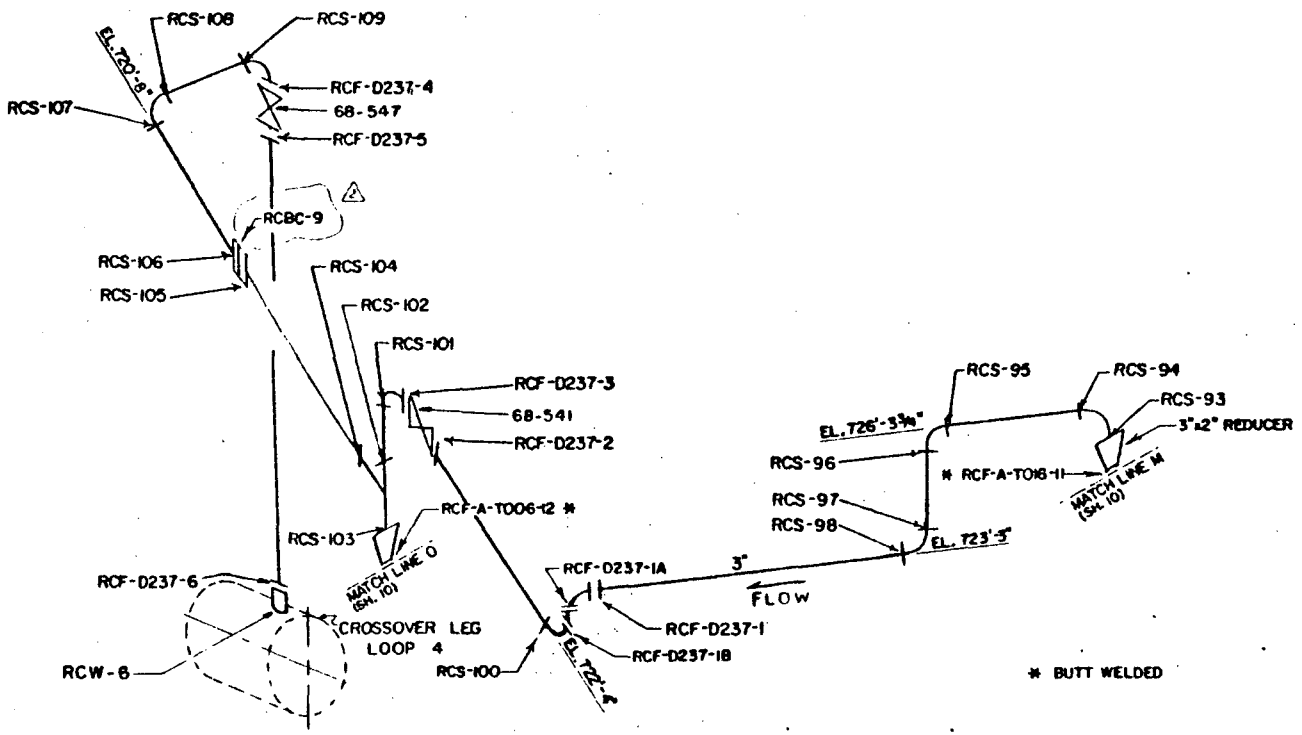
NO.	DATE	REVISIONS	CKD	APP
5	1-20-94	ADD & CORRECT WELD NOS., ADD CLASS DESIGN, CHANGE TITLE BLOCK, ADD BOLTED CONN. NUMBER AND DELETE REV. NO.	CG	
2	9-23-81	[illegible]		
1	6-16-81	[illegible]		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

SCALE NTS
SUBMITTED
APPROVED
DATE
DWG. NO. 1-51-001-[illegible]
R3

REFERENCE DRAWINGS
WBN-E-2879 IC-237
SK. 465-5 SH. 1-6
SK. 465-5 SH. 1-16



NOTE CLASS 1
A376 SEAML STNL STL PIPE
3" SCH 160 TP 304

SHOP WELDS RCS-93 THRU RCS-98, RCS-100 THRU RCS-109

NO.	DATE	REVISIONS	CK'D	APP.
2	1-20-84	ADD CLASS DESIGNATION, CHANGE TITLE BLOCK, ADD BOLTED CONNECTION NUMBER, AND DELETE REF. DWG. REV. LEVEL	JCG	
1	9-24-81	ADD COMMENTS, MATCH LINES, NEW WELD NUMBERS, AND NEW REFERENCE DRAWING		

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

0017 C

REFERENCE DRAWINGS

SK. 465-5 SH. 1-1
SK. 465-5 SH. 1-2
SK. 465-5 SH. 1-11
SK. 465-5 SH. 1-12

MATERIAL SPECIFICATIONS

CLASS I ⚠

PIPE

SEAMLESS STAINLESS STEEL
SA 376 TP 304

2" SCH. 160

FITTINGS

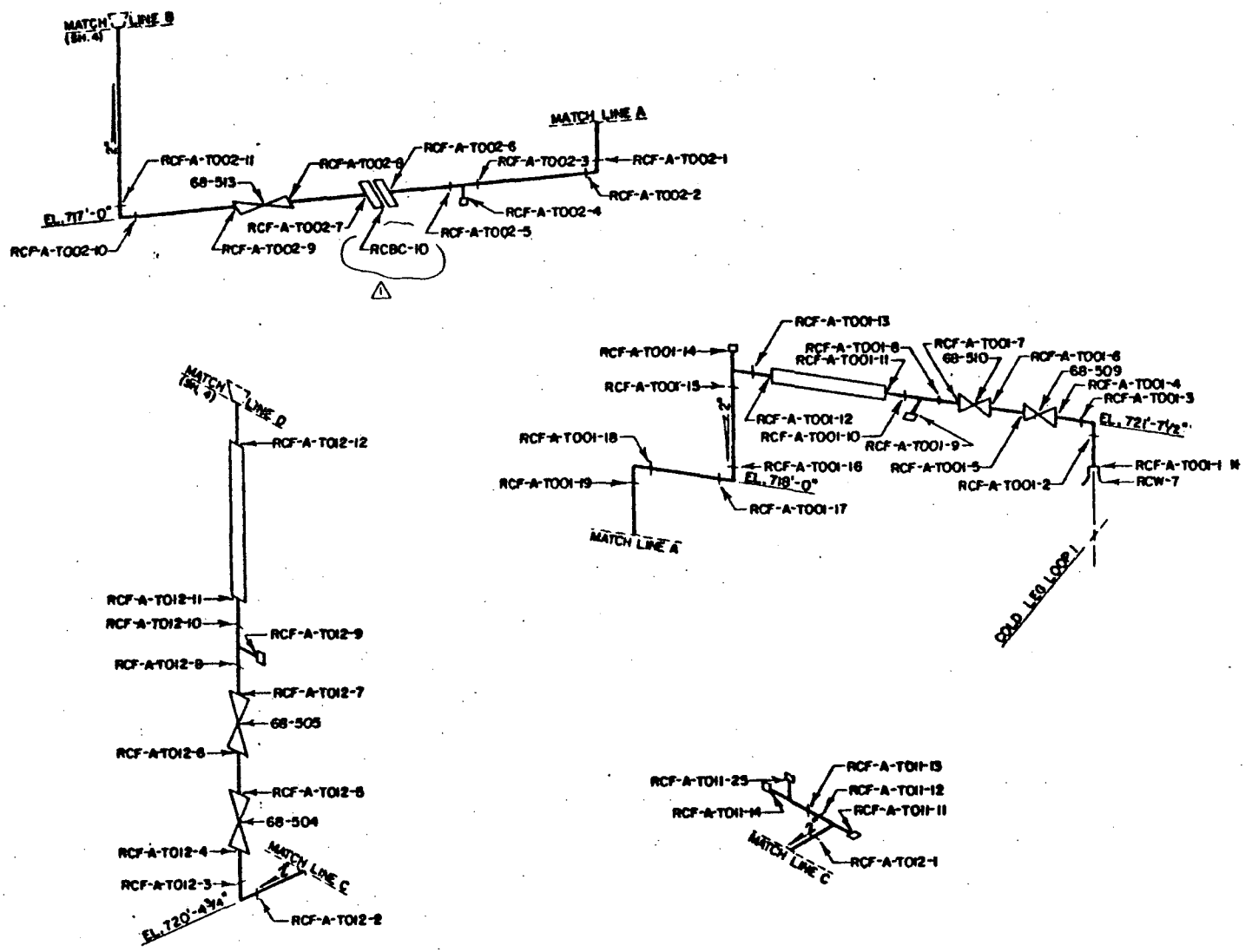
STAINLESS STEEL
SA 182 F 304

2" 6000# S/W

FLANGES

STAINLESS STEEL
SA 182 F 316

2" 1500# R.F. S/W BORED TO SCH. 160



* BUTT WELDED

NO.	DATE	REVISIONS	CK'D	APP.
1	12-2-83	CHANGE CLASS DESIGNATION AND ADD BOLTED CONNECTION NO. KEV	KLG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

151-0017-C

REFERENCE DRAWINGS

SK. 465-6 SH. 1-1
SK. 465-6 SH. 1-2
SK. 465-6 SH. 1-11
SK. 465-6 SH. 1-12

MATERIAL SPECIFICATIONS

CLASS I

PIPE

SEAMLESS STAINLESS STEEL
SA 376 TP 304

2" SCH. 160

FITTINGS

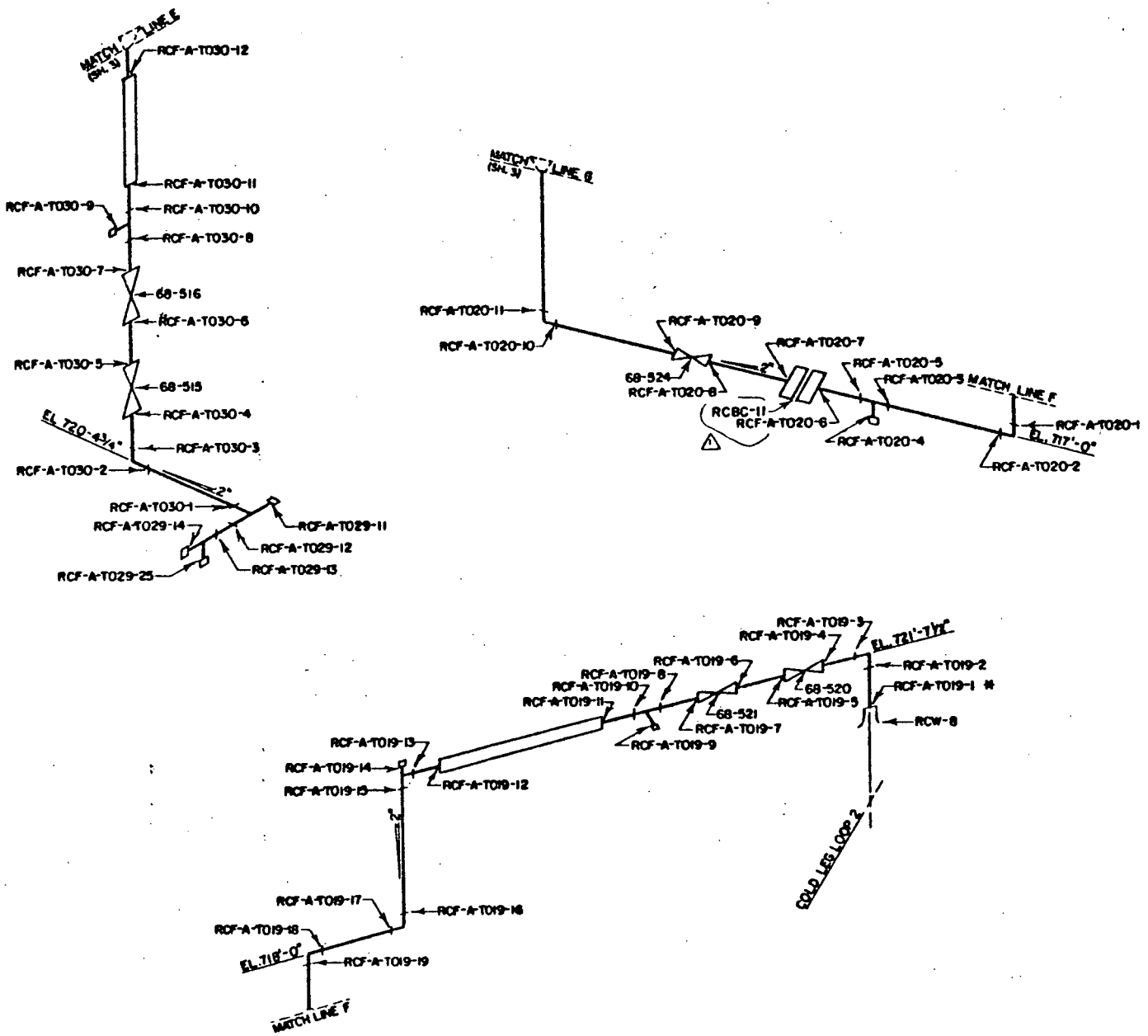
STAINLESS STEEL
SA 182 F 304

2" 6000# S/W

FLANGES

STAINLESS STEEL
SA 182 F 316

2" 1500# R.F. S/W BORED TO SCH. 160



BUTT WELDED

NO.	DATE	REVISIONS	CK'D	APR.
1	12-2-83	ADD BOLTED CONNECTION NO. 8 CHANGE CLASS DESIGNATION FR'	JCG	

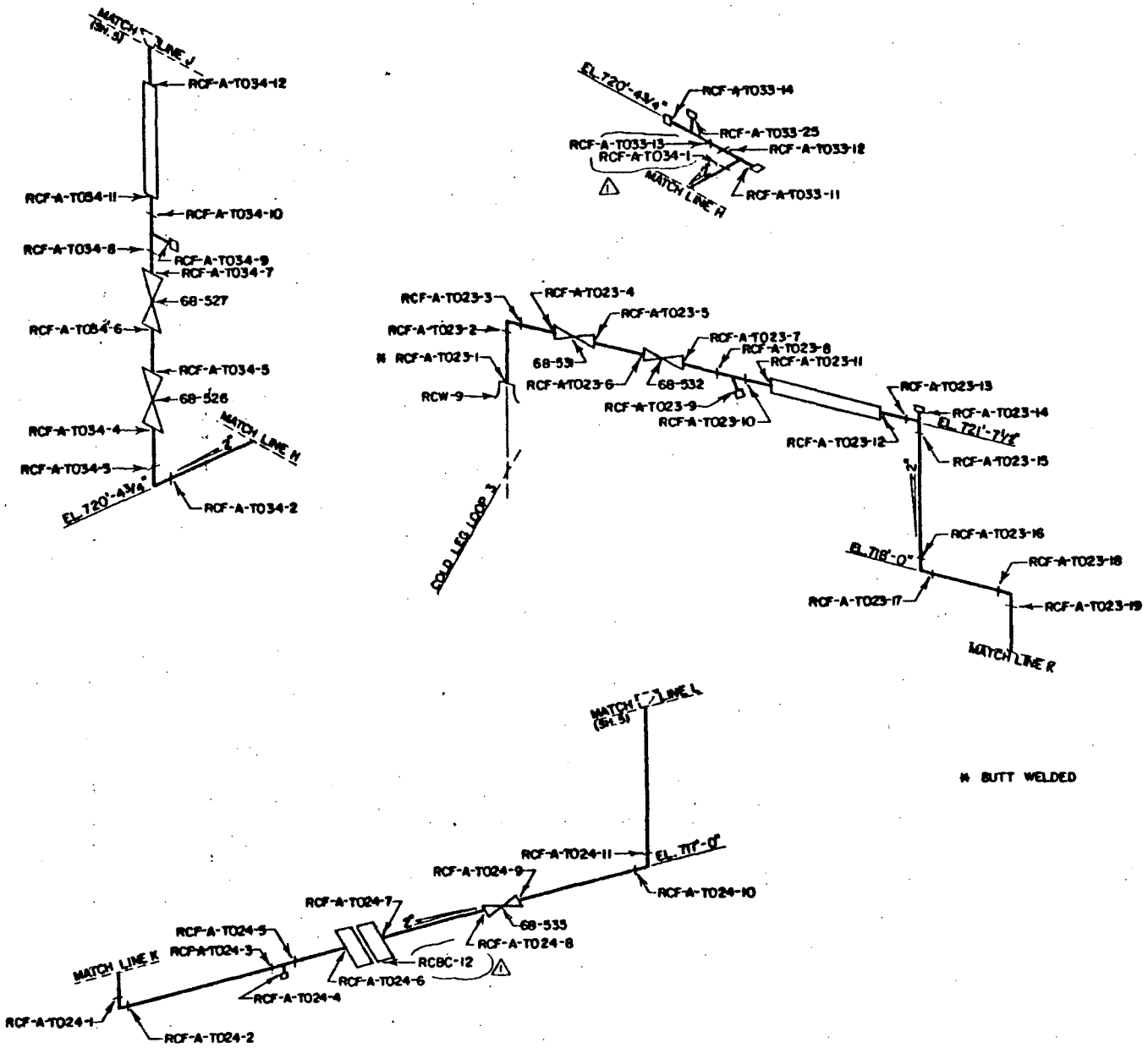
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

DRAWN ATS
TRACED
CHECKED RCP
SUPERVISOR

9-21-81

1SI-0017-C



N BUTT WELDED

REFERENCE DRAWINGS

SK. 465-6 SH. 1-5
SK. 465-6 SH. 1-6
SK. 465-6 SH. 1-15
SK. 465-6 SH. 1-16

MATERIAL SPECIFICATIONS

CLASS I

PIPE

SEAMLESS STAINLESS STEEL
SA 376 TP 304

2" SCH. 160

FITTINGS

STAINLESS STEEL
SA 182 F 304

2" 6000# S/W

FLANGES

STAINLESS STEEL
SA 182 F 316

2" 1500# R.F. S/W BORED TO SCH. 160

NO.	DATE	REVISIONS	CK'D	APR
1	1-20-84	CORRECT WELD NO., ADD BOLTED CONN NO., CHANGED CLASS DESIGNATION, AND DELETED REF. DWG. REV. LEVEL REF.	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

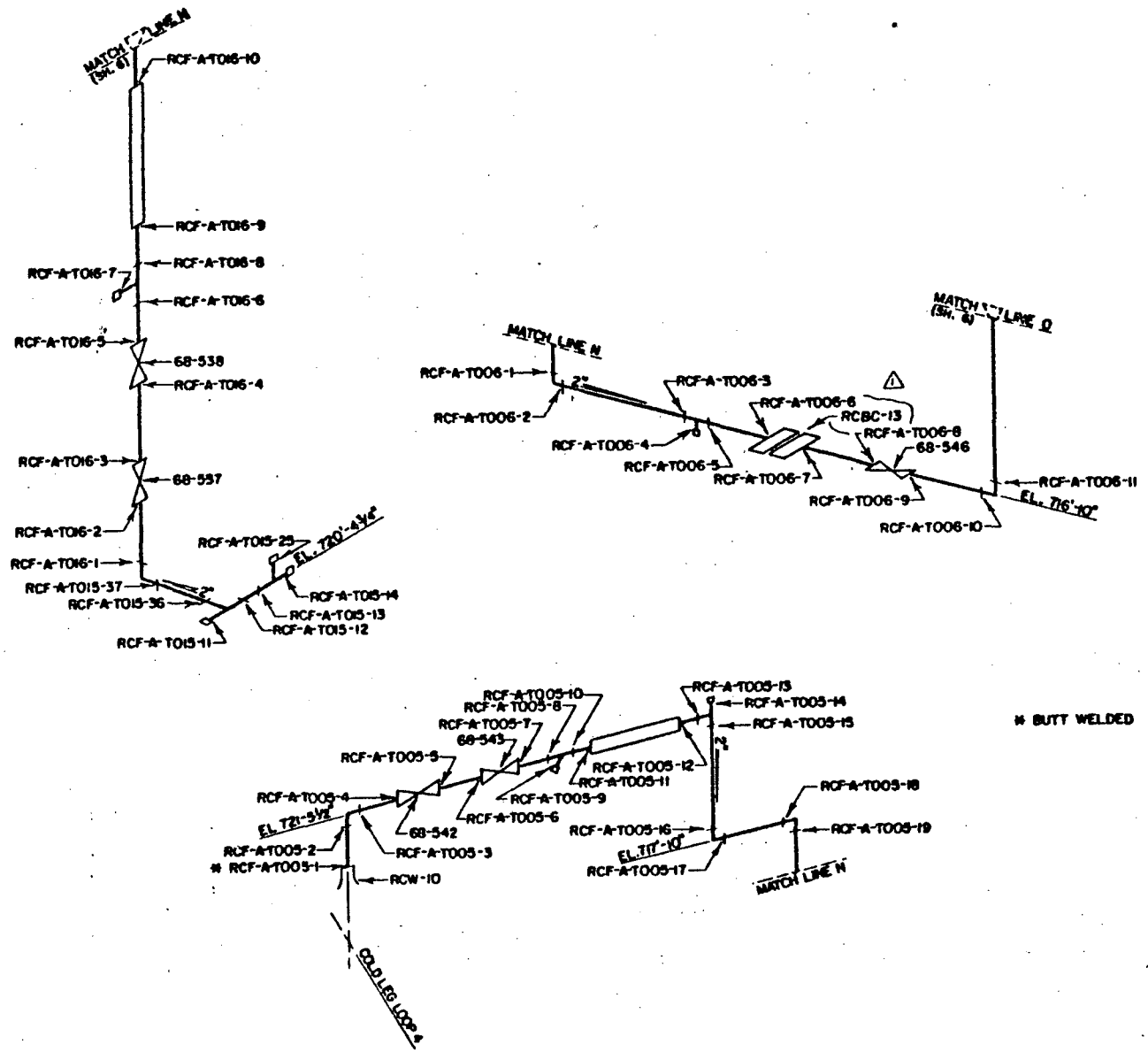
WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

DATE 9-23-81
SCALE 1:1
151-0017-C

R1

REFERENCE DRAWINGS
SK. 465-5 SH. 1-5
SK. 465-5 SH. 1-6
SK. 465-5 SH. 1-15
SK. 465-5 SH. 1-16

MATERIAL SPECIFICATIONS
CLASS I
PIPE
SEAMLESS STAINLESS STEEL
SA 376 TP 304
2" SCH. 160
FITTINGS
STAINLESS STEEL
SA 182 F 304
2" 6000# S/W
FLANGES
STAINLESS STEEL
SA 182 F 316
2" 1500# R.F. S/W BORED TO SCH. 160



BUTT WELDED

NO.	DATE	REVISIONS	CK'D	APP'D
1	12-2-83	ADD BOLTED CONNECTION NO., CHANGE CLASS DESIGNATION & DRAFT REV. NOS. ETC	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

SCALE N.T.S.
DRAWN
DATE 9-23-83
10-11-83
ISI-0017-C
R1

REFERENCE DRAWINGS

SK. 465-1 SH. 1
SK. 465-1 SH. 2
SK. 465-1 SH. 3
SK. 465-1 SH. 4

MATERIAL SPECIFICATIONS

CLASS 1 ⚠

PIPE

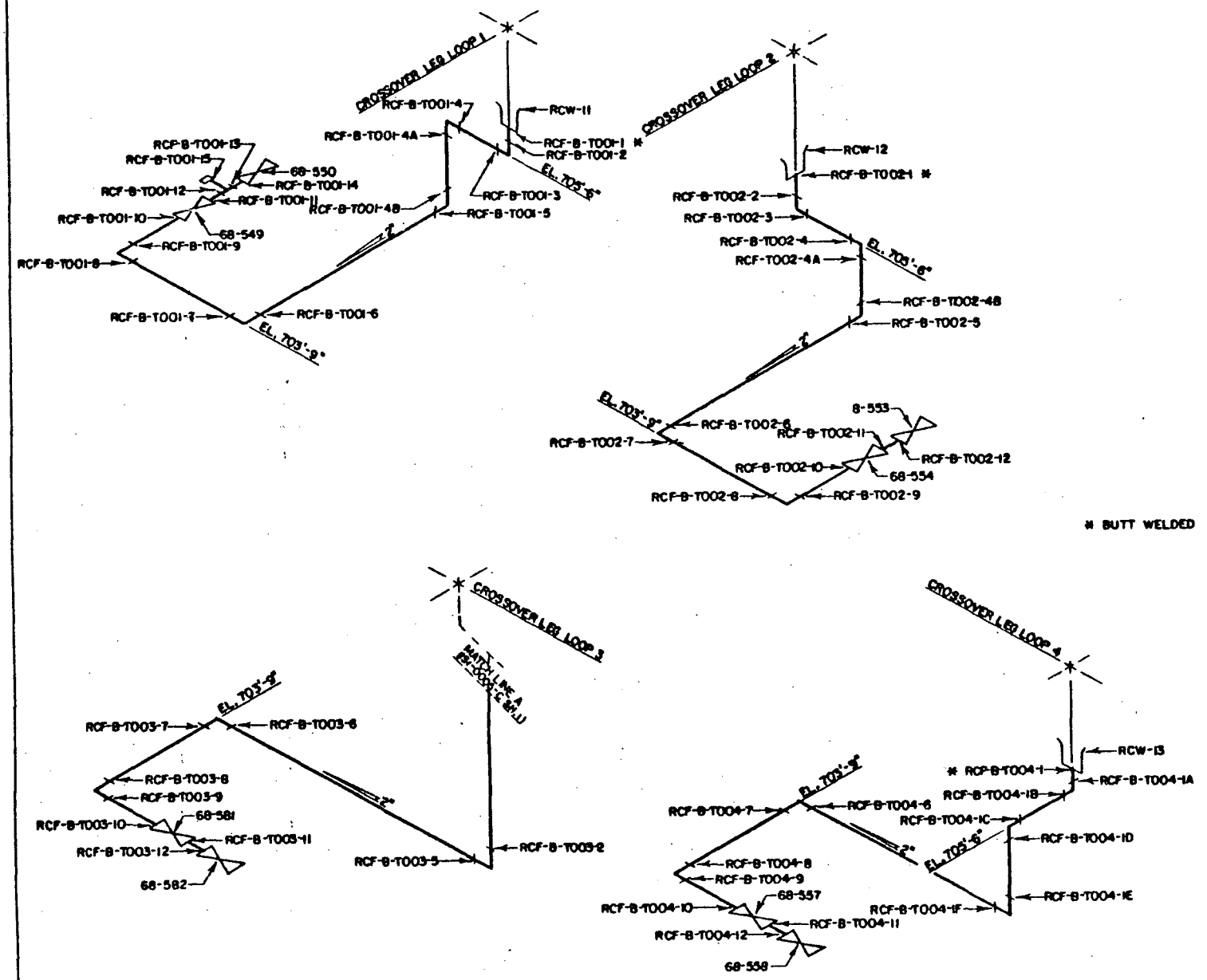
SEAMLESS STAINLESS STEEL
SA 376 TP 304

2" SCH. 160

FITTINGS

STAINLESS STEEL
SA 182 F 304

2" 6000# S/W



* BUTT WELDED

NO.	DATE	REVISIONS	CK'D	APP.
1	12-2-81	CHANGE CLASS DESIGNATION KEY	JCG	

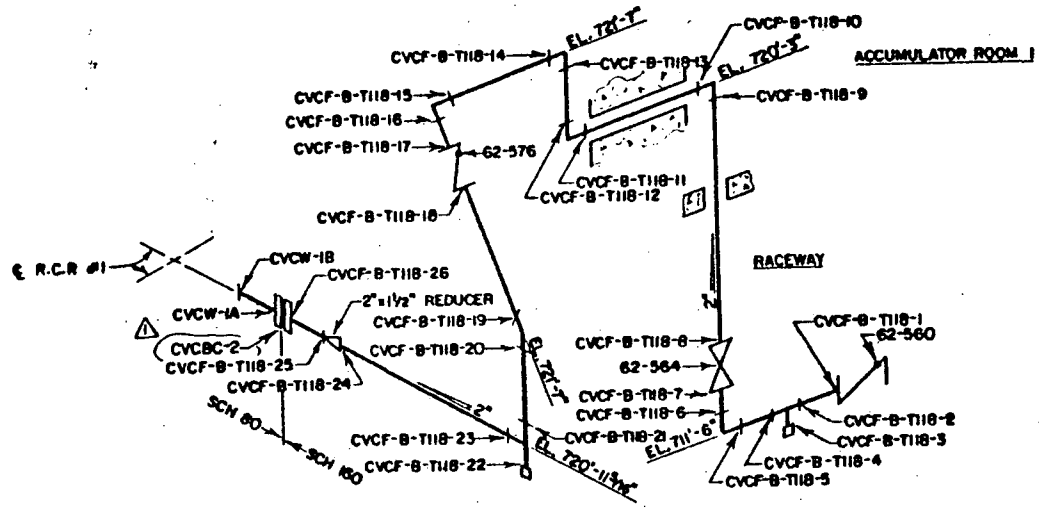
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
WELD LOCATIONS

DATE 9-18-81
SCALE 1:11
RSI-0017-C R1

REFERENCE DRAWINGS
SK. 406-7 SH. 3 (2) △1

MATERIAL SPECIFICATIONS
CLASS (1) △1
PIPE
SA 376 TP 304
2" SCH 160
1½" SCH 160
1½" SCH 80
FITTINGS
SA 182 F 304
2" BORE SCH 160
FLANGES
SA 182 F 316
1½" BORE SCH 160



NO.	DATE	REVISIONS	CK'D	APR
1	1-20-84	ADD BOLTED CONNECTION NO. CHANGED CLASS DESIGN & DELETE REF. DWG. REV. LEVEL	JCG	

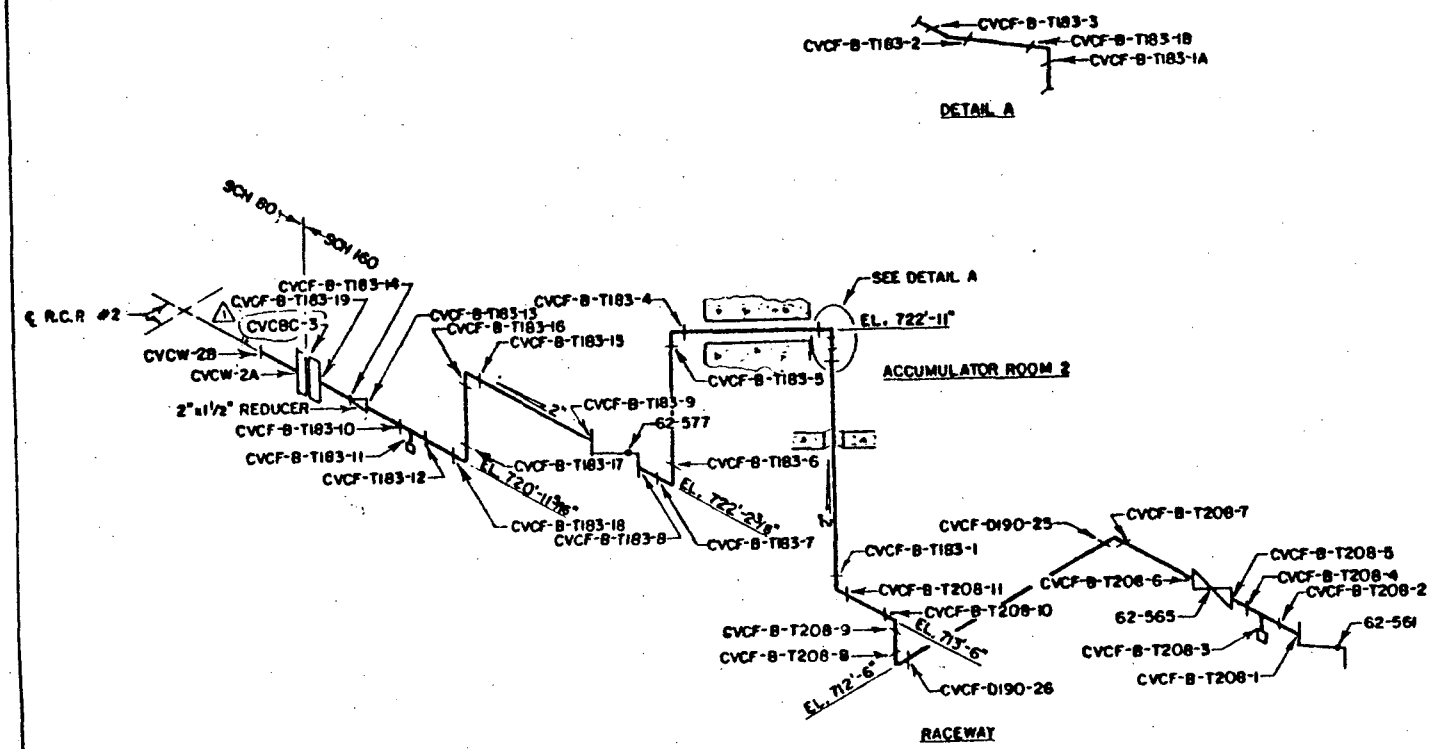
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
SEAL WATER INJECTION
(WELD LOCATIONS)

1-26-82
SI-0050-C

REFERENCE DRAWINGS
SK. 406-7 SH. 12
SK. 406-9 SH. 1

MATERIAL SPECIFICATIONS
CLASS 1
PIPE
SA 376 TP 304
2" SCH 160
1½" SCH 160
1½" SCH 80
FITTINGS
SA 182 F 304
2" BORE SCH 160
FLANGES
SA 182 F 316
1½" BORE SCH 160



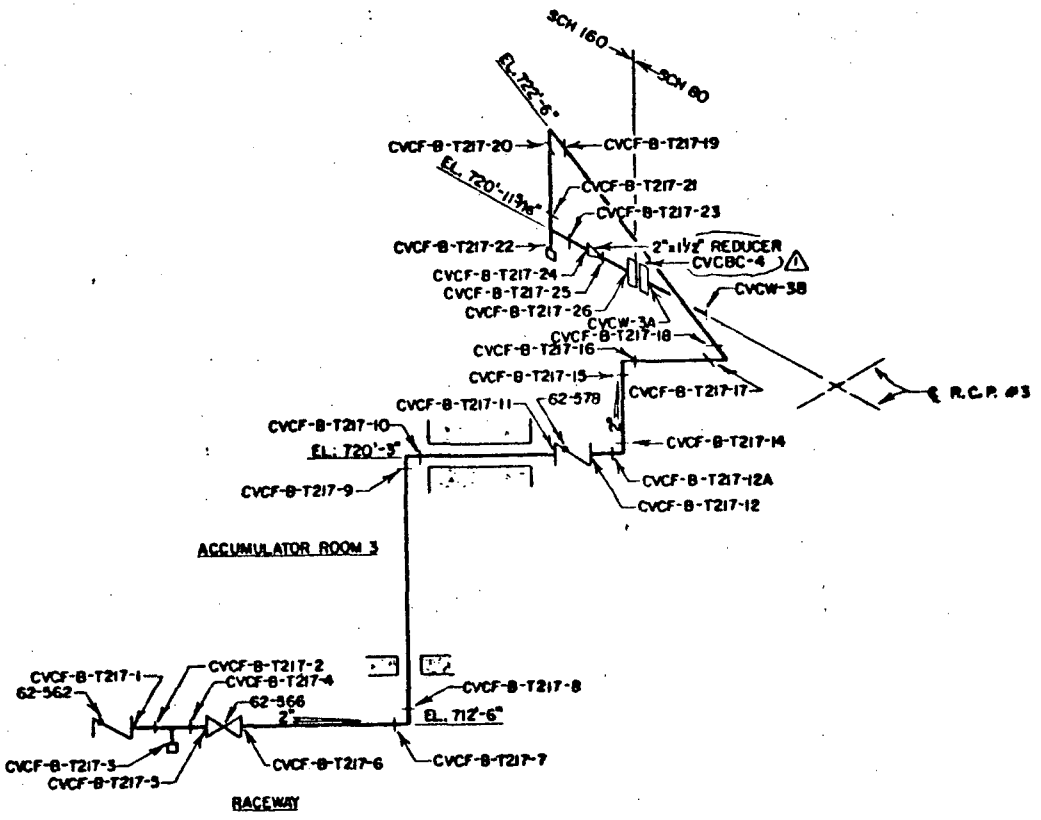
NO.	DATE	REVISIONS	CK'D	APR
1	1-20-84	ADD BOLTED CONNECT. ADV NO. CHANGED. CLASS DESIGNATION, PAYO DELETED. REF. DWG. REVISION LEVEL REV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
SEAL WATER INJECTION
WELD LOCATIONS

SCALE NTS | DATE 1-27-82 | SHEET 2 of 1 | REV | DRAWN | APPR | ASI-0050-C R1

REFERENCE DRAWINGS
SK. 406-7 SH. 21 △1

MATERIAL SPECIFICATIONS
CLASS 1 △1
PIPE
SA 376 TP 304
2" SCH 160
1½" SCH 160
1½" SCH 80
FITTINGS
SA 182 F 304
2" BORE SCH 160
FLANGES
SA 182 F 316
1½" BORE SCH 160



NO.	DATE	REVISIONS	CK'D	APR
1	4-20-84	ADD BOLTED CONNECTION NO. CHANGE CLASS DESIGNATION AND BELTED REF. DWG. REV. LEVEL REV	JCG	

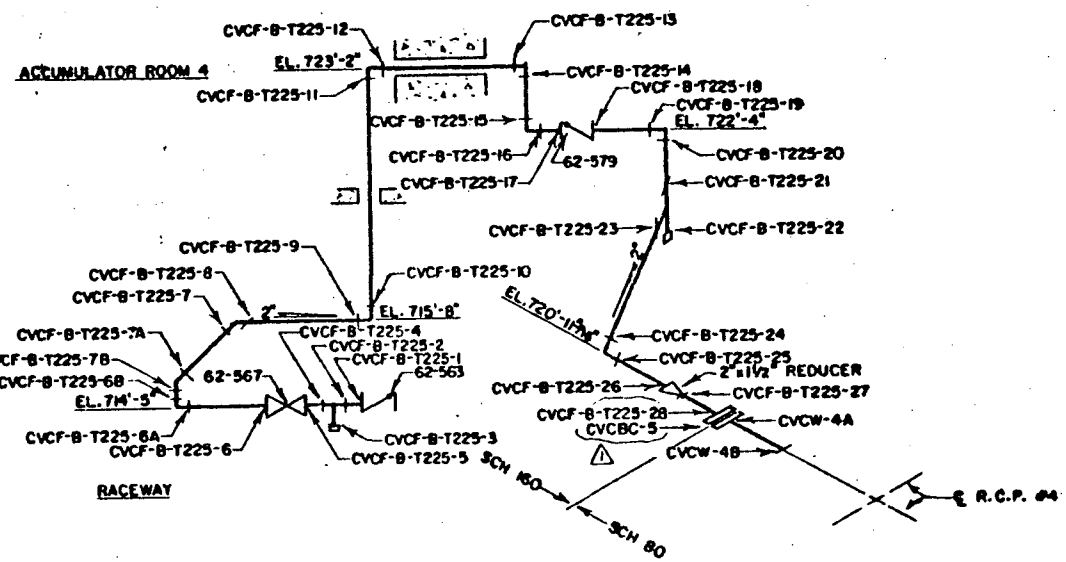
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
SEAL WATER INJECTION
WELD LOCATIONS

DATE 1-27-82
ISI-0050-C R1

REFERENCE DRAWINGS
SK. 406-7 SH. 27 (1)

MATERIAL SPECIFICATIONS
CLASS (1)
PIPE
SA 376 TP 304
2" SCH 160
1½" SCH 160
1½" SCH 80
FITTINGS
SA 182 F 304
2" BORE SCH 160
FLANGES
1½" BORE SCH 160

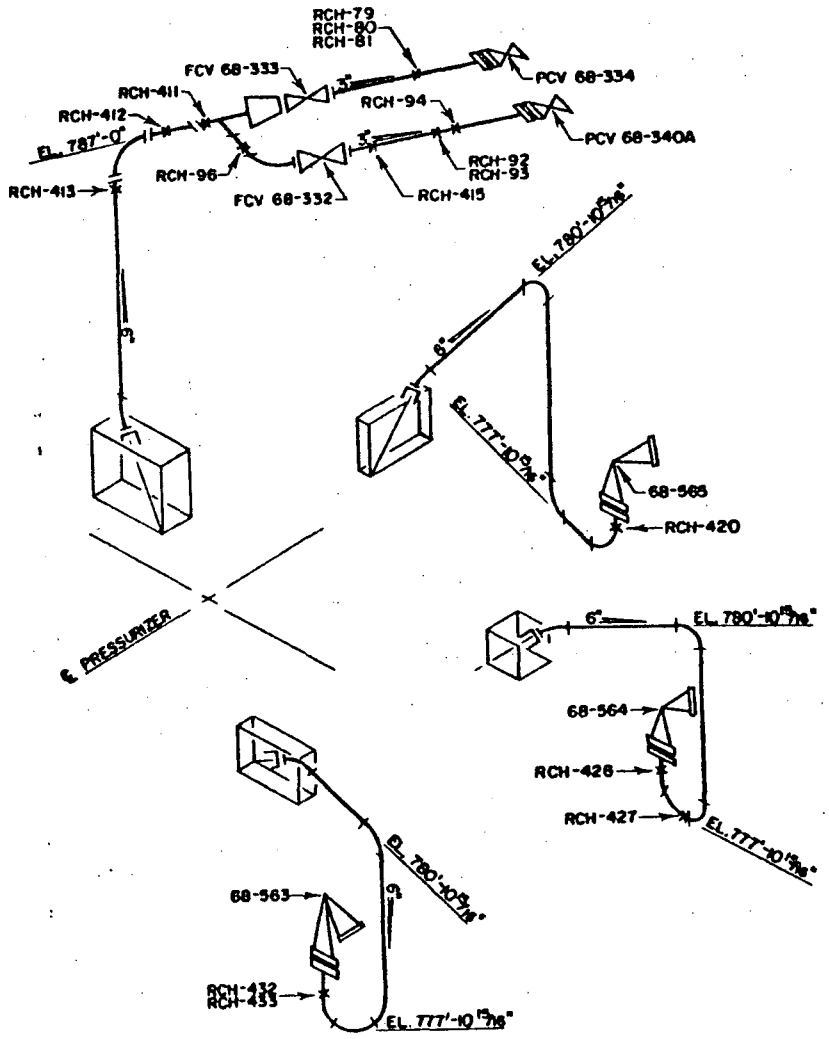


NO.	DATE	REVISIONS	CK'D	APR
1	1-20-84	ADD BOLTED CONNECTION NO., CHANGED CLASS DESIGNATION, AND DELETED REF. DWG. REV. LEVEL REF	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
SEAL WATER INJECTION
WELD LOCATIONS

SCALE NTS | DATE 1-27-82 | SI-0050-C | R1

REFERENCE DRAWINGS
47W465-211
CLASS I



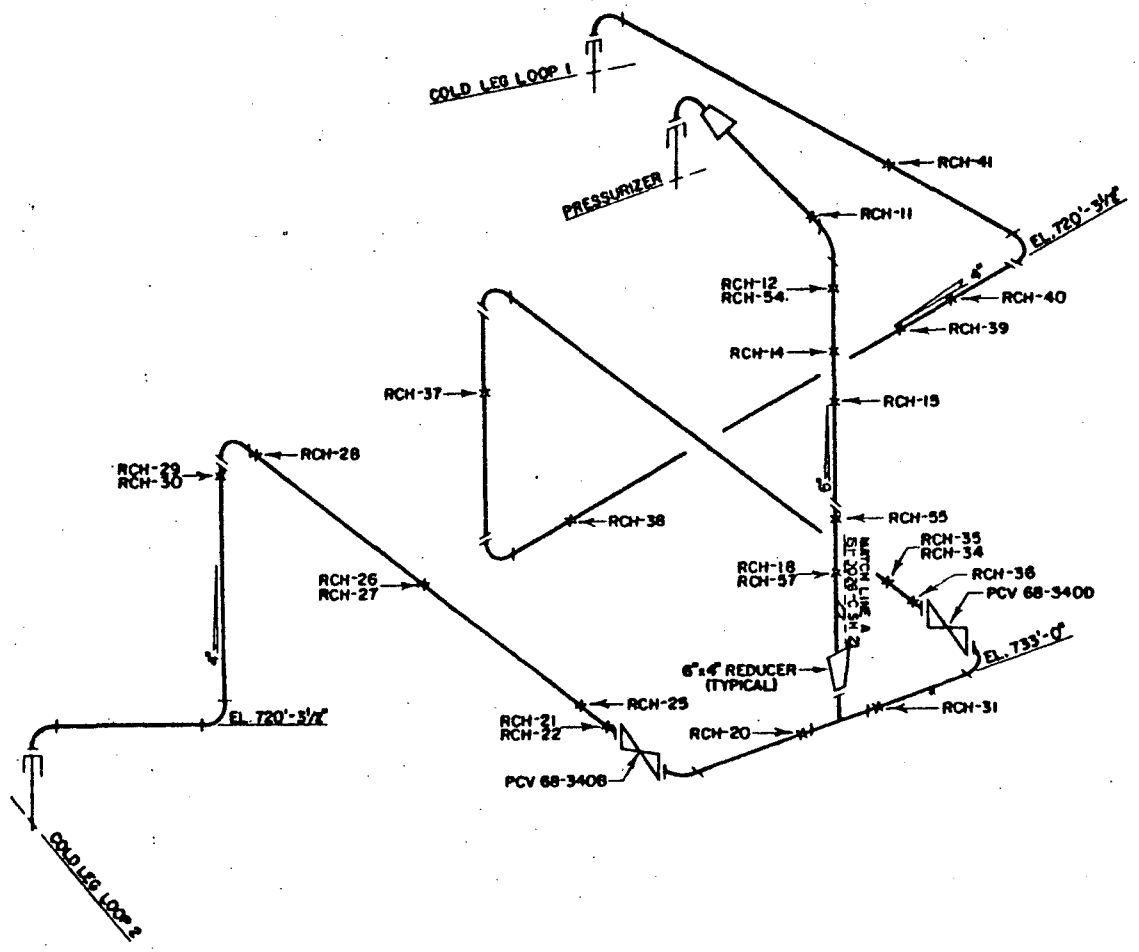
NO.	DATE	REVISIONS	CK'D	APP.
1	1-20-84	CORRECT REFERENCE DRAWING REV	V.L.	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

DRAWN K.S. | DATE 6-29-83 | 51-0010-C

REFERENCE DRAWINGS
47W465-206
CLASS 1



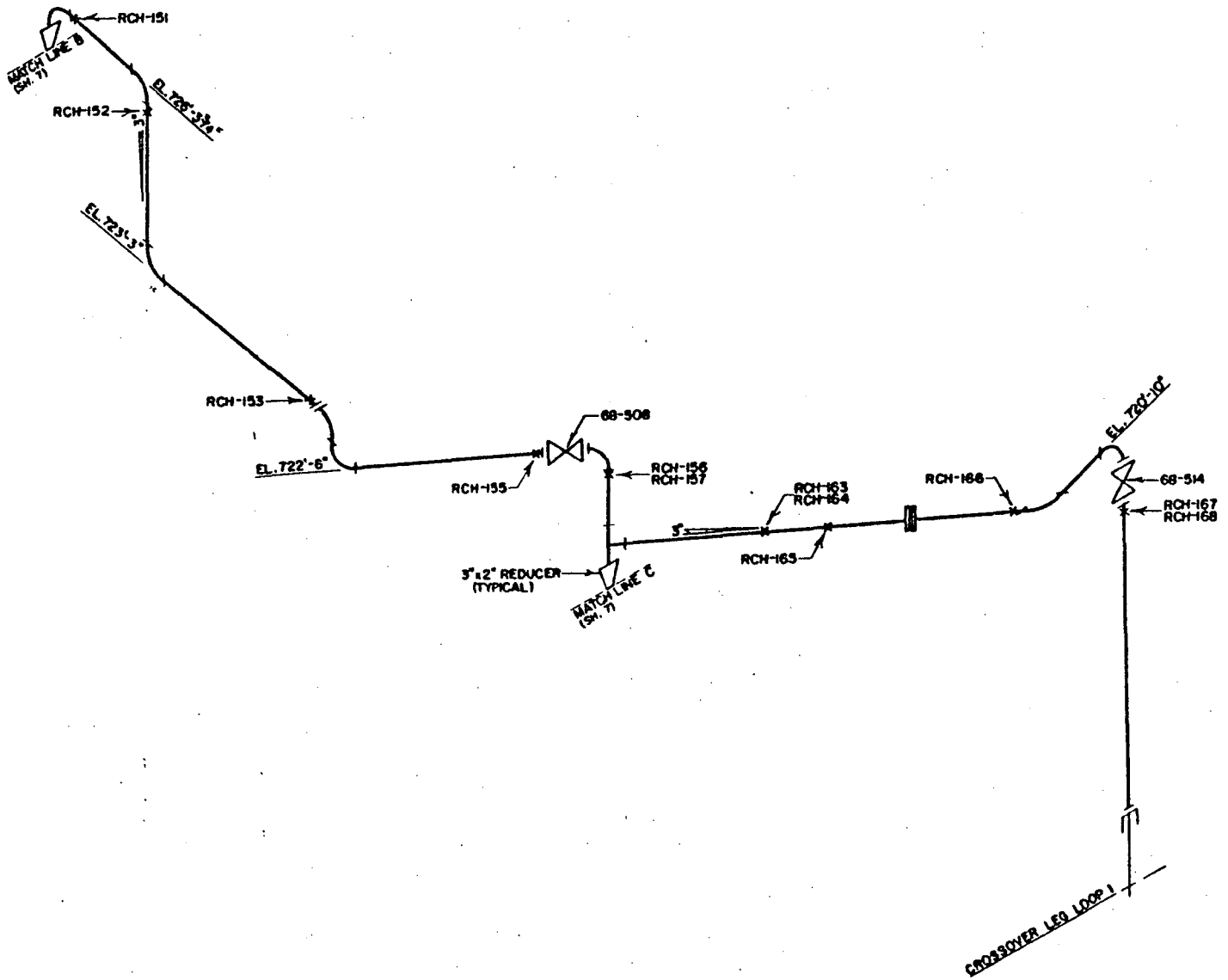
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

SCALE NTS. | DRAWN | DATE 8-20-81 | 47W465-206-1 R0

REFERENCE DRAWINGS
47W465-204
CLASS I



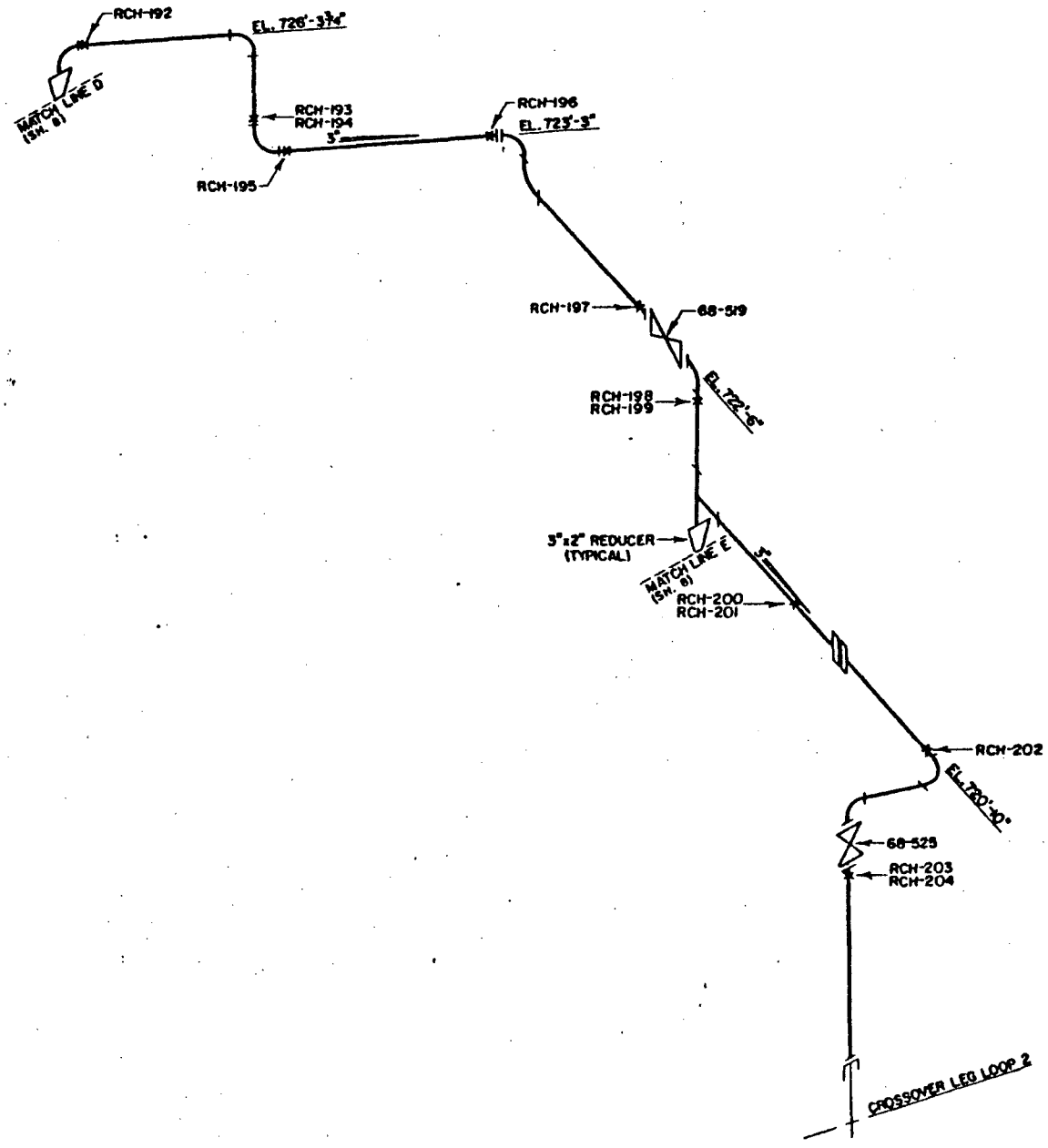
NO.	DATE	REVISIONS	CK'D	APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

NTS | 9-20-81 | 1-11 | 151-0010-C | R0

REFERENCE DRAWINGS
47W465-209
CLASS I



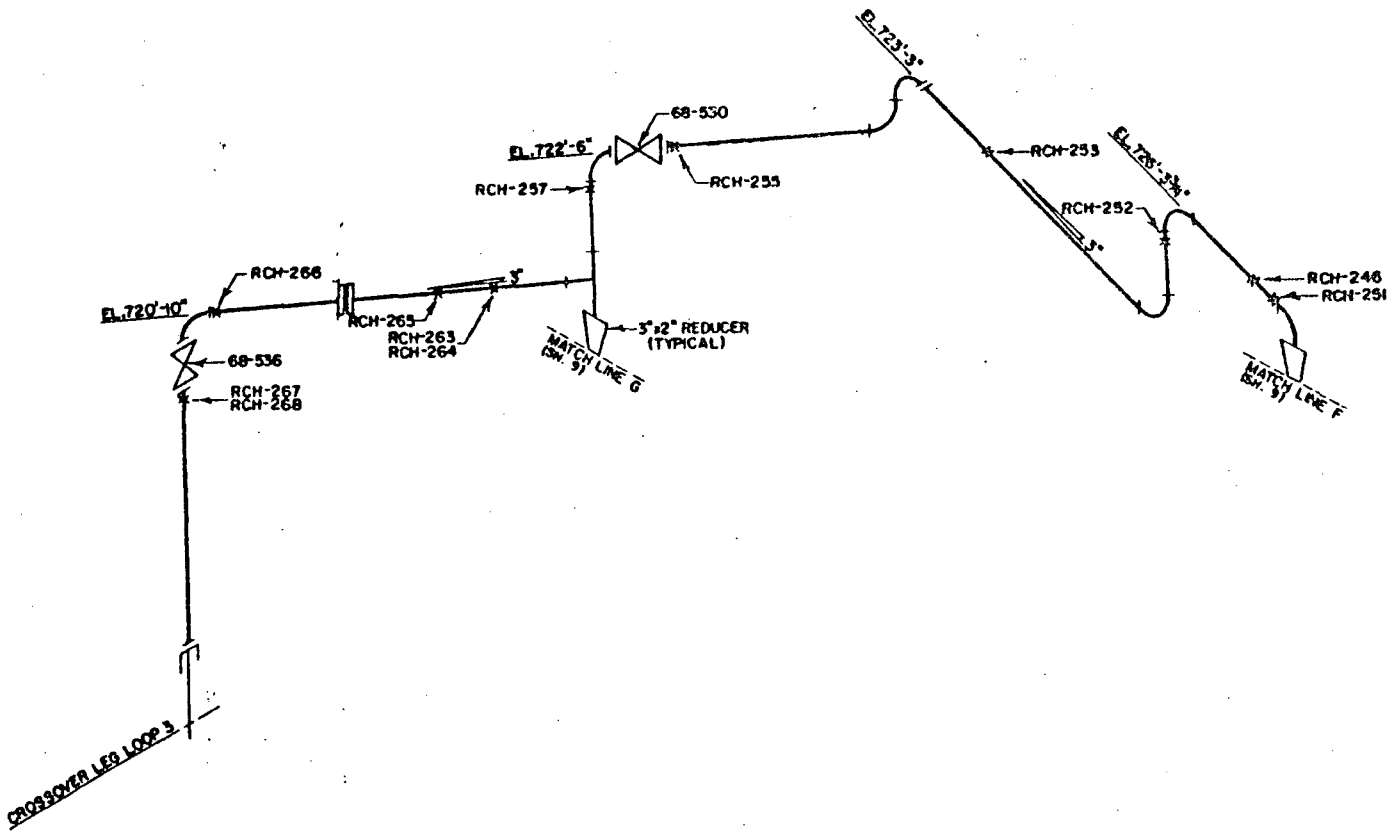
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

NTS | 4-21-81 | 1SI-0010-C | R0

REFERENCE DRAWINGS
47W465-203
CLASS I



NO.	DATE	REVISIONS	CK'D/APP

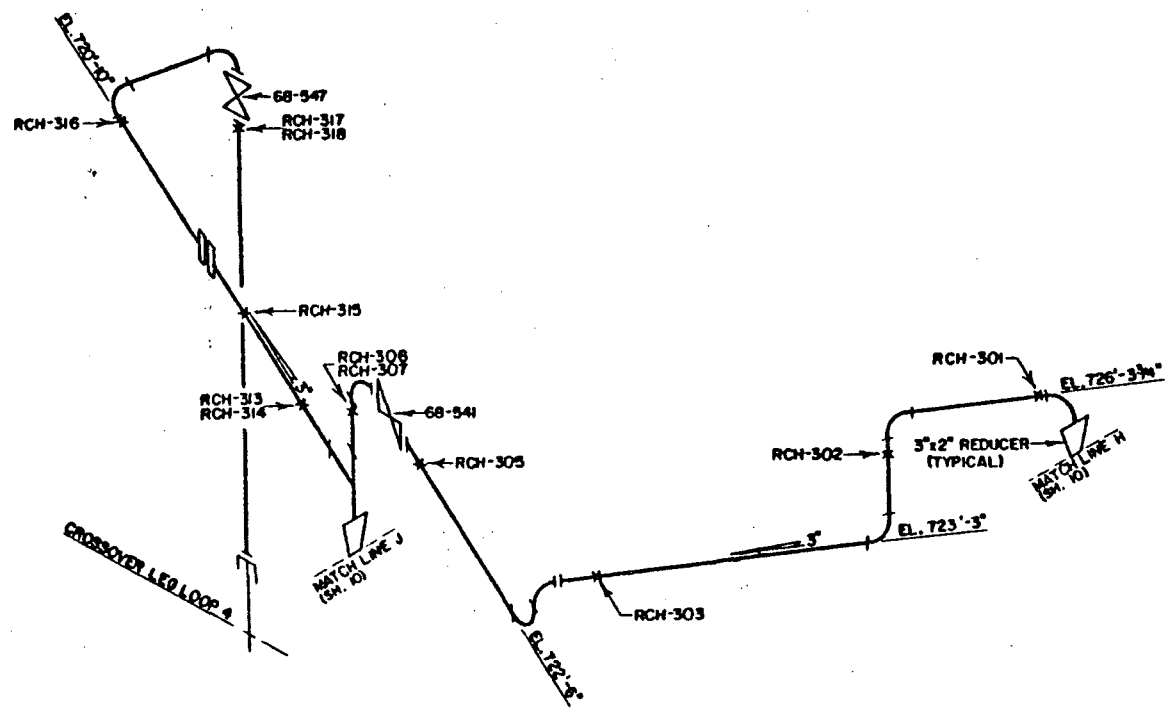
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

MTS | 6-21-81 | SI-0010-C R0

WBNP
TI-50A
Appendix A
Page 108 of 362
Revision 12

REFERENCE DRAWINGS
47W465-205
CLASS I



NO.	DATE	REVISIONS	CK'D	APP

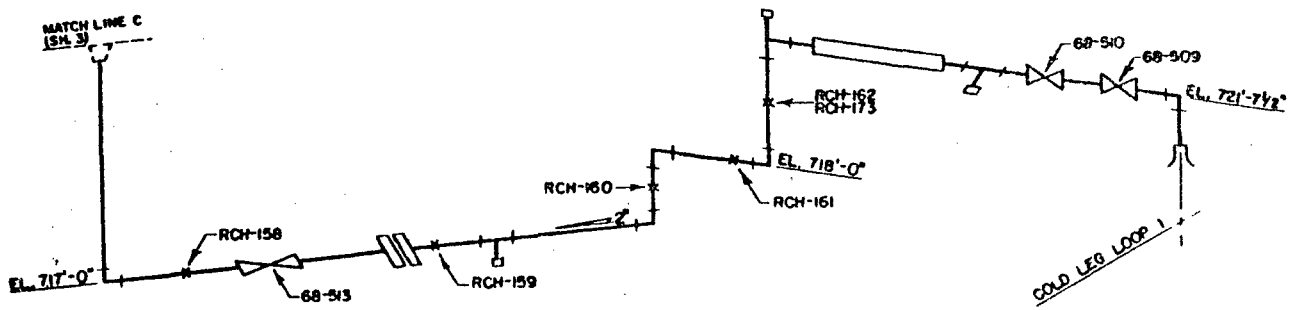
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

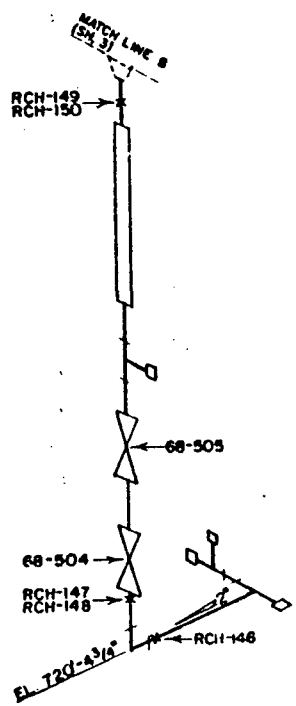
WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

NTS | 6-21-81 | 151-0010-C R0

WBNP
TI-50A
Appendix A
Page 109 of 362
Revision 12

REFERENCE DRAWINGS
47W465-204
CLASS I





NO.	DATE	REVISIONS	CK'D	APP

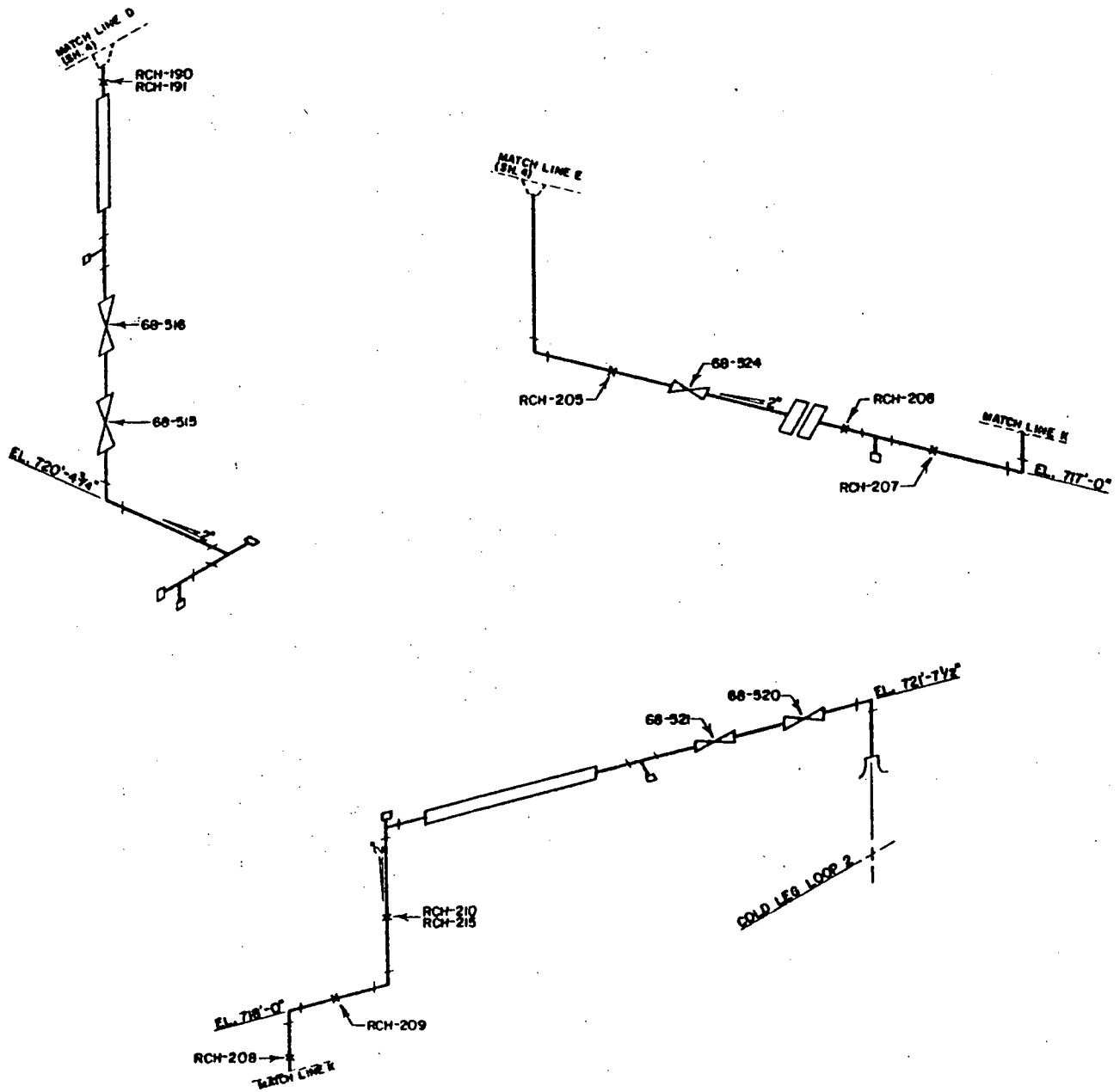
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

DRAWN 5-13 | SUBMITTED | APPROVED | DATE 6-30-83 | SCALE | SHEETS 1 OF 1 | ISI-0010-C

WBNP
TI-50A
Appendix A
Page 110 of 362
Revision 12

REFERENCE DRAWINGS
47W465-209
CLASS I



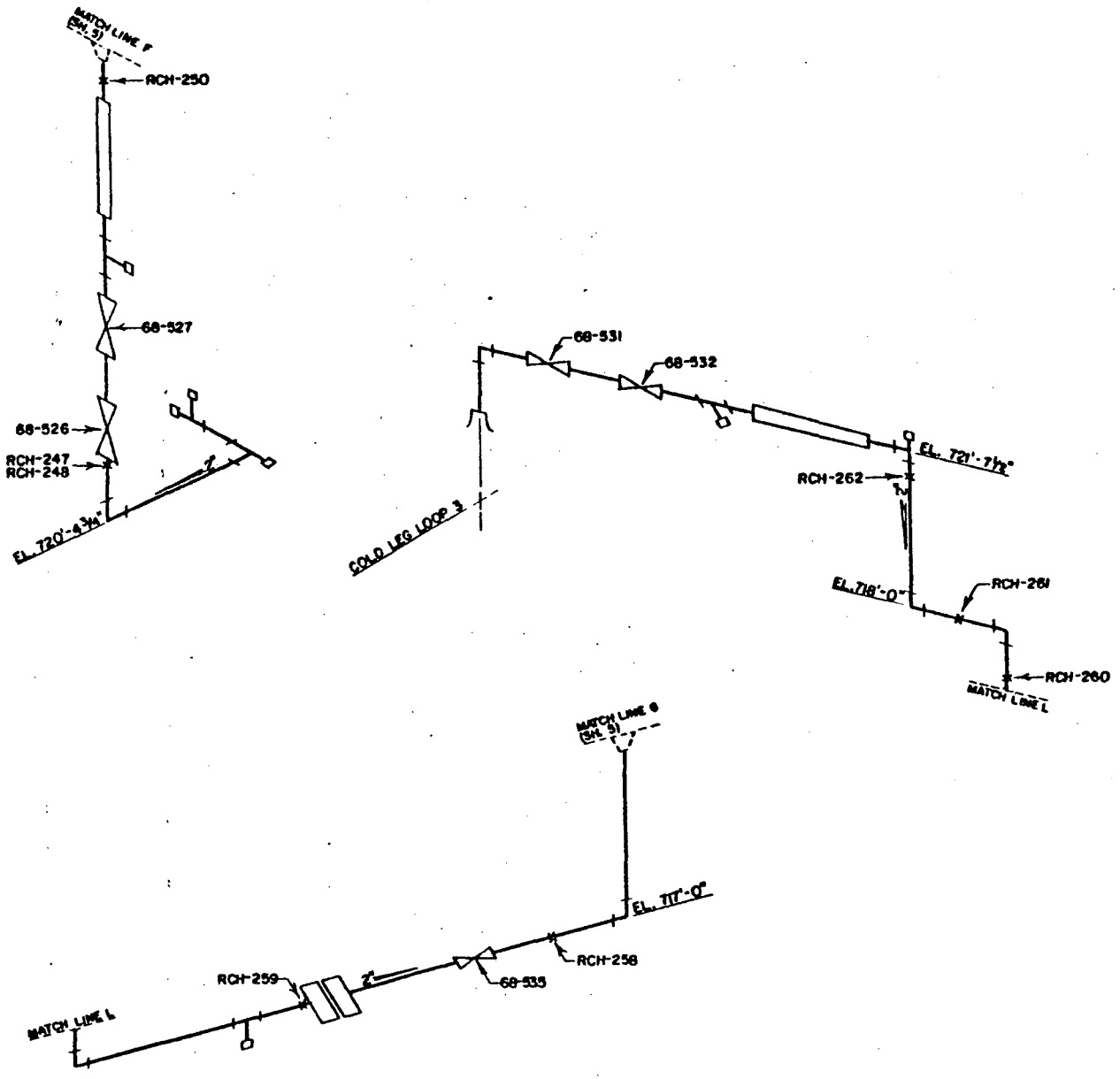
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

DRAWN BDS | DATE 6-30-83
DESIGNED TAP | SCALE NONE
SI-0010-C | Ro

REFERENCE DRAWINGS
47W465-203
CLASS I



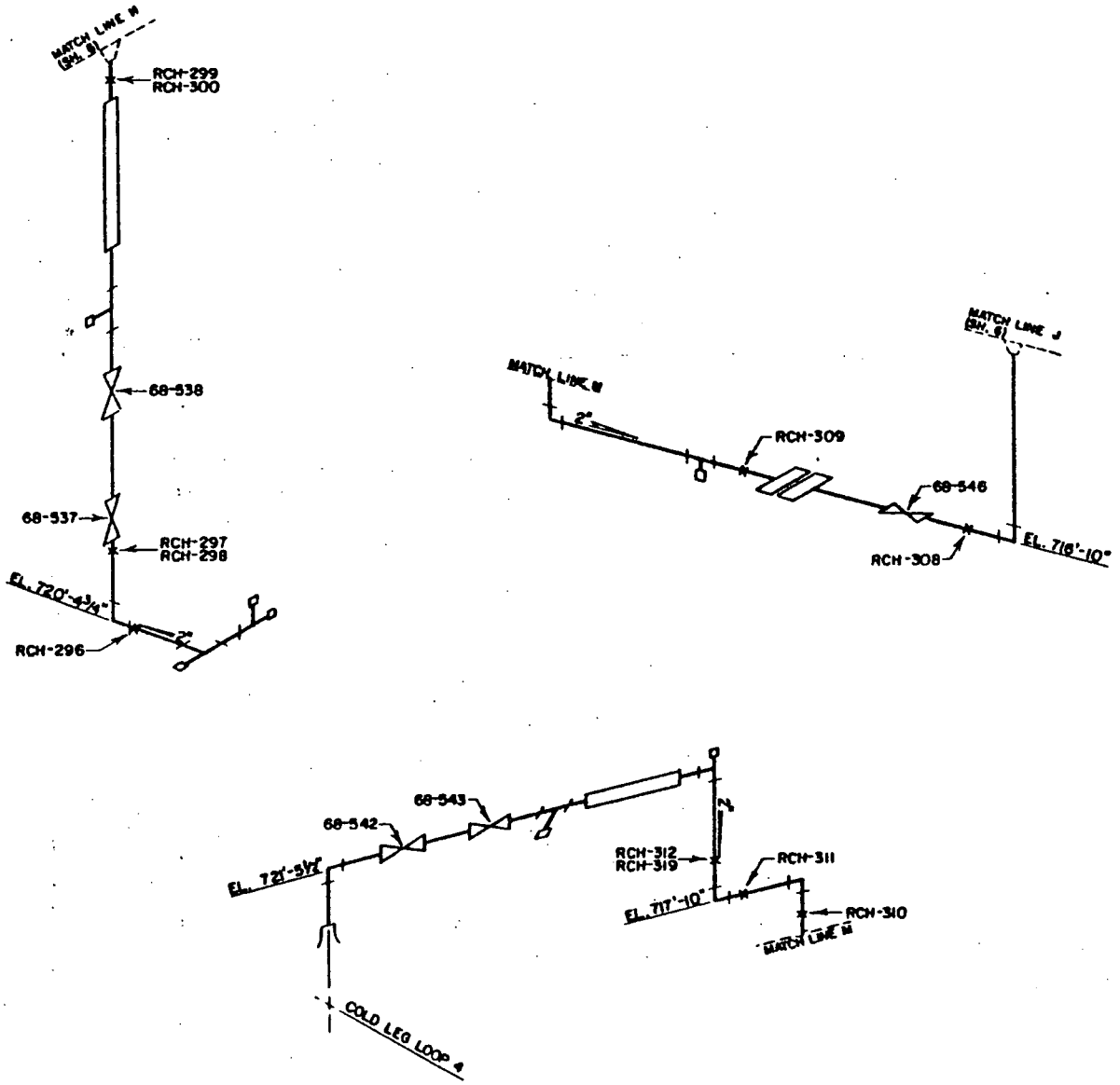
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

ISI-0010-C

REFERENCE DRAWINGS
47W465-205
CLASS I



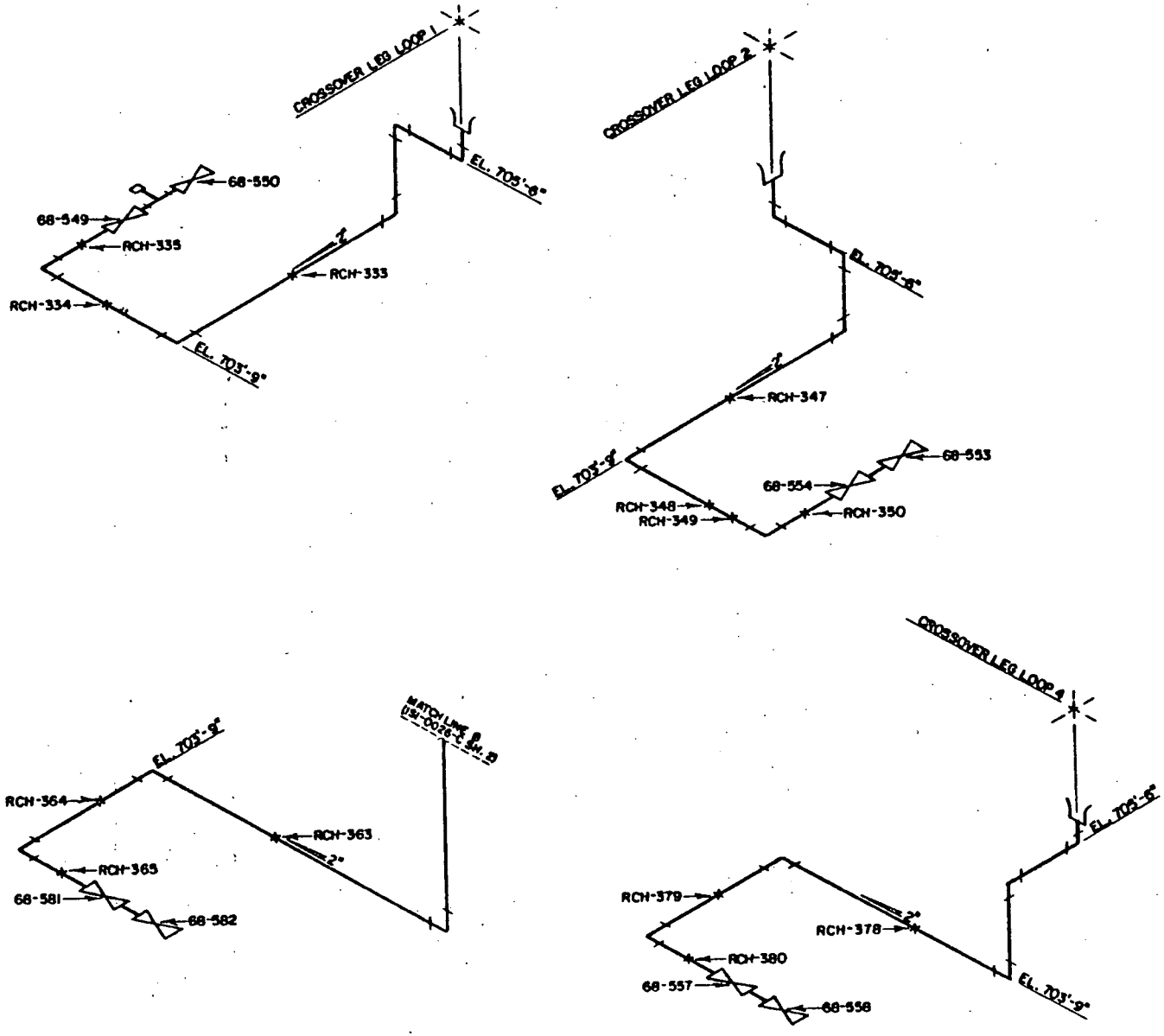
NO.	DATE	REVISIONS	CK'D	APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

DRAWN MTS. DATE 7-1-83
SCALE NONE SHEET 1 OF 1 SHEETS
ISI-0010-C R0

REFERENCE DRAWINGS
47W406-328
47W465-202
47W465-207
47W465-219
CLASS I



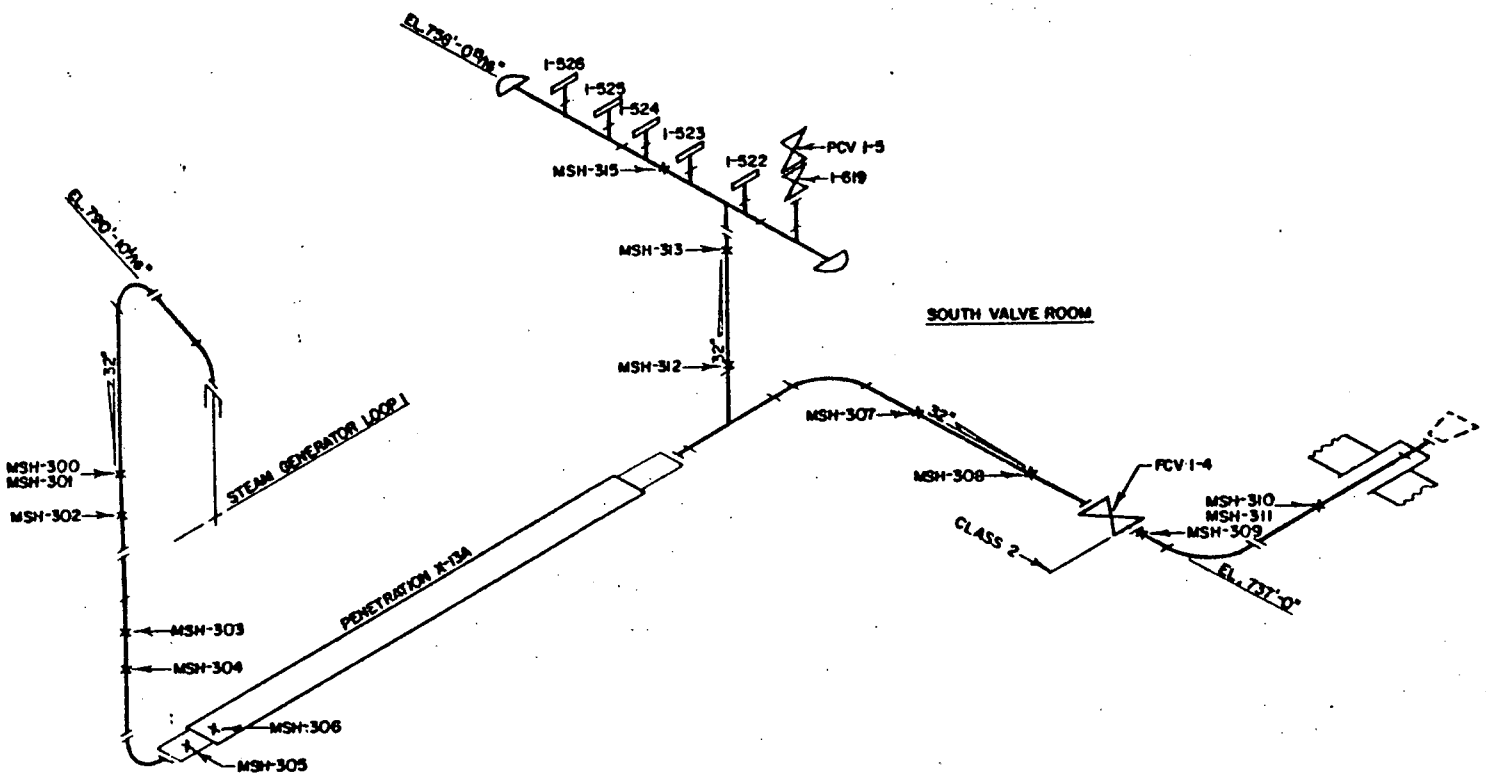
NO.	DATE	REVISIONS	CK'D	APPR
1	1-20-84	CORRECT REFERENCE DRAWINGS #V	XL	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
REACTOR COOLANT SYSTEM
HANGER LOCATIONS

ISI-0010-C R1

REFERENCE DRAWINGS
47W400-213
CLASS 2



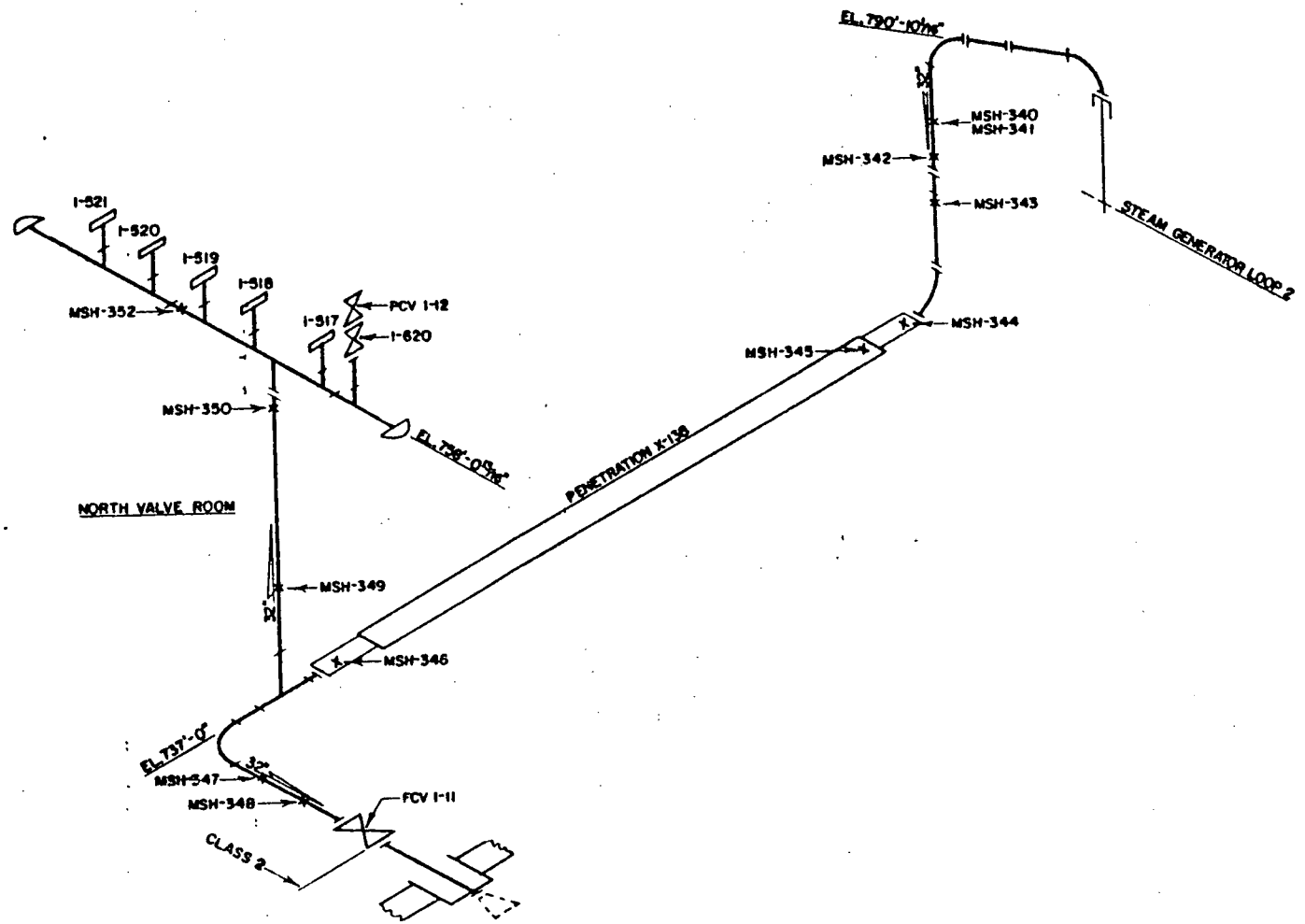
NO.	DATE	REVISIONS	CK'D	APP
1	1-20-84	CORRECT REFERENCE DRAWING #IV	XG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
HANGER LOCATIONS

NTS | KAY | HJB | 8-21-81 | 1 of 1 | 1SI-0011-C | A1

REFERENCE DRAWINGS
47W400-214
CLASS 2



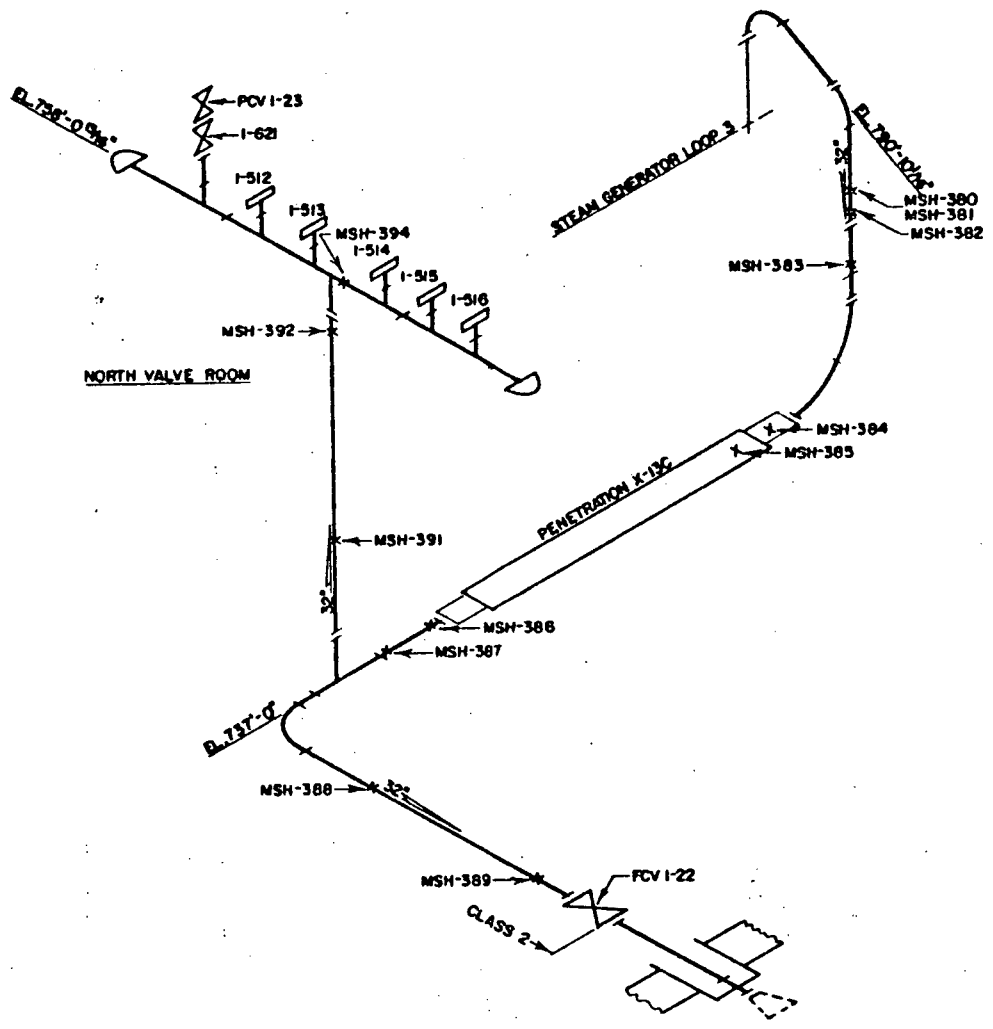
NO.	DATE	REVISIONS	CK'D	APP.
1	1-20-84	CORRECT REFERENCE DRAWING REV	XG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
HANGER LOCATIONS

NTS | REV | 6-24-81 | ISI-0011-C | R1

REFERENCE DRAWINGS
47W400-215
CLASS 2



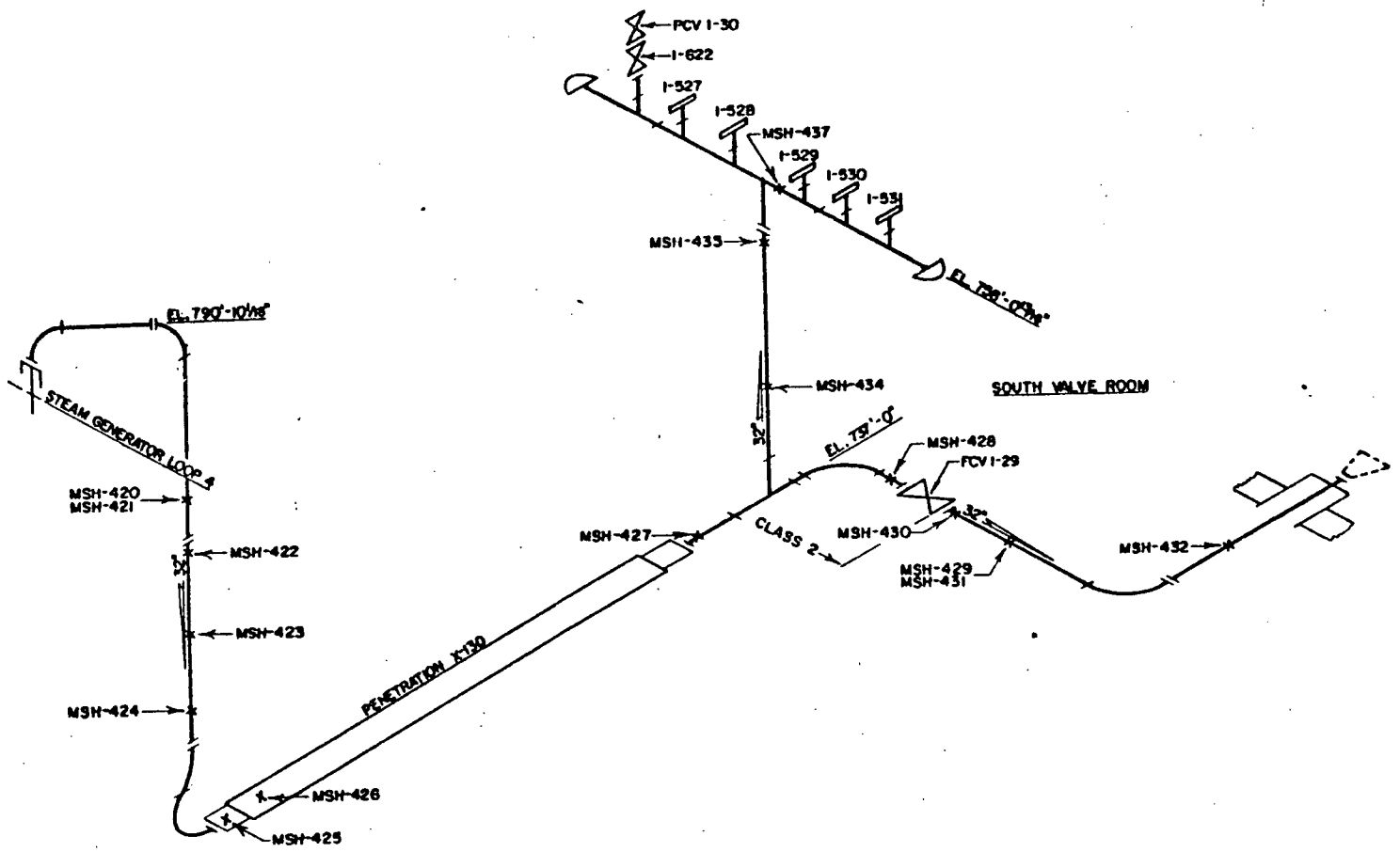
NO.	DATE	REVISIONS	CK	APP
1	1-20-84	CORRECT REFERENCE DRAWING NO	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
HANGER LOCATIONS

ISI-0011-C

REFERENCE DRAWINGS
47W400-216
CLASS 2



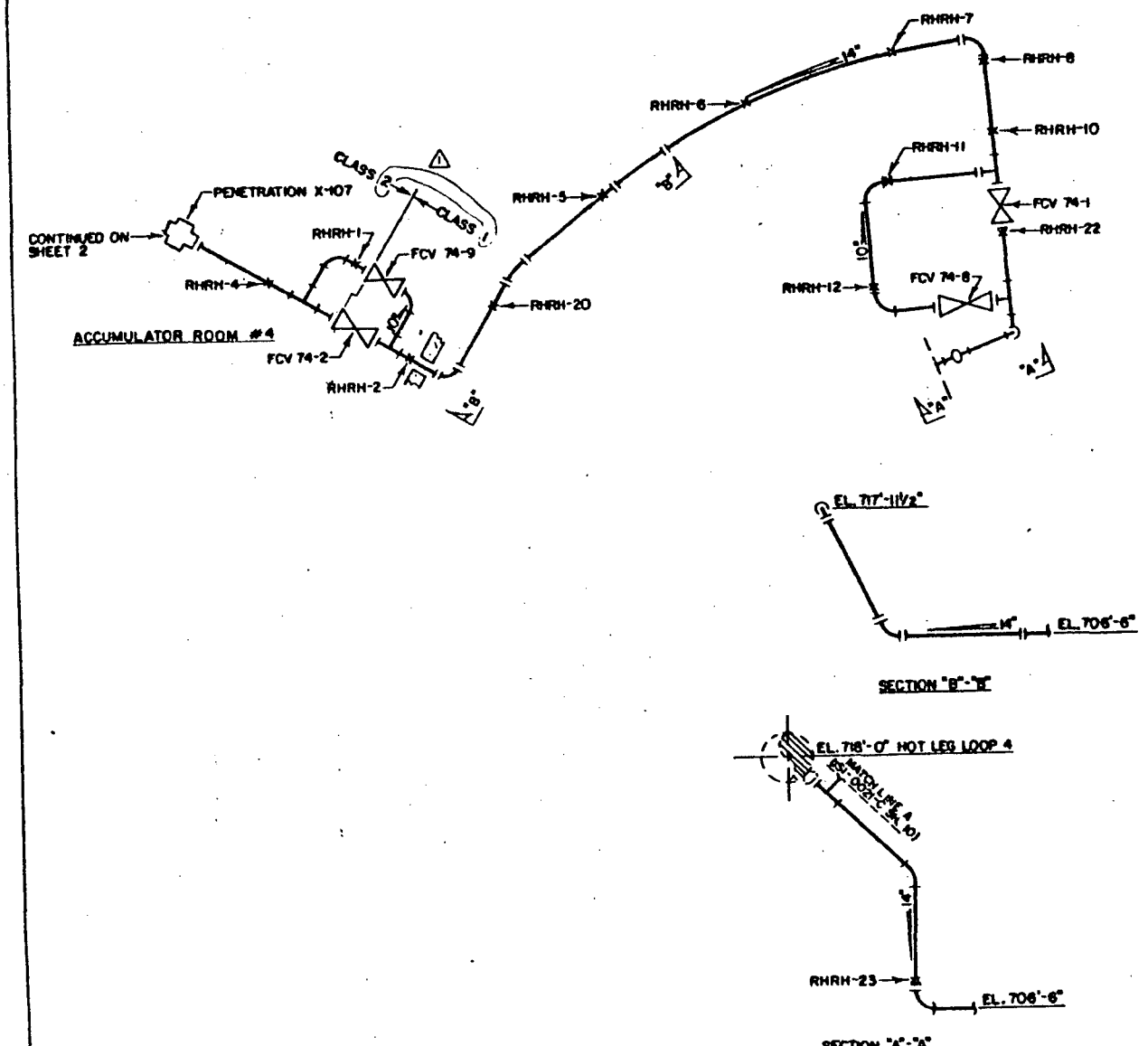
NO.	DATE	REVISIONS	CK'D	APP'D
1	1-20-84	CORRECT REFERENCE DRAWING KEY	JCC	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
HANGER LOCATIONS

SCALE NTS
DRAWN KEY
DATE 8-24-81
SI-0011-C

REFERENCE DRAWINGS
47W432-215
CLASS 1 & 2



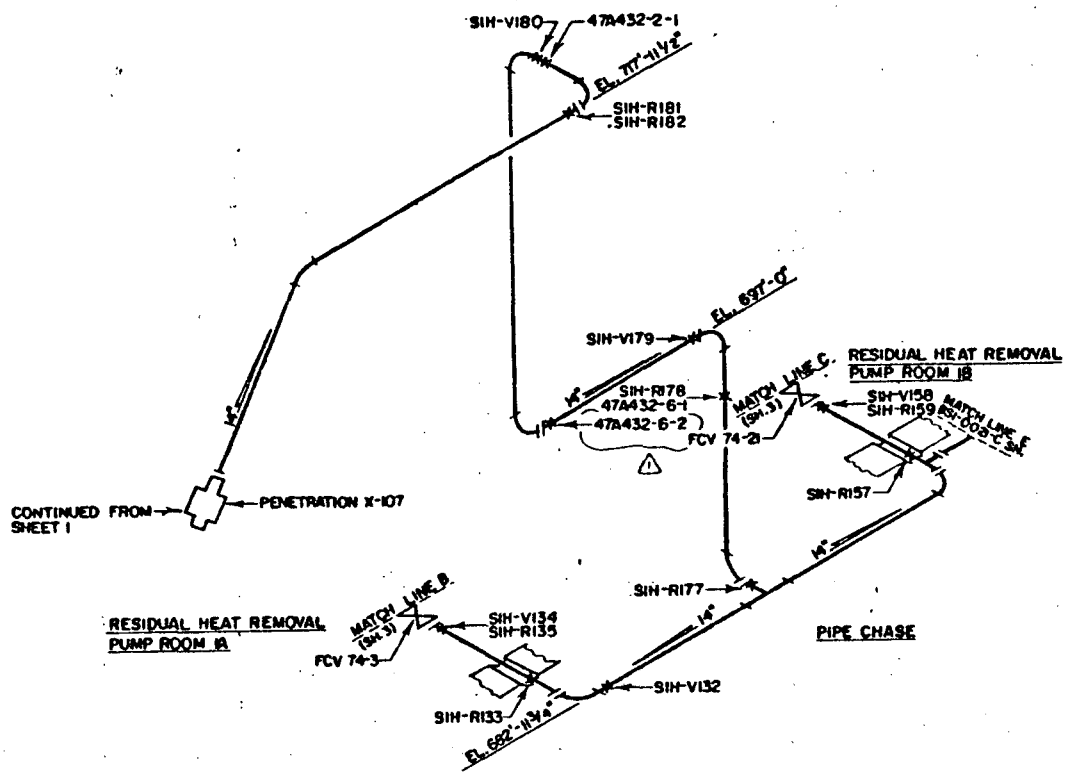
NO.	DATE	REVISIONS	CK'D	APP
1	1-20-84	CORRECT CLASS DESIGNATIONS AND REFERENCE DRAWINGS	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS

DRAWN N.S. | DATE 8-11-81 | 1SI-0020-C R1

REFERENCE DRAWINGS
47W435-206
CLASS 2



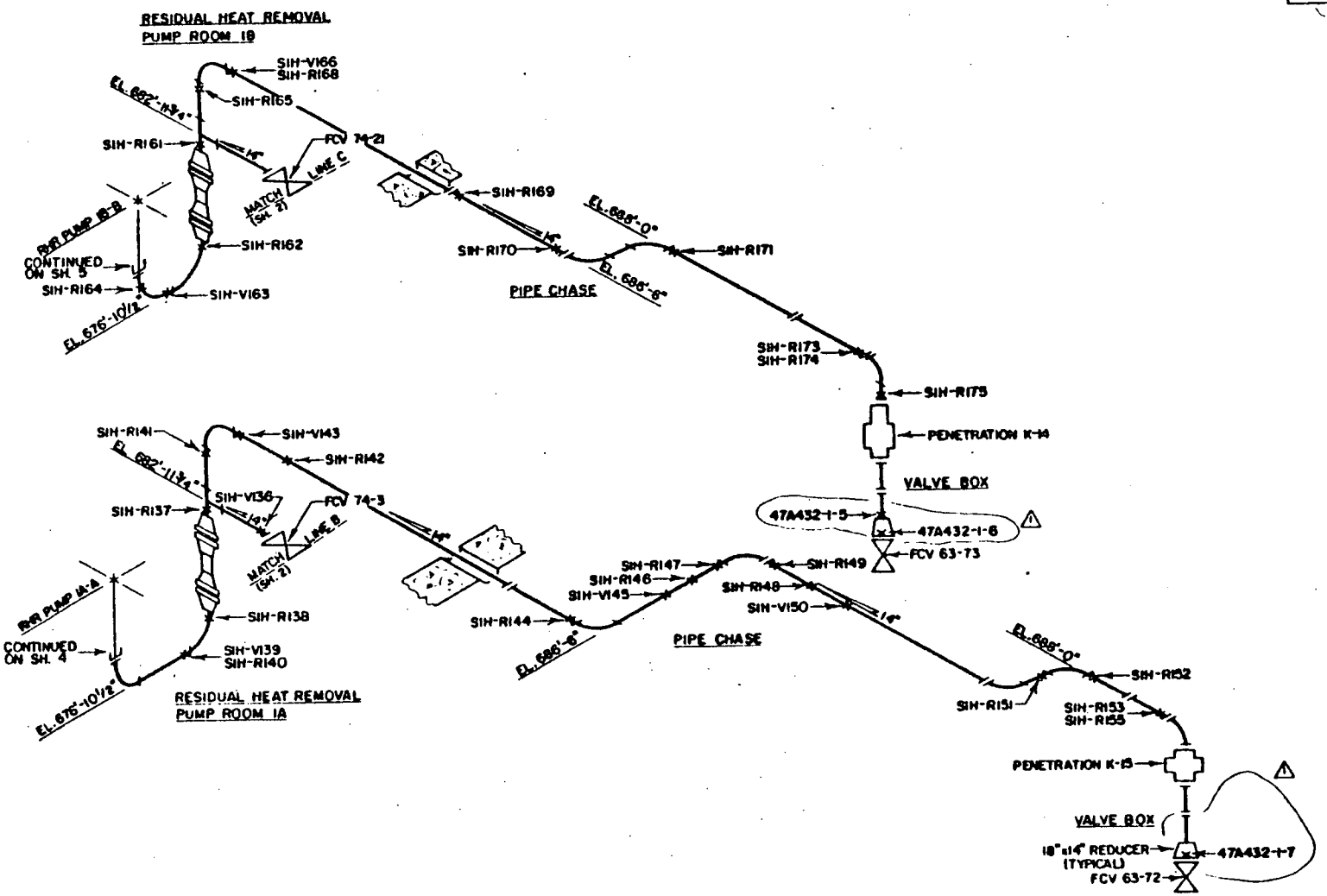
NO.	DATE	REVISIONS	CK'D	APP'D
1	2-3-84	CORRECT HANGER NUMBER AND DELETE REFERENCE DRAWING KEY	JCG	[illegible]

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS

SCALE: NTS
DATE: 8-12-81
ISI-0020-C R1

REFERENCE DRAWINGS
47W435-206
CLASS 2



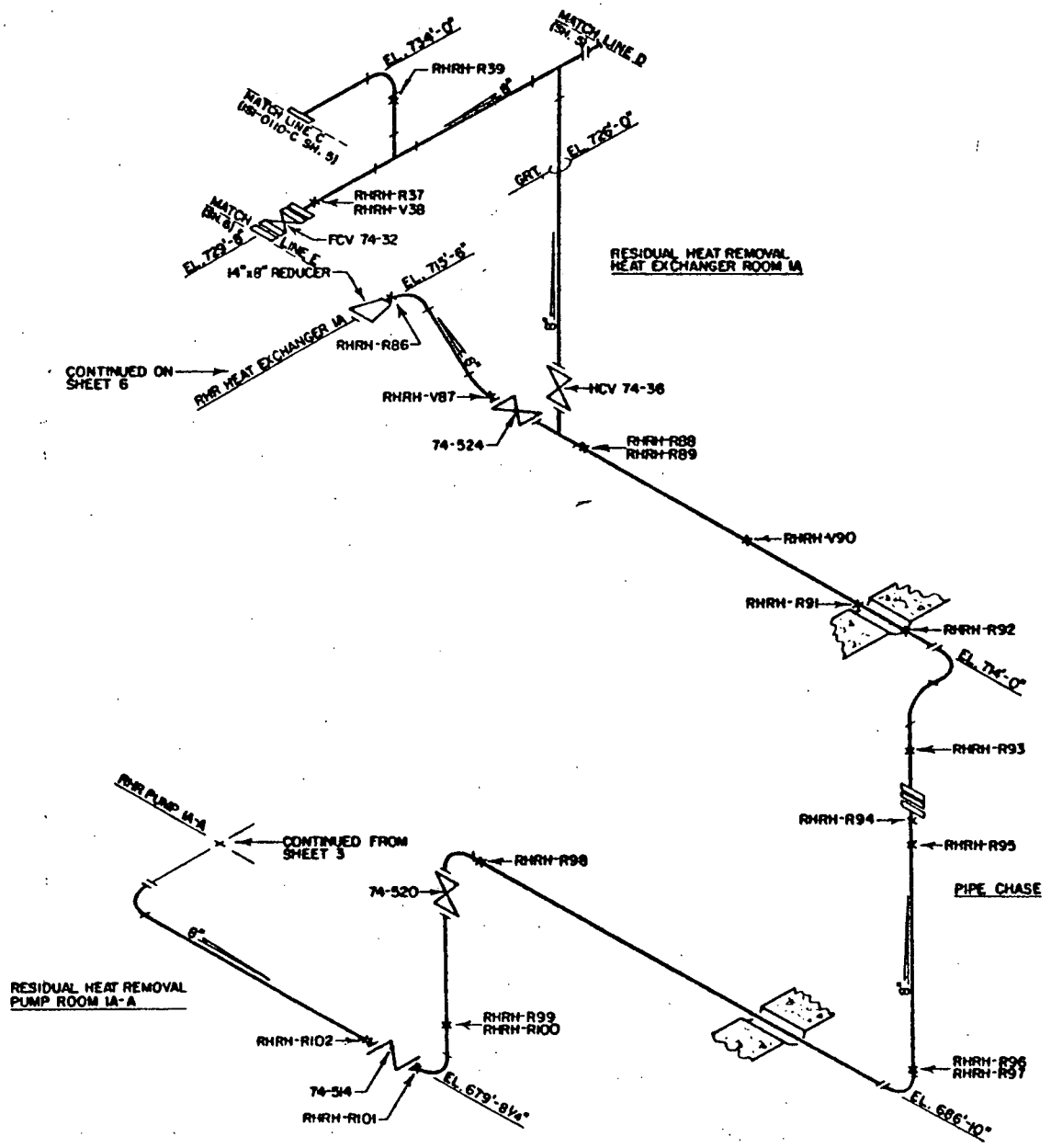
NO.	DATE	REVISIONS	CK'D	APP
1	1-20-89	CORRECT REFERENCE DRAWING AND HANGER NO AND DELETED HANGERS	SCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS

DRAWN NLS | DATE 8-12-81 | SCALE 3/8" | ISI-0020-C | R1

REFERENCE DRAWINGS
47W432-200 △1
47W432-201
CLASS 2



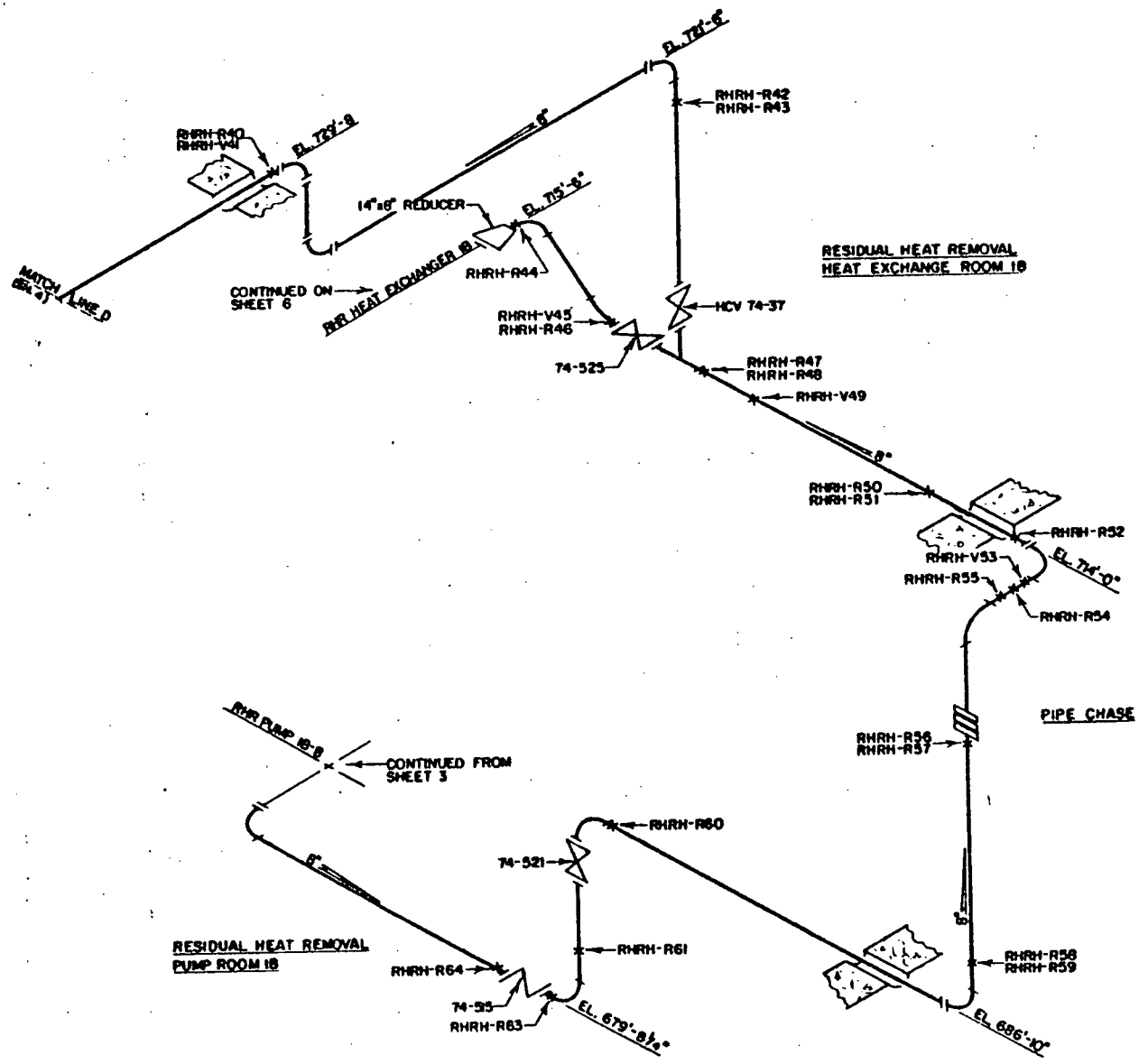
NO.	DATE	REVISIONS	CK	DR	APP
1	1-20-84	CORRECT REFERENCE DRAWINGS REV	XG		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS

SCALE NTS. | DATE 8-12-81 | SHEET 1 OF 8 SHEETS | 1SI-0020-C R1

REFERENCE DRAWINGS
OHM-2636-C
47W432-201
CLASS 2



NO.	DATE	REVISIONS	CK	APP

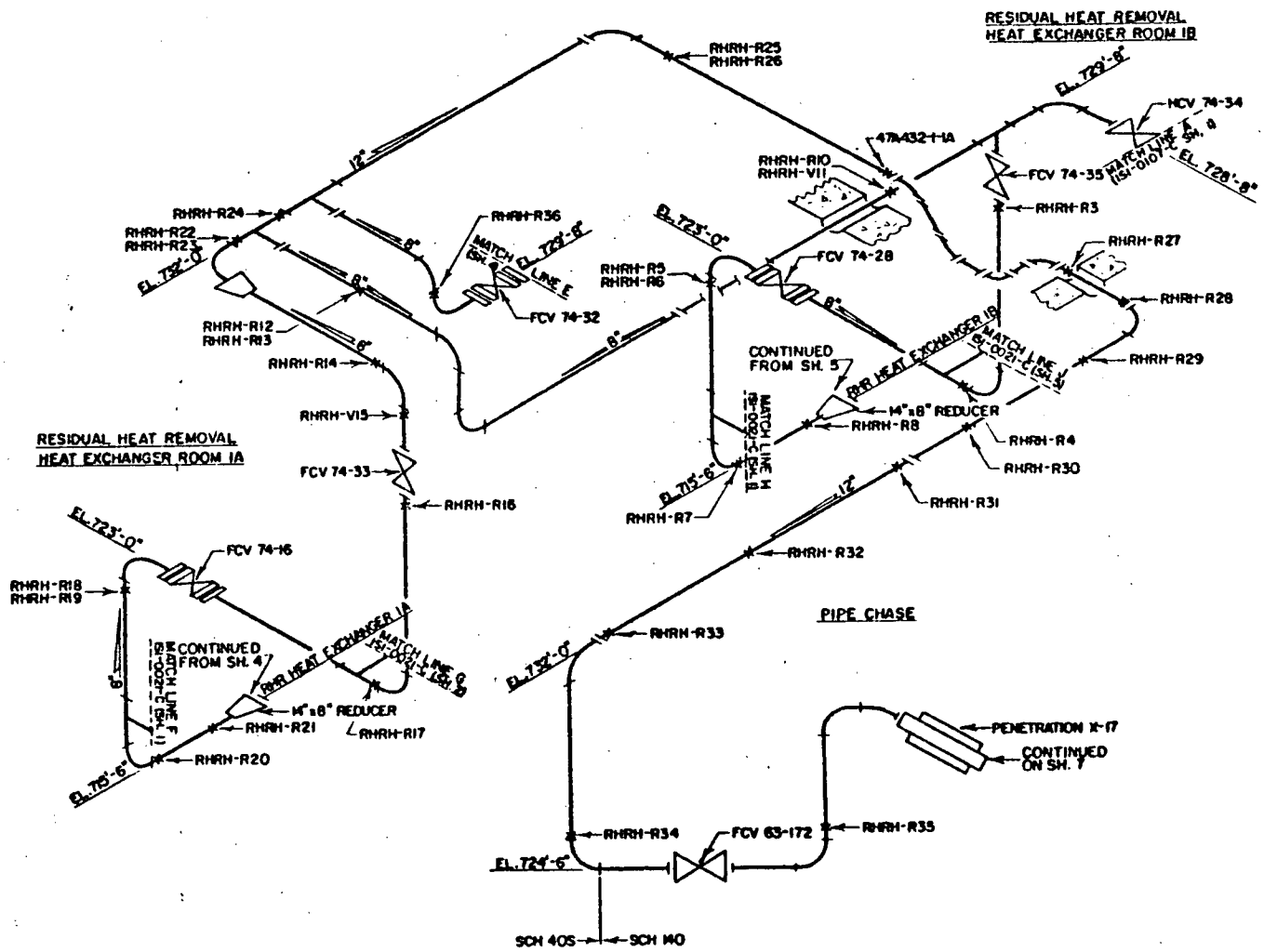
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS

DRAWN N/A
DESIGNED
REVIEWED REC
DATE 8-12-81
SCALE
SHEET 1 OF 1 SHEETS
15F-0020-C
R0

WBNP
TI-50A
Appendix A
Page 123 of 362
Revision 12

REFERENCE DRAWINGS
CHM-2636-C
47W432-200
CLASS 2



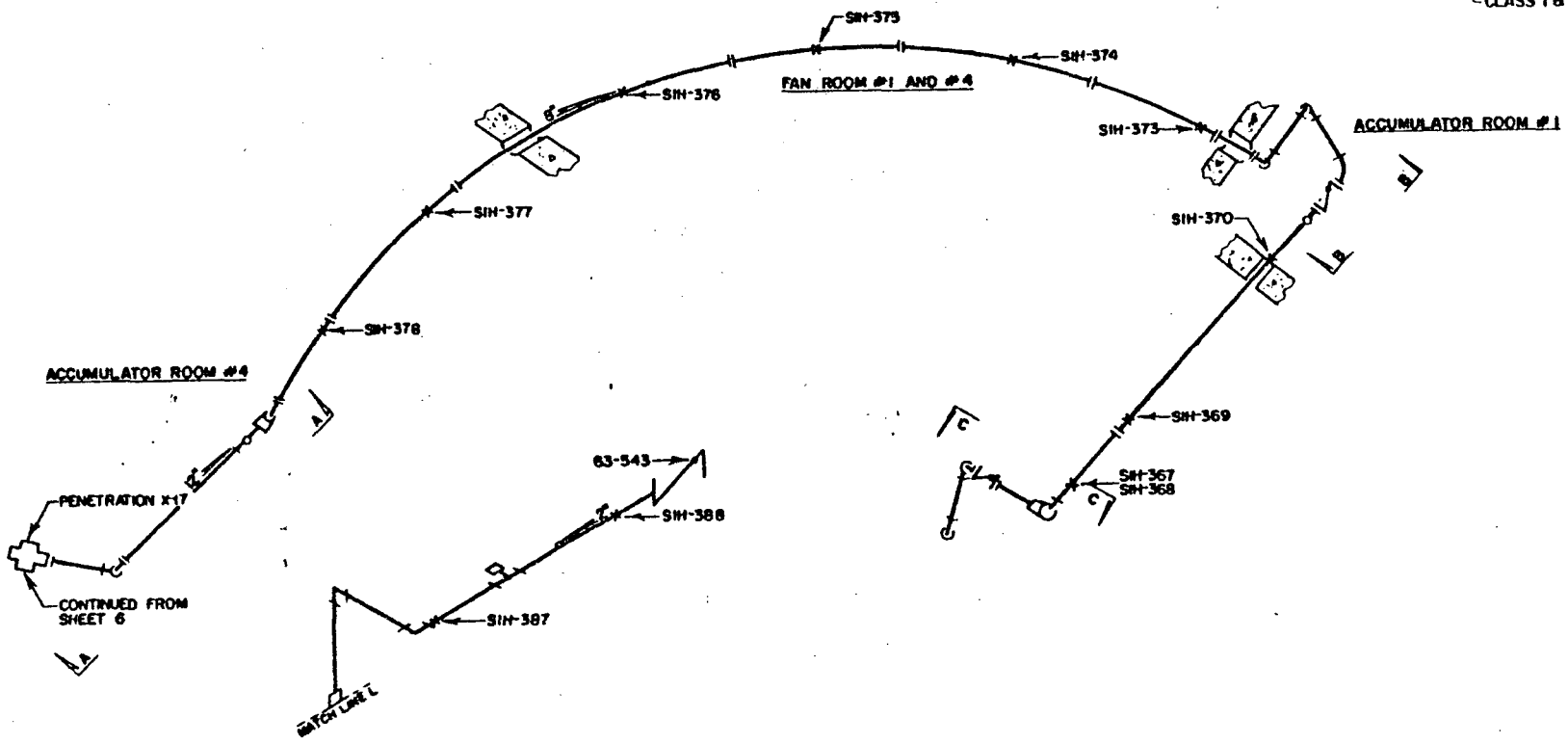
NO.	DATE	REVISIONS	CK'D	APP

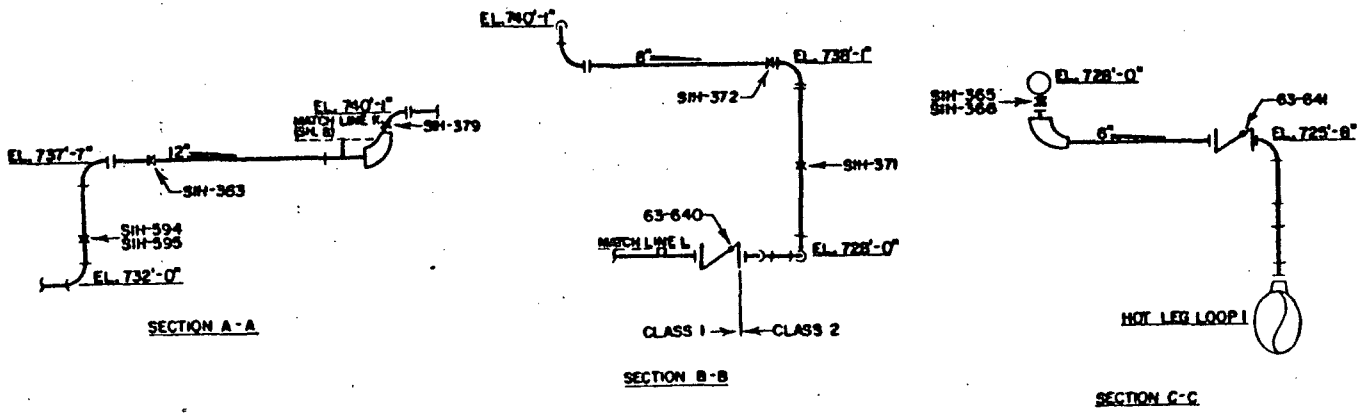
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS

ISI-0020-C
R0

REFERENCE DRAWINGS
47W435-228
CLASS 1 & 2





SECTION A-A

SECTION B-B

SECTION C-C

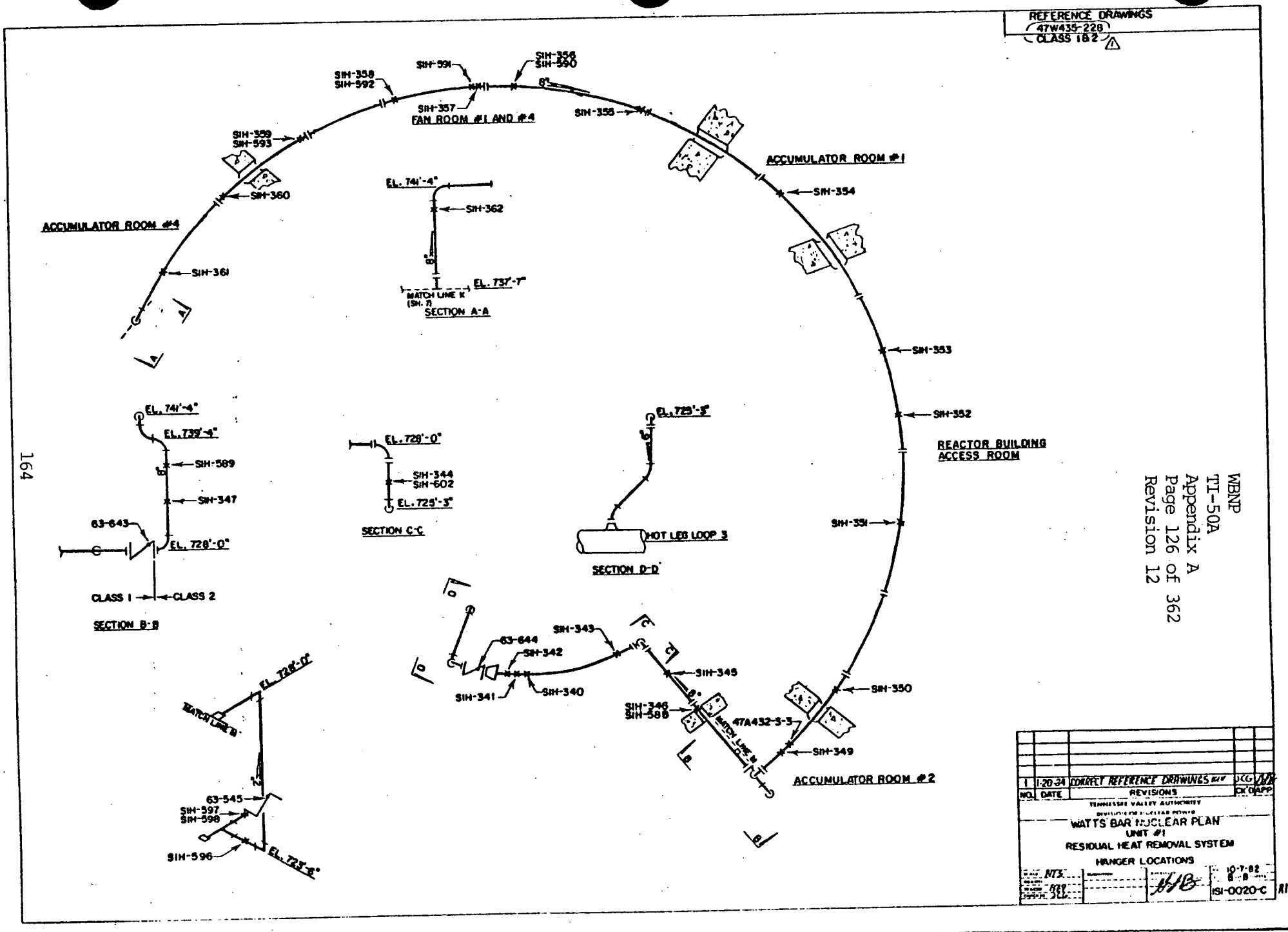
NO.	DATE	REVISIONS	CK'D/APP.
1	1-20-94	CORRECT REFERENCE DRAWINGS REV	SCG

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

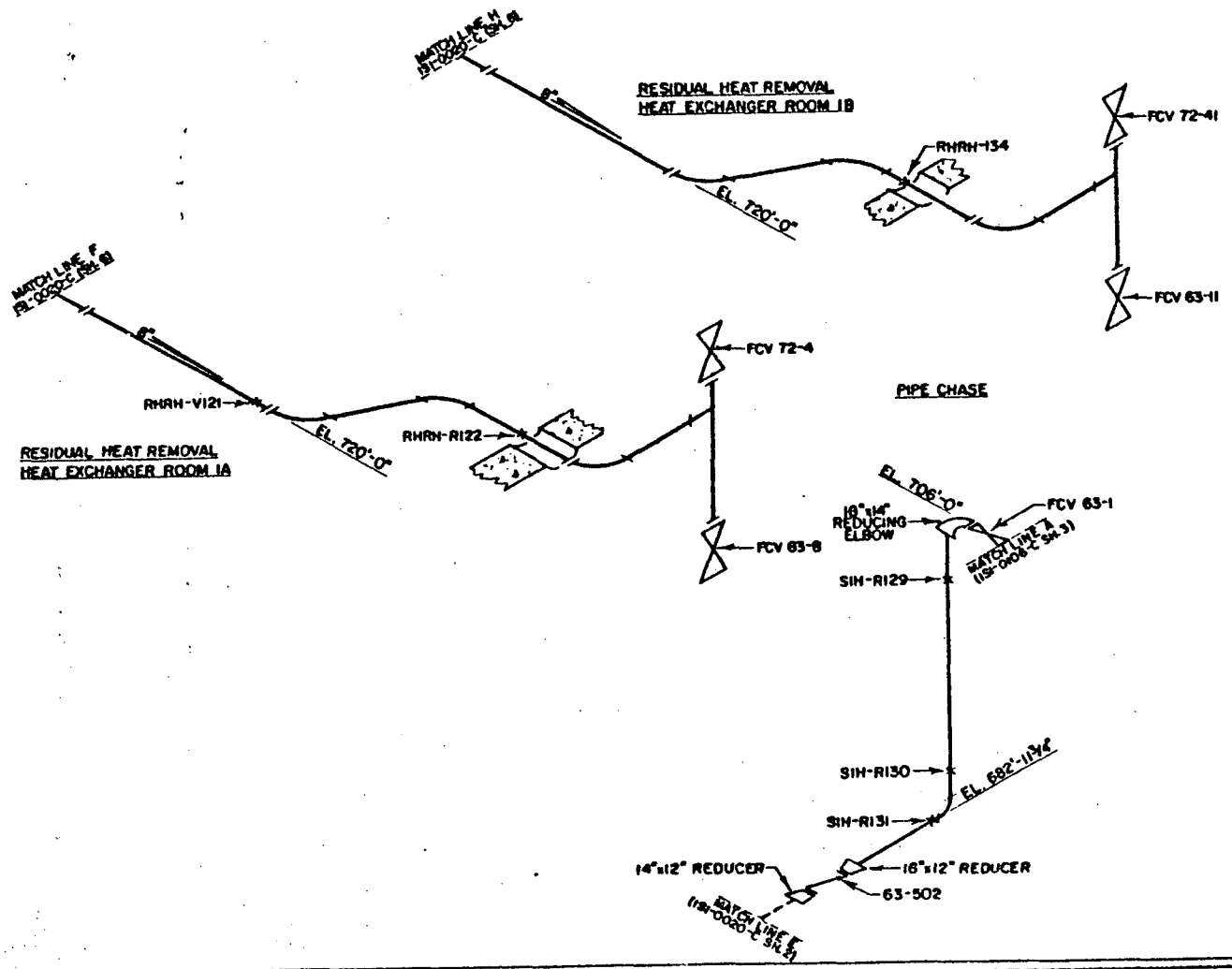
WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS

DRAWN NCS
DESIGNED REV
CHECKED SCG

9-27-82
1:8
SI-0020-C R1


REFERENCE DRAWINGS
47W435-228
CLASS 1&2
SIH-358
SIH-592
SIH-591
SIH-356
SIH-590
SIH-357
FAN ROOM #1 AND #4
SIH-355
ACCUMULATOR ROOM #1
SIH-359
SIH-593
SIH-360
ACCUMULATOR ROOM #4
SIH-361
SIH-354
EL. 741'-4"
SIH-362
EL. 737'-7"
MATCH LINE K (SH. 7)
SECTION A-A
SIH-353
SIH-352
REACTOR BUILDING ACCESS ROOM
SIH-351
EL. 741'-4"
EL. 739'-4"
SIH-589
SIH-347
63-643
EL. 728'-0"
CLASS 1
CLASS 2
SECTION B-B
EL. 728'-0"
SIH-344
SIH-602
EL. 725'-3"
SECTION C-C
EL. 725'-3"
HOT LEG LOOP 3
SECTION D-D
SIH-343
63-644
SIH-342
SIH-341
SIH-340
SIH-345
SIH-346
SIH-588
47A432-3-3
SIH-350
SIH-349
ACCUMULATOR ROOM #2
EL. 728'-0"
MATCH LINE B
63-545
SIH-597
SIH-598
SIH-596
EL. 725'-8"
1 1-20-84 CORRECT REFERENCE DRAWINGS
NO. DATE REVISIONS
TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS
NTS
10-7-82
ISI-0020-C
R1

REFERENCE DRAWING
47W432-300
47W435-207
CLASS 2



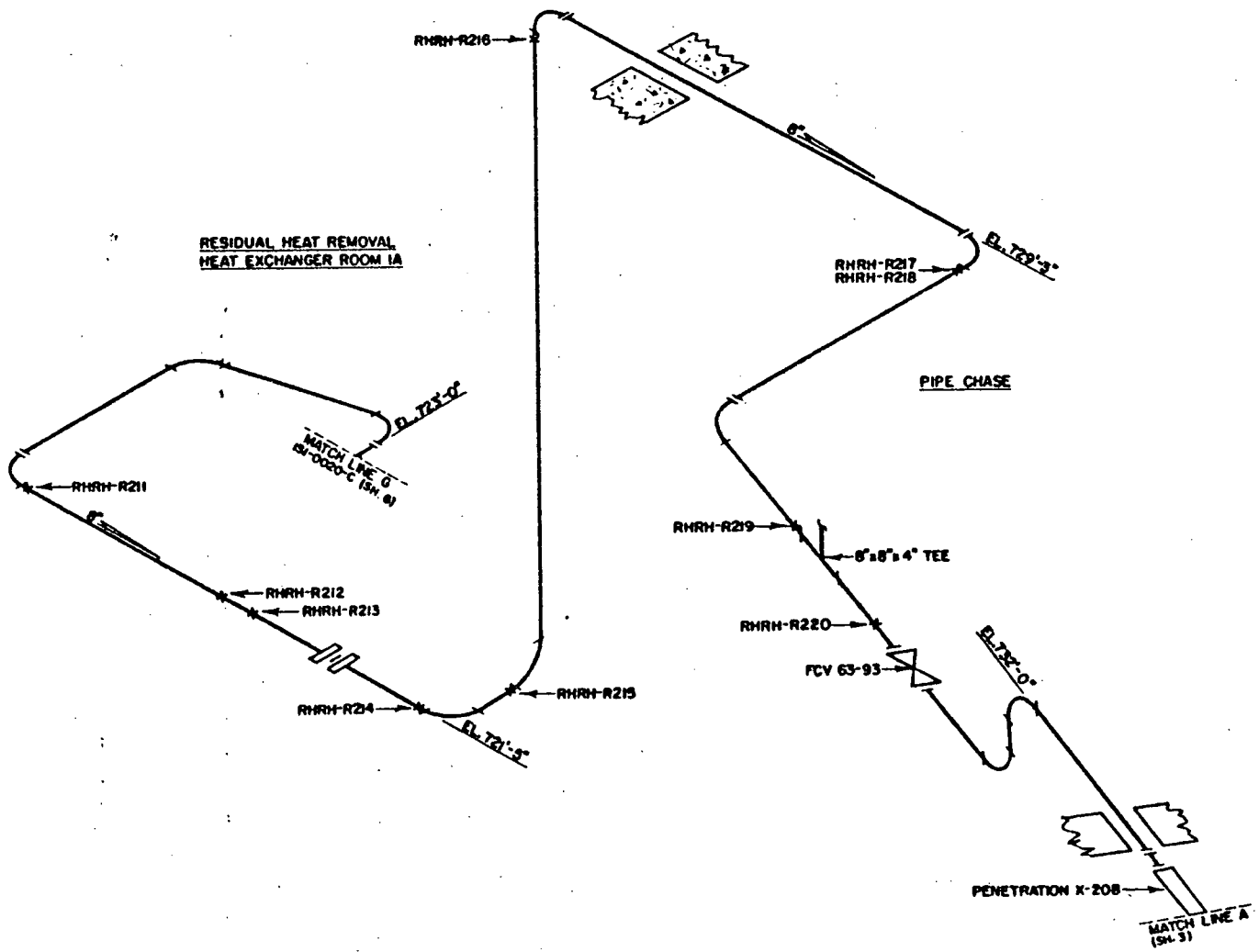
NO	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

DRAWN RTS
TRACED
CHECKED
DESIGNED NCO
APPROVED
DATE 8-18-81
SHEET OF
1SI-0021-C
R0

REFERENCE DRAWINGS
47W432-203
CHM-2758-C
CLASS 2



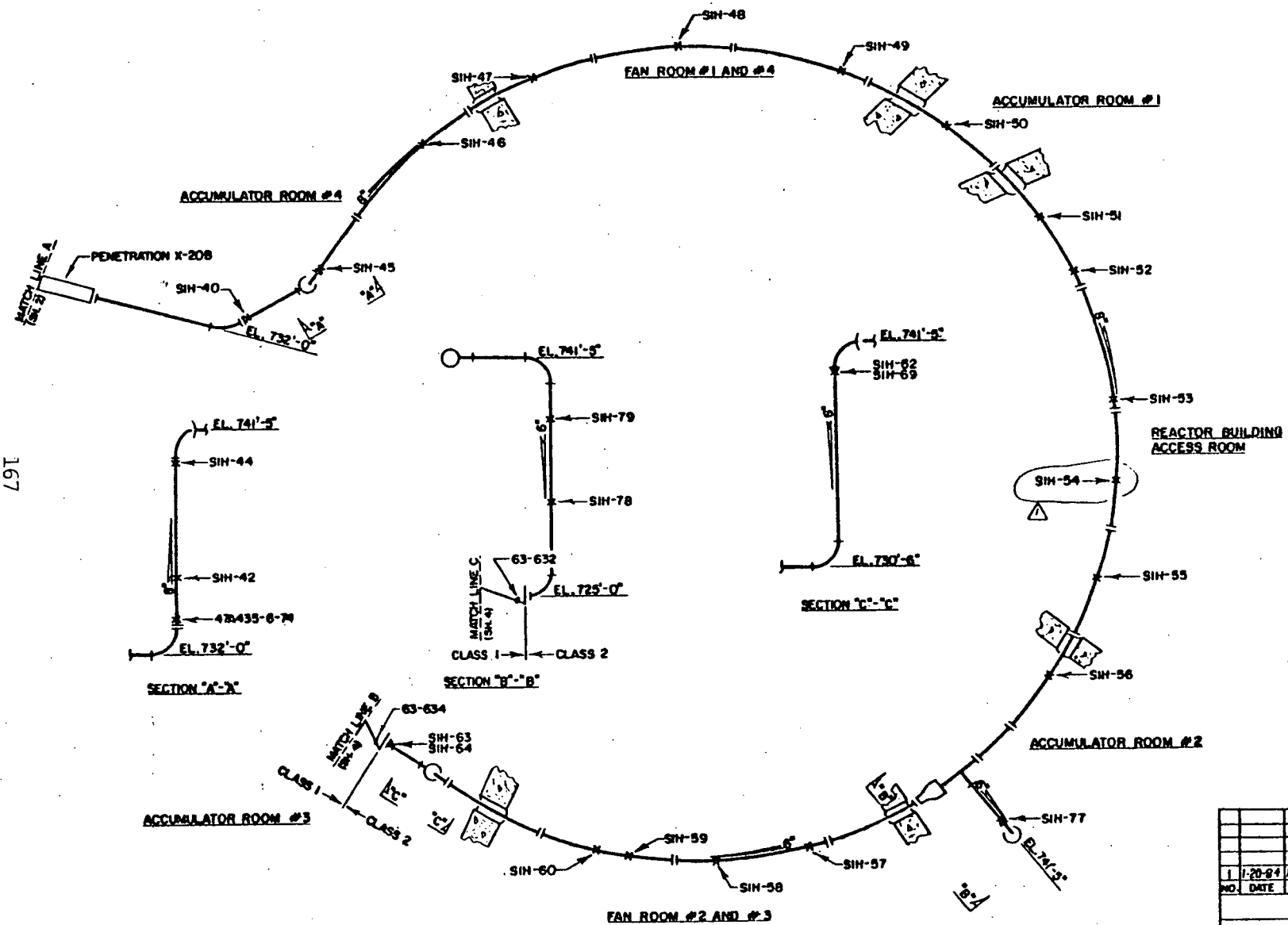
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

RTS | 6-18-81 | 2 13 | ISI-0021-C R0

REFERENCE DRAWINGS
47W435-220
CLASS 2

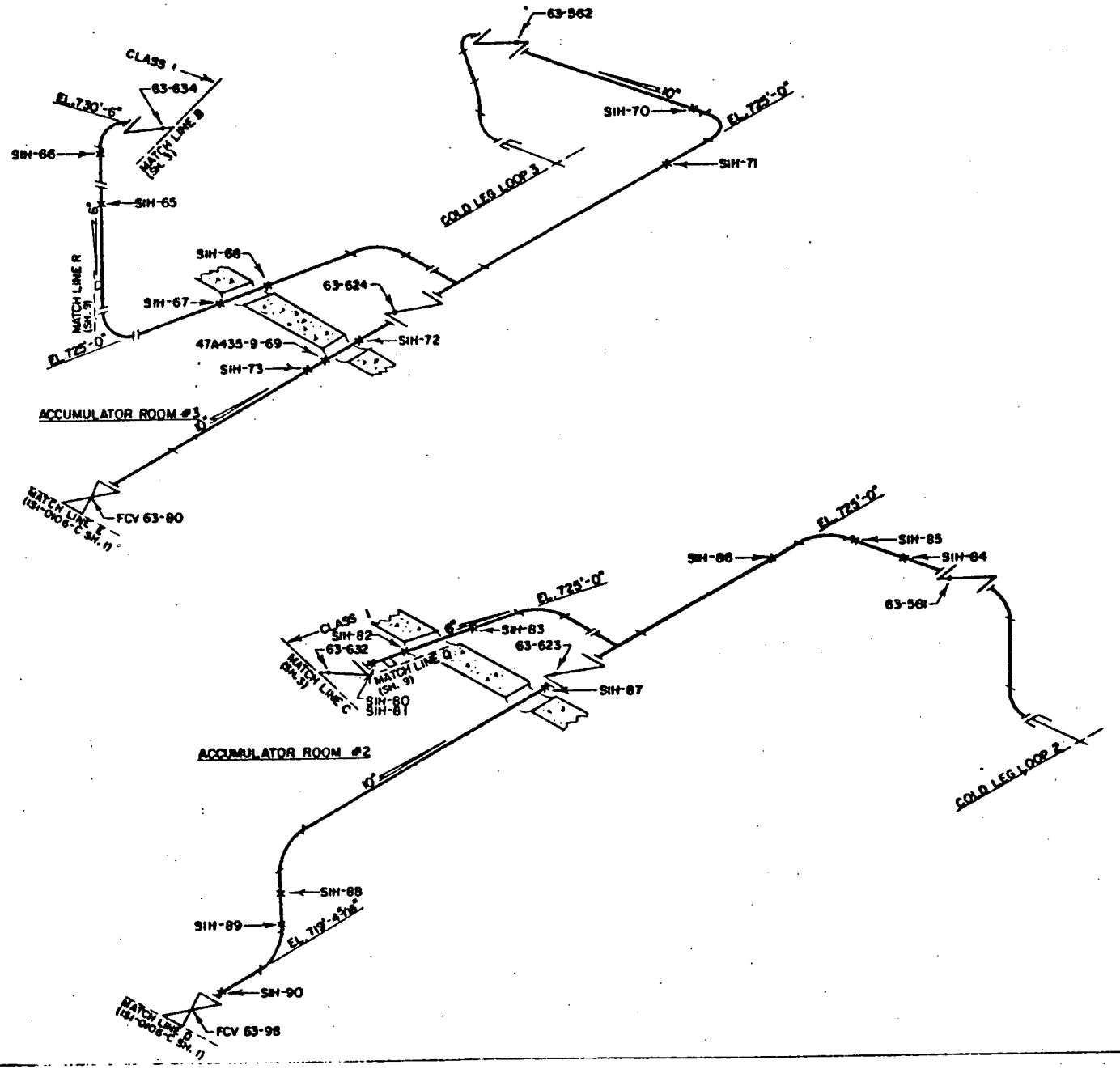


NO.	DATE	REVISIONS	CK'D	APP.
1	1-20-84	ROD HANGER SIH-54 REV	JCG	

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

NTS
REV JCG
1-18-81
1 of 1
1S1-0021-C R1

REFERENCE DRAWINGS
47W435-220
CLASS I



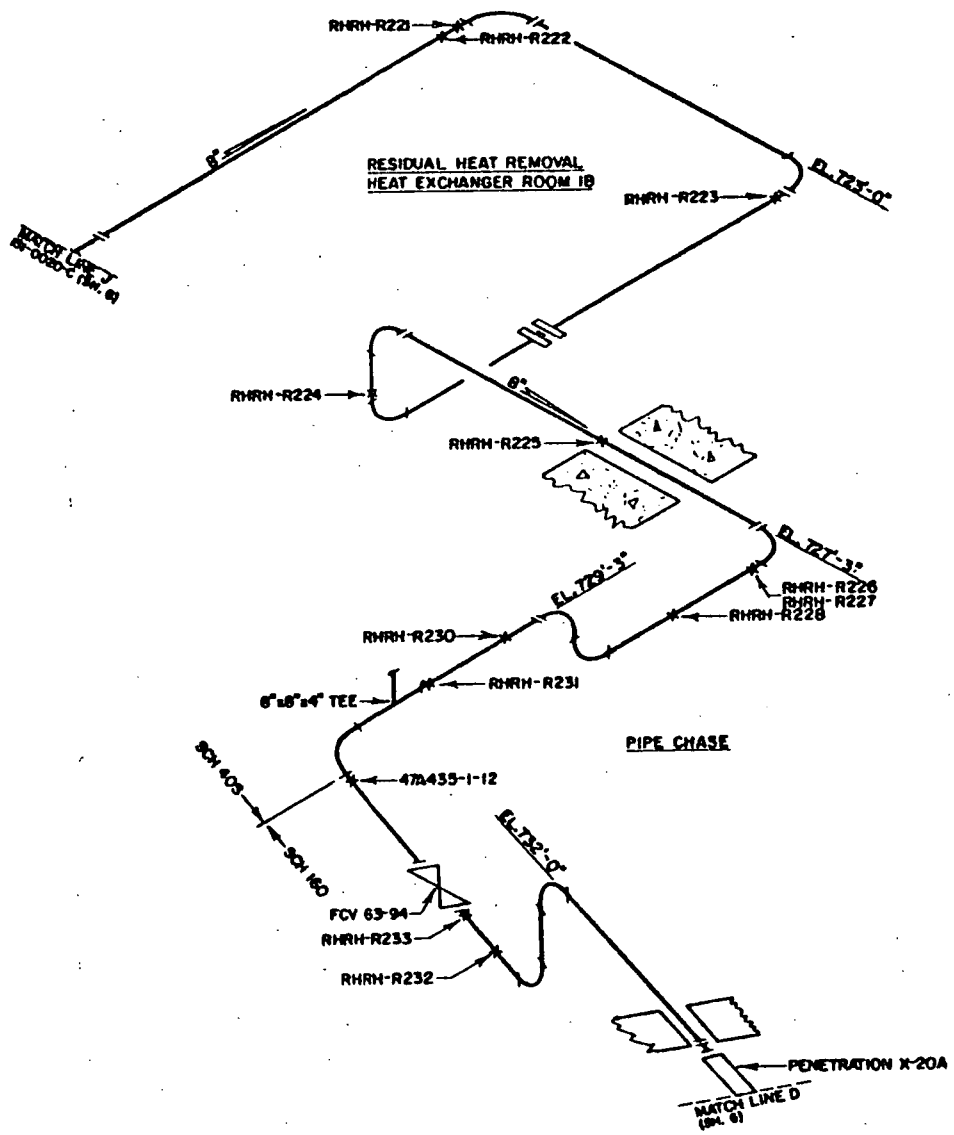
NO.	DATE	REVISIONS	CK'D	APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

DTS
DTY
8-10-81
SI-0021-C
R0

REFERENCE DRAWINGS
47W432-203
CHM-2758-C
CLASS 2



NO	DATE	REVISIONS	APR

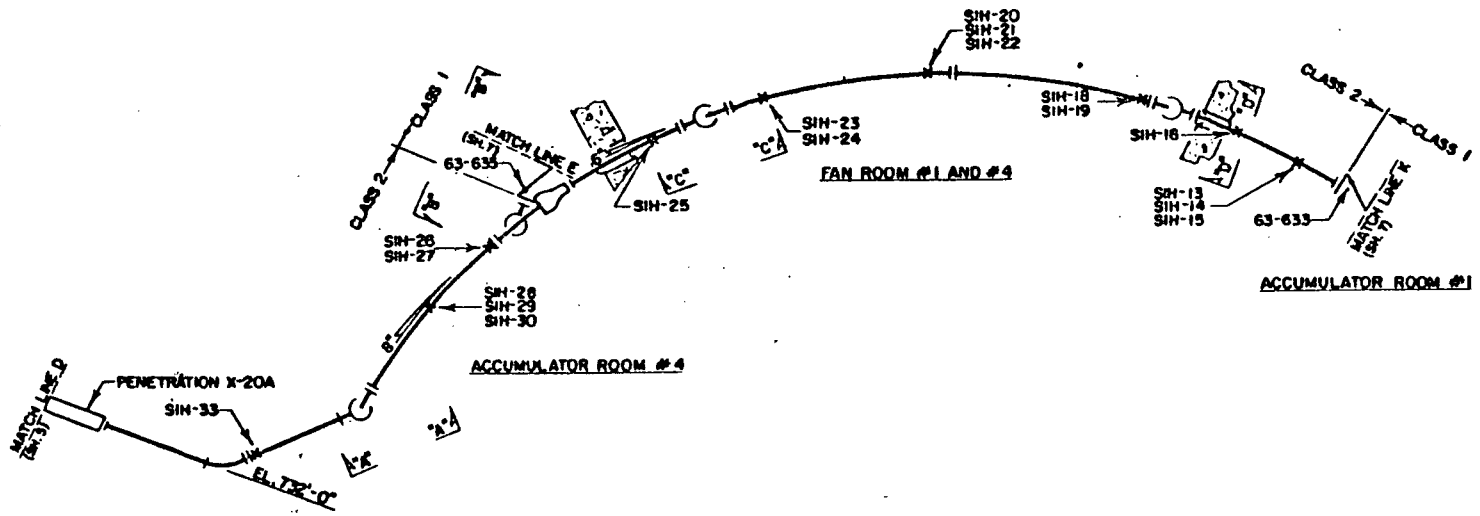
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

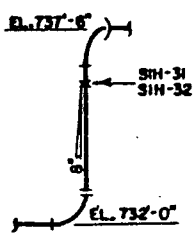
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

NTS | 6-19-81 | ISI-0021-C | R0

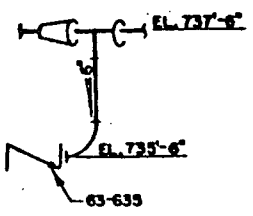
WBNP
TI-50A
Appendix A
Page 131 of 362
Revision 12

REFERENCE DRAWINGS
47W435-260
47W435-261
CLASS 2

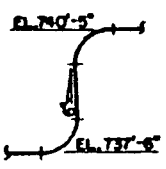




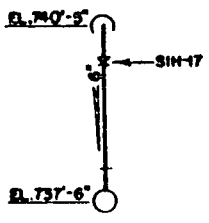
SECTION "A"-"A"



SECTION "B"-"B"



SECTION "C"-"C"



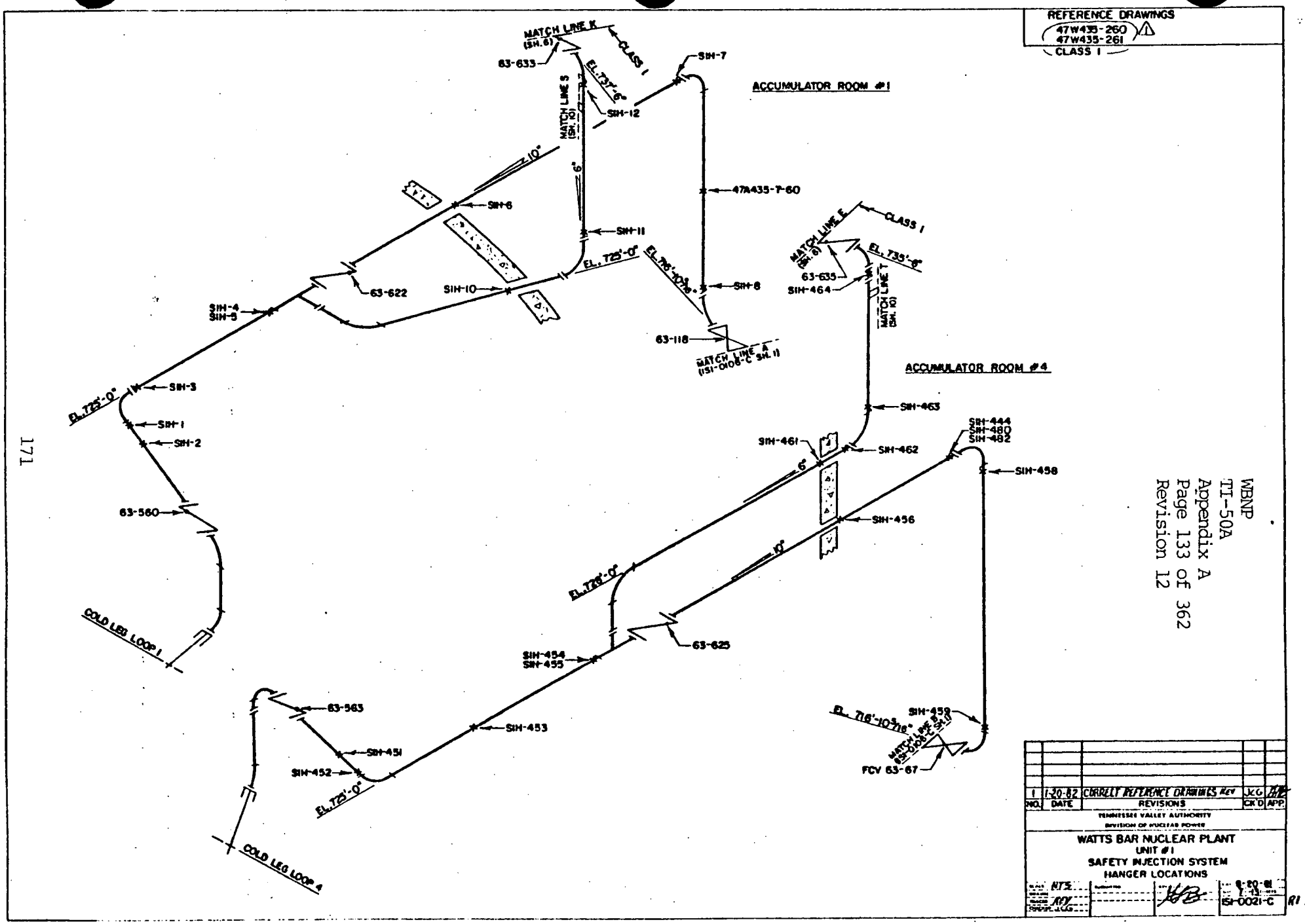
SECTION "D"-"D"

NO.	DATE	REVISIONS	CK'D	APP.
1	1-20-84	CORRECT REFERENCE DRAWINGS (4)	JCG	

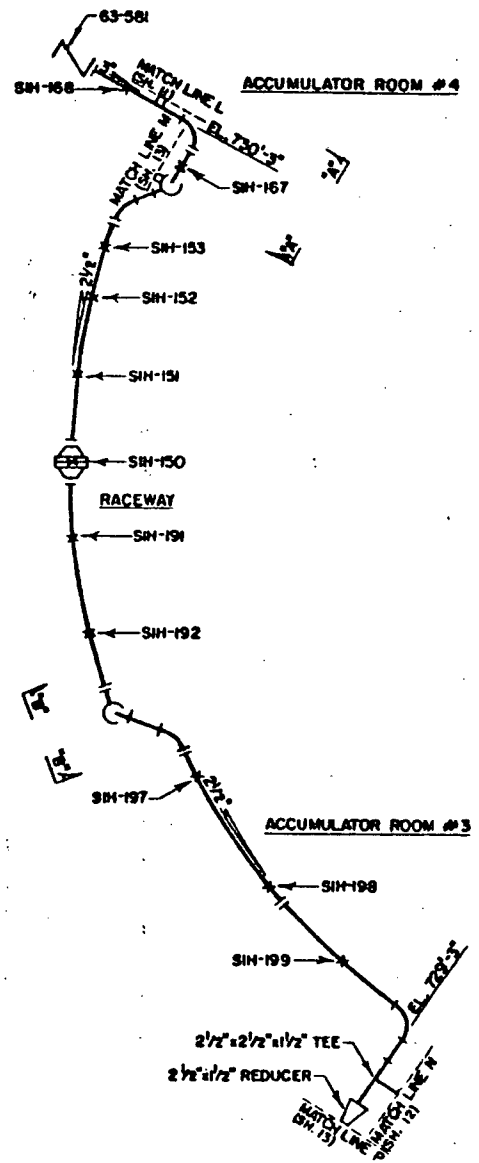
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

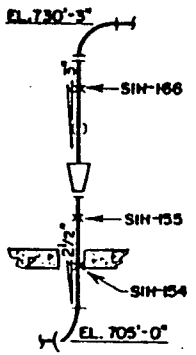
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

NTS | 1-19-81 | 1SI-002-C | R1

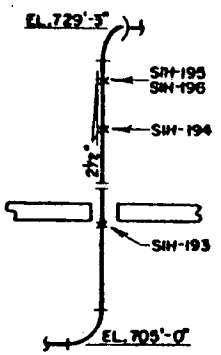

REFERENCE DRAWINGS
47W435-260
47W435-261
CLASS I
ACCUMULATOR ROOM #1
ACCUMULATOR ROOM #4
MATCH LINE K (SH. 6)
MATCH LINE S (SH. 10)
MATCH LINE E (SH. 8)
MATCH LINE T (SH. 10)
MATCH LINE A (1SI-0108-C SH. 11)
MATCH LINE B (1SI-0108-C SH. 11)
63-633
63-635
63-622
63-118
63-560
63-563
63-625
SIH-7
SIH-12
SIH-6
SIH-11
SIH-10
SIH-8
SIH-464
SIH-4
SIH-5
SIH-3
SIH-1
SIH-2
SIH-463
SIH-461
SIH-462
SIH-444
SIH-480
SIH-482
SIH-458
SIH-456
SIH-454
SIH-455
SIH-453
SIH-451
SIH-452
SIH-459
FCV 63-67
47A435-7-60
EL. 737'-6"
EL. 735'-6"
EL. 725'-0"
EL. 716'-10 5/16"
EL. 716'-0"
10"
6"
COLD LEG LOOP 1
COLD LEG LOOP 4
1 1-20-82 CORRECT REFERENCE DRAWINGS
NO. DATE REVISIONS CK'D APP.
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS
NTS
1SI-0021-C
R1

REFERENCE DRAWINGS
47W435-216
47W435-217
OHM-2758-C
CLASS I





SECTION "A"-"A"



SECTION "B"-"B"

NO.	DATE	REVISIONS	CK	DR	APP

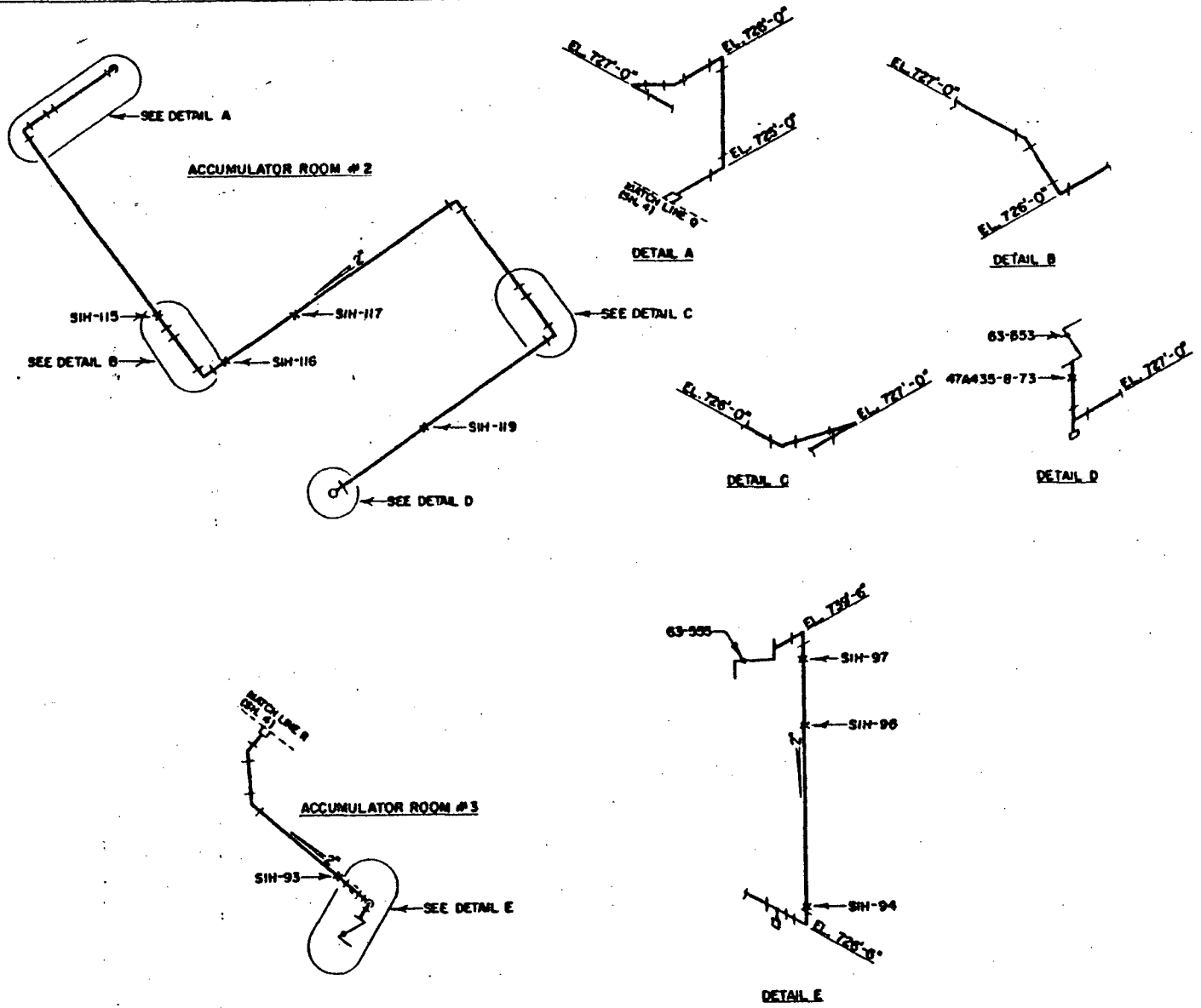
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

DRAWN NTS
DESIGNED RTV
CHECKED JCG
APPROVED
SUBMITTED
DATE 6-20-81
SCALE 1/8"=1'-0"
SI-002-C
R0

WBNP
TI-50A
Appendix A
Page 134 of 362
Revision 12

REFERENCE DRAWINGS
47W435-222
CLASS I



WBNP
TI-50A
Appendix A
Page 135 of 362
Revision 12

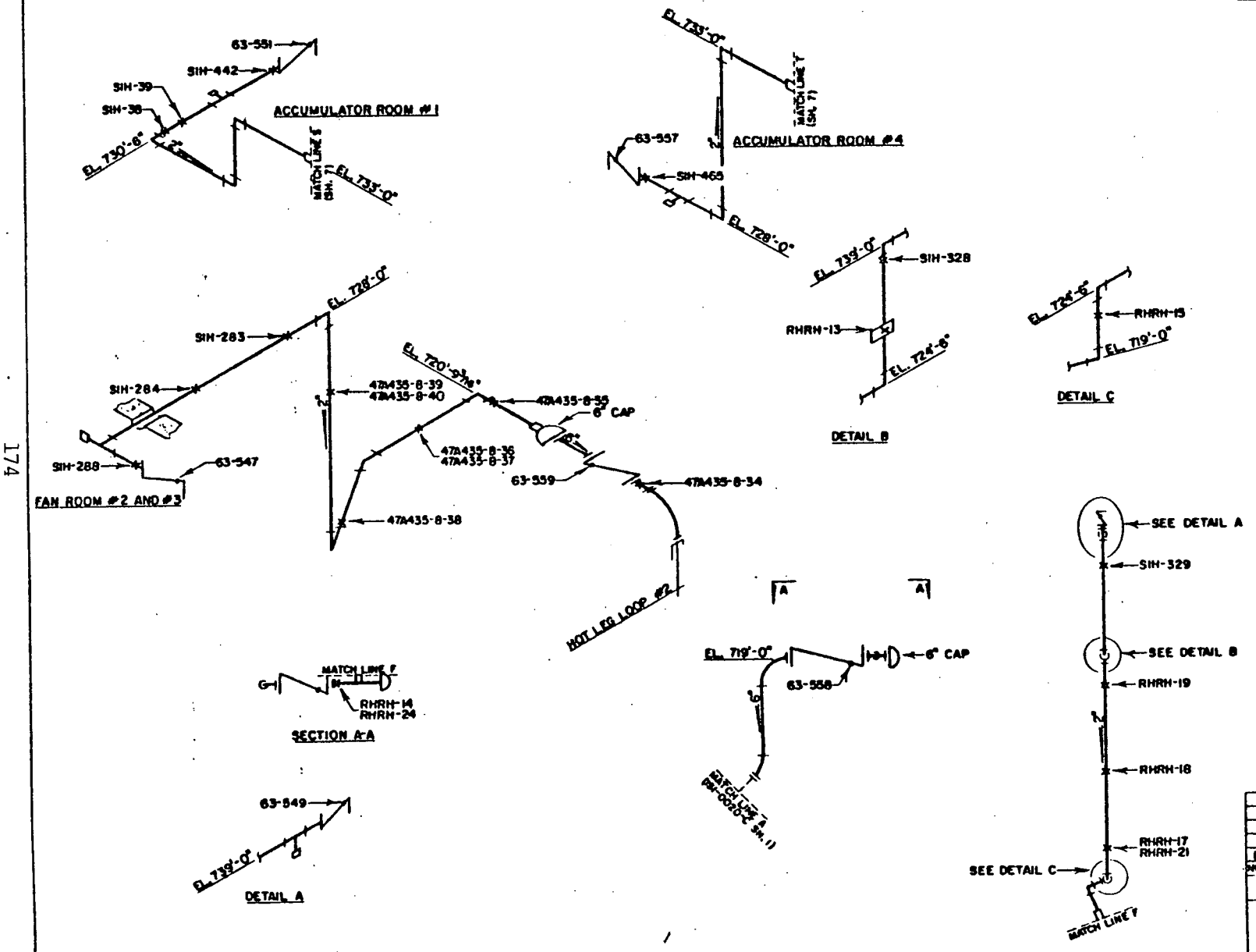
NO.	DATE	REVISIONS	CK'D	APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

DRN. JLS | DATE 10-21-82
DESIGN | 9-13
CHECK REV | APPROVED
PROJ. ENG. | 1SI-0021-C

REFERENCE DRAWINGS
47W432-215
47W435-223
47W435-260
47W435-261
0600200-09-09
CLASS I



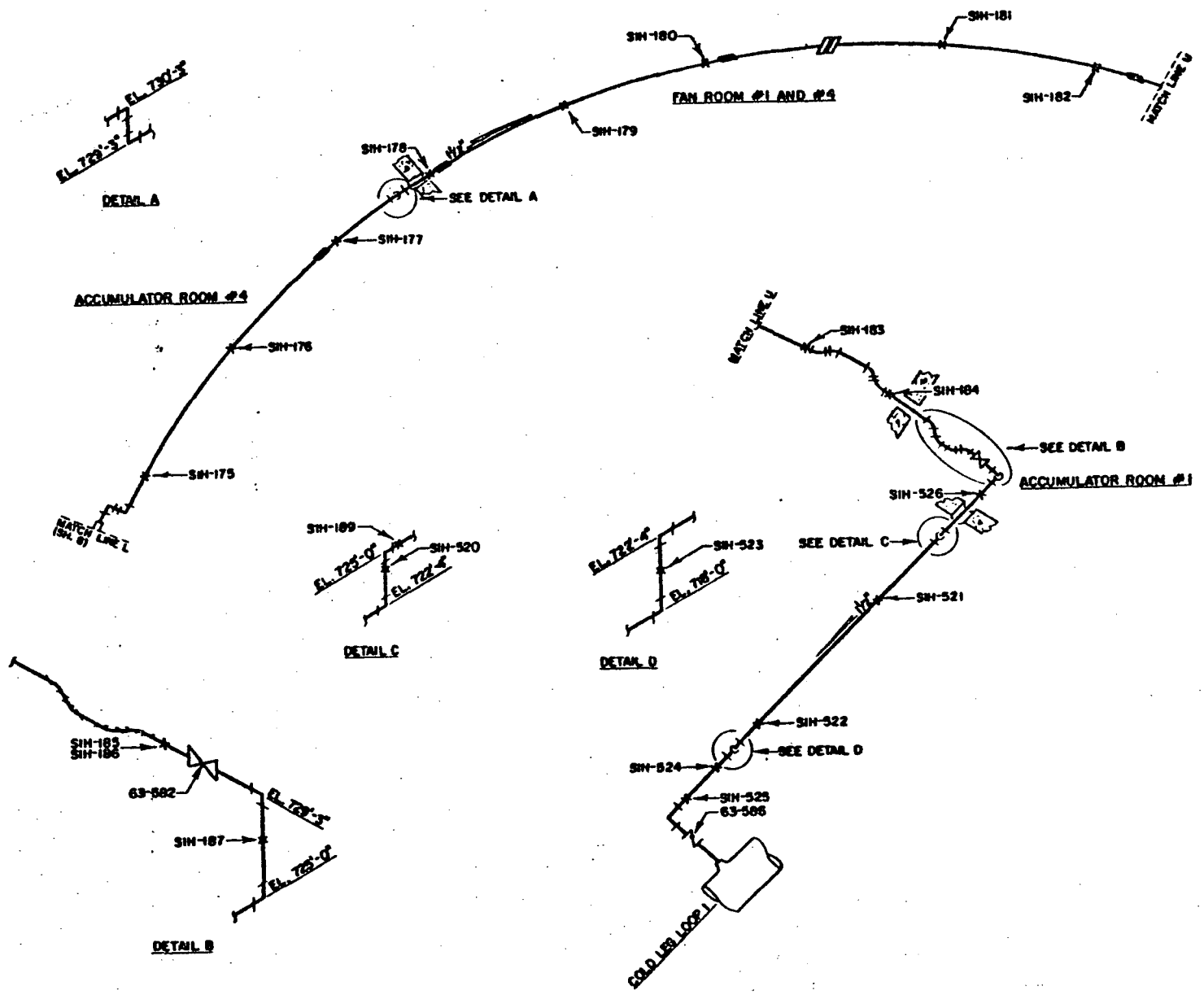
NO	DATE	REVISIONS	CK'D	APR
1	1-20-84	CORRECT REFERENCE DRAWINGS		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

SCALE NTS | DATE 11-8-82 | 10-13 | SI-0021-C | R1

REFERENCE DRAWINGS
47W435-217
CHM-2758-C
CLASS I



NO.	DATE	REVISIONS	CK	DAPR

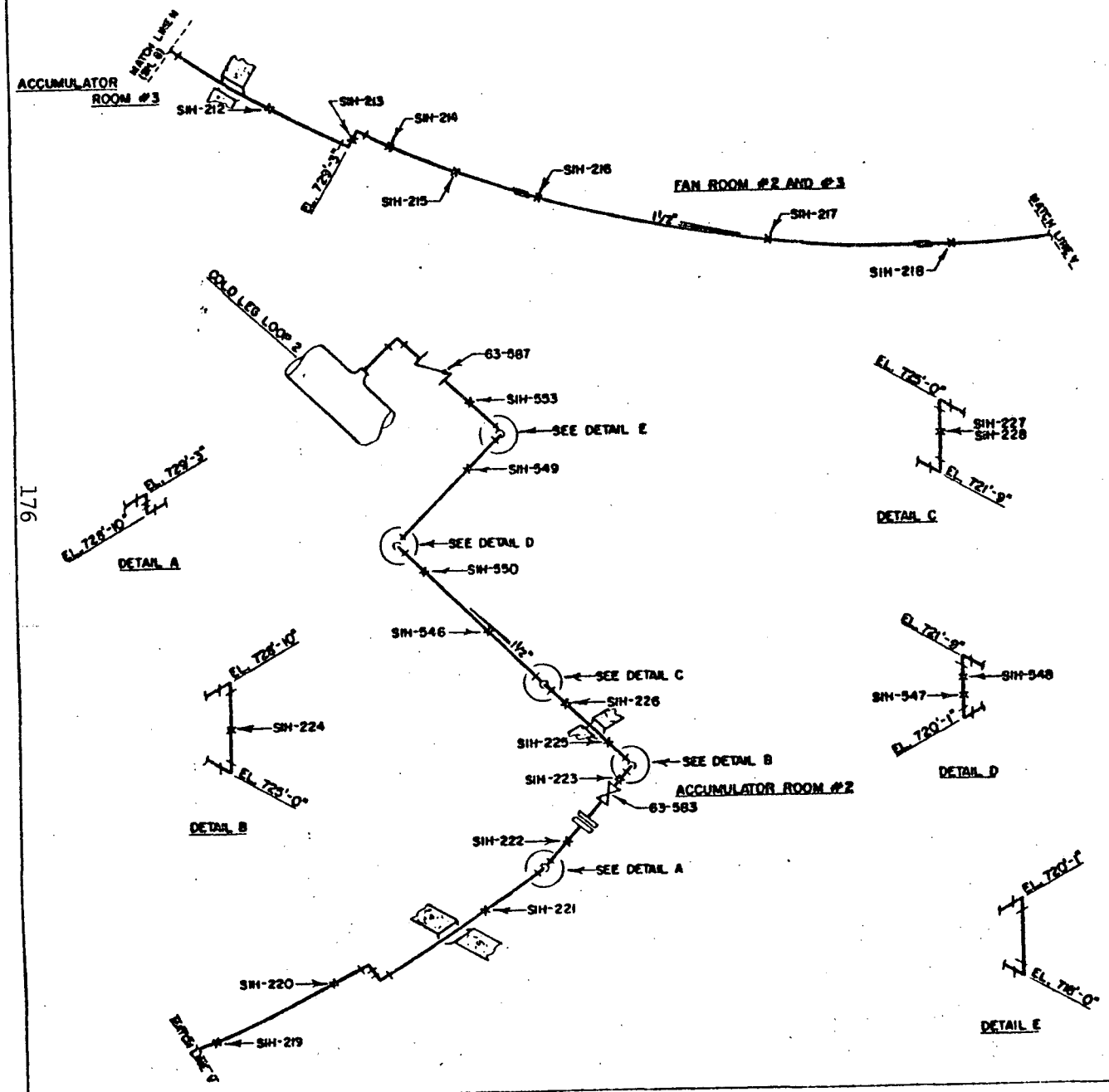
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

SCALE NTS
DRAWN
TRACED
CHECKED
PANEL SIZE

3-82
1-13
SI-0021-C

REFERENCE DRAWINGS
47W435-216
CHM-2758-C
CLASS I

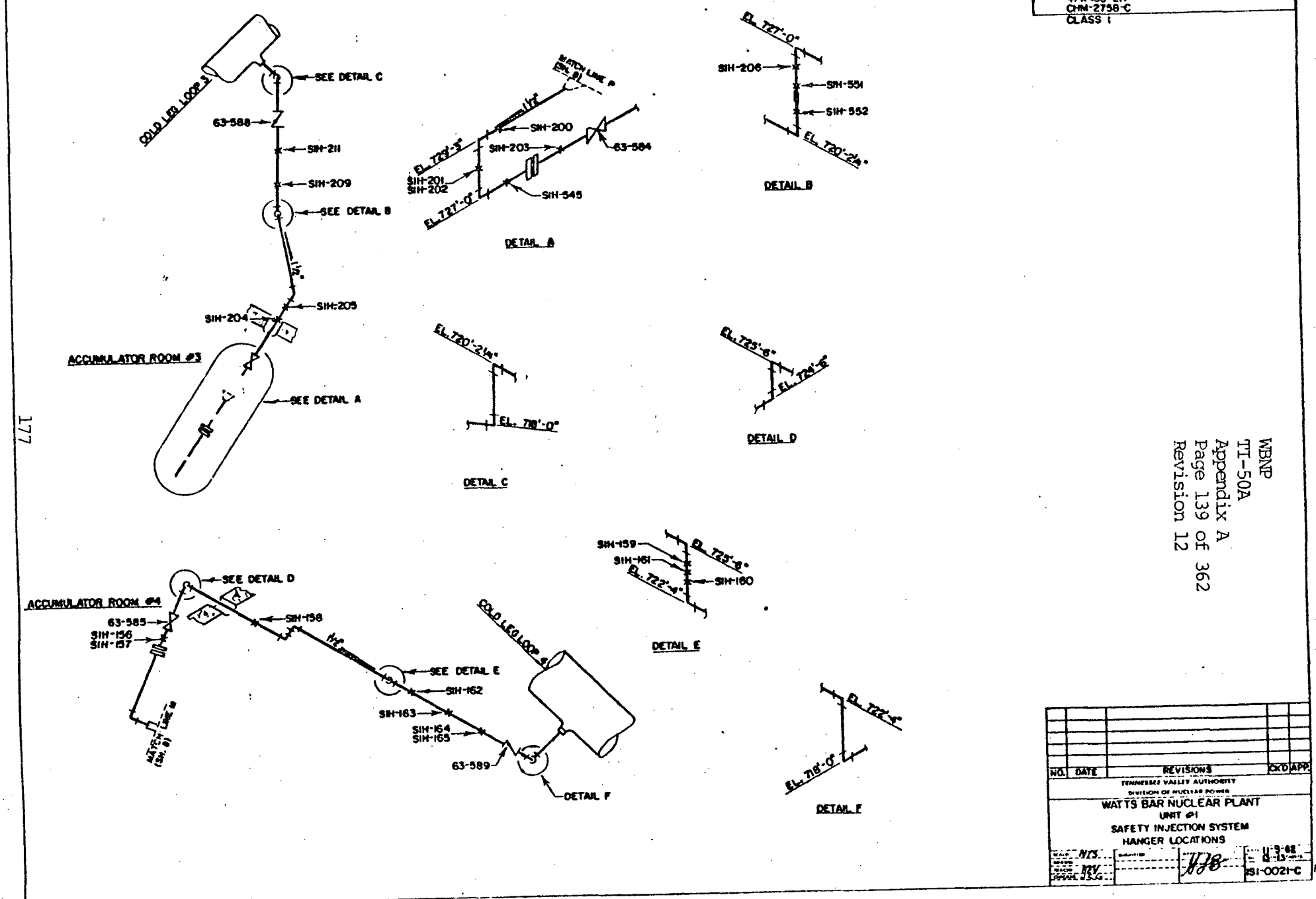


NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

N.T.S. | 11-4-82 | ISI-0021-C | R0

REFERENCE DRAWINGS
47W435-216
47W435-217
CHM-2758-C
CLASS I



NO.	DATE	REVISIONS	CK'D	APP.

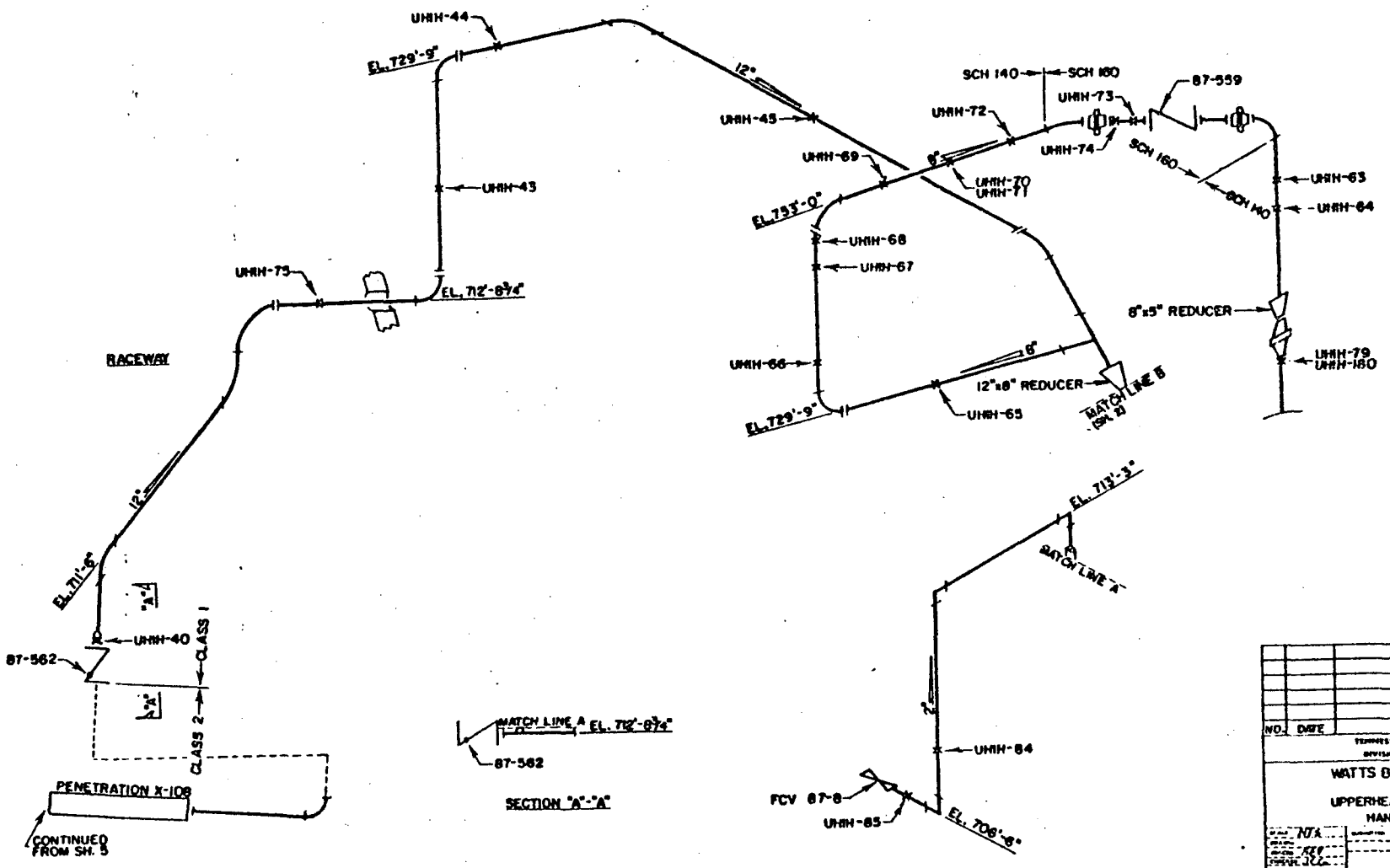
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

DRAWN N/S			11-9-82
CHECKED			11-15-82
TRACED RZV			
DESIGN J.S.G.			1S1-0021-C

NO

REFERENCE DRAWINGS
47W435-251
0600200-15-02
CLASS 1 & 2



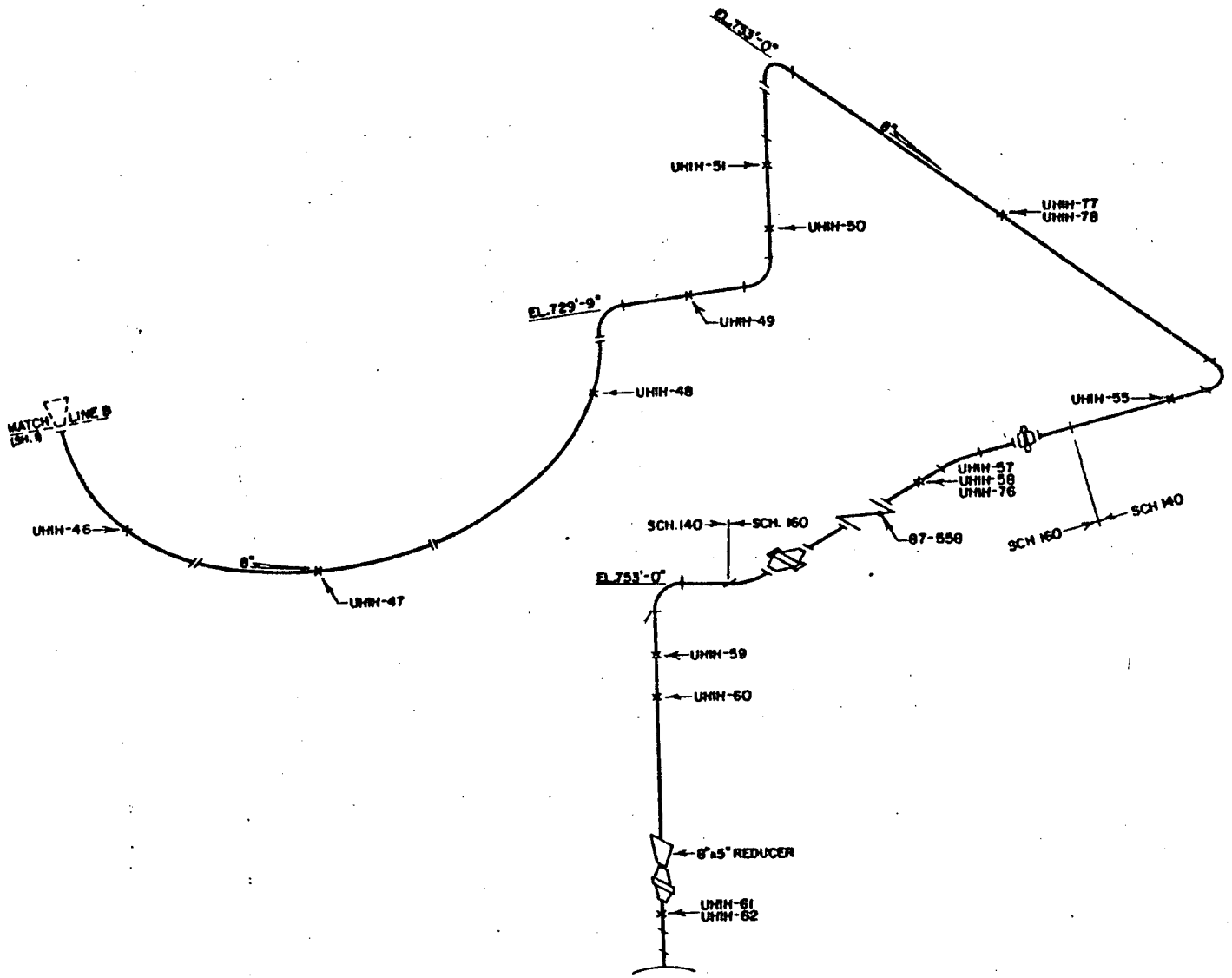
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
UPPERHEAD INJECTION SYSTEM
HANGER LOCATIONS

NTS | 6-25-81 | 1-5 | 151-0025-C | R0

REFERENCE DRAWINGS
0600200-15-02
CLASS I



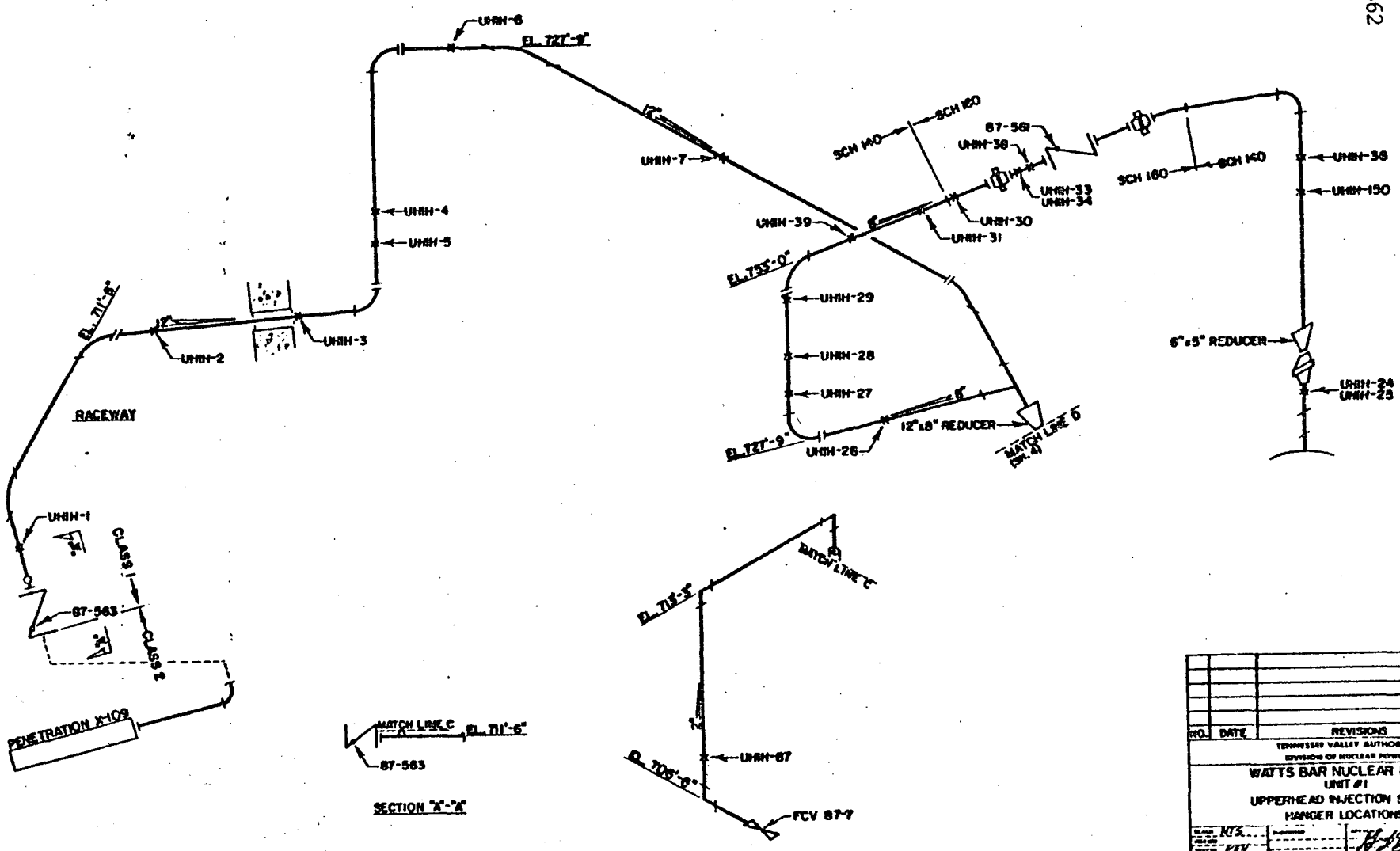
NO.	DATE	REVISIONS	CK'D	APP'D

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
UPPERHEAD INJECTION SYSTEM
HANGER LOCATIONS

DRAWN NTK
CHECKED
DESIGN
DESIGN E.M.
SUPERVISOR
APPROVED
DATE 6-25-81
SCALE 1/8" = 1'-0"
SI-0029-C
R0

REFERENCE DRAWINGS
47W435-251
47W435-252
CLASS 1 & 2



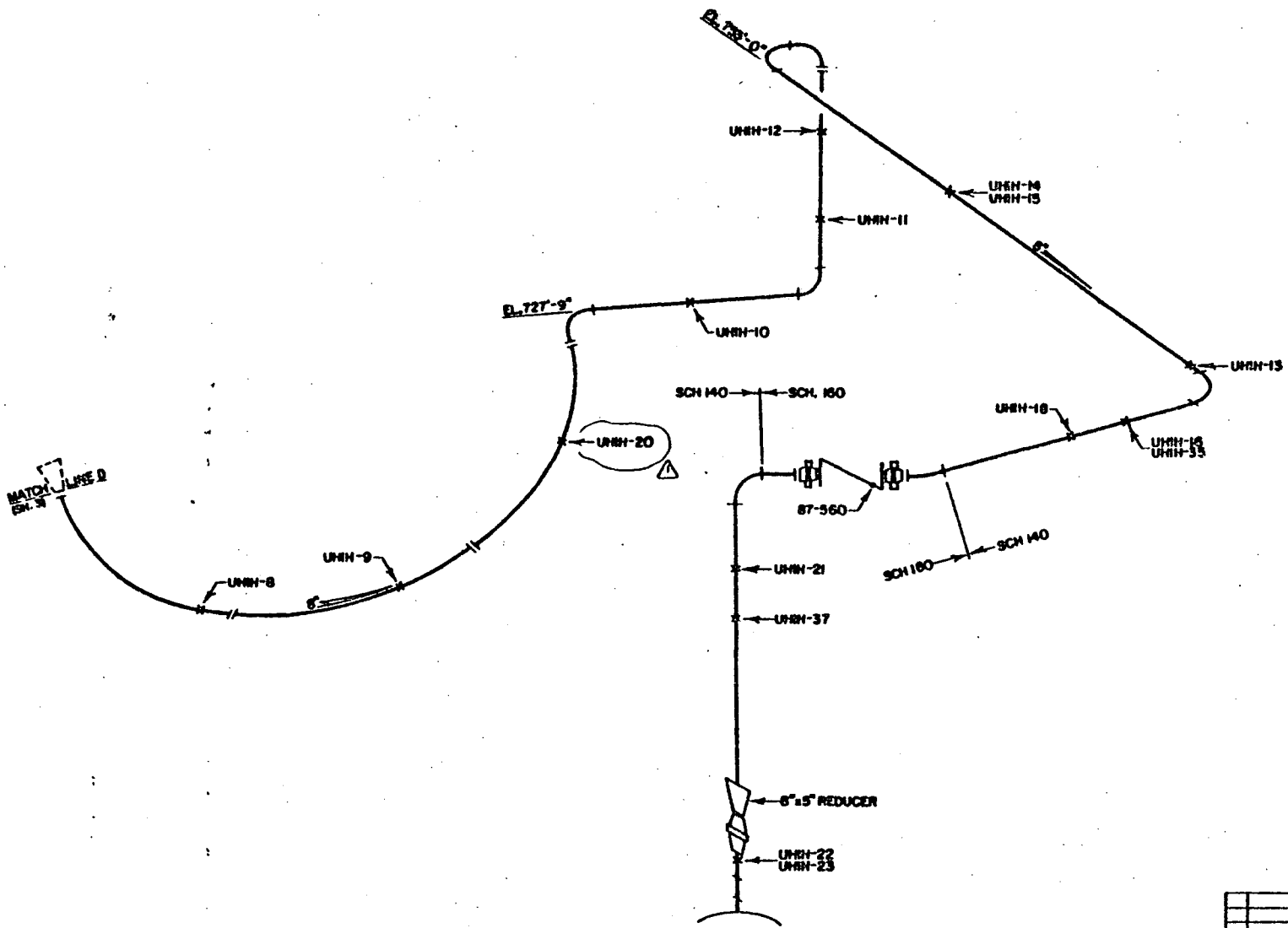
NO.	DATE	REVISIONS	CK'D/APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
UPPERHEAD INJECTION SYSTEM
HANGER LOCATIONS

SCALE NTS. | DRAWN | DATE 8-25-81 | ISI-0025-C R0

REFERENCE DRAWINGS
47W435-252
CLASS I



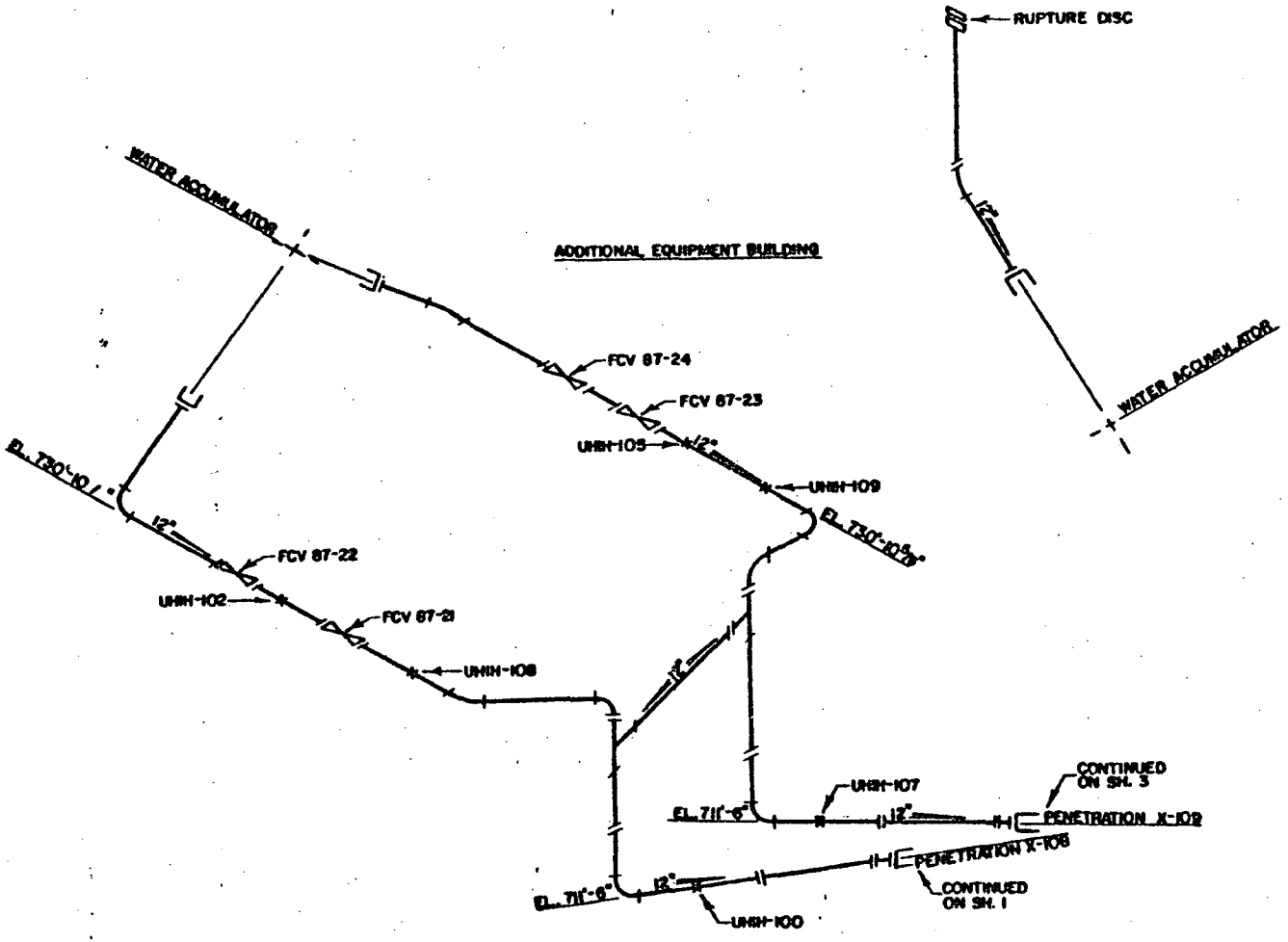
NO.	DATE	REVISIONS	CK	DA	APR
1	1-20-84	CORRECT HANGER NUMBER REV	JCG		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
UPPERHEAD INJECTION SYSTEM
HANGER LOCATIONS

NTS | 1-25-84 | 1/3 | 251-0025-C | R1

REFERENCE DRAWINGS
47W435-257
0600200-15-05
CLASS 2



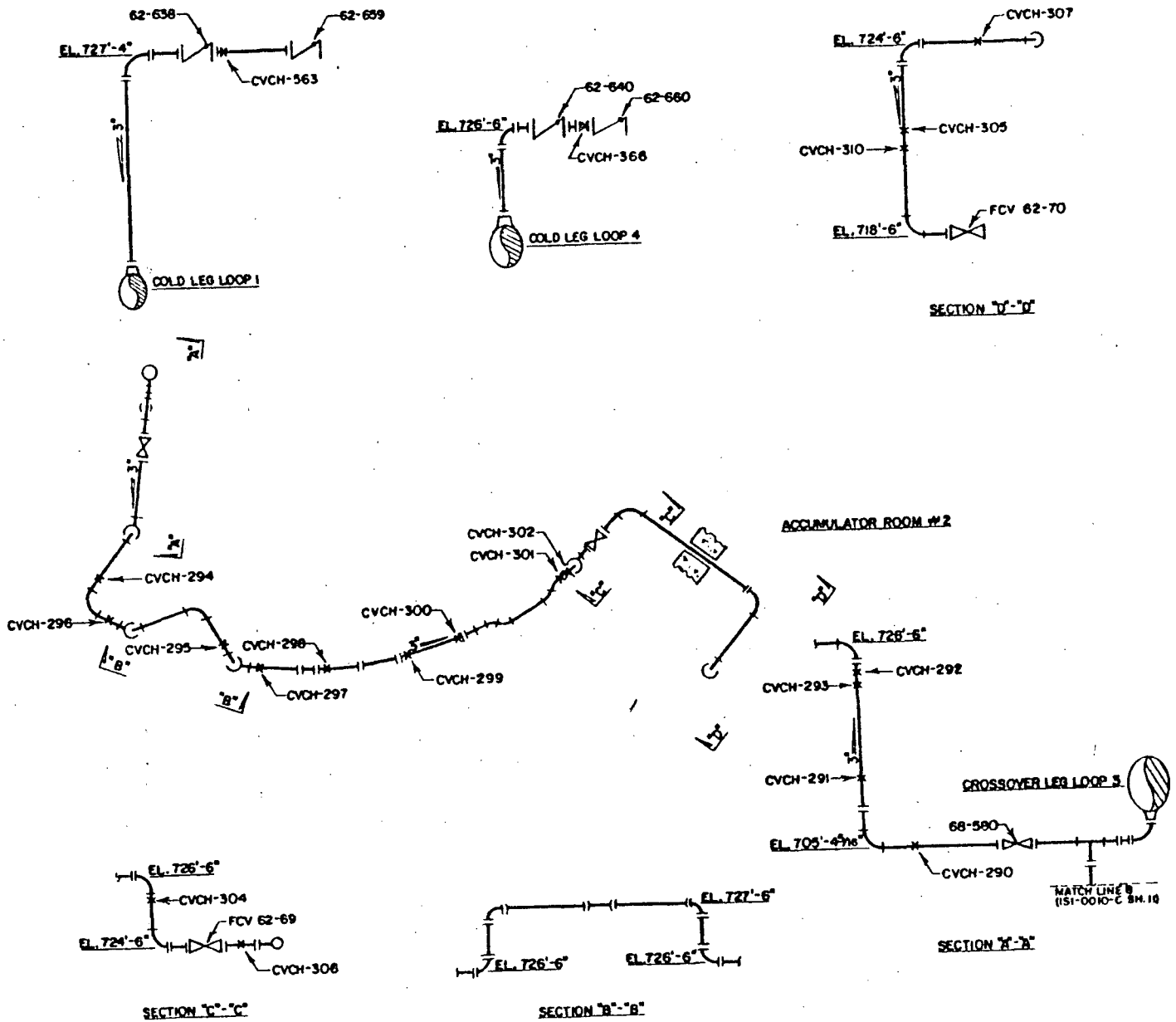
NO.	DATE	REVISIONS	CK'D	APP'D
1	1-31-84	CORRECT REF. DWG. ETC		

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
UPPERHEAD INJECTION SYSTEM
HANGER LOCATIONS

SI-0025-C R1

REFERENCE DRAWINGS
47W406-321
47W406-328
CLASS I



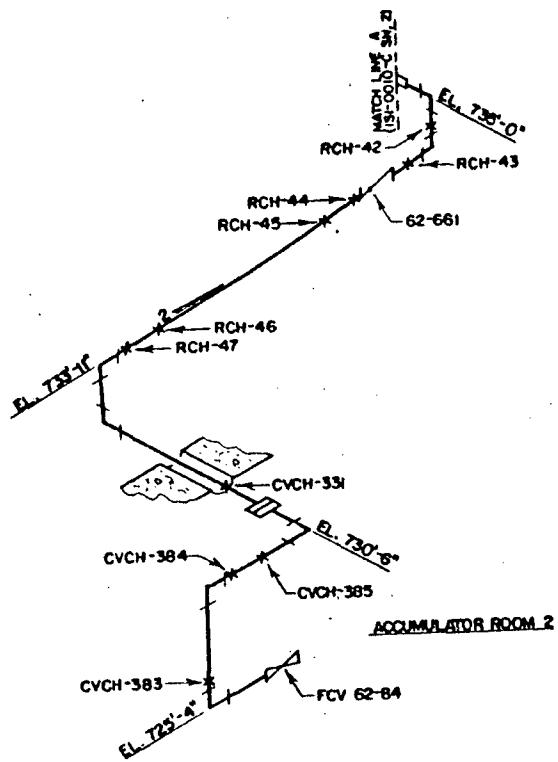
NO.	DATE	REVISIONS	CK'D	APR
1	1-20-84	CORRECT REFERENCE DRAWINGS KEV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
HANGER LOCATIONS

N.T.S. | KEV | HB | 8-28-81 | 1S1-0026-C | R1

REFERENCE DRAWINGS
47W406-321
47W465-206
CLASS I



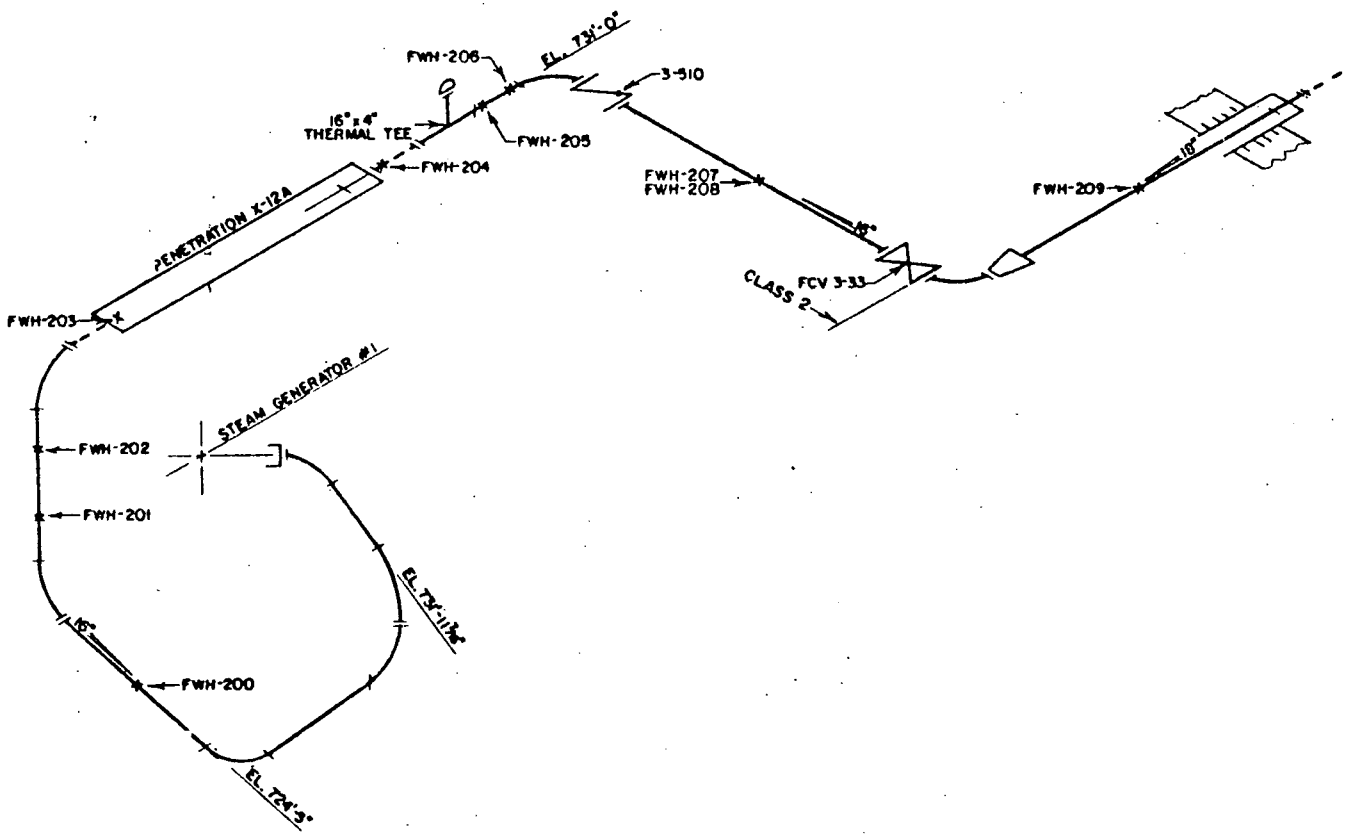
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
HANGER LOCATIONS

DRAWN NCS | SUBMITTED | SUPERVISOR HEB | DATE 7-8-83 | SHEET 2 OF 2 SHEETS
DESIGNED NV | 1SI-0026-C | RO

REFERENCE DRAWINGS
E-2879 IC-1
47W401-208
CLASS 2



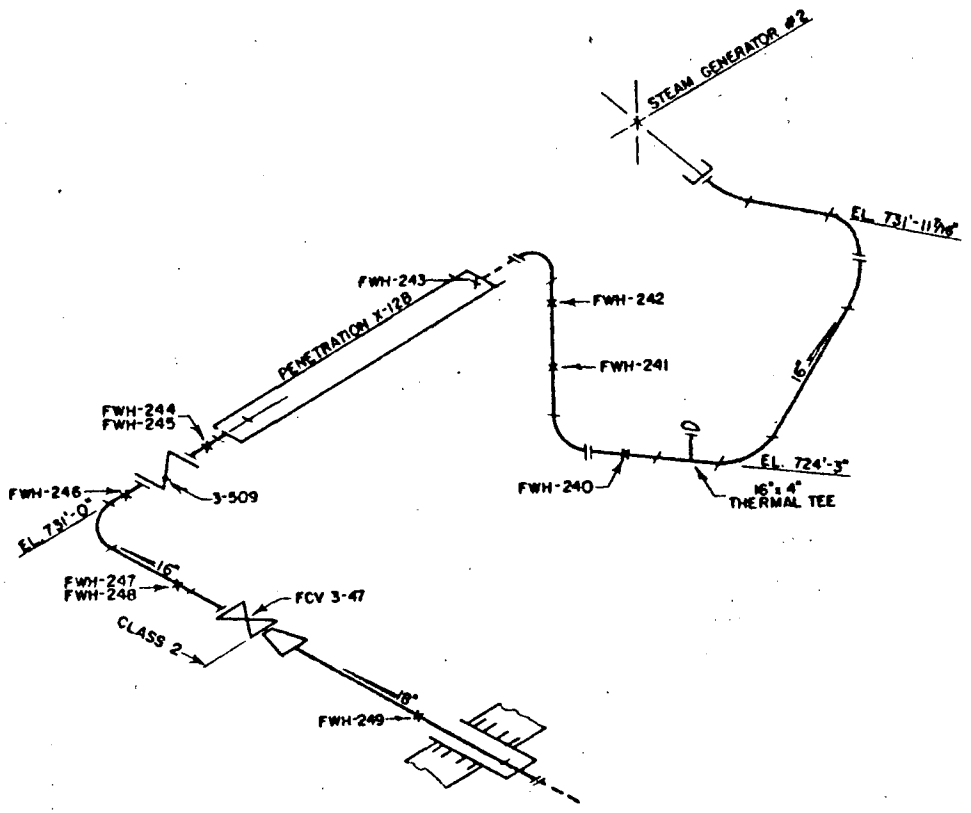
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

SCALE NTS | DATE 4-8-82 | DWG. 1-B-1 | DWG. NO. 1SI-0062-C | REV. RO

REFERENCE DRAWINGS
E-2879 IC-2
47W401-209
CLASS 2



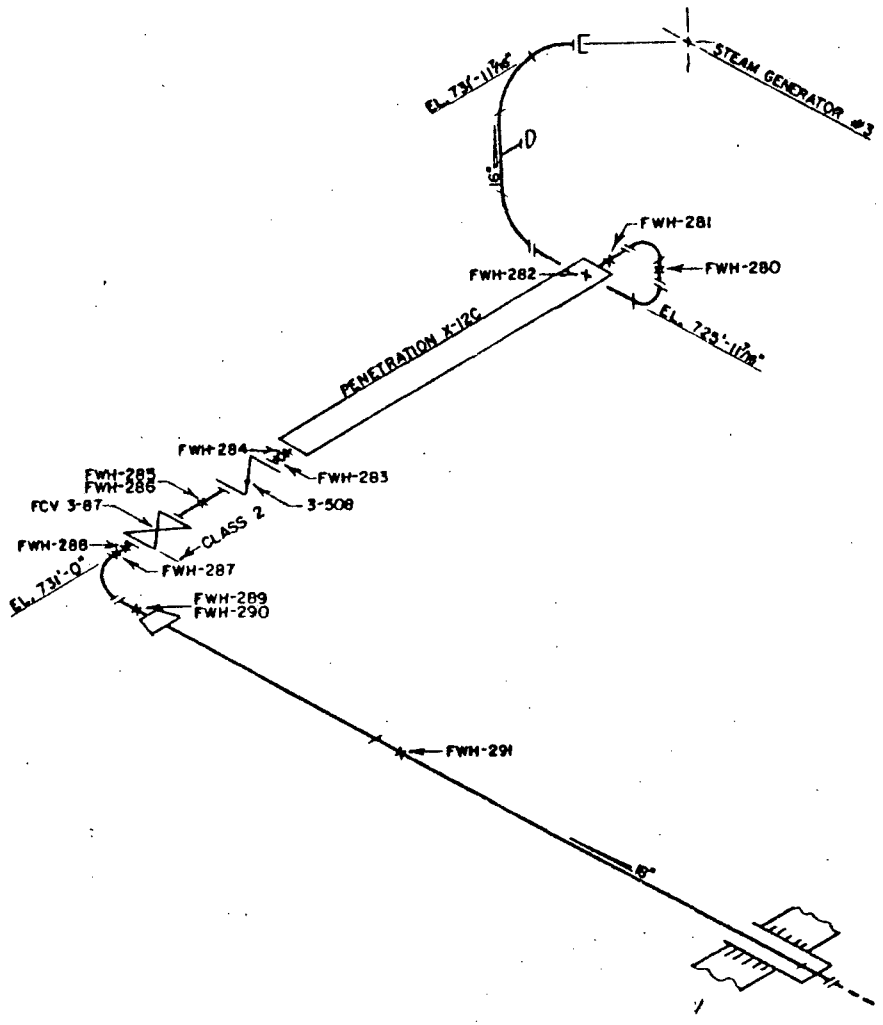
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

NTS | 4-9-82 | SI-0062-C | R0

REFERENCE DRAWINGS
E-2879 IC-2
47W401-210
CLASS 2



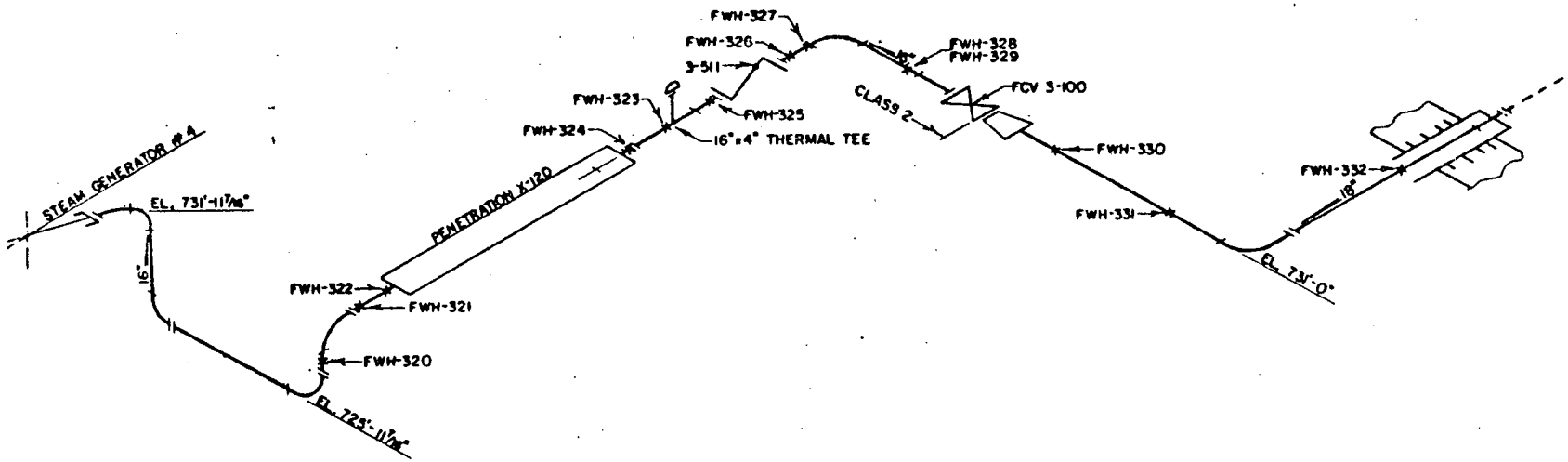
NO.	DATE	REVISION	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

SCALE NTS | DRAWN BY RCT | CHECKED BY JJB | DATE 4-9-81 | SHEET 1 OF 1 | ISI-0062-C | R0

REFERENCE DRAWINGS
E-2879 IC-3
47W401-211
CLASS 2



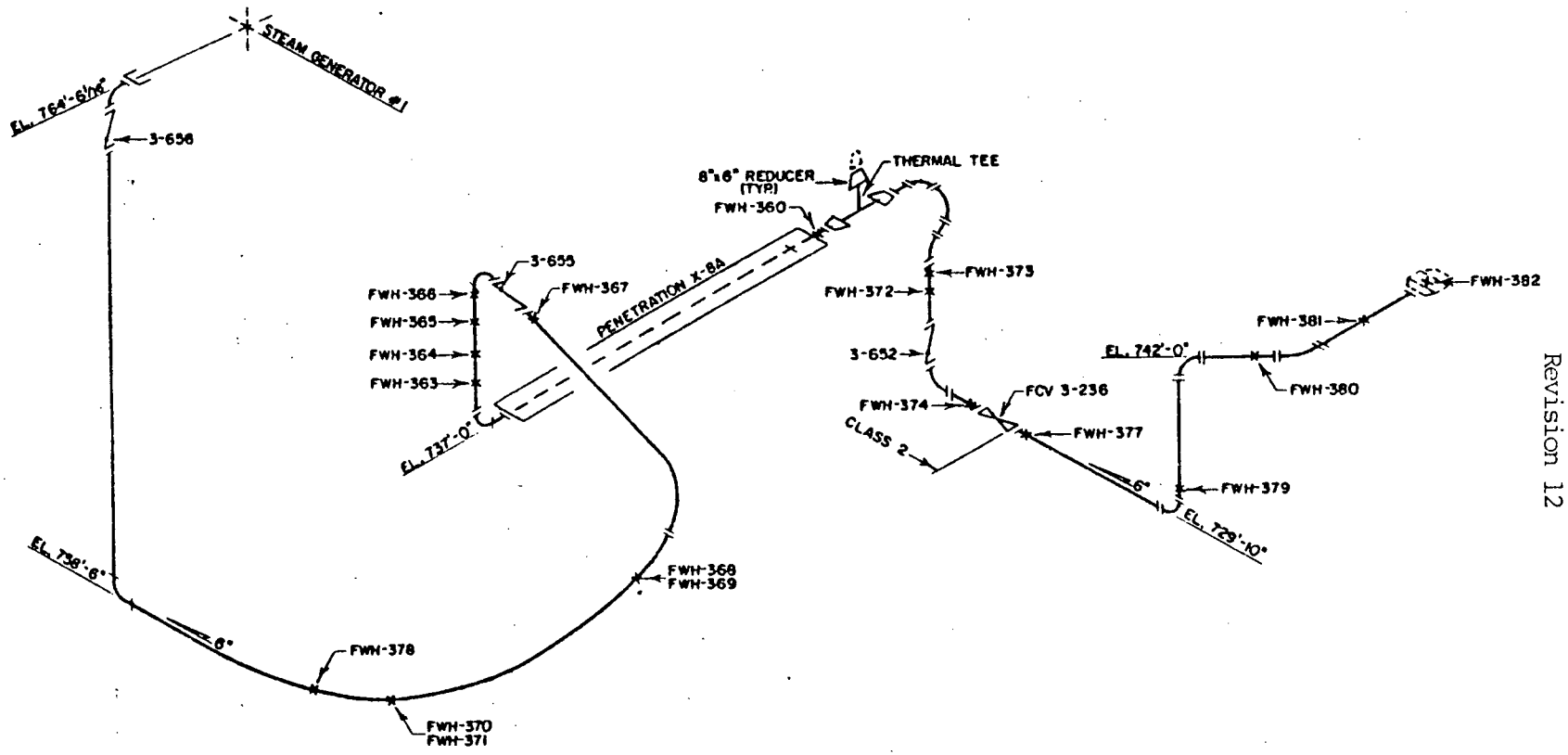
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

DRAWN NCS
DESIGNED
CHECKED RPK
SUPERVISOR JCC
1-9-82
1:8
SI-0062-C
RO

REFERENCE DRAWINGS
47W401-212
CLASS 2



NO.	DATE	REVISIONS	CK'D	APP

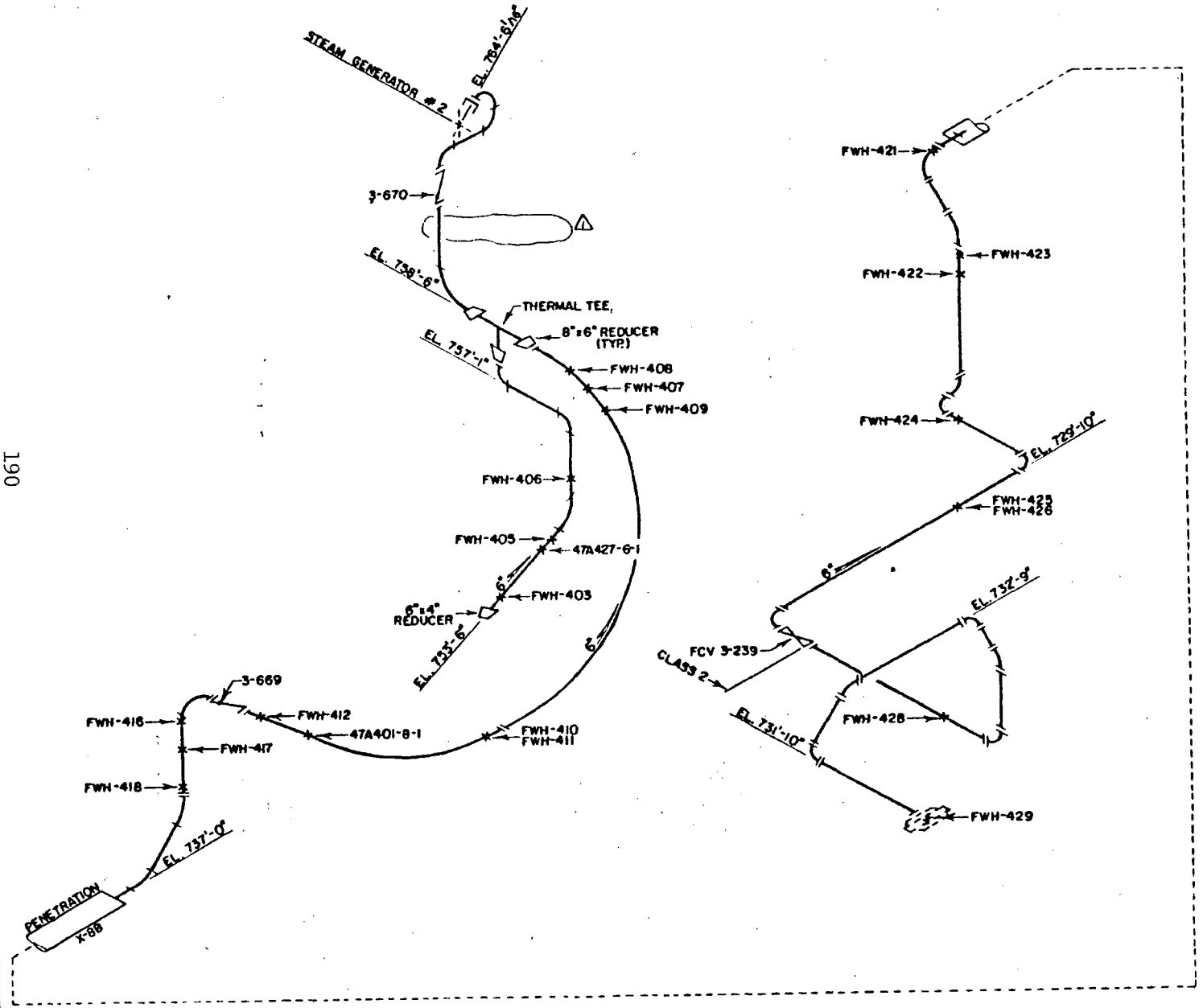
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

SCALE NTS | DATE 7-5-83 | SHEET 5 OF 8 SHEETS | ISI-0062-C

WBNP
TI-50A
Appendix A
Page 151 of 362
Revision 12

REFERENCE DRAWINGS
47W401-219
47W427-219
CLASS 2



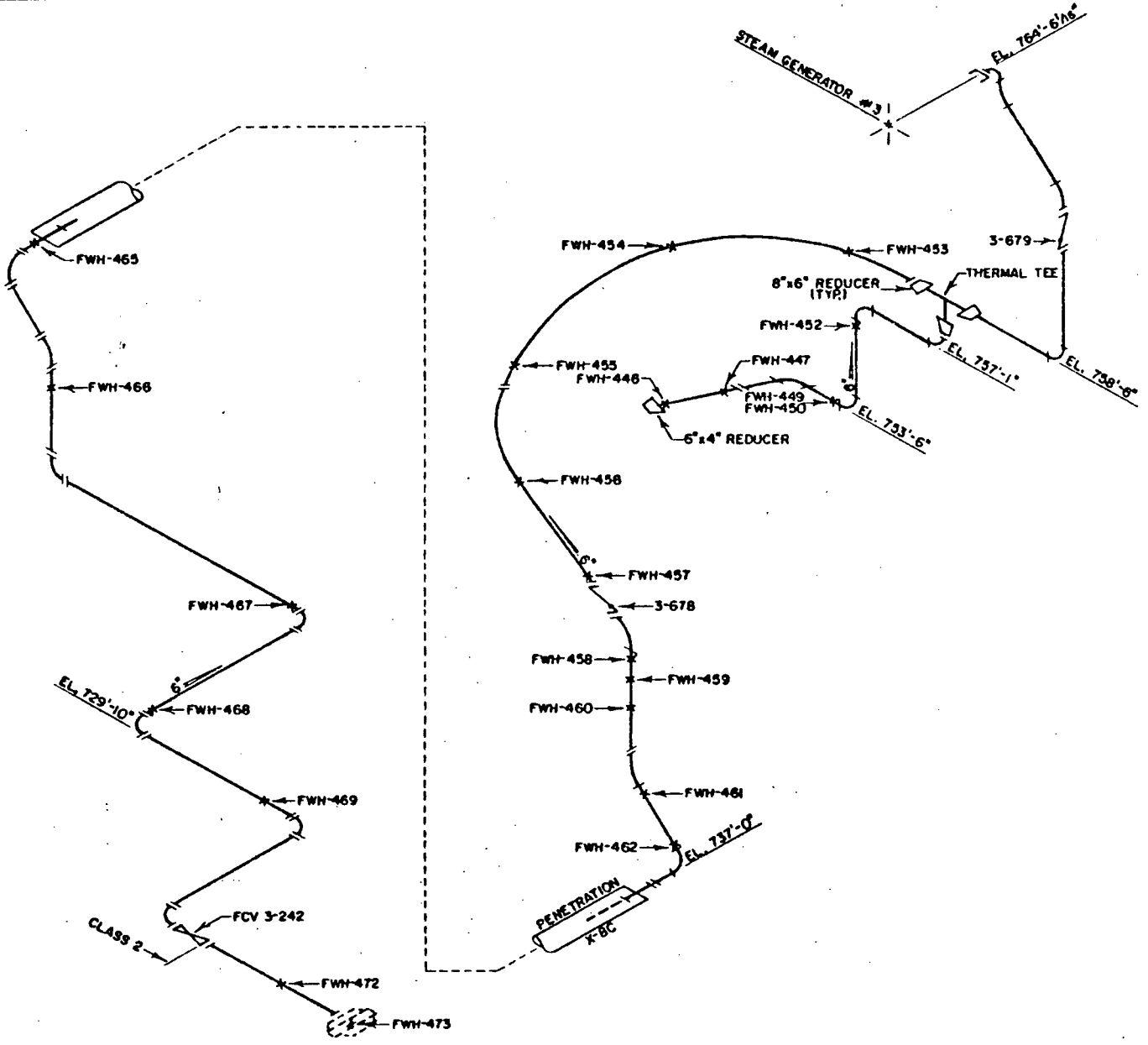
NO.	DATE	REVISIONS	CK'D	APP.
1	2-3-84	DELETE HANGER REV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

DRAWN BTS. DATE 2-3-83
DESIGNED REV. SCALE NONE
ISI-0062-C 90

REFERENCE DRAWINGS
47W401-216
47W427-218
CLASS 2



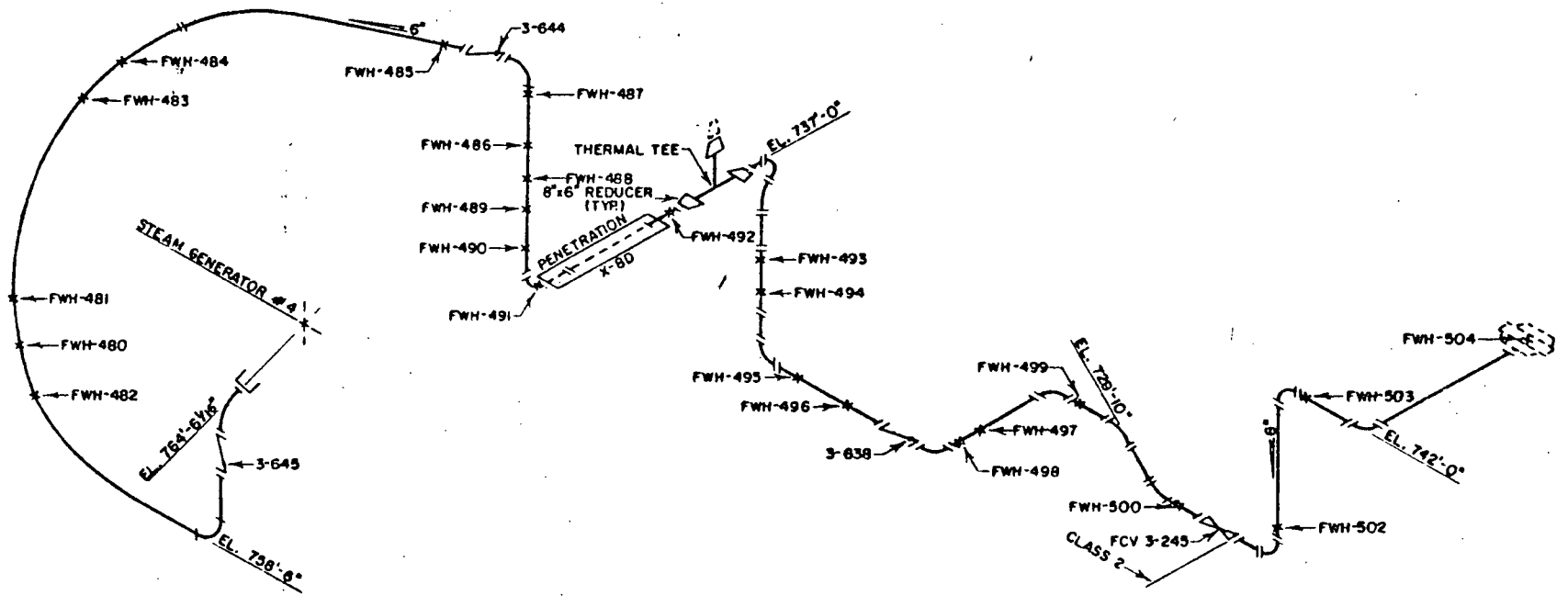
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

DRAWN RLC
TRACED
DESIGNED
CHECKED
DATE 7-6-83
SHEET 7 OF 8 SHEETS
ISH-0062-C
R0

REFERENCE DRAWINGS
47W401-215
CLASS 2



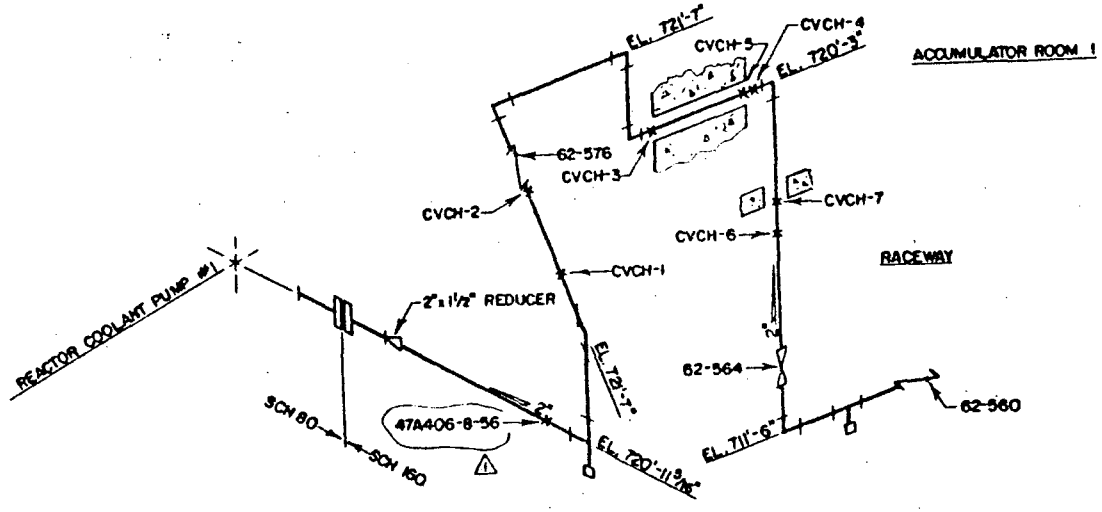
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

DATE 7-6-83
SHEET A OF B SHEETS
SI-0062-C
A0

REFERENCE DRAWINGS
47W406-317
CLASS I



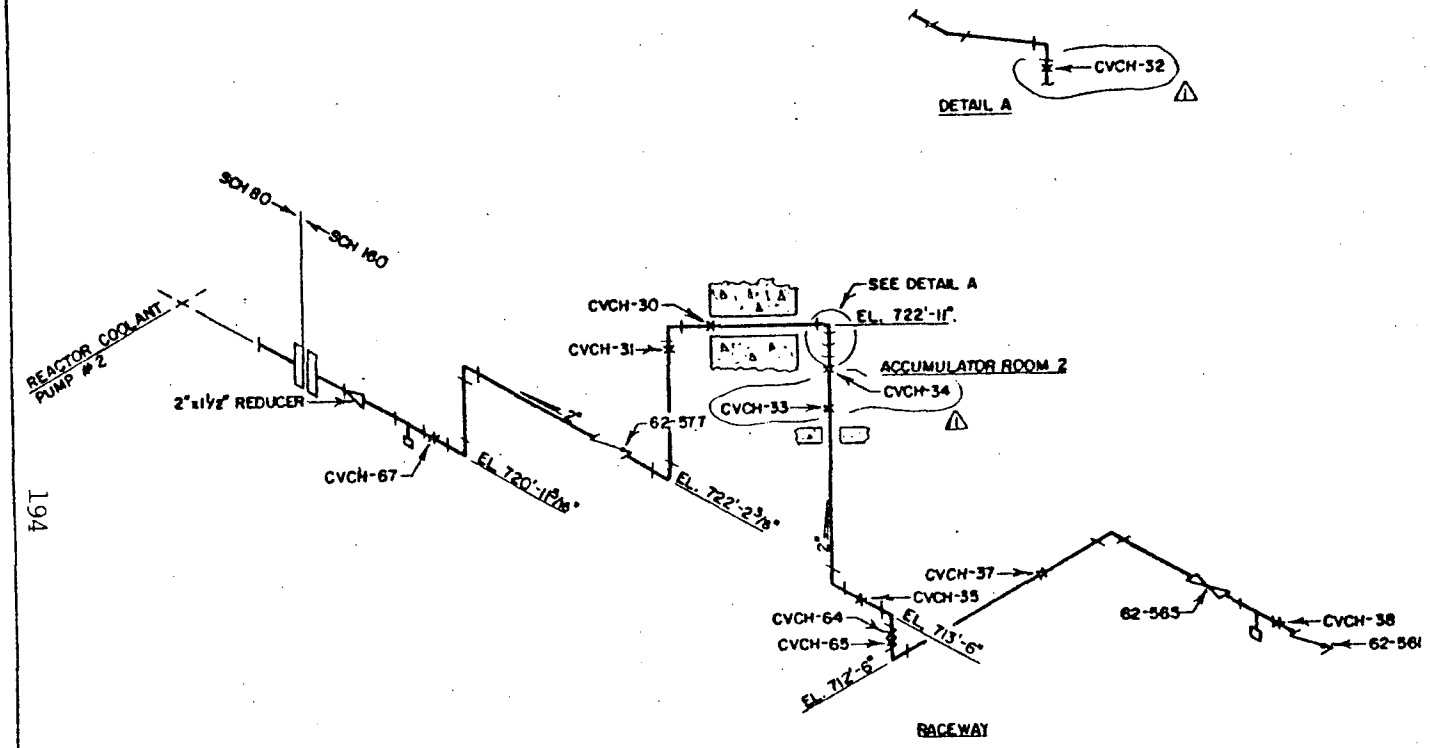
NO.	DATE	REVISIONS	CK'D	APP'D
1	1-20-84	CORRECT HANGER NUMBER REV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
SEAL WATER INJECTION
HANGER LOCATIONS

DRAWN RTS
DATE 7-8-83
ISI-0063-C R1

REFERENCE DRAWINGS
0600200-08-02
CLASS I



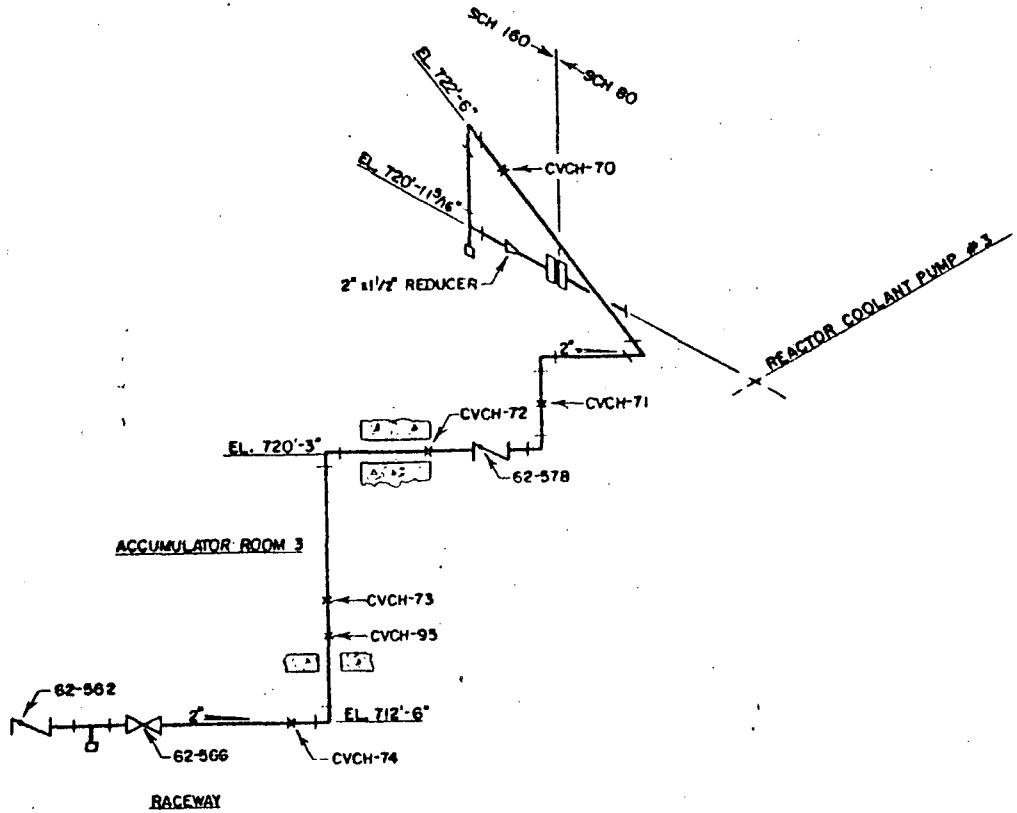
NO.	DATE	REVISIONS	CK'D	APP.
1	1-20-84	ADD AND CORRECT HANGER NOS. ETC	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
SEAL WATER INJECTION
HANGER LOCATIONS

DRAWN NCS
DATE 7-8-83
ISI-0063-C
R1

REFERENCE DRAWINGS
47W406-315
CLASS I



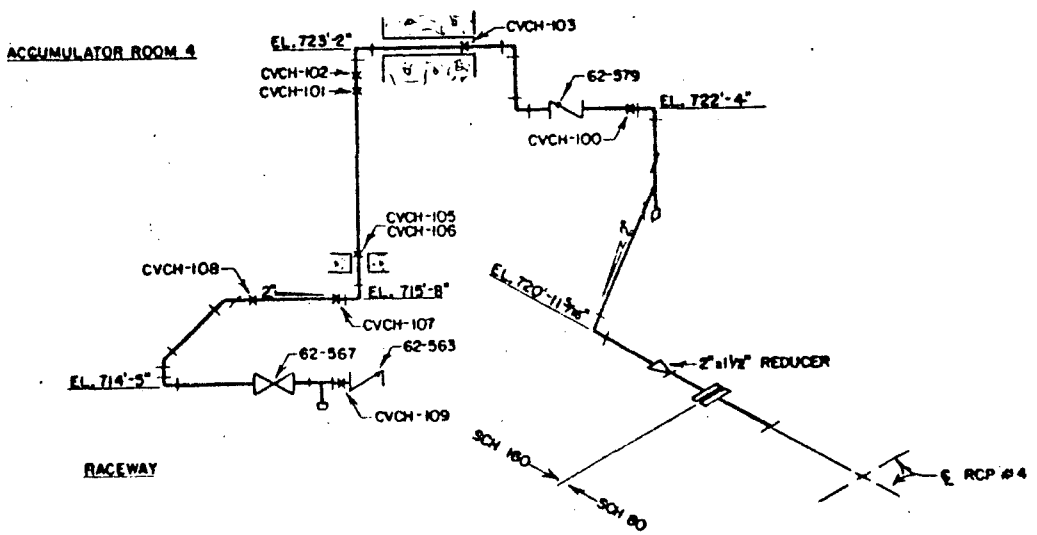
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
SEAL WATER INJECTION
HANGER LOCATIONS

SCALE NTS
DRAWN HGR
DATE 7-8-83
SHEET 3 OF 4 SHEETS
ISI-0063-C R0

REFERENCE DRAWINGS
SK. 406-7 SH. 27
47W406-316
CLASS I



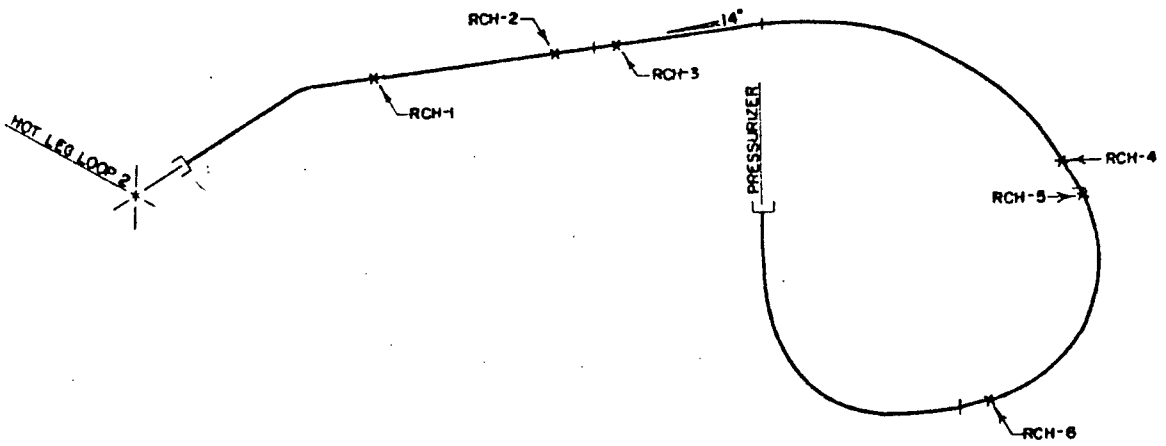
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
SEAL WATER INJECTION
HANGER LOCATIONS

NTS | 4-12-82 | ISI-0063-C | R0

REFERENCE DRAWINGS
47W465-221
CLASS 1



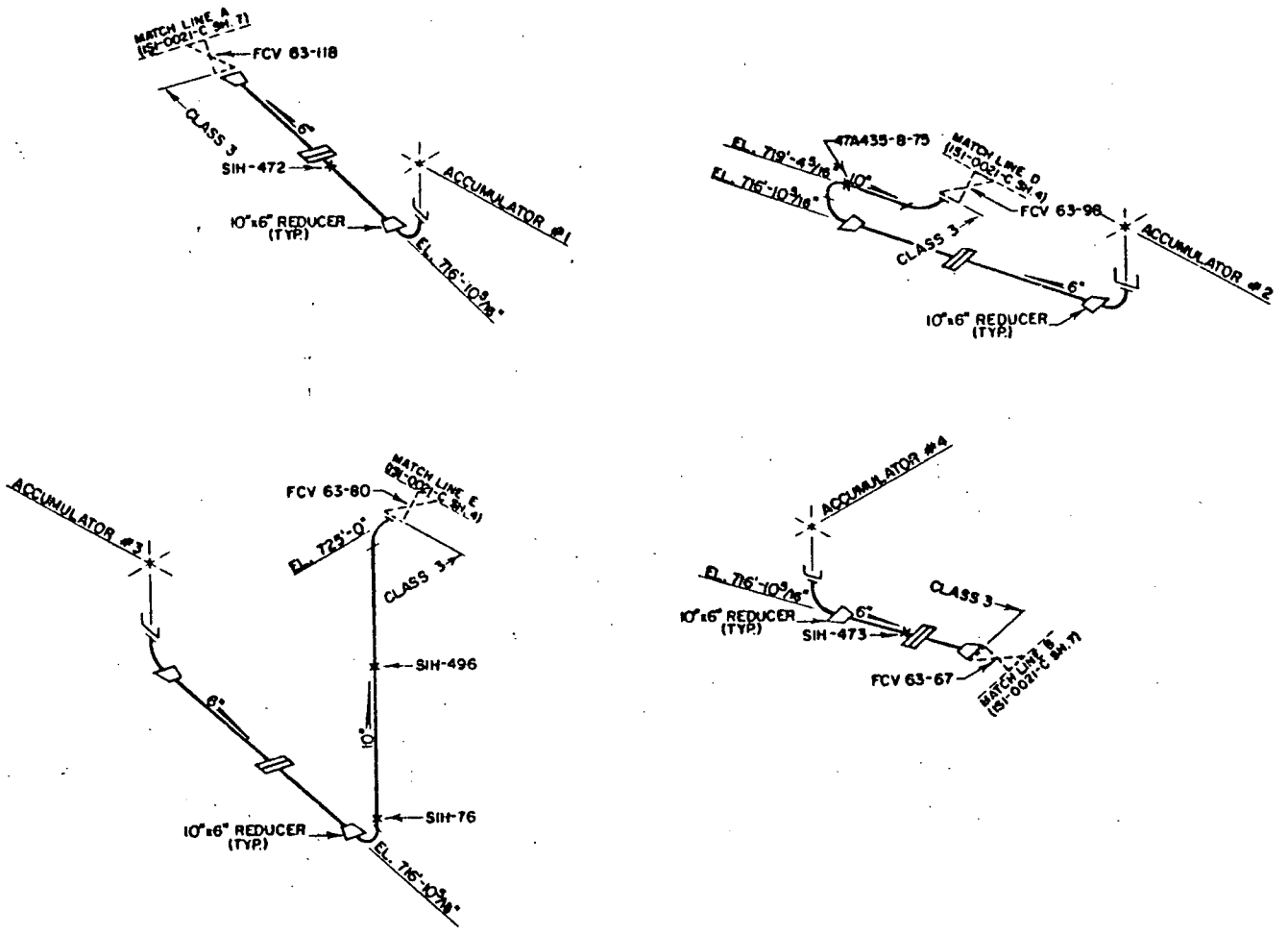
NO.	DATE	REVISIONS	CK'D	APP
1	1-20-84	CORRECT REFERENCE DRAWINGS REV	J.G.	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
PRESSURIZER SURGE LINE
HANGER LOCATIONS

DATE 10-25-83
ISI-0124-C

REFERENCE DRAWINGS
47W435-220
47W435-260
47W435-261
CLASS 3



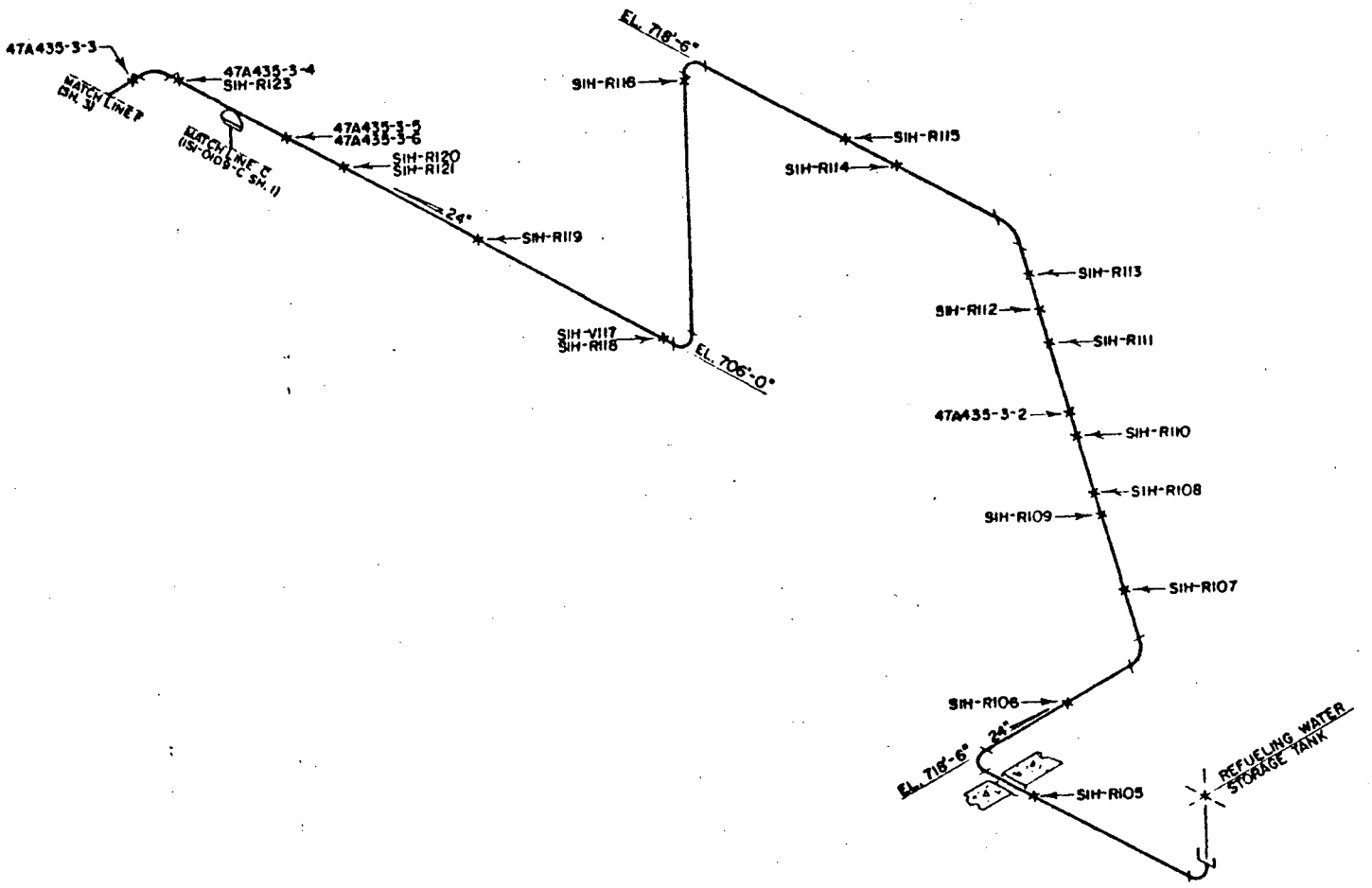
NO.	DATE	REVISIONS	CK'D	APP.
1	1-20-83	CORRECT REFERENCE DRAWINGS REV	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

DATE 1-20-83
SI-0106-C R1

REFERENCE DRAWINGS
47W435-207
CLASS 3



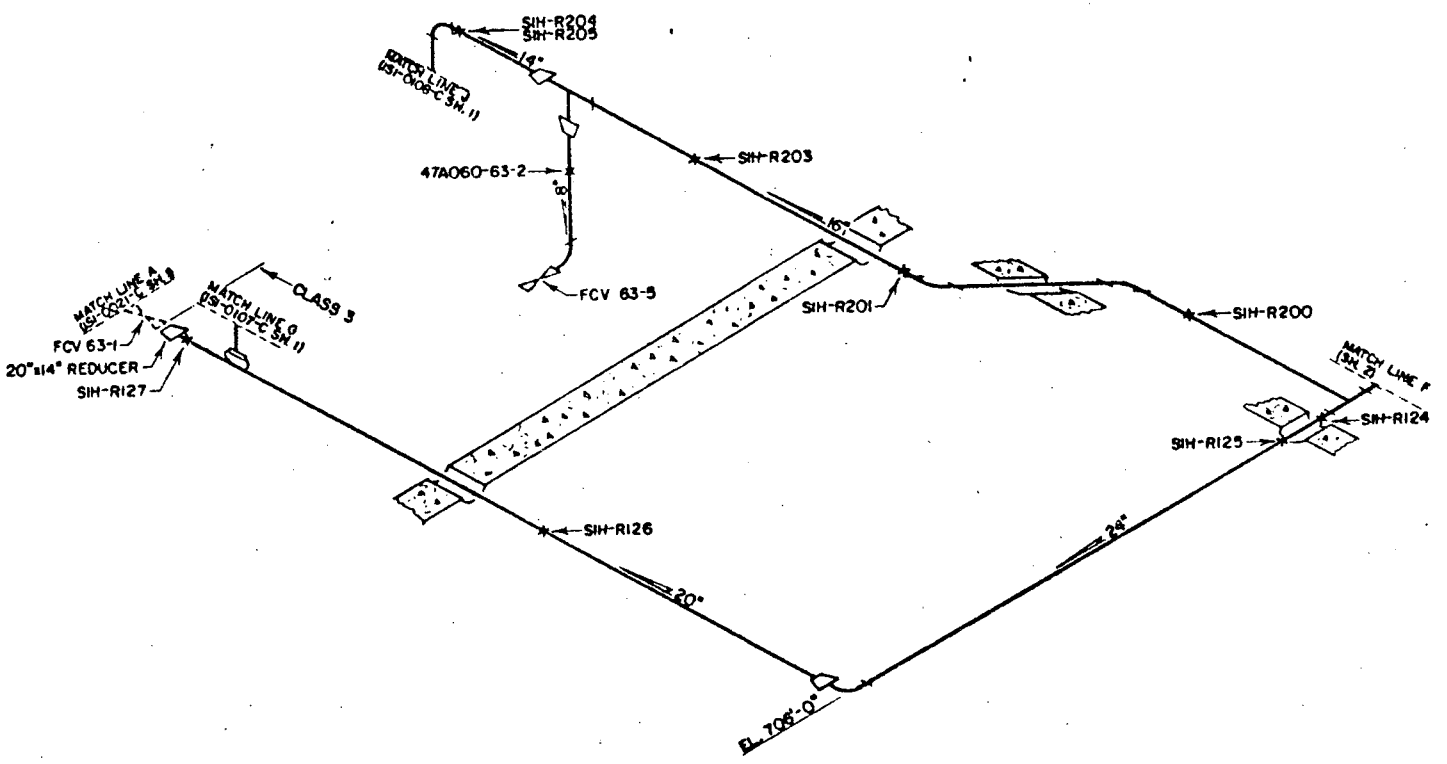
NO.	DATE	REVISIONS	CK'D	APP'D

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

DRAWN N.L.S. | DESIGNED | SUPERVISOR | DATE 2-21-83 | SHEET 2 OF 3 SHEETS
ISI-0106-C R0

REFERENCE DRAWINGS
47W435-207
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP'D

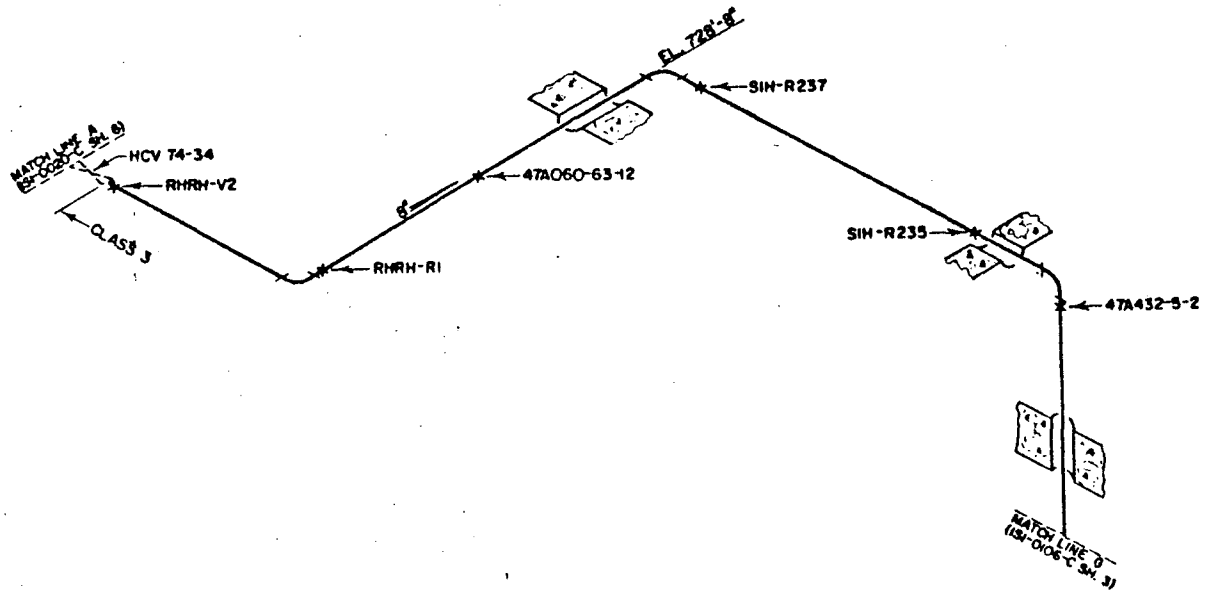
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

DRAWN V.T.S. | DATE 7-2-83 | ISI-0106-C | R0

WBNP
TI-50A
Appendix A
Page 162 of 362
Revision 12

REFERENCE DRAWINGS
47W432-200
47W435-207
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

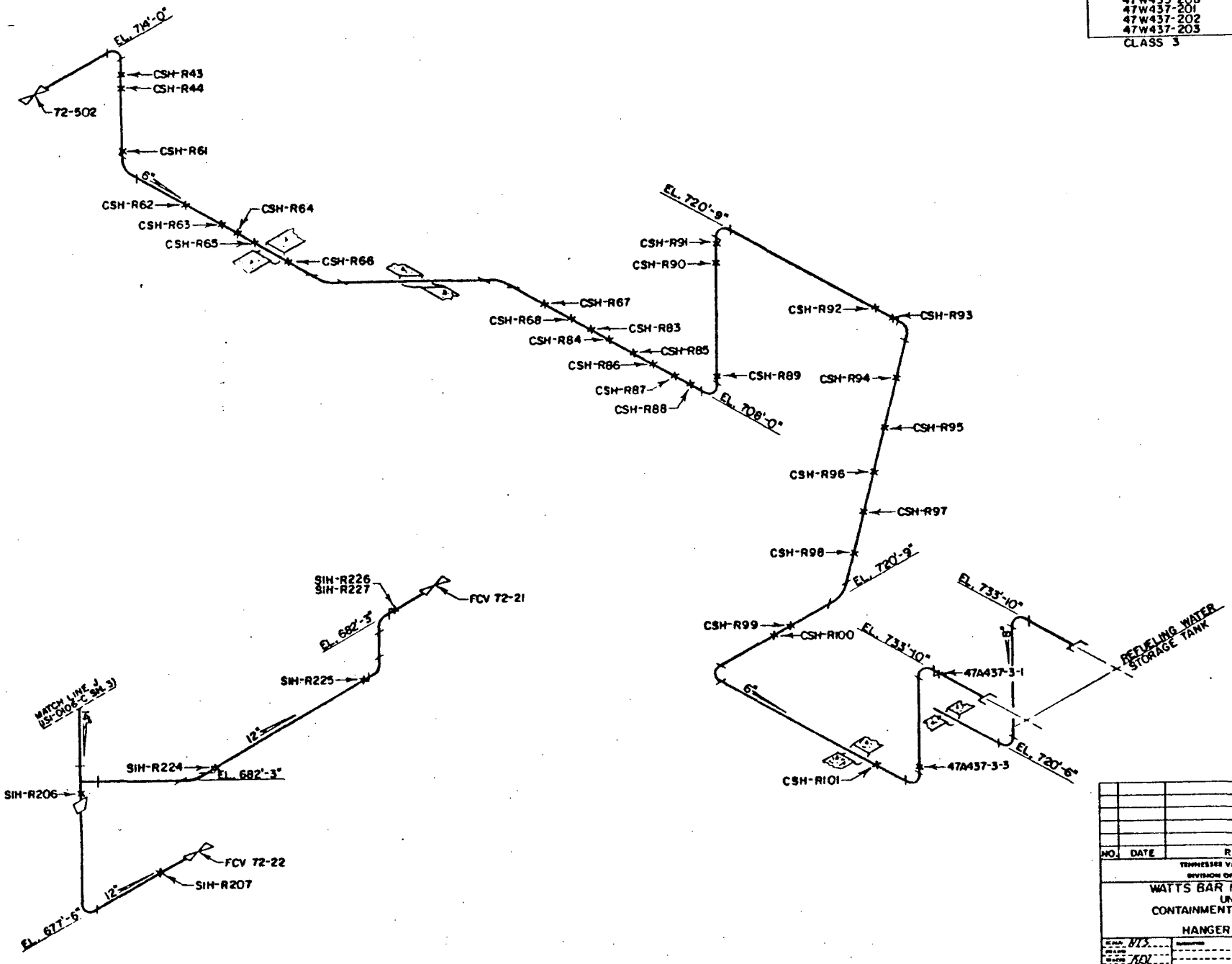
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM

HANGER LOCATIONS

SCALE N.T.S. | DESIGNED | APPROVED | DATE 7-2-83 | SHEET | OF | SHEETS
DRAWN | REVIEWED | ISI-0107-C

REFERENCE DRAWINGS
47W435-208
47W437-201
47W437-202
47W437-203
CLASS 3



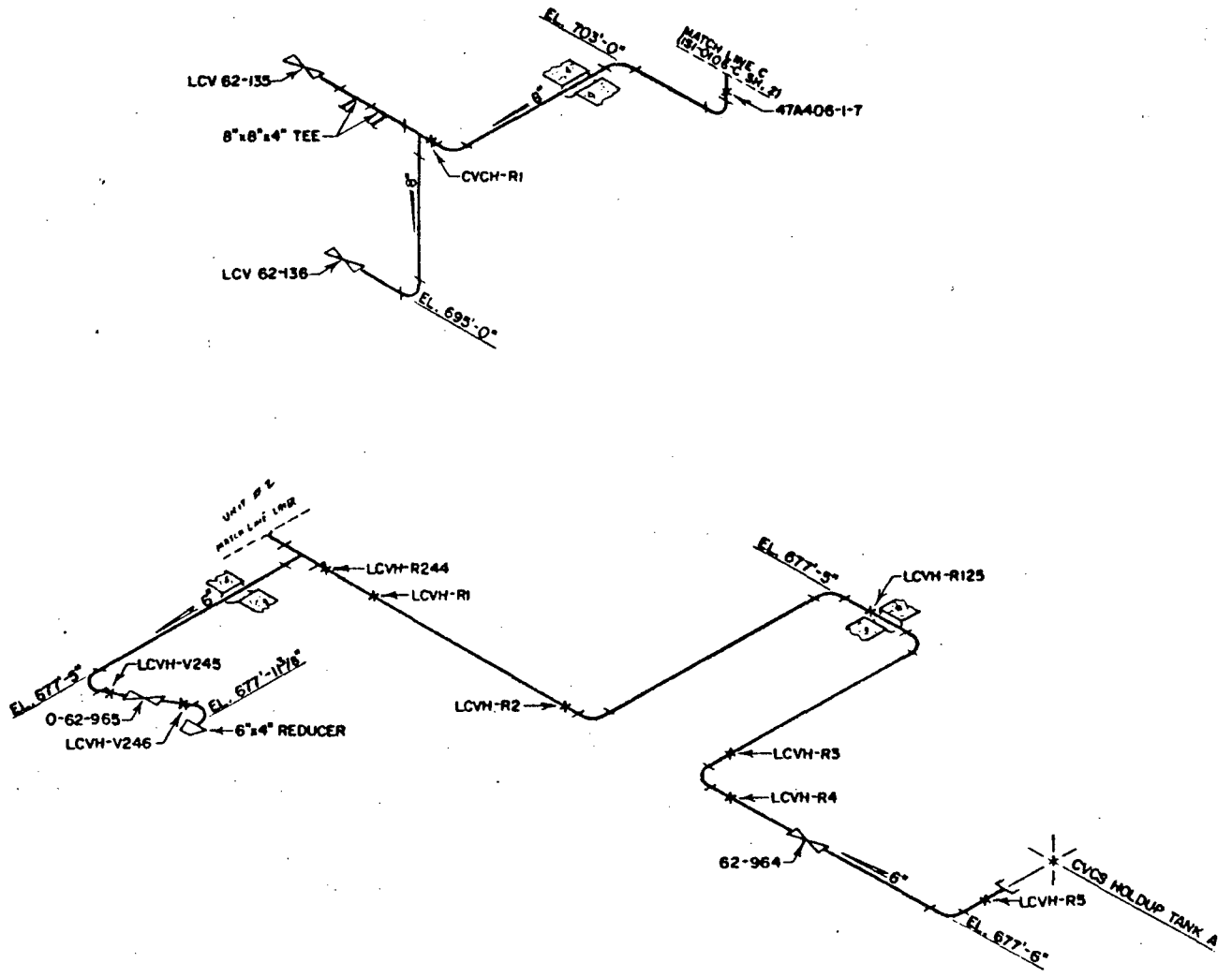
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CONTAINMENT SPRAY SYSTEM
HANGER LOCATIONS

SCALE NTS | DATE 7-21-83 | SI-D108-C | R0

REFERENCE DRAWINGS
47W406-203
47W455-201
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP

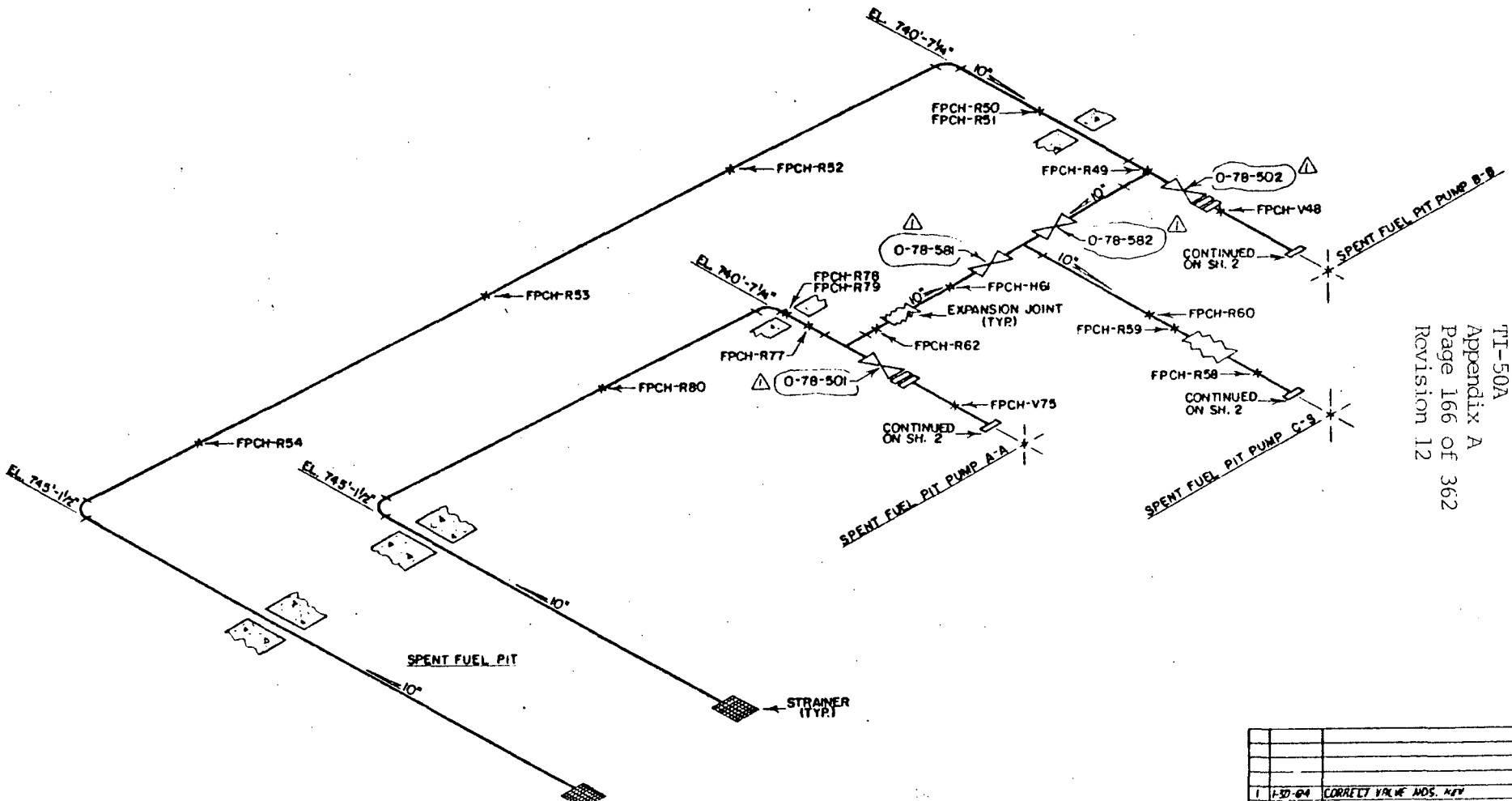
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
CHEMICAL AND VOLUME CONTROL SYSTEM
HANGER LOCATIONS

SCALE NTS | DESIGNED REV | DATE 1-22-81 | ISI-0109-C

RD

REFERENCE DRAWINGS
47W454-200
CLASS 3



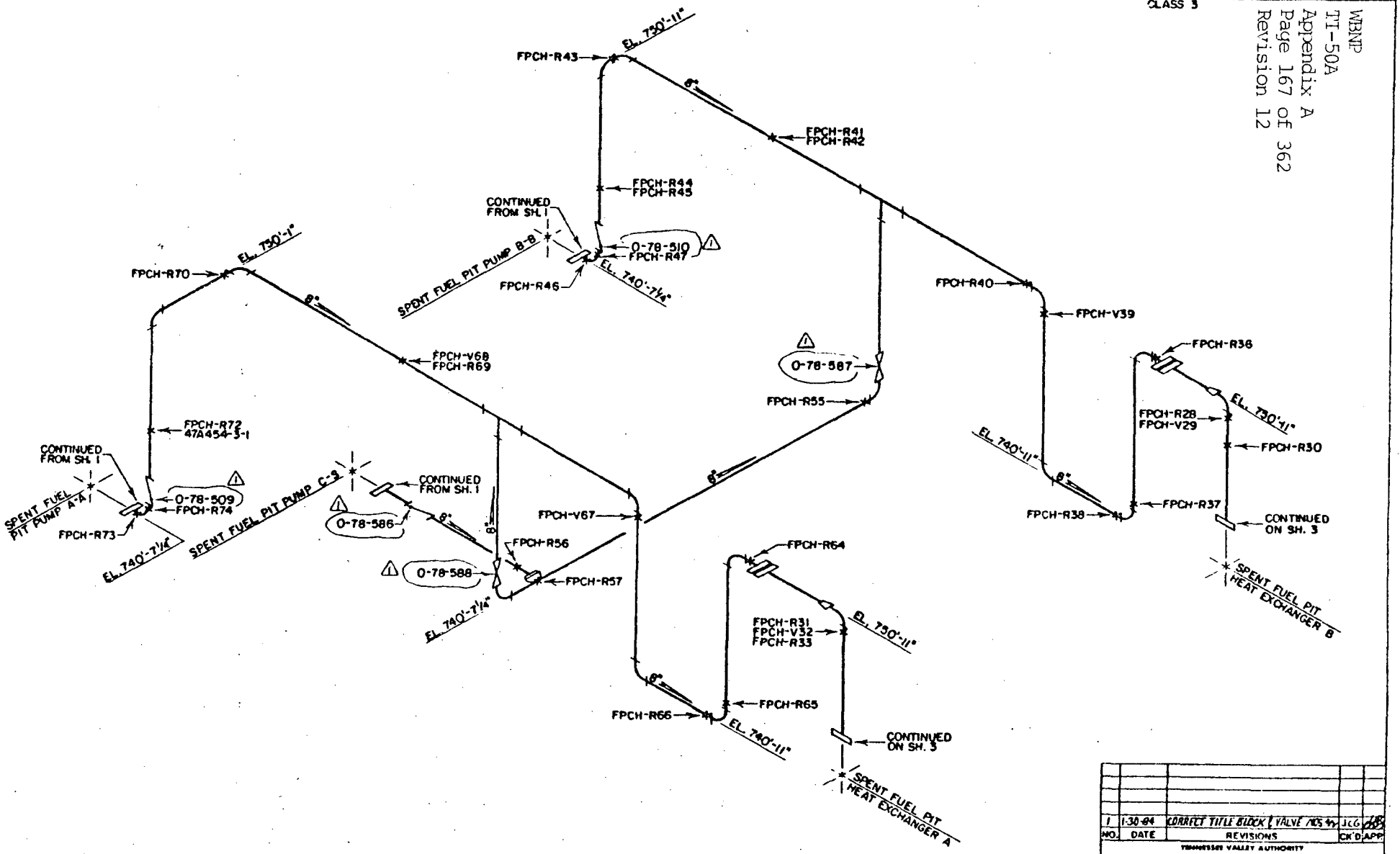
NO	DATE	REVISIONS	CK'D	APP
1	1-30-84	CORRECT VALVE MOS. NEW	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FUEL POOL COOLING AND CLEANING SYSTEM
HANGER LOCATIONS

DATE 7-25-83
1SF0110-C R1

REFERENCE DRAWINGS
47W454-200
47W454-201
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP
1	1-30-84	CORRECT TITLE BLOCK & VALVE NOS.	JCG	

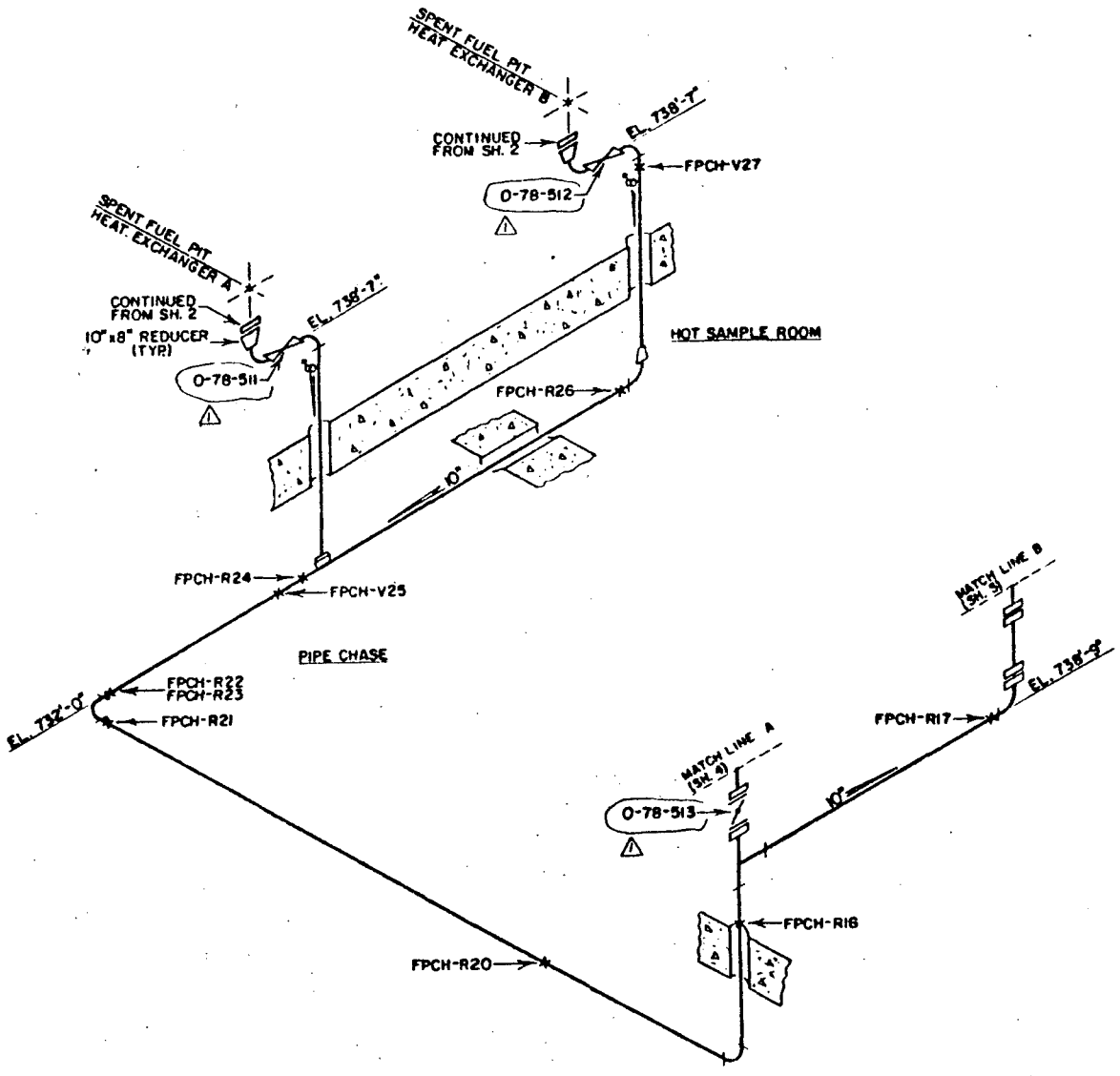
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1

FUEL POOL COOLING AND CLEANING SYSTEM
HANGER LOCATIONS

DRAWN BTS 7-26-83
ISI-0110-C R1

REFERENCE DRAWINGS
47W454-201
CLASS 3



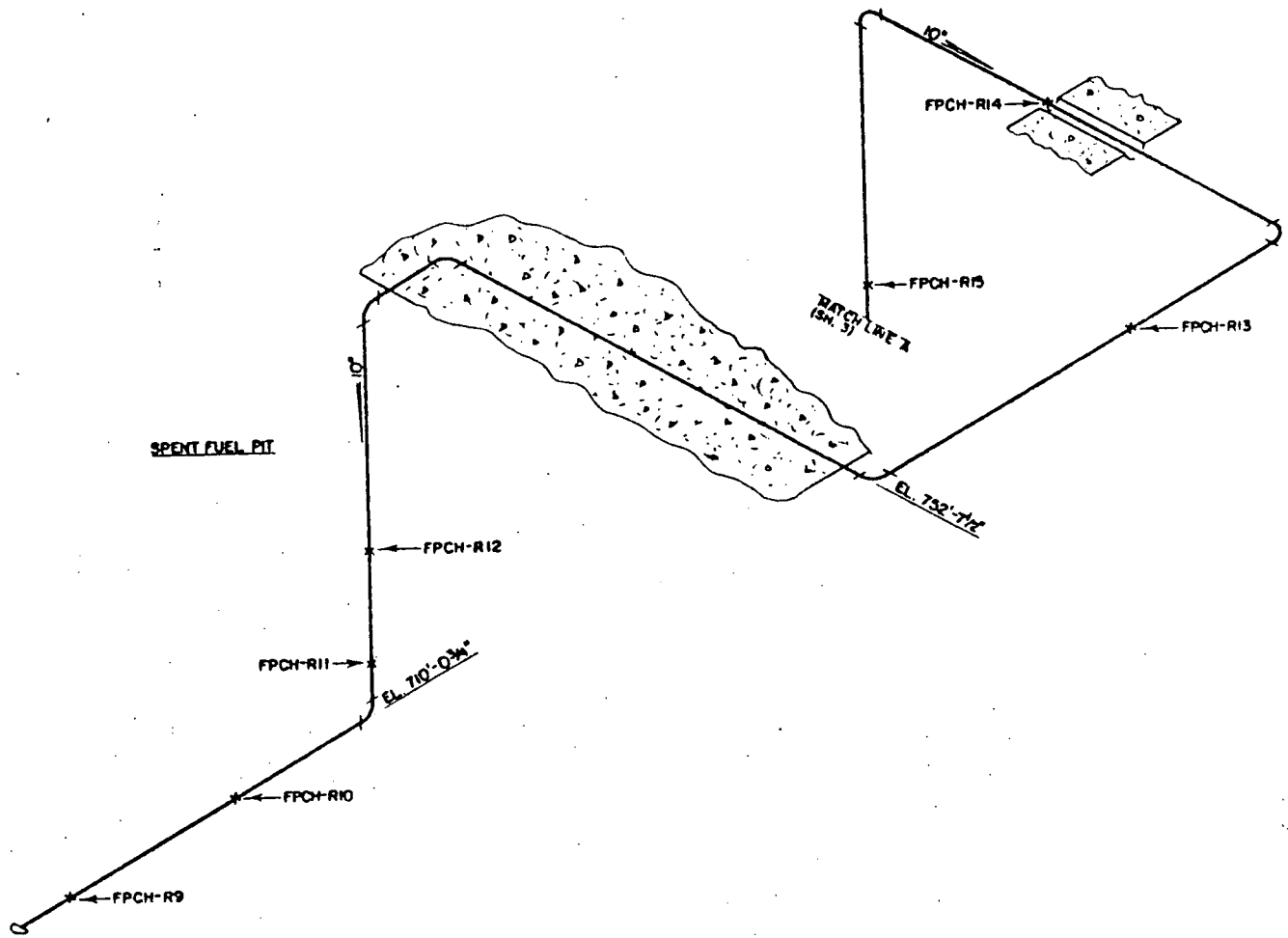
NO.	DATE	REVISIONS	CK'D	APP
1	1-30-84	CORRECT VALVE NUMBERS etc	JCG	

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FUEL POOL COOLING AND CLEANING SYSTEM
HANGER LOCATIONS

DRAWN BTS | CHECKED RCC | APPROVED JJB | DATE 7-26-83 | SCALE NONE | 1SI-0110-C | R1

REFERENCE DRAWINGS
47W454-201
CLASS 3



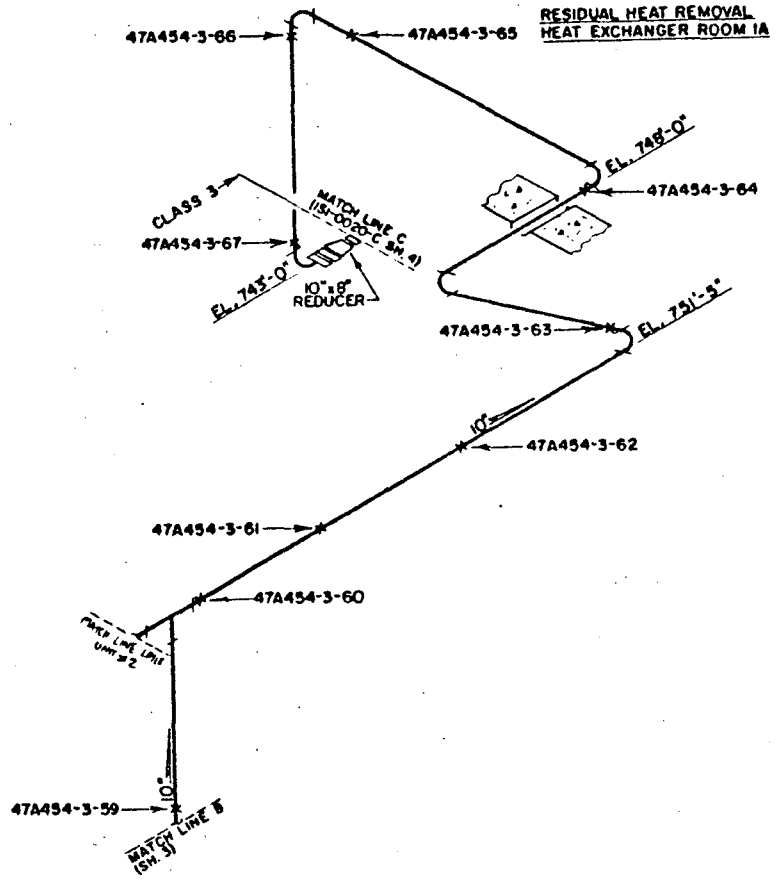
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FUEL POOL COOLING AND CLEANING SYSTEM
HANGER LOCATIONS

DRAWN 07S
DESIGNED XOY
7-26-83
1SI-0110-C
R0

REFERENCE DRAWINGS
47W454-3
CLASS 3



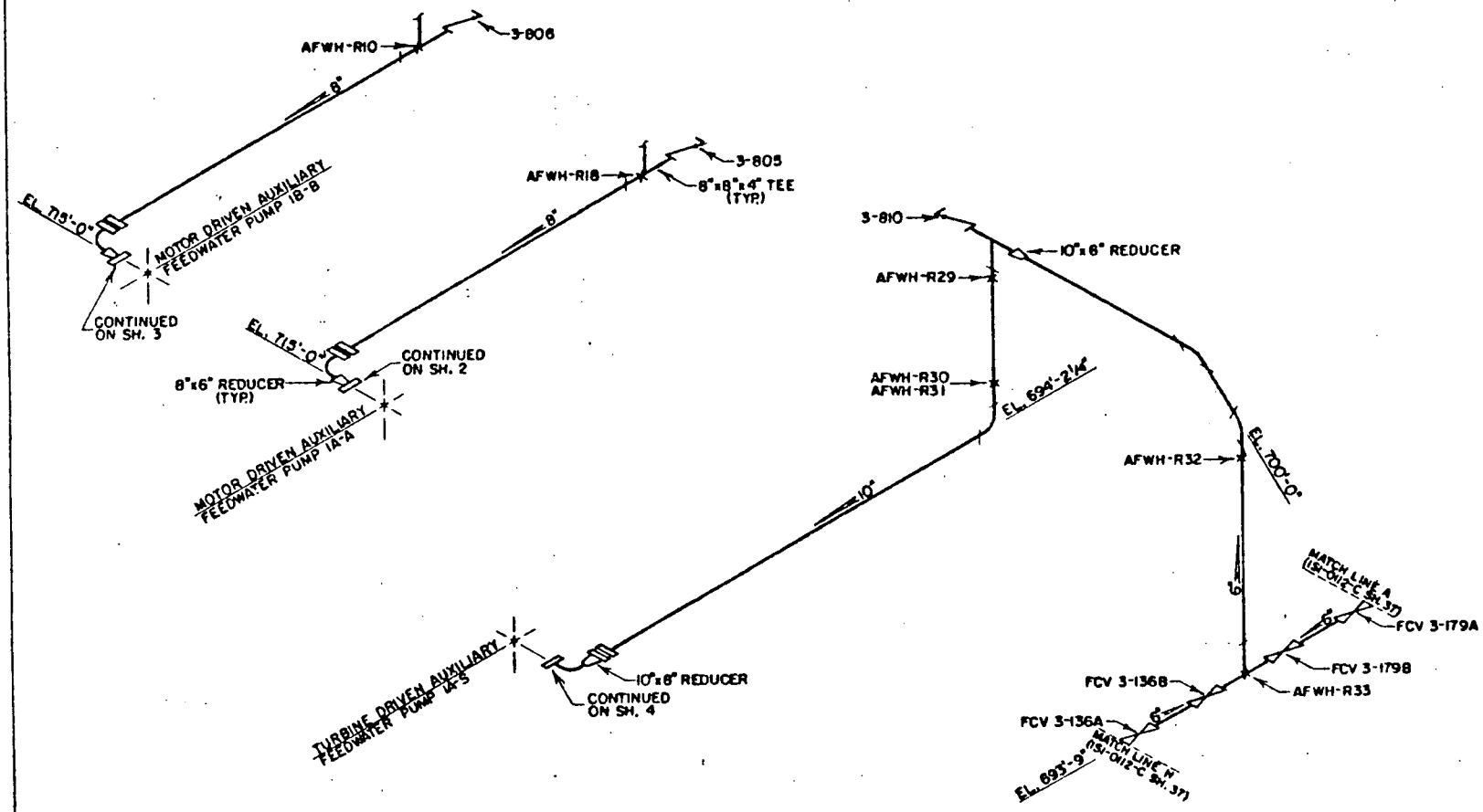
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FUEL POOL COOLING AND CLEANING SYSTEM
HANGER LOCATIONS

DATE 7-26-83
ISI-0110-C
RO

REFERENCE DRAWINGS
47W427-206
CLASS 3



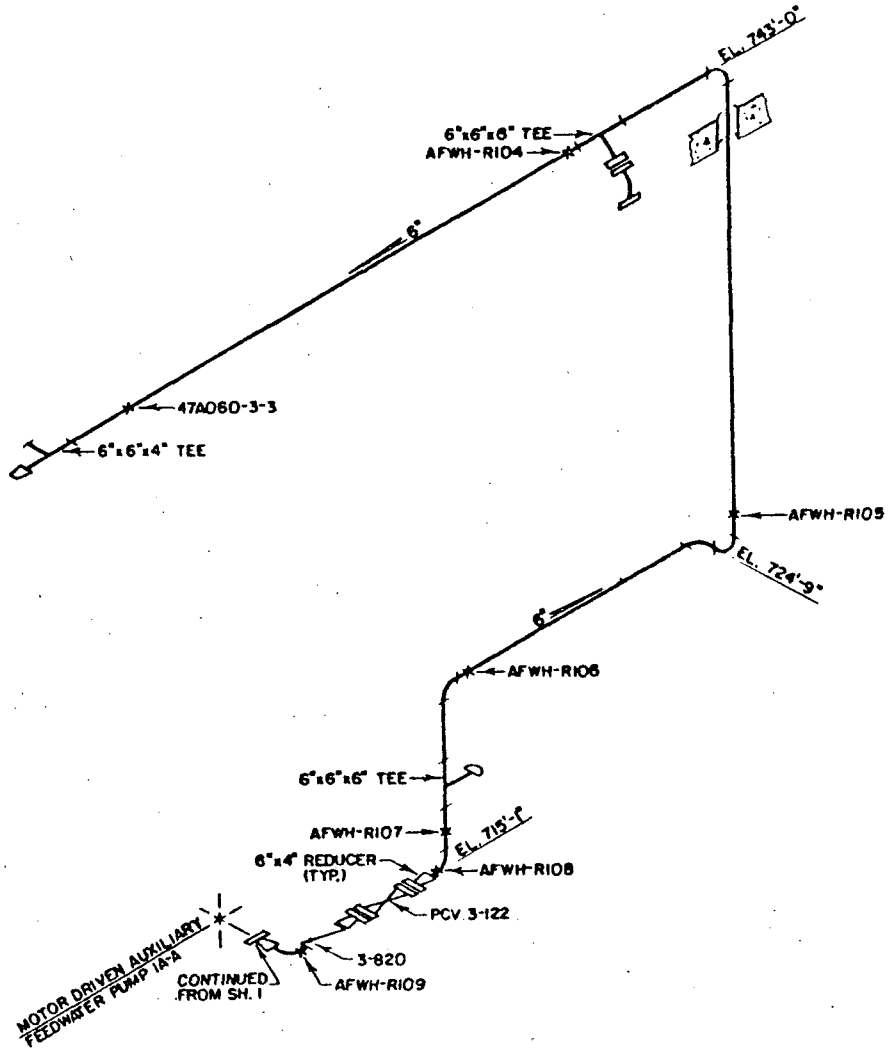
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
AUXILIARY FEEDWATER SYSTEM
HANGER LOCATIONS

DATE 7-27-83
1SI-0111-C
R0

REFERENCE DRAWINGS
47W427-201
47W427-203
CLASS 3



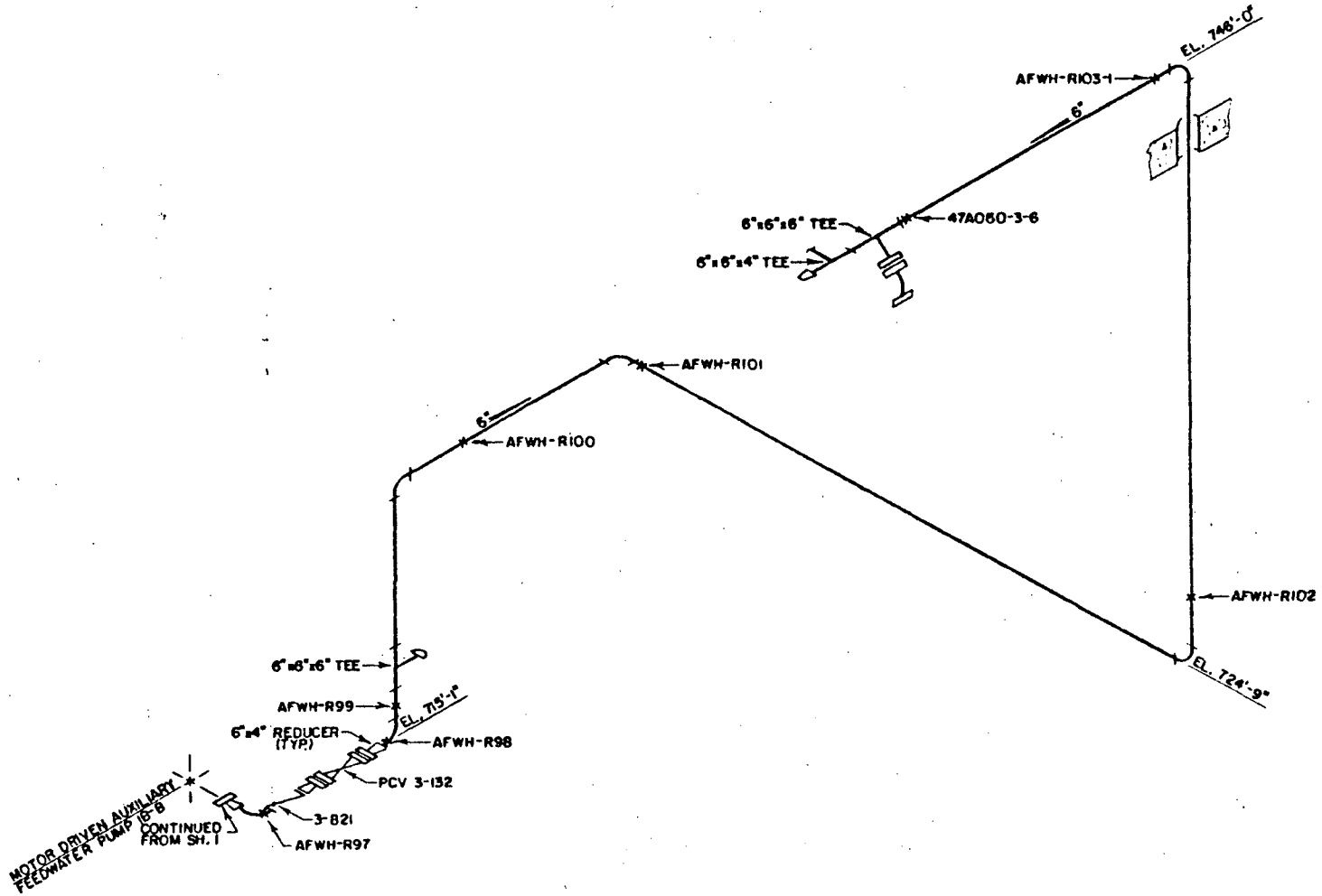
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
AUXILIARY FEEDWATER SYSTEM
AUXILIARY LOCATIONS

DRAWN RLS | SUBMITTED | APPROVED HJB | DATE 7-27-83 | SHEET 2 OF 4 SHEETS
REV. | ISI-0111-C | R0

REFERENCE DRAWINGS
47W427-202
47W427-203
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

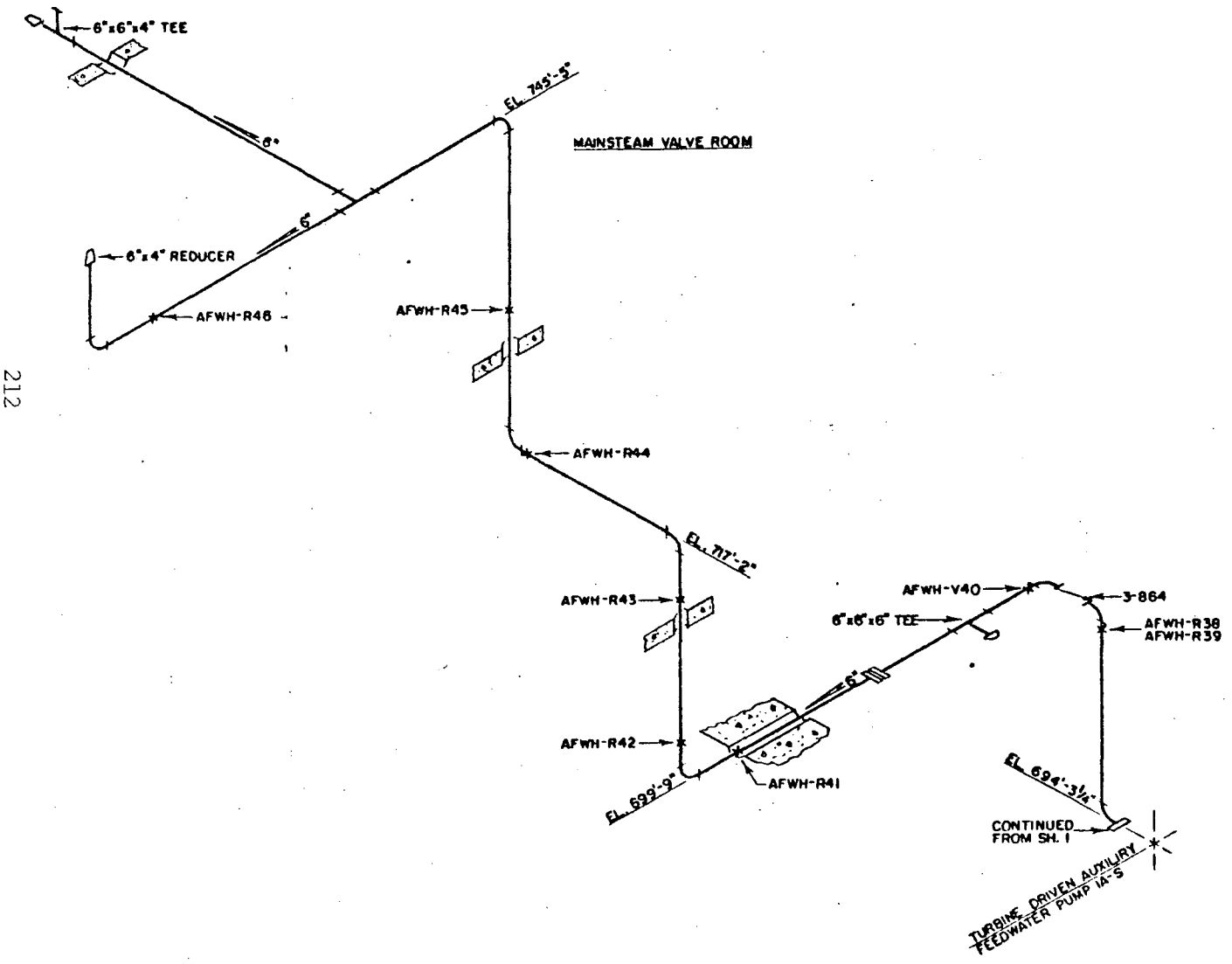
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
AUXILIARY FEEDWATER SYSTEM

HANGER LOCATIONS

DATE 7-27-83
ISI-011-C
Ro

REFERENCE DRAWINGS
47W427-200
CLASS 3



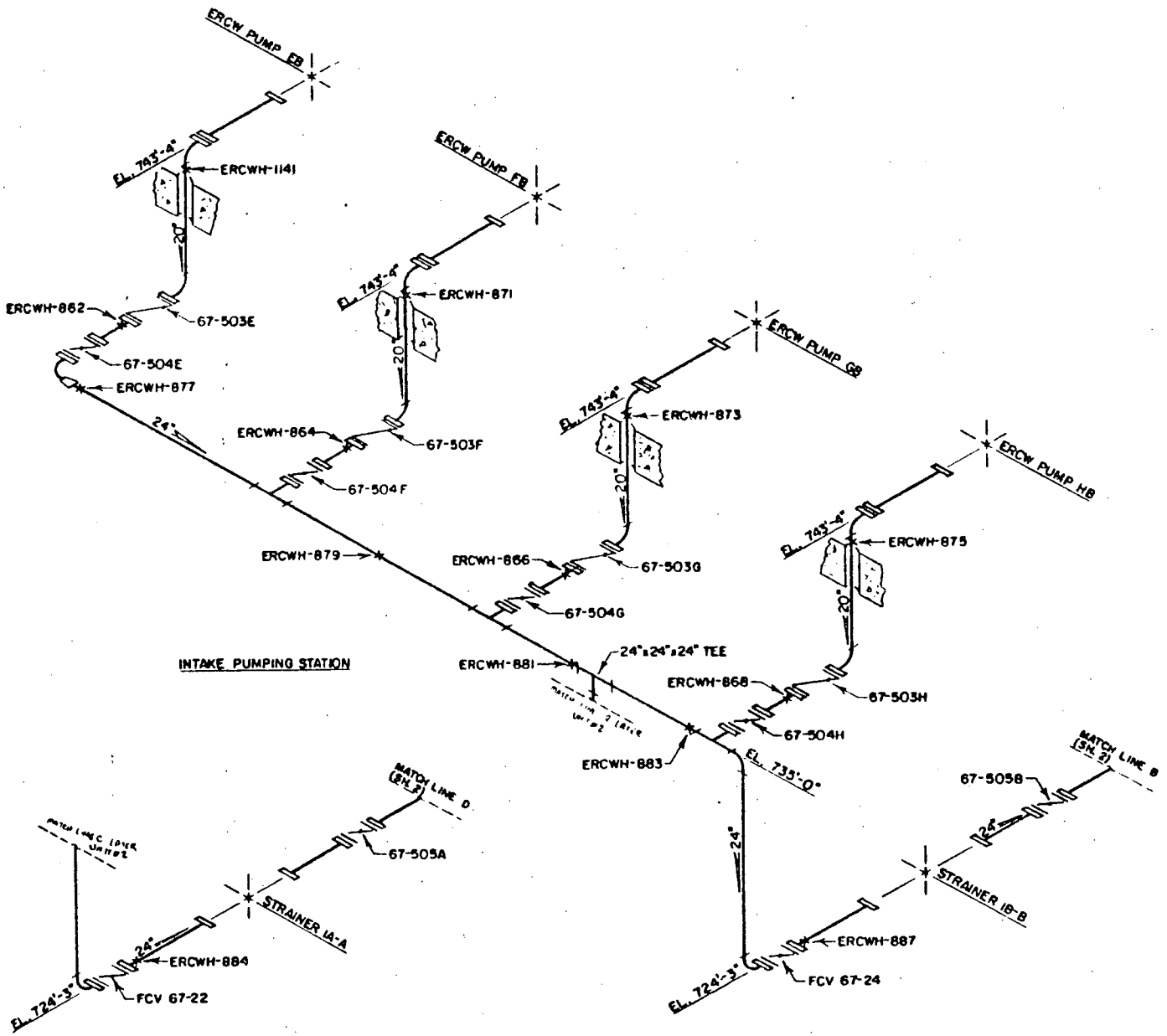
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
AUXILIARY FEEDWATER SYSTEM
HANGER LOCATIONS

DRAWN RTS | SUBMITTED | APPROVED | DATE 7-28-83 | SHEET 4 OF 4 SHEETS
REVIEWED | REVIEWED | REVIEWED | ISI-0111-C

REFERENCE DRAWINGS
37W206-300
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

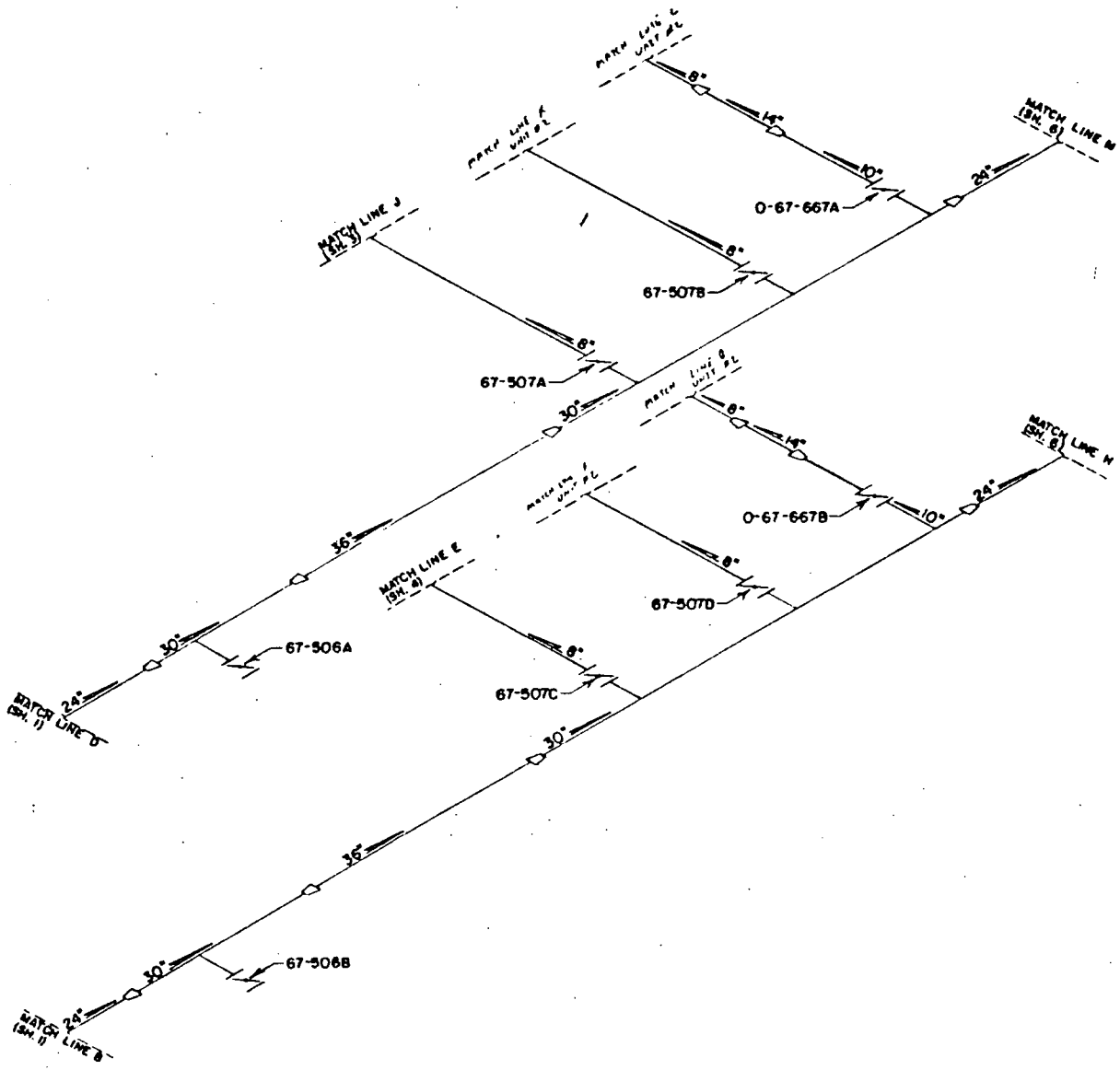
WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL, RAW COOLING WATER SYSTEM
HANGER LOCATIONS

SCALE NTS. | DATE 7-28-83 | 1SI-0112-C | R0

REFERENCE DRAWINGS
17W302 SERIES

NOTES
1. THIS DRAWING DOES NOT SHOW THE TRUE PIPE CONFIGURATION.
2. ALL PIPING ON THIS DRAWING IS BURIED.

CLASS 3



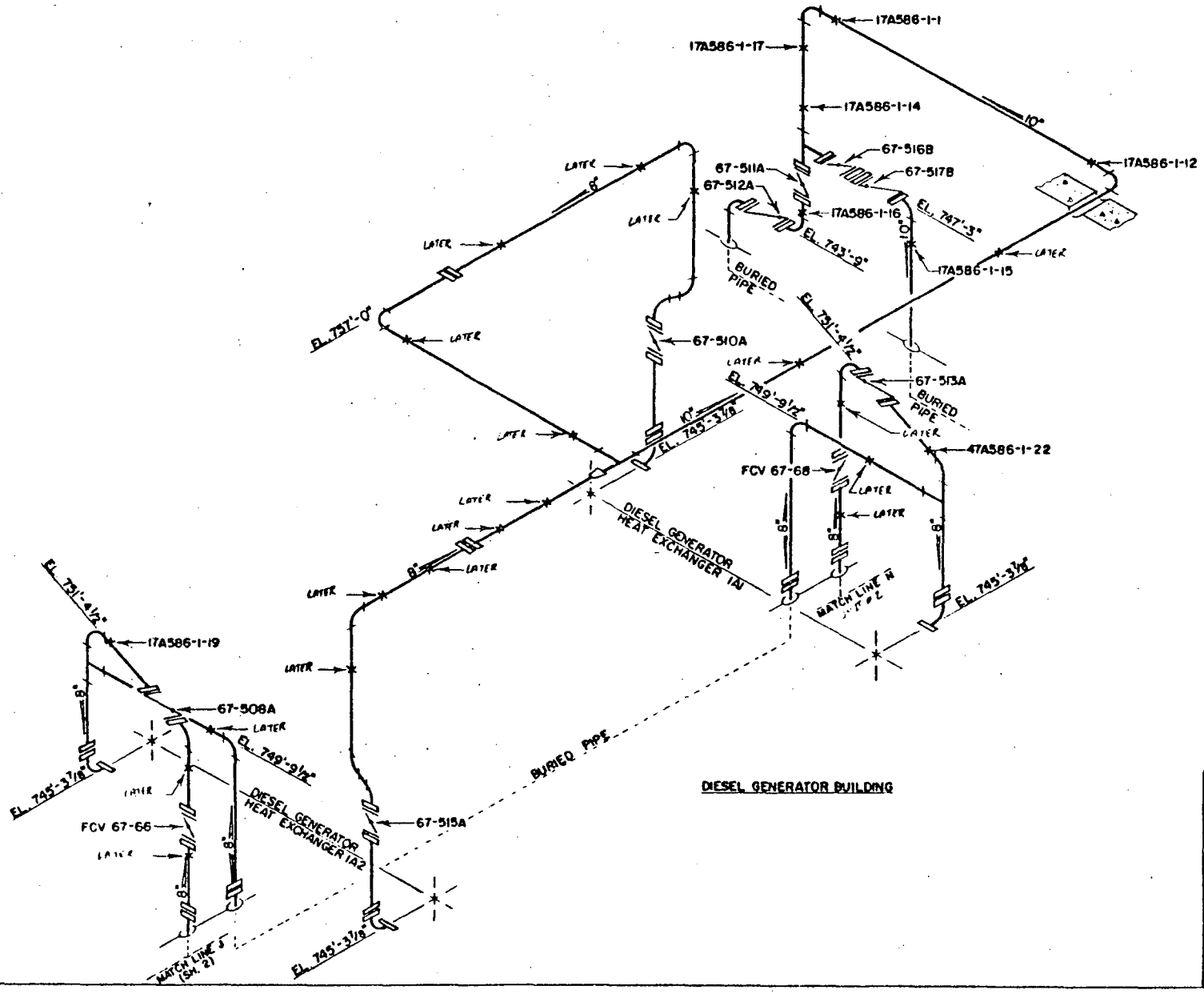
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DATE 12-2-83
SHEET 2 OF 10
1SI-0112-C
R0

REFERENCE DRAWINGS
17W586 SERIES
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP

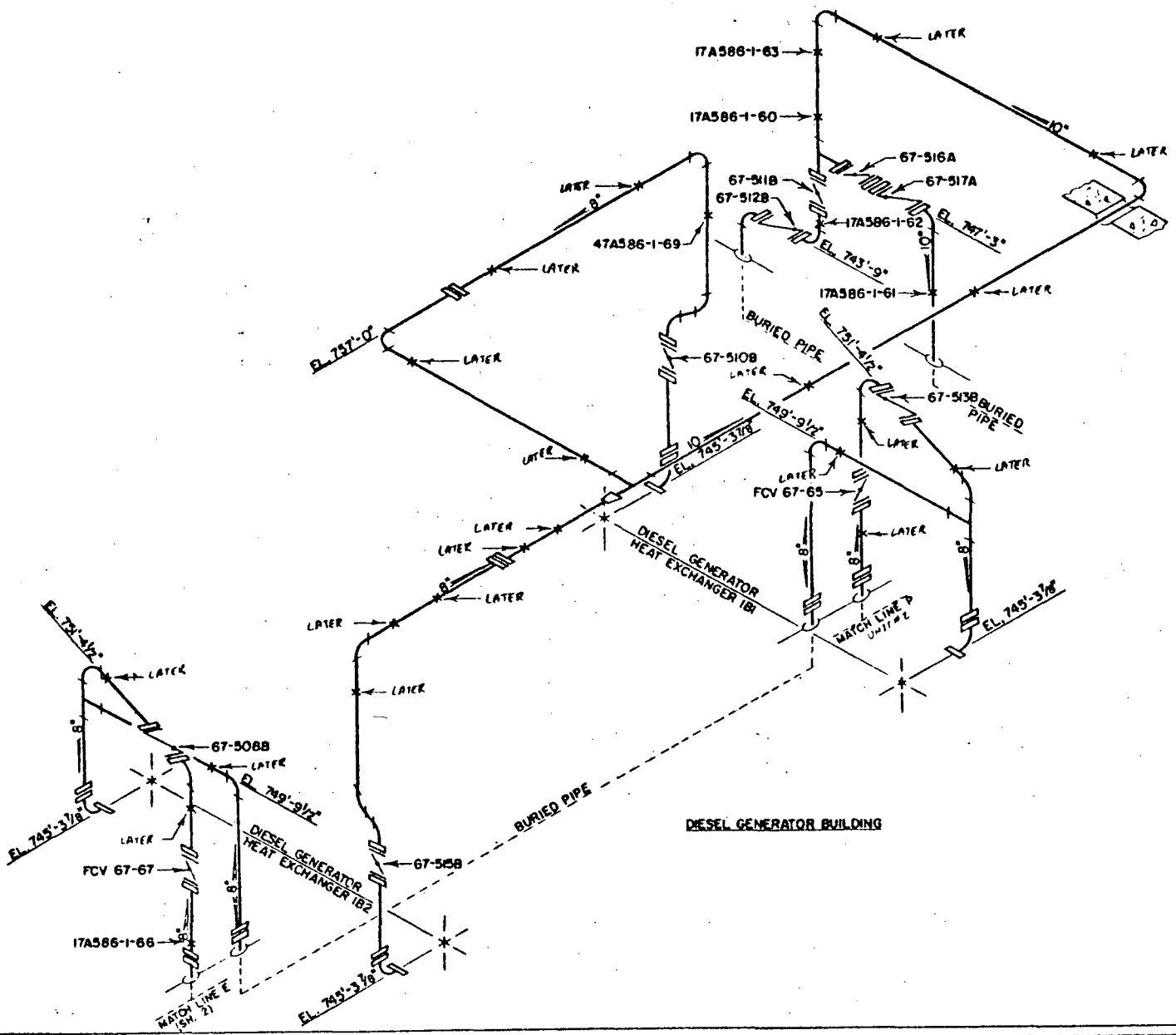
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DATE 7-30-83
ISI-0112-C

RO

REFERENCE DRAWINGS
17W586 SERIES
CLASS 3



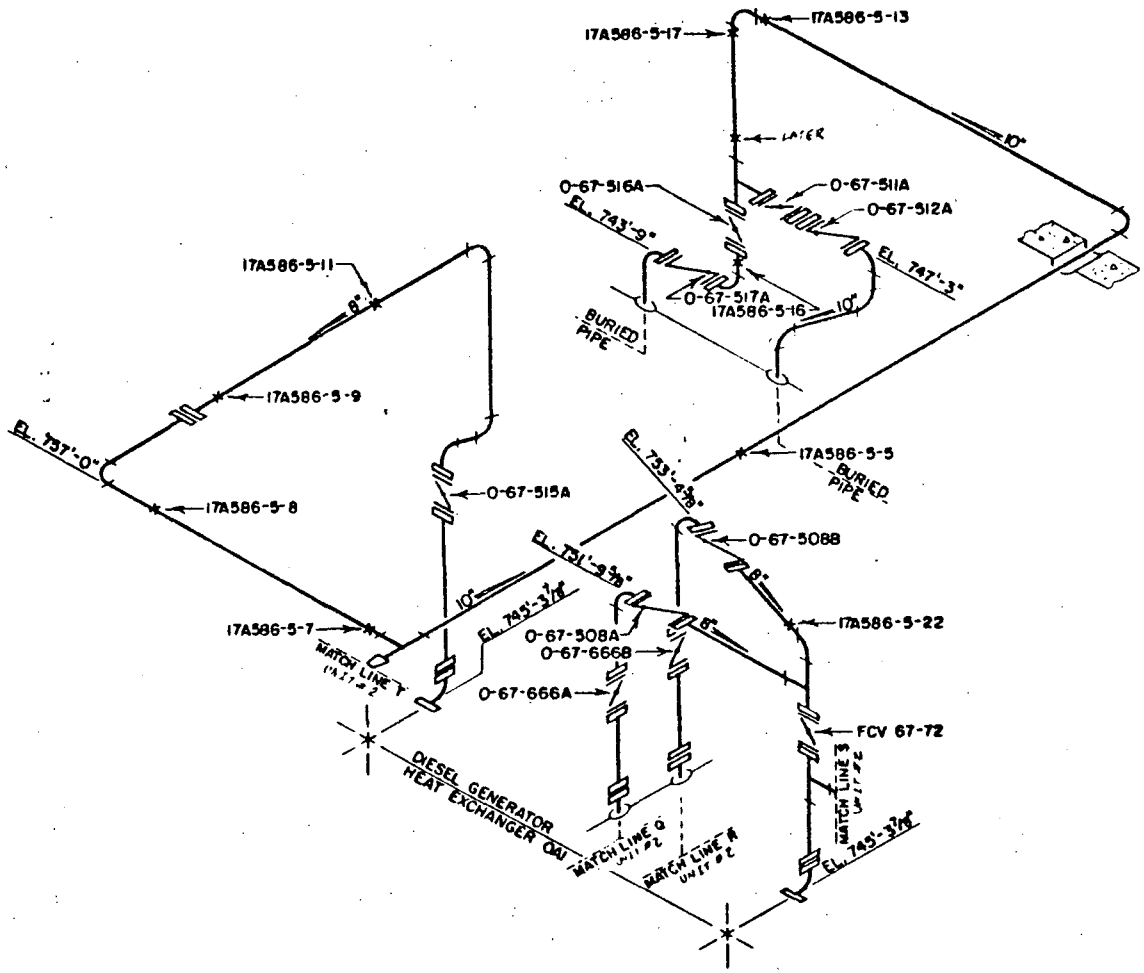
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DATE 7-30-83
1SI-0112-C
RO

REFERENCE DRAWINGS
17W586 SERIES
CLASS 3



ADDITION DIESEL GENERATOR BUILDING

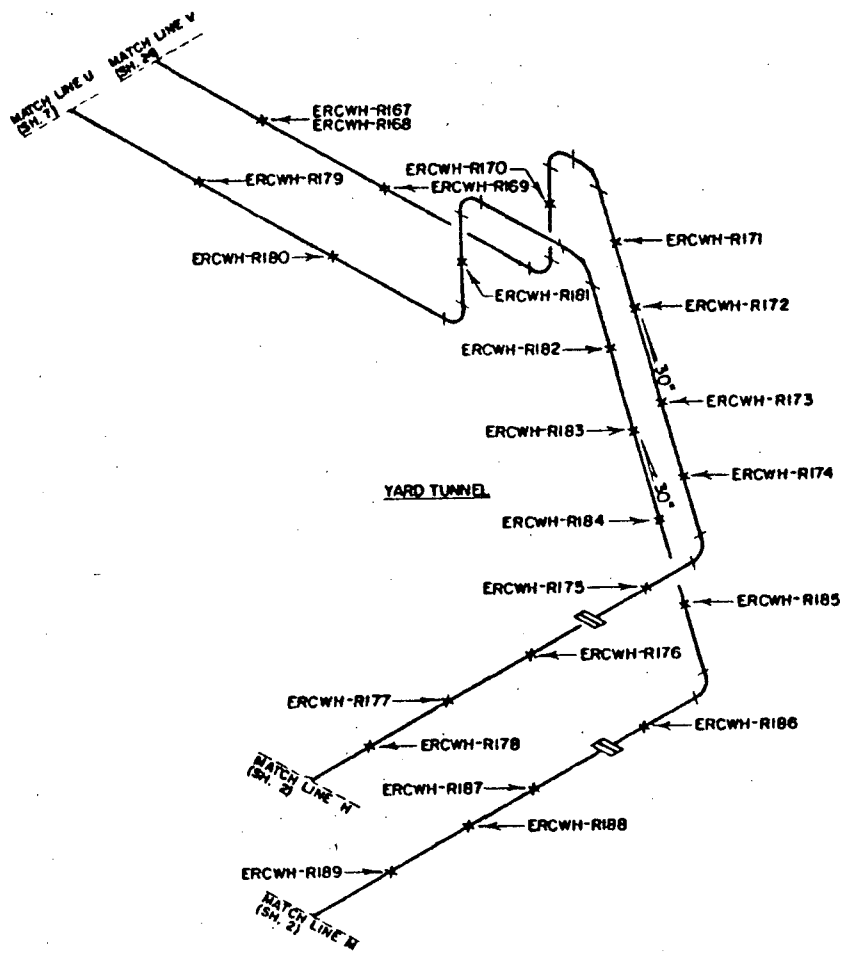
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN RKS
DESIGNED SEF
CHECKED
PROJECT ISG
SUBMITTED
APPROVED
DATE 8-2-83
SCALE 1" = 10'-0"
1SI-0112-C
R0

REFERENCE DRAWINGS
47W450-217
47W450-248
CLASS 3



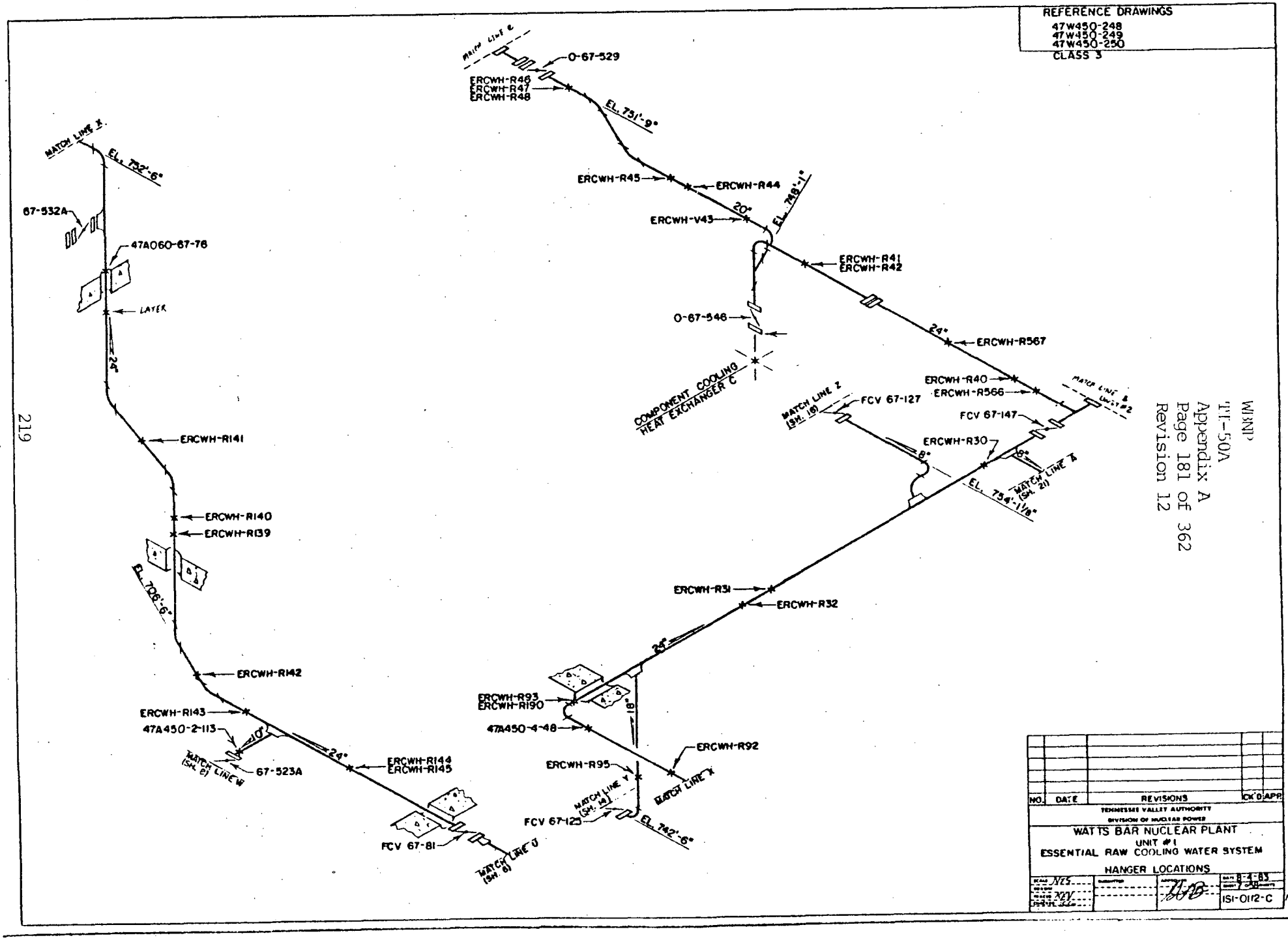
NO.	DATE	REVISIONS	CK'D	APP'D

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

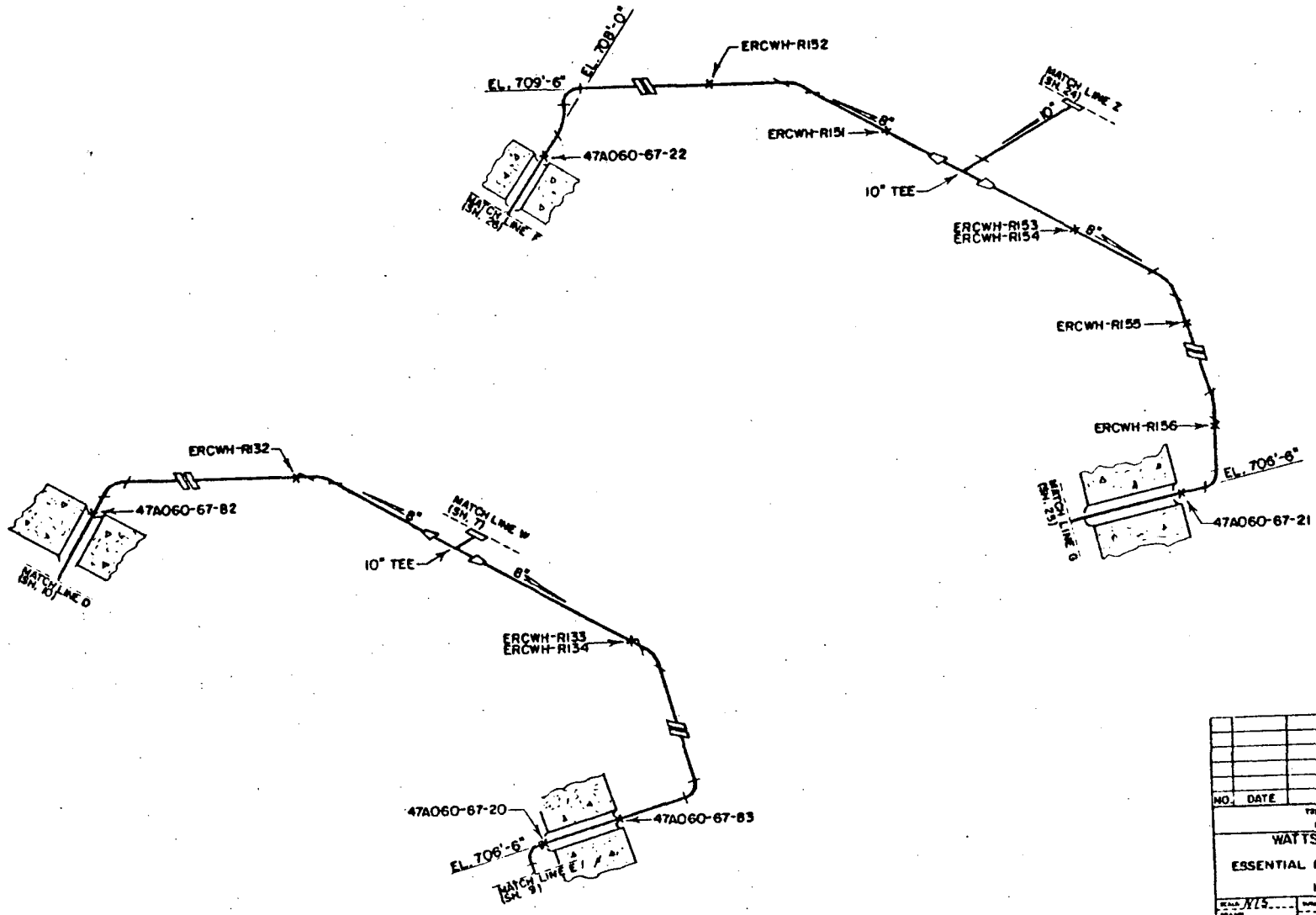
WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM

HANGER LOCATIONS

DRAWN NTS
DATE 8-2-83
1SI-0112-C
R0


REFERENCE DRAWINGS
47W450-248
47W450-249
47W450-250
CLASS 3
MATCH LINE E
O-67-529
ERCWH-R46
ERCWH-R47
ERCWH-R48
EL. 751'-9"
ERCWH-R45
ERCWH-R44
EL. 748'-1"
20"
ERCWH-V43
ERCWH-R41
ERCWH-R42
O-67-546
24"
ERCWH-R567
COMPONENT COOLING HEAT EXCHANGER C
ERCWH-R40
ERCWH-R566
MATCH LINE B UNIT #2
MATCH LINE Z (SH. 15)
FCV 67-127
FCV 67-147
ERCWH-R30
8"
8"
MATCH LINE A (SH. 21)
EL. 754'-1 1/8"
ERCWH-R31
ERCWH-R32
25"
18"
ERCWH-R93
ERCWH-R190
47A450-4-48
ERCWH-R92
ERCWH-R95
MATCH LINE Y (SH. 14)
MATCH LINE X
FCV 67-125
EL. 742'-6"
FCV 67-81
MATCH LINE U (SH. 6)
ERCWH-R144
ERCWH-R145
24"
10"
ERCWH-R143
47A450-2-113
MATCH LINE W (SH. 8)
67-523A
ERCWH-R142
EL. 706'-6"
ERCWH-R140
ERCWH-R139
ERCWH-R141
24"
LAYER
47A060-67-76
67-532A
MATCH LINE T
EL. 732'-6"
NO. DATE REVISIONS CK'D APP.
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS
SCALE NES
DRAWN NEV
DATE 8-4-83
1SI-0112-C
R0

REFERENCE DRAWINGS
47W450-217
47W450-248
CLASS 3



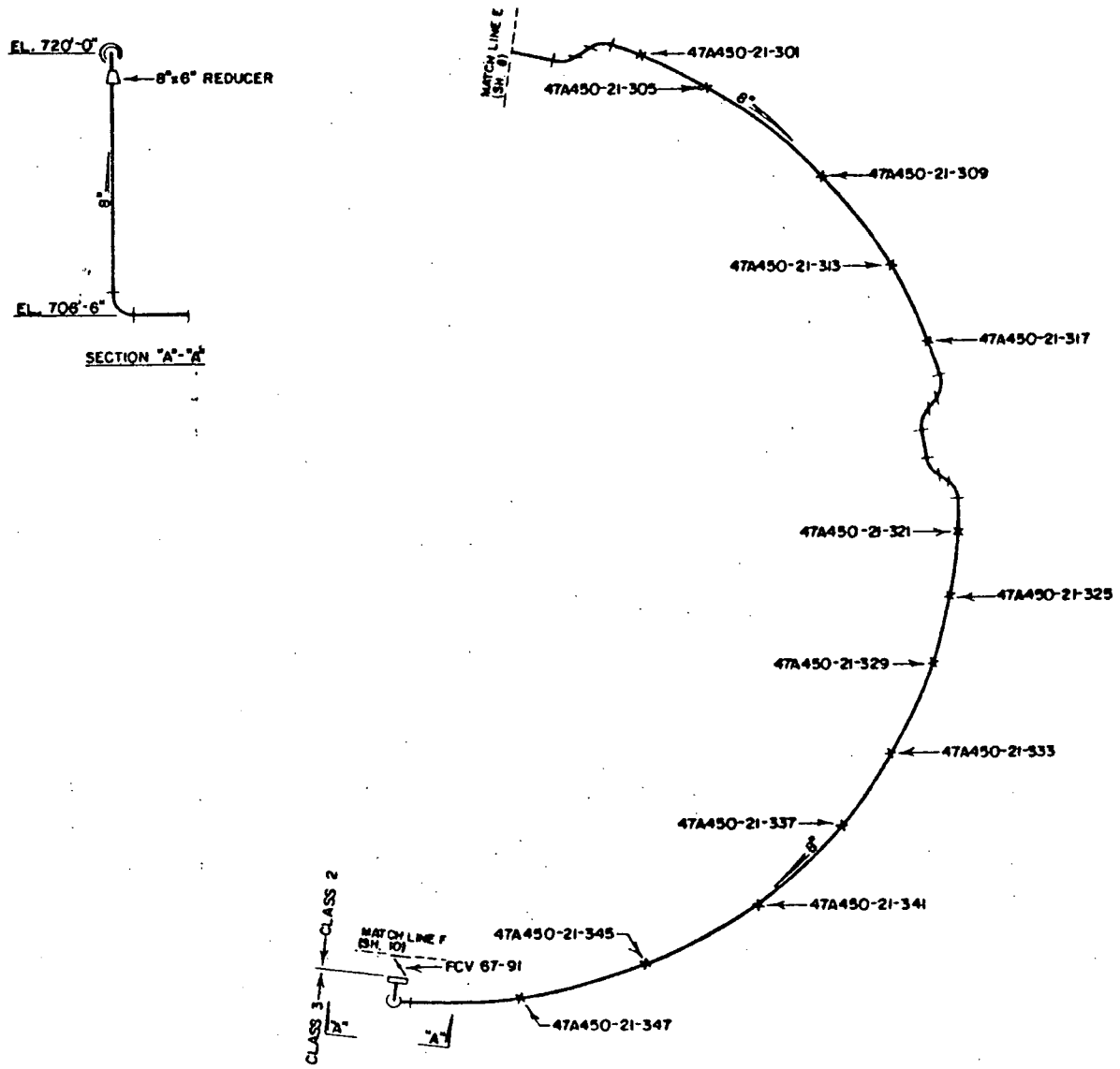
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

SCALE NTS | DATE 8-4-82 | SHEET 8 OF 10 SHEETS | 1SI-0112-C | R0

REFERENCE DRAWINGS
47W450-244
CLASS 3

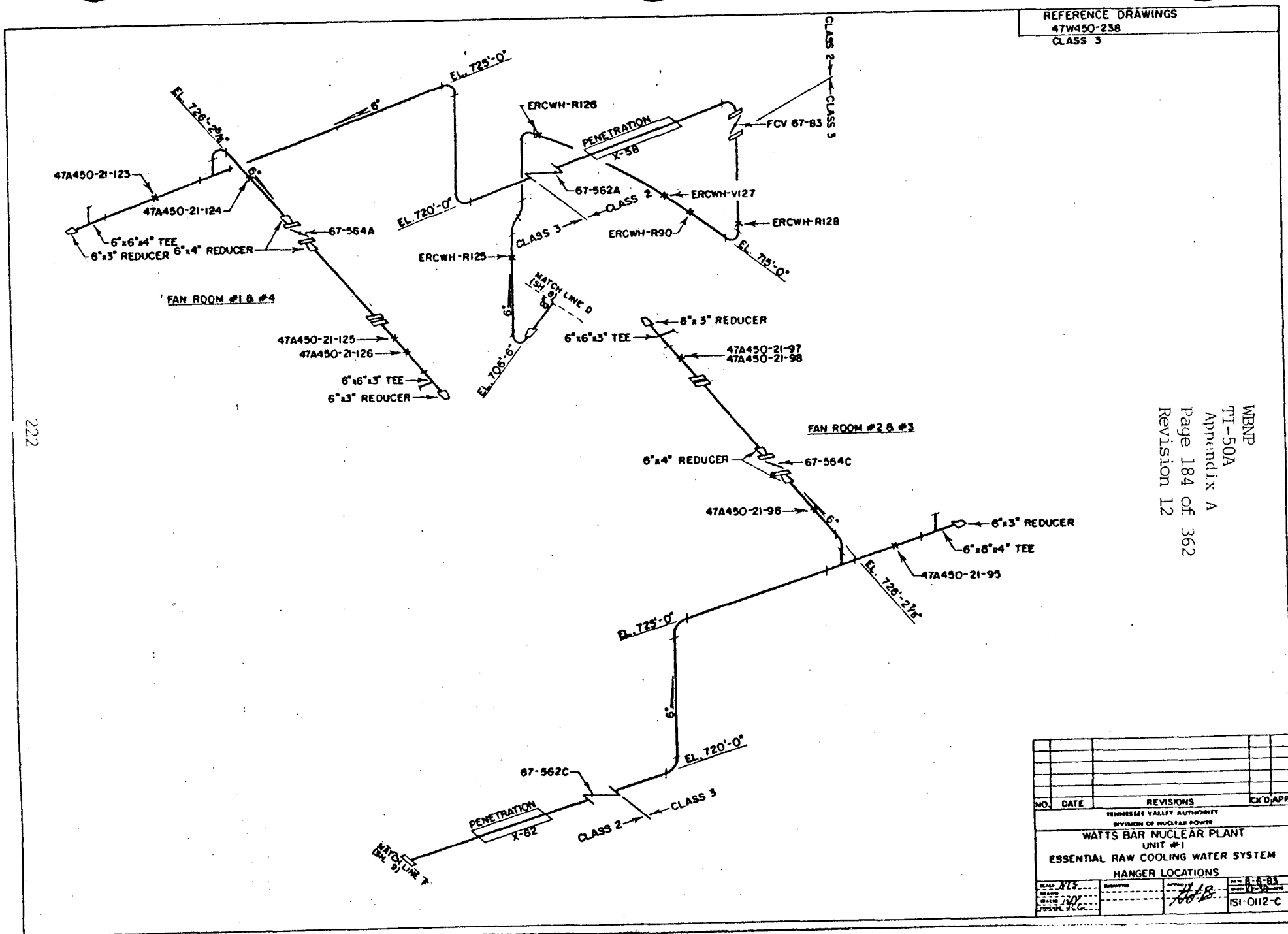


NO.	DATE	REVISIONS	CK'D	APP.

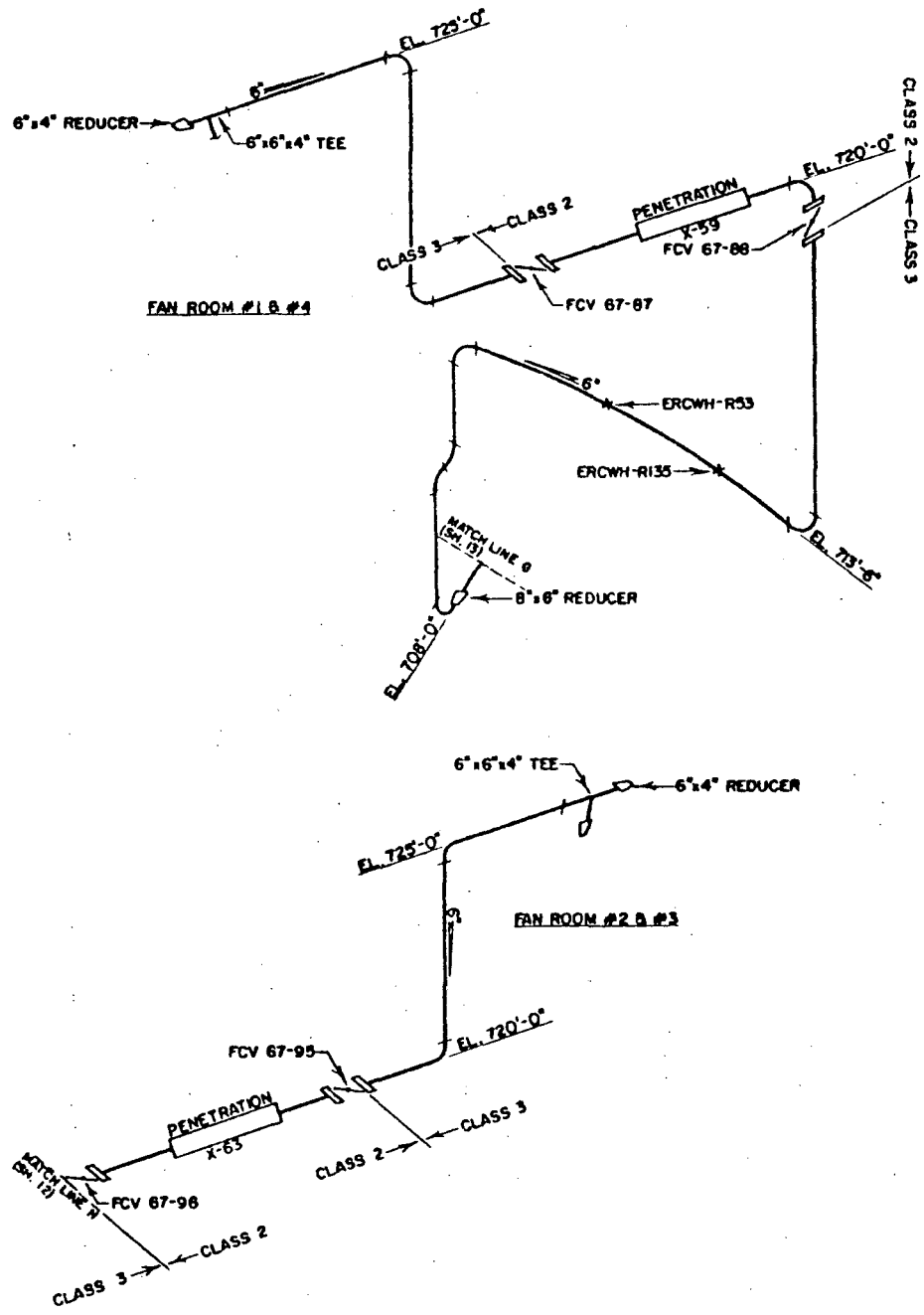
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

SCALE NTS
DRAWN
TRACED
DESIGN
CHECKED
DATE 8-5-83
SHEET 9 OF 10
1S1-0112-C
RO


REFERENCE DRAWINGS
47W450-238
CLASS 3
CLASS 2
CLASS 3
EL. 725'-0"
EL. 726'-2 1/8"
6"
ERCWH-R126
PENETRATION
X-58
FCV 67-83
47A450-21-123
47A450-21-124
6"x6"x4" TEE
6"x3" REDUCER
6"x4" REDUCER
67-564A
EL. 720'-0"
67-562A
CLASS 2
ERCWH-V127
ERCWH-R128
ERCWH-R90
EL. 715'-0"
CLASS 3
ERCWH-R125
MATCH LINE D
FAN ROOM #1 & #4
47A450-21-125
47A450-21-126
6"x6"x3" TEE
6"x3" REDUCER
EL. 708'-6"
6"x3" REDUCER
6"x6"x3" TEE
47A450-21-97
47A450-21-98
FAN ROOM #2 & #3
6"x4" REDUCER
67-564C
47A450-21-96
6"x3" REDUCER
6"x6"x4" TEE
47A450-21-95
EL. 726'-2 1/8"
EL. 725'-0"
EL. 720'-0"
67-562C
PENETRATION
X-62
CLASS 3
CLASS 2
MATCH LINE F
NO. DATE REVISIONS CK'D APP.
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS
1S1-0112-C
R0

REFERENCE DRAWINGS
47W450-206
47W450-237
47W450-241
47W450-245
CLASS 3



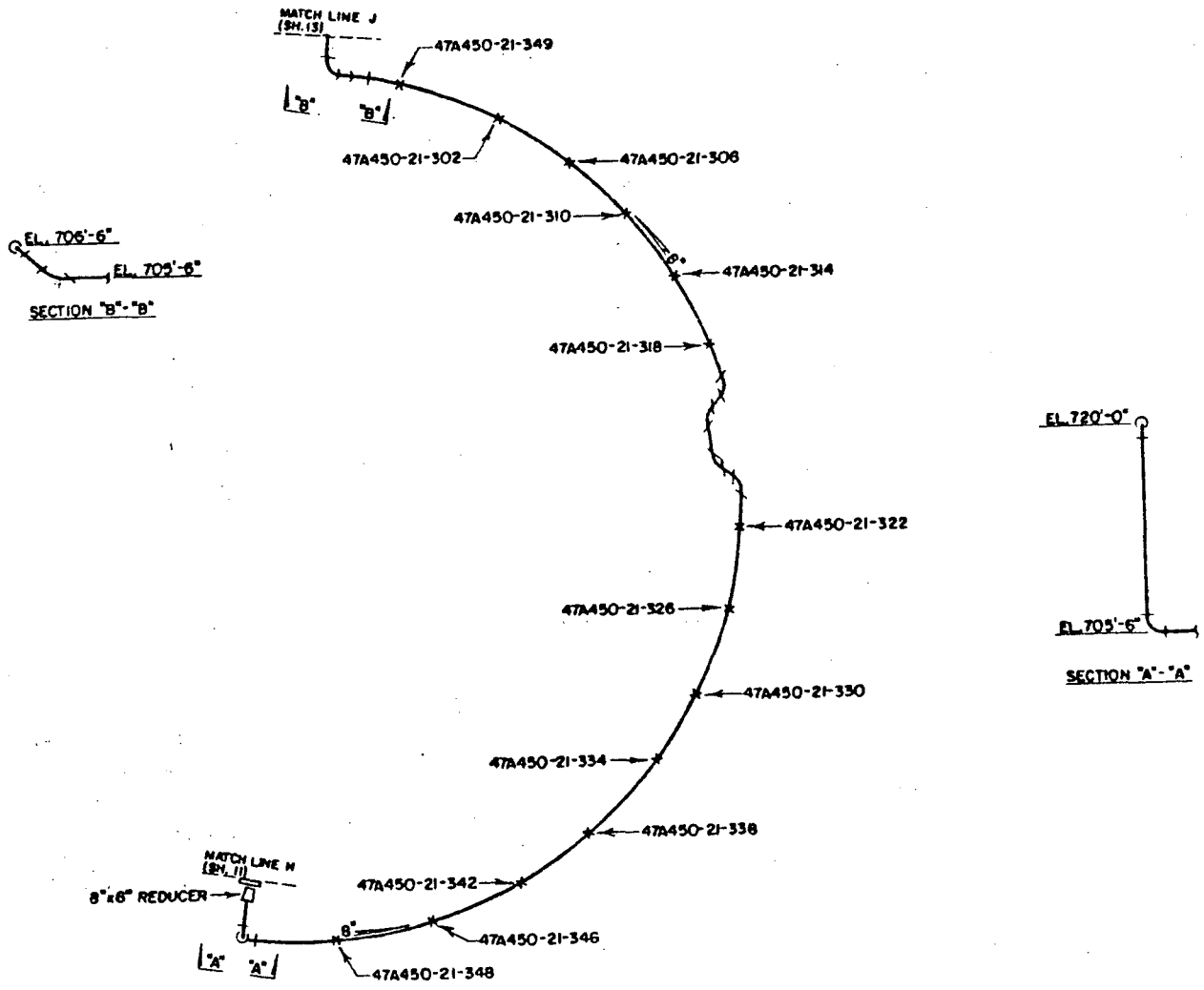
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

SCALE NTS | DESIGNED | DATE 8-22-83
DRAWN KLV | CHECKED | SHEET OF
REVIEWED | APPROVED
CONTROL DWG | 1SI-0112-C

REFERENCE DRAWINGS
47A450-245
CLASS 3



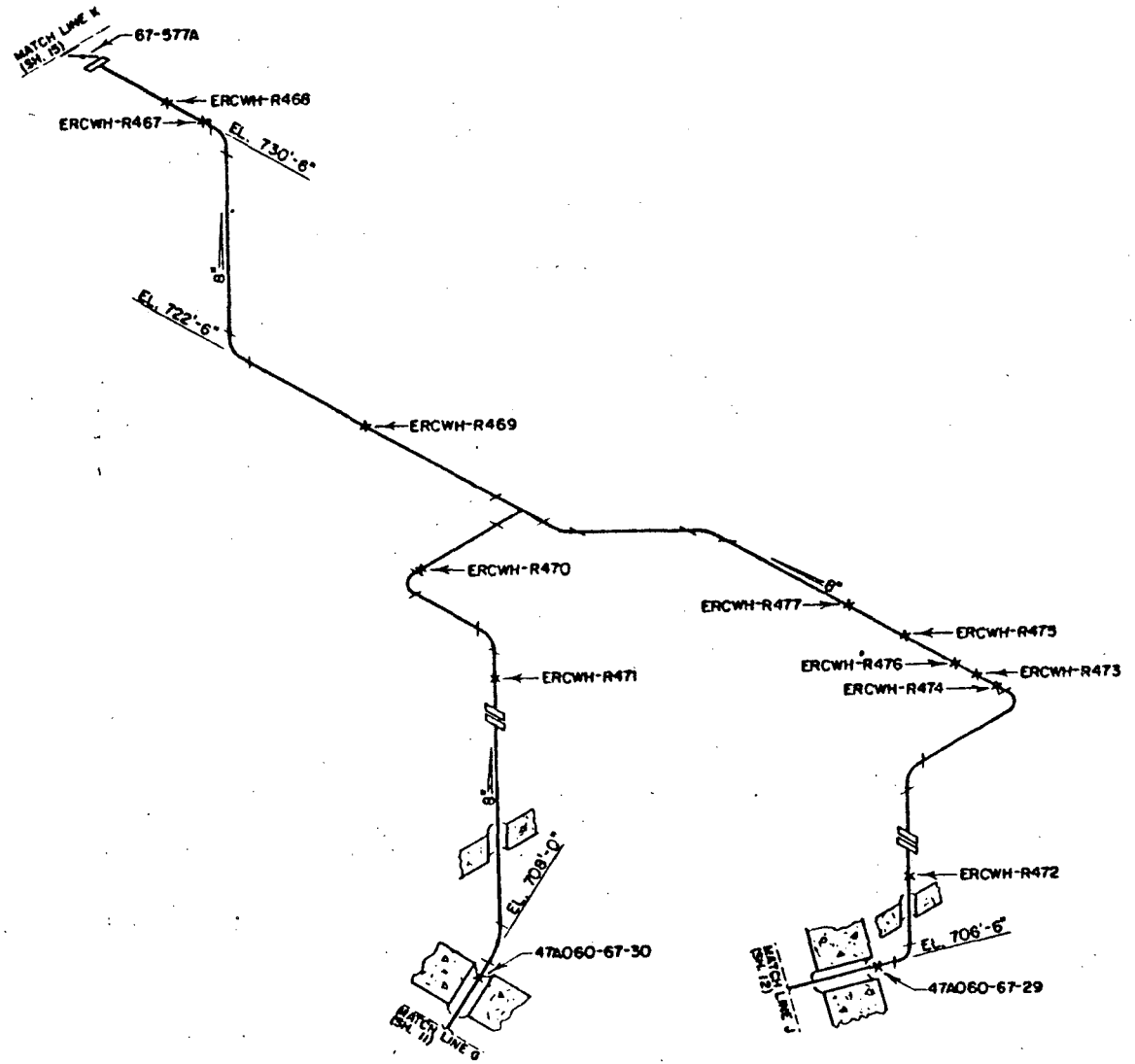
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN NLS | SUBMITTED | APPROVED | DATE 8-22-83
CHECKED | SCALE NONE | 1SI-0112-C | RO

REFERENCE DRAWINGS
47W450-213
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP

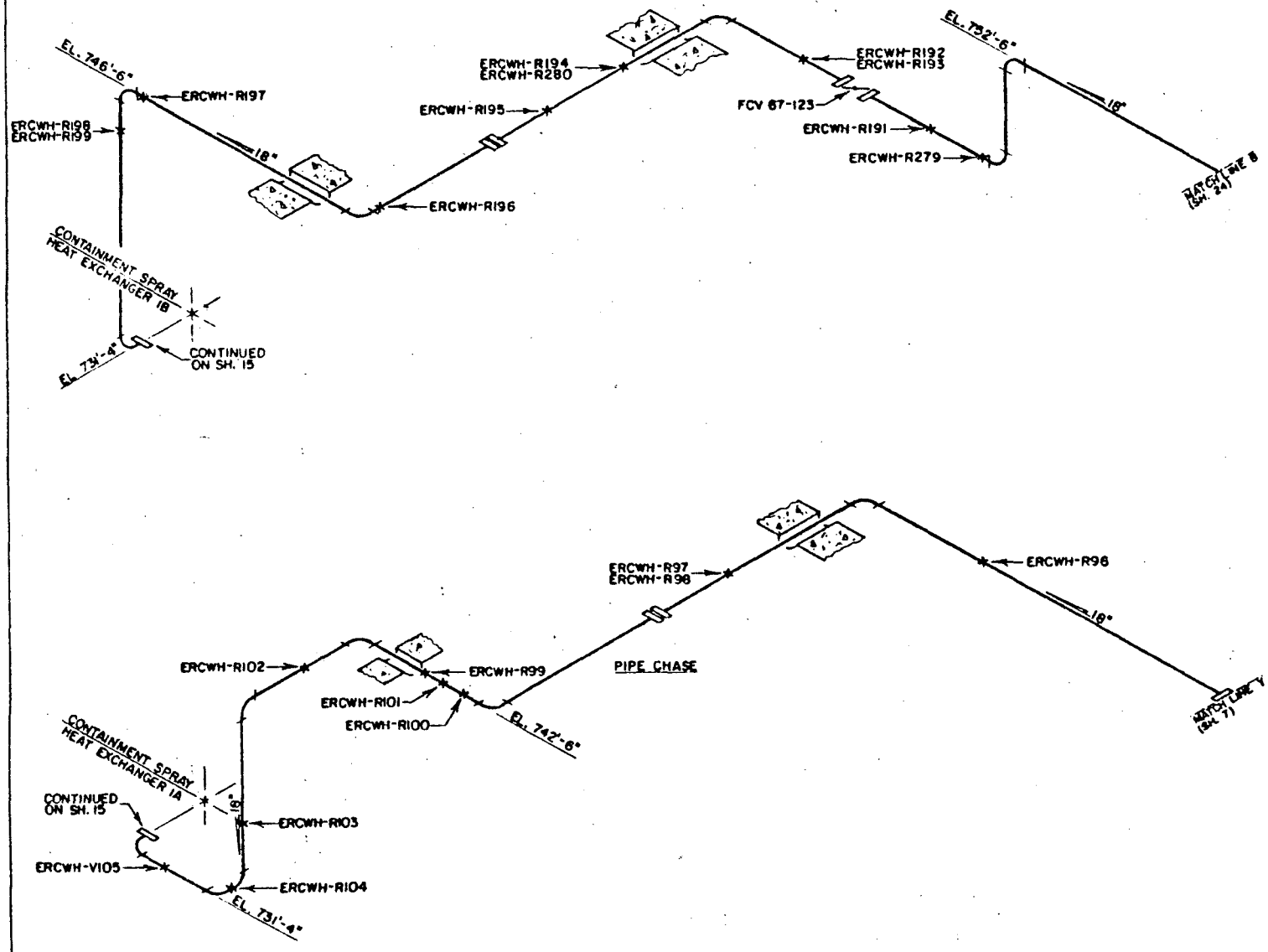
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM

HANGER LOCATIONS

DATE 8-22-83
1-50B
1SI-0112-C
R0

REFERENCE DRAWINGS
47W450-217
47W450-250
CLASS 3



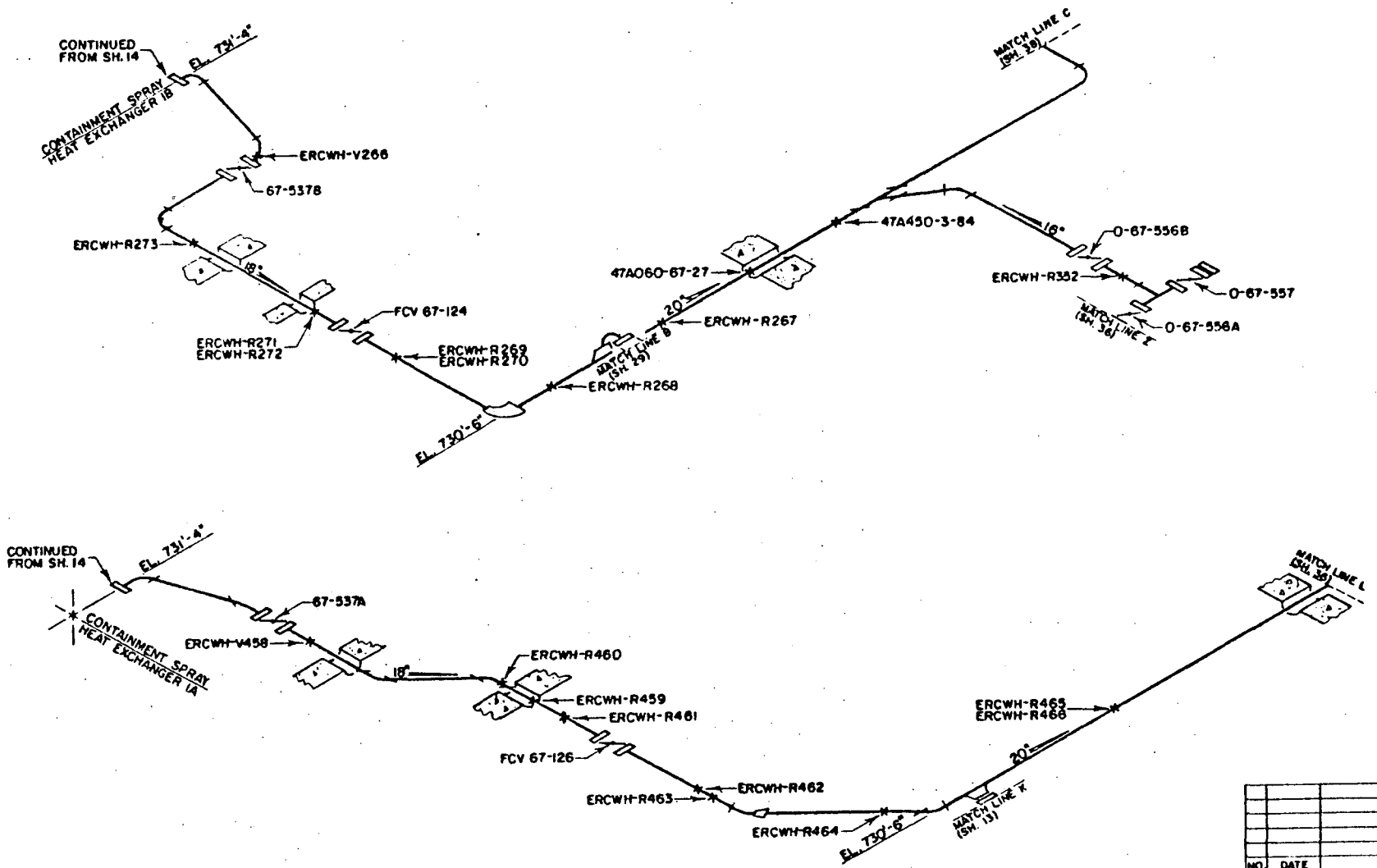
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

SCALE NTS. | DATE 8-5-83 | 1SI-0112-C | R0

REFERENCE DRAWINGS
47W450-208
47W450-211
47W450-212
47W450-213
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

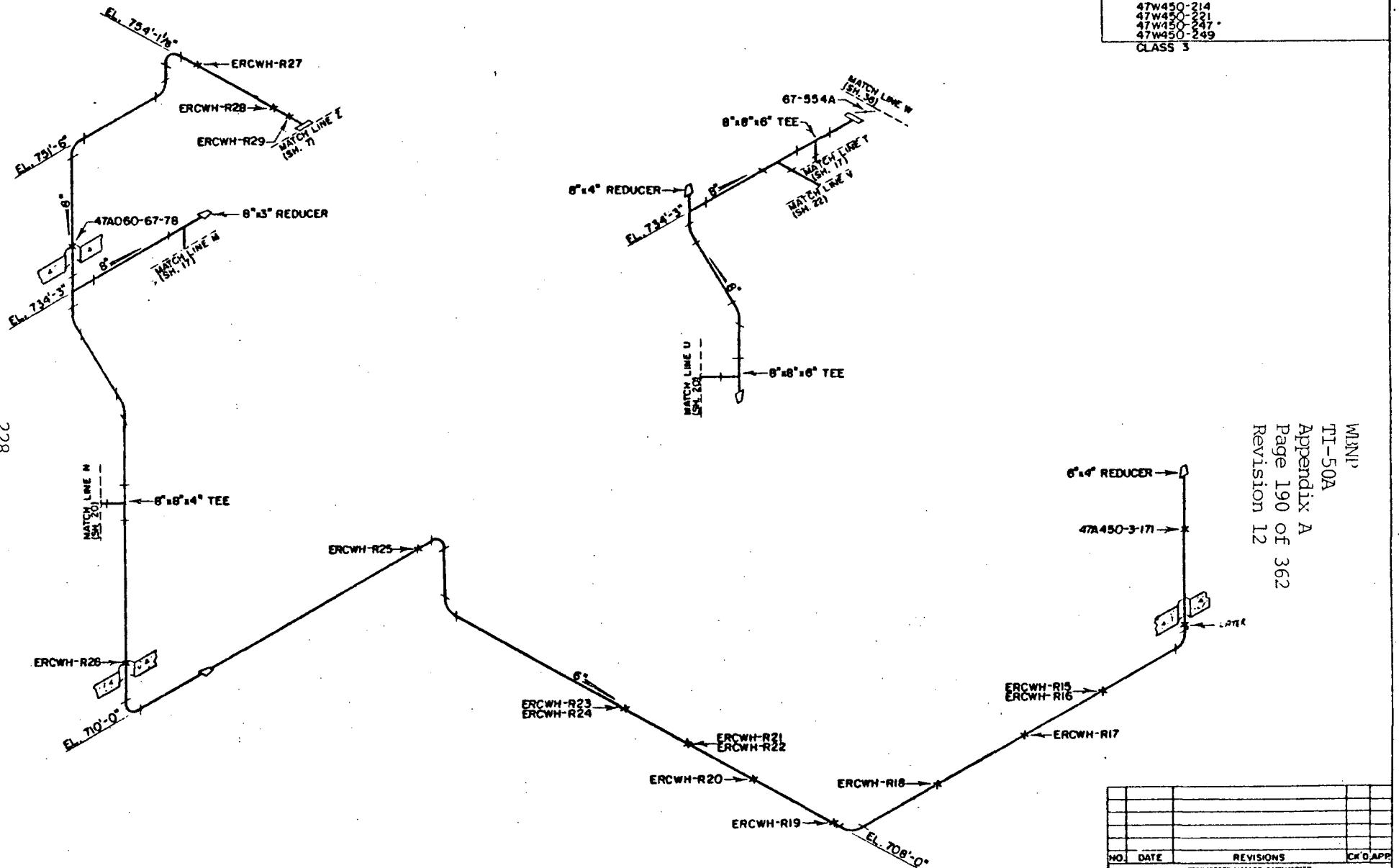
WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM

HANGER LOCATIONS

DRAWN RTS | DATE 8-22-83
DESIGNED REK | SHEET 15-20
ISI-0112-C

RO

REFERENCE DRAWINGS
47W450-214
47W450-221
47W450-247
47W450-249
CLASS 3



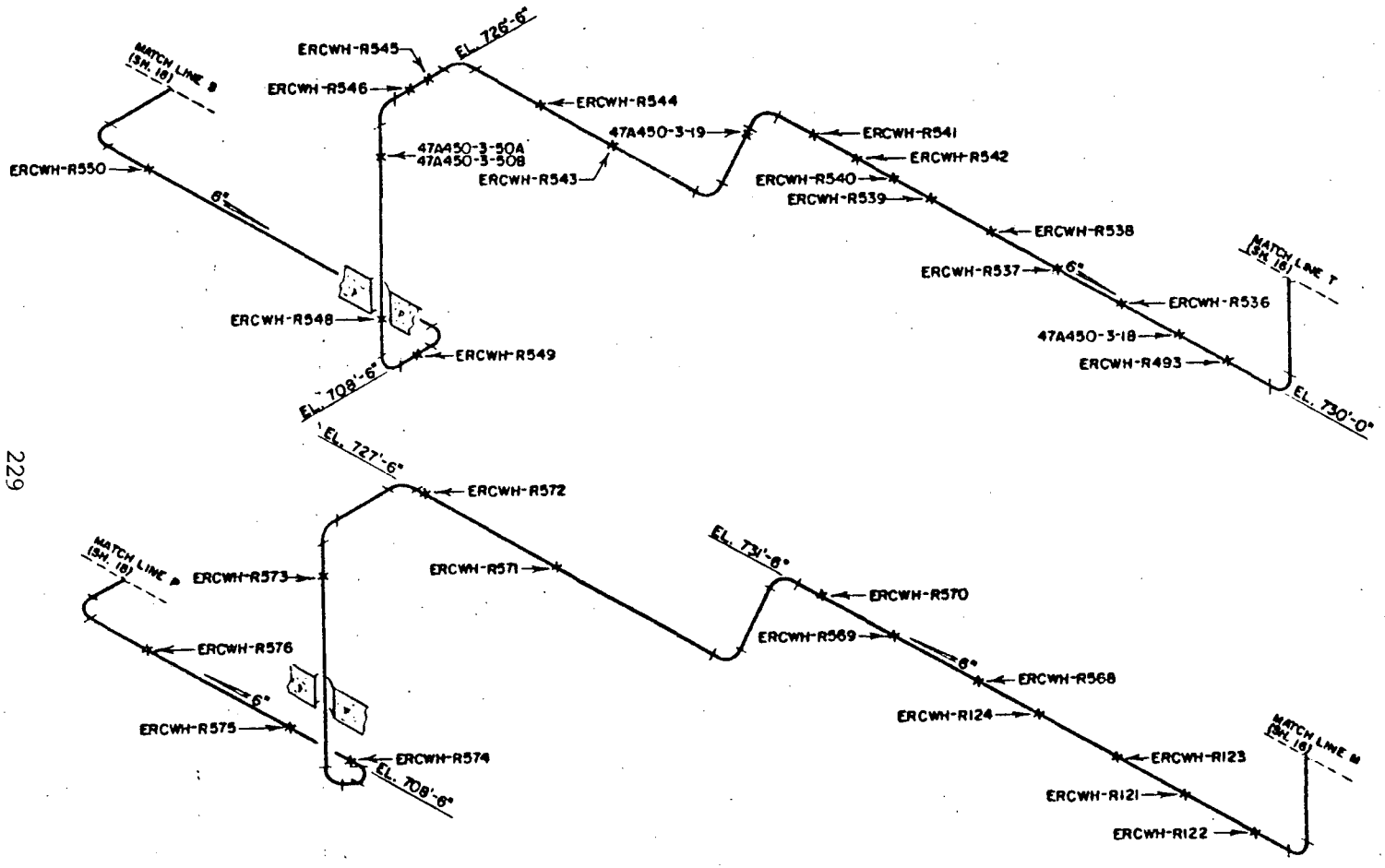
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

SCALE NTS | DATE 8-8-83 | 1SI-0112-C | R0

REFERENCE DRAWINGS
47W450-214
47W450-221
47W450-226
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN WTS | DATE 8-24-83
ISI-0112-C
R0

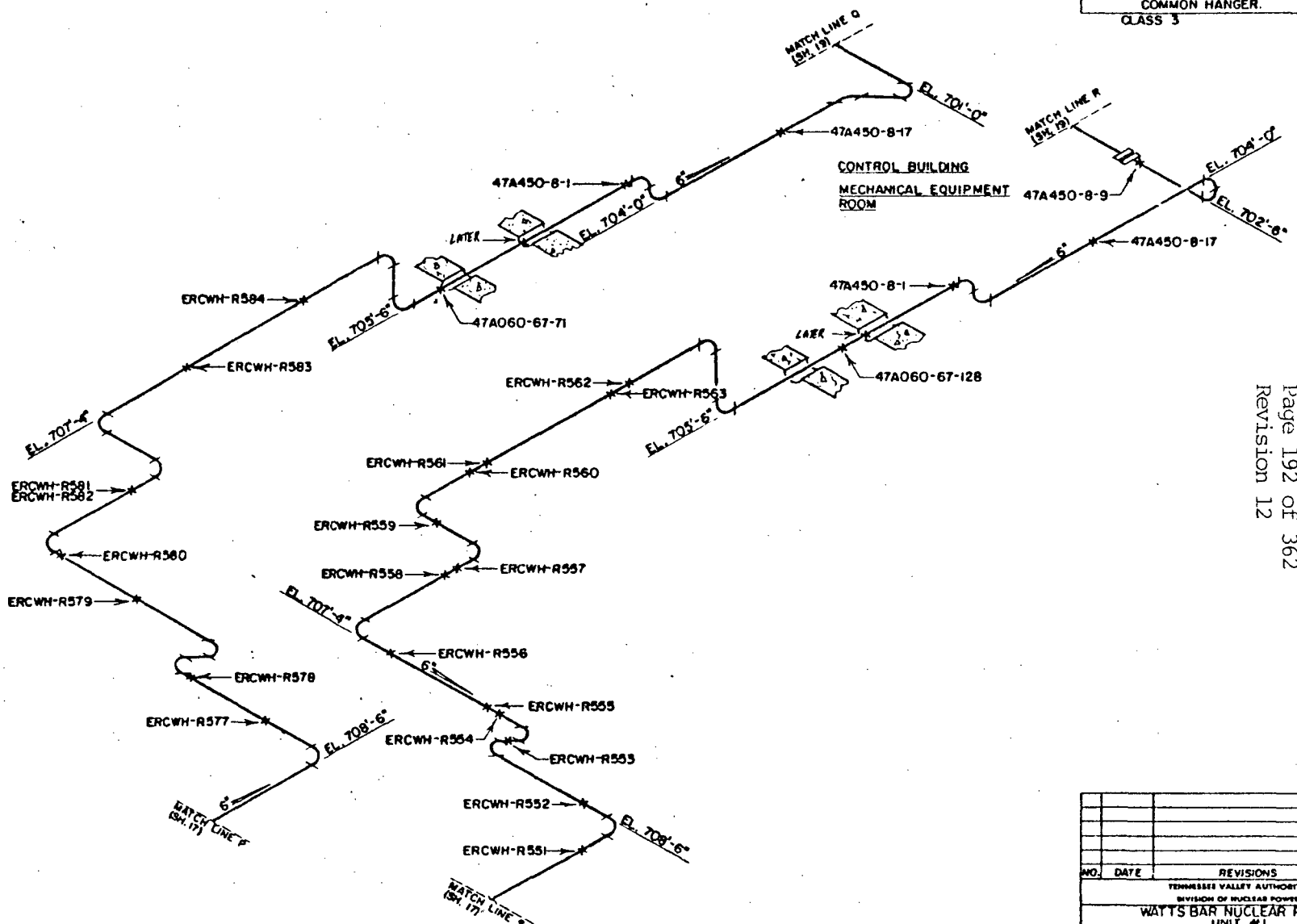
REFERENCE DRAWINGS

47W450-221
47W450-226
47W450-233
47W450-234

NOTES

1. PIPING WITH IDENTICAL HANGER NUMBERS IS SUPPORTED BY A COMMON HANGER.

CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN NTS
DATE 8-24-83
DRAWN KV
DATE 8-30
DSI-0112-C
R0

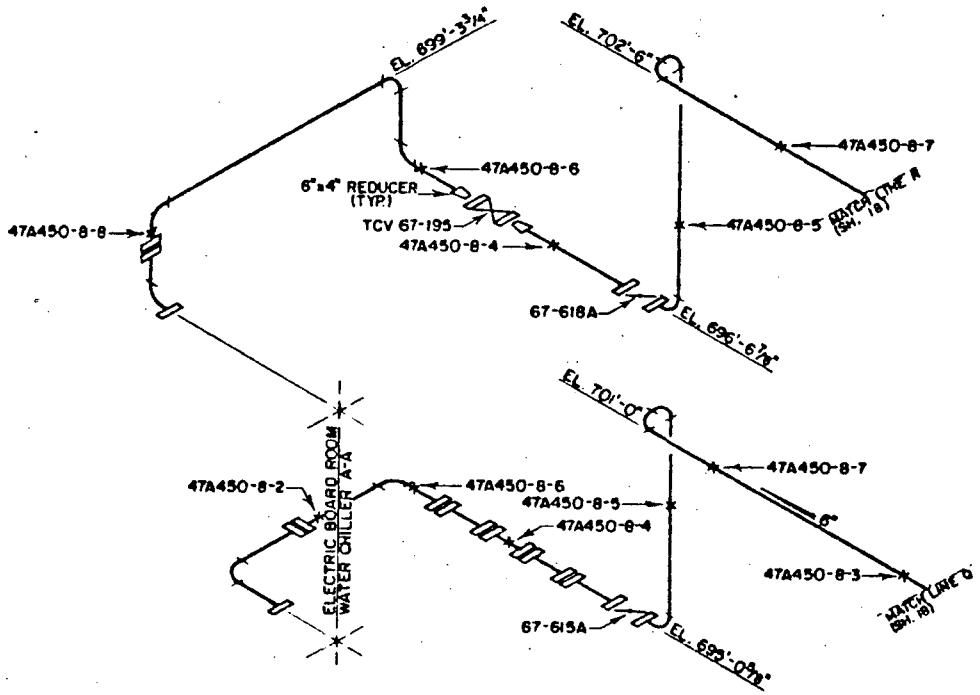
REFERENCE DRAWINGS

47W450-233
47W450-234

NOTES

1. PIPING WITH THE IDENTICAL HANGER NUMBER IS SUPPORTED BY A COMMON HANGER.

CLASS 3



CONTROL BUILDING
MECHANICAL EQUIPMENT ROOM

NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

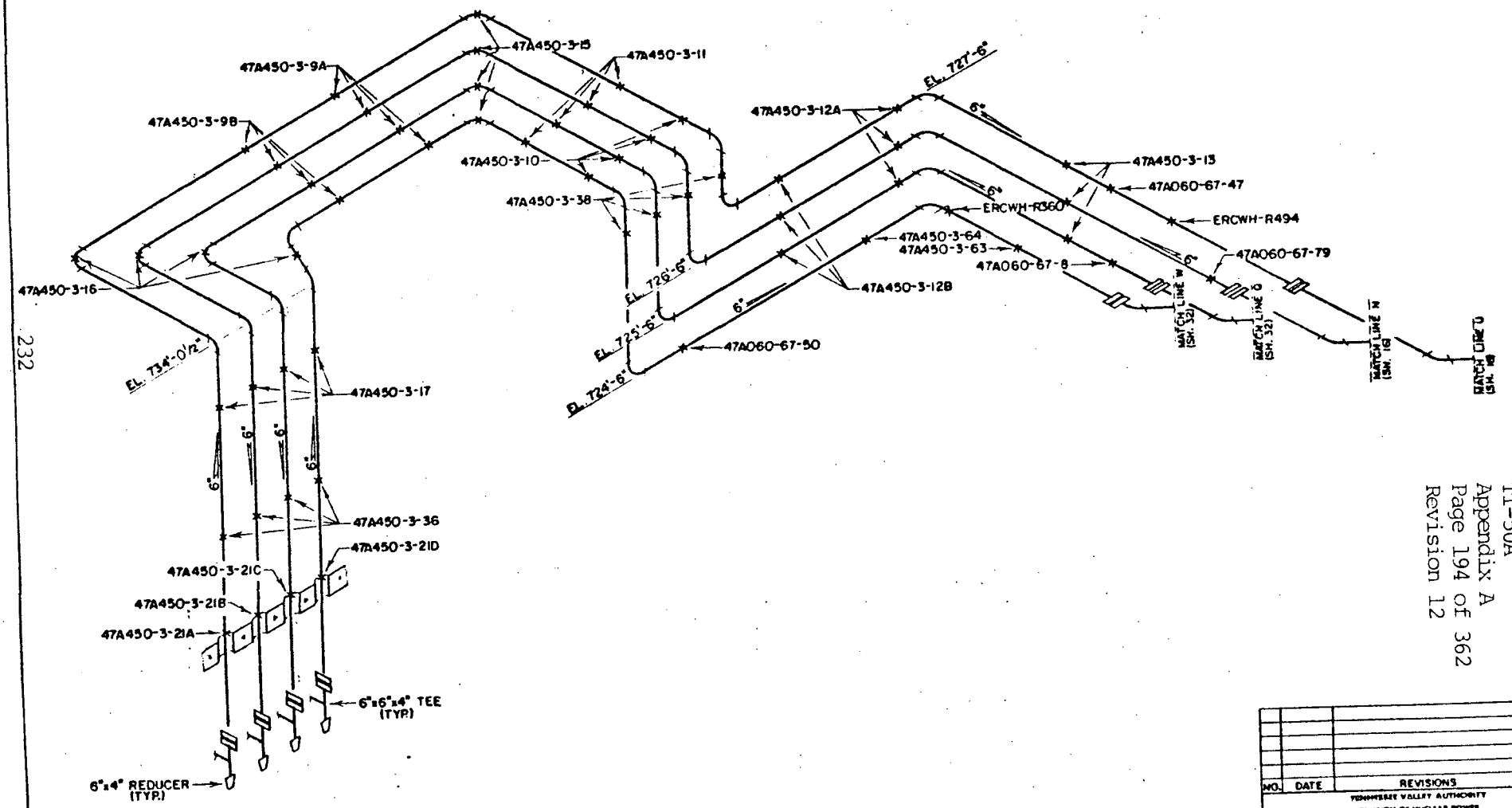
WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN NZS. DATE 8-26-83
DESIGNED NTV
CHECKED
APPROVED
1SI-0112-C

R0

WBNP
TI-50A
Appendix A
Page 193 of 362
Revision 12

REFERENCE DRAWINGS
47W450-211
47W450-214
47W450-219
47W450-247
CLASS 3



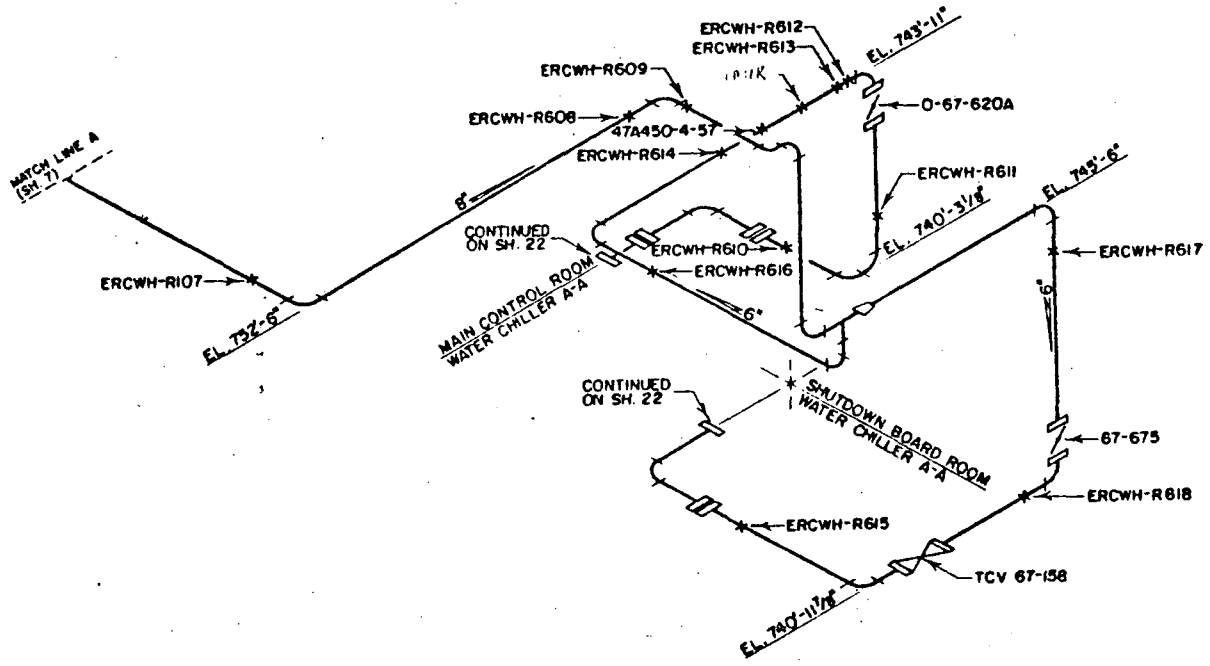
WBNP
TI-50A
Appendix A
Page 194 of 362
Revision 12

NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN NS
DESIGNED
SUBMITTED
APPROVED WB
DATE 9-23-83
DWG. NO. 1SI-0112-C
R0

REFERENCE DRAWINGS
47W450-250
CLASS 3



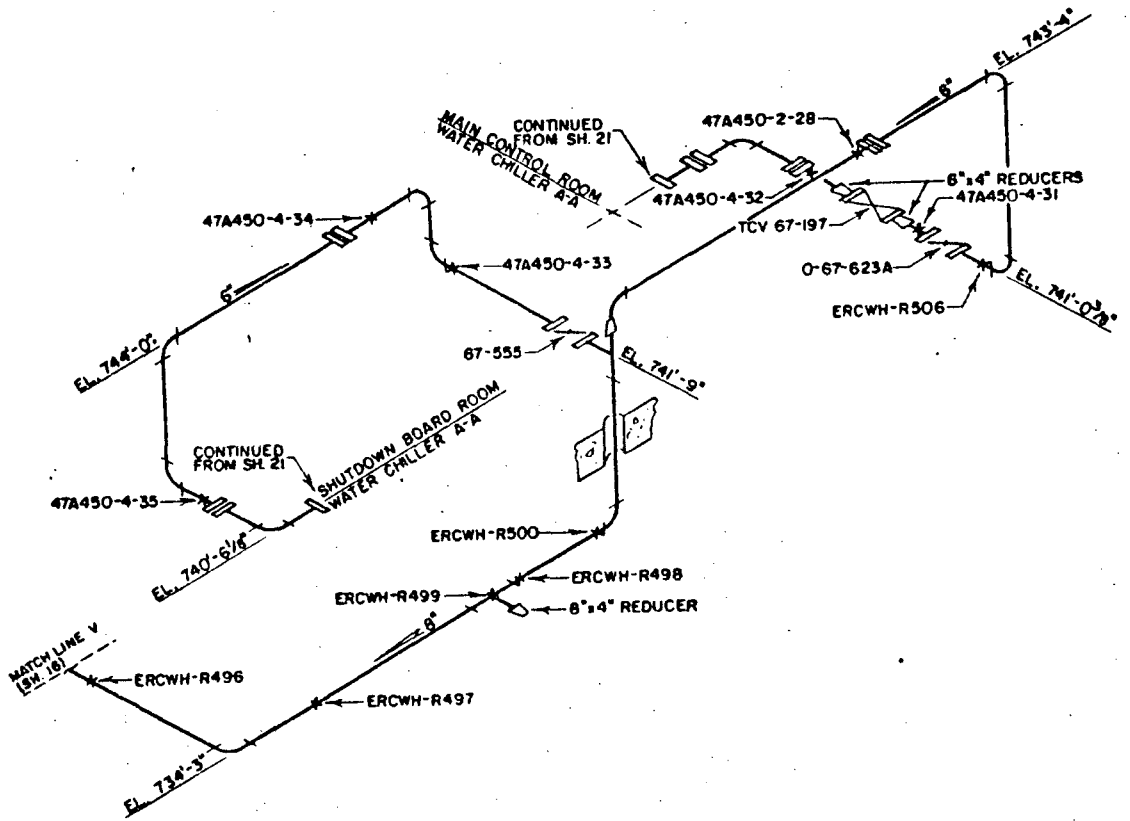
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN NLS
DESIGNED HEP
APPROVED
DATE 9-23-83
SCALE 1" = 1'-0"
1SI-0112-C
R0

REFERENCE DRAWINGS
47W450-214
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

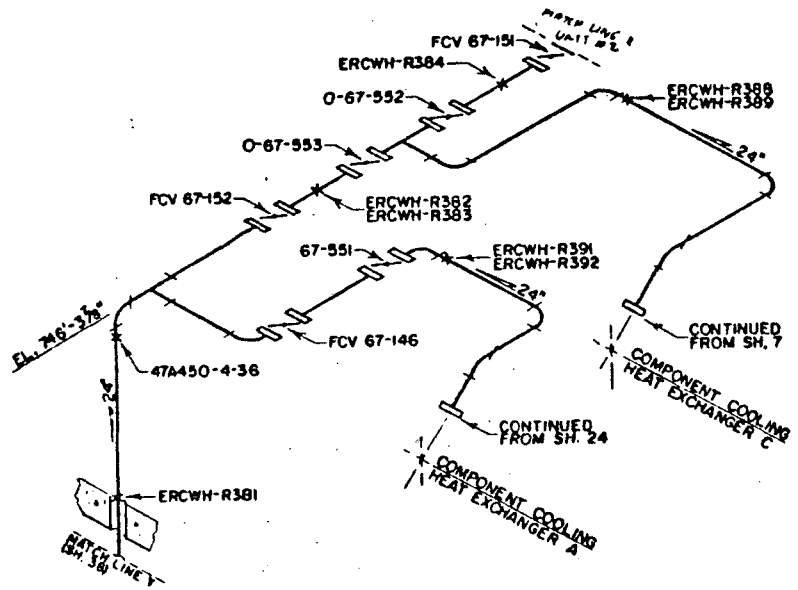
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

SCALE NTS | DATE 9-23-85 | ISI-0112-C | R0

WBNP
TI-50A
Appendix A
Page 196 of 362
Revision 12

REFERENCE DRAWINGS
47W450-210
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP'D

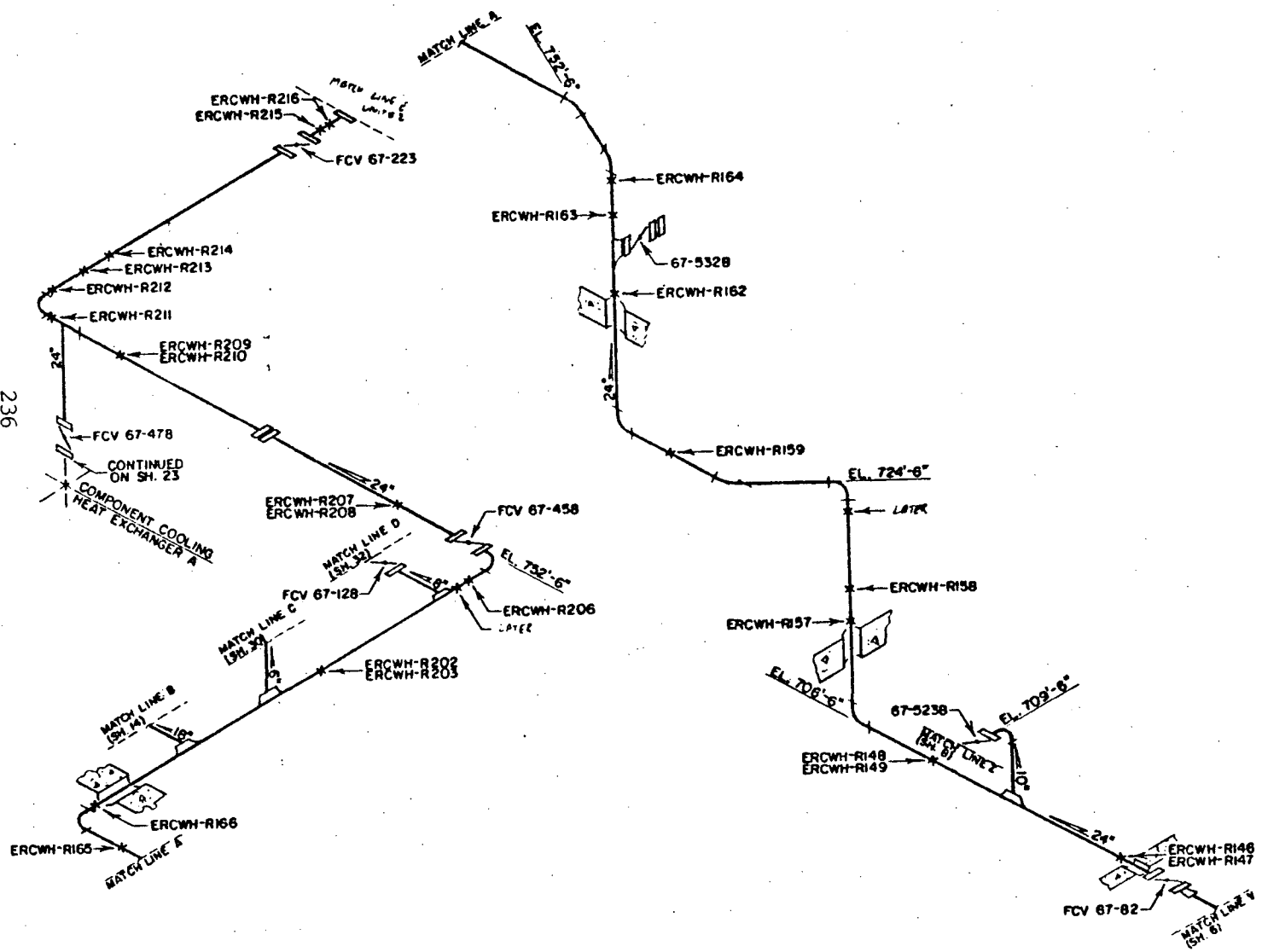
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN NTK | SUBMITTED | APPROVED | DATE 9-23-83
REVIEWED | | | DATE 2-23-83
REVIEWED TEV | | | 1S1-0112-C
DESIGN ENG.

Ro

REFERENCE DRAWINGS
47W450-217
47W450-218
CLASS 3



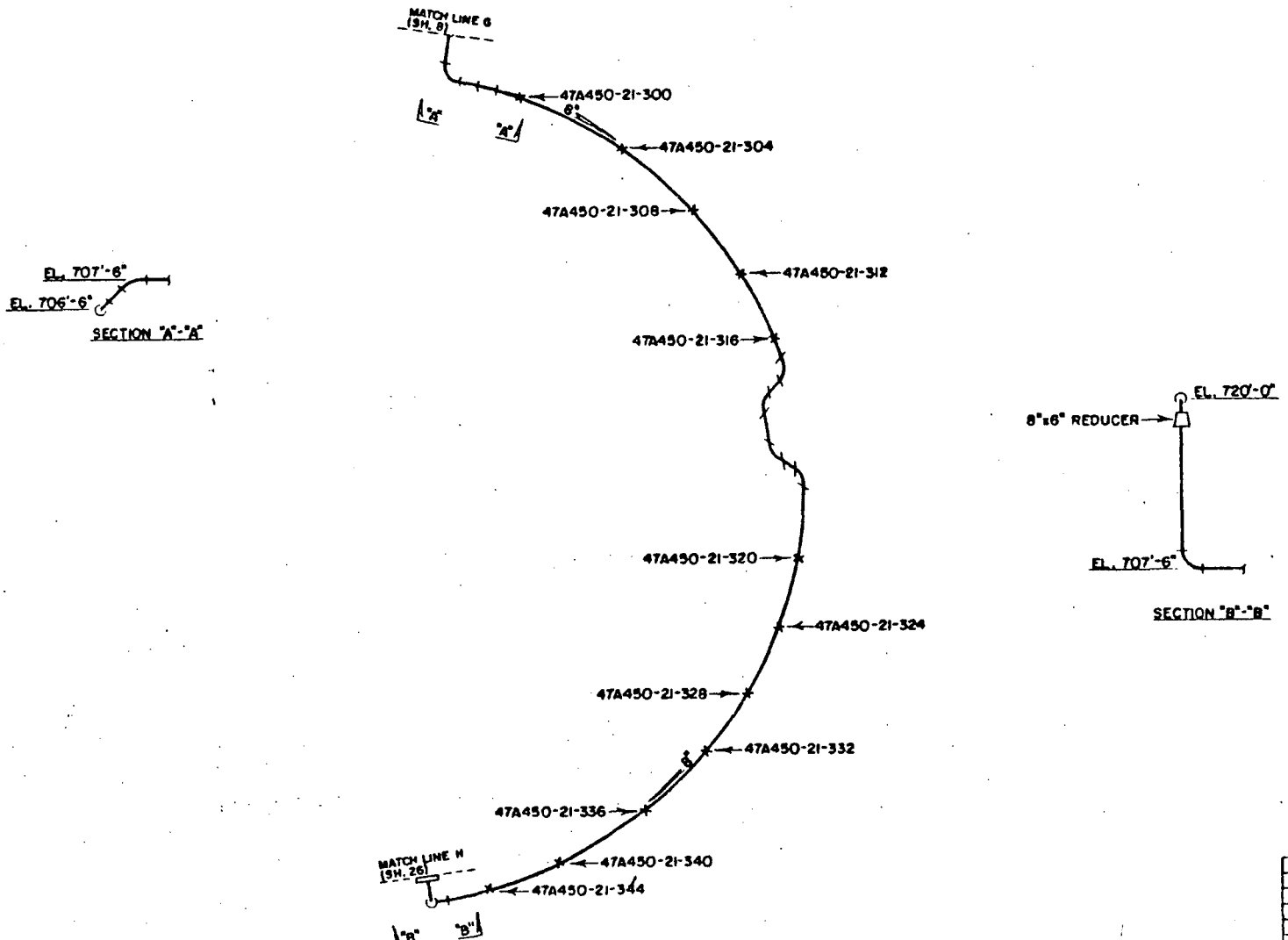
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DATE 9-16-83
ISI-0112-C
R0

REFERENCE DRAWINGS
47W450-243
CLASS 3



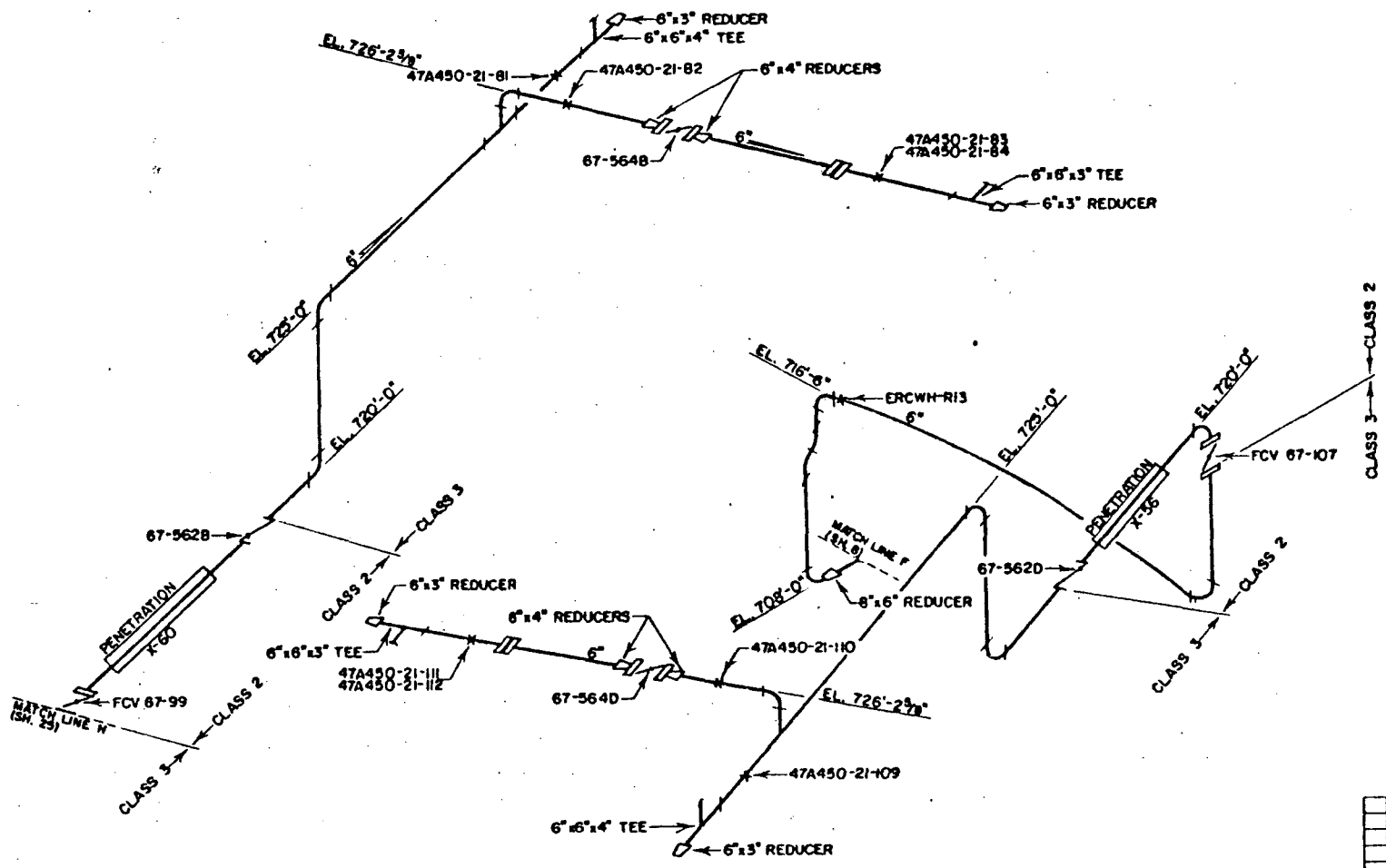
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN NTS
DATE 9-16-83
ISI-0112-C
A0

REFERENCE DRAWINGS
47W450-216
47W450-238
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

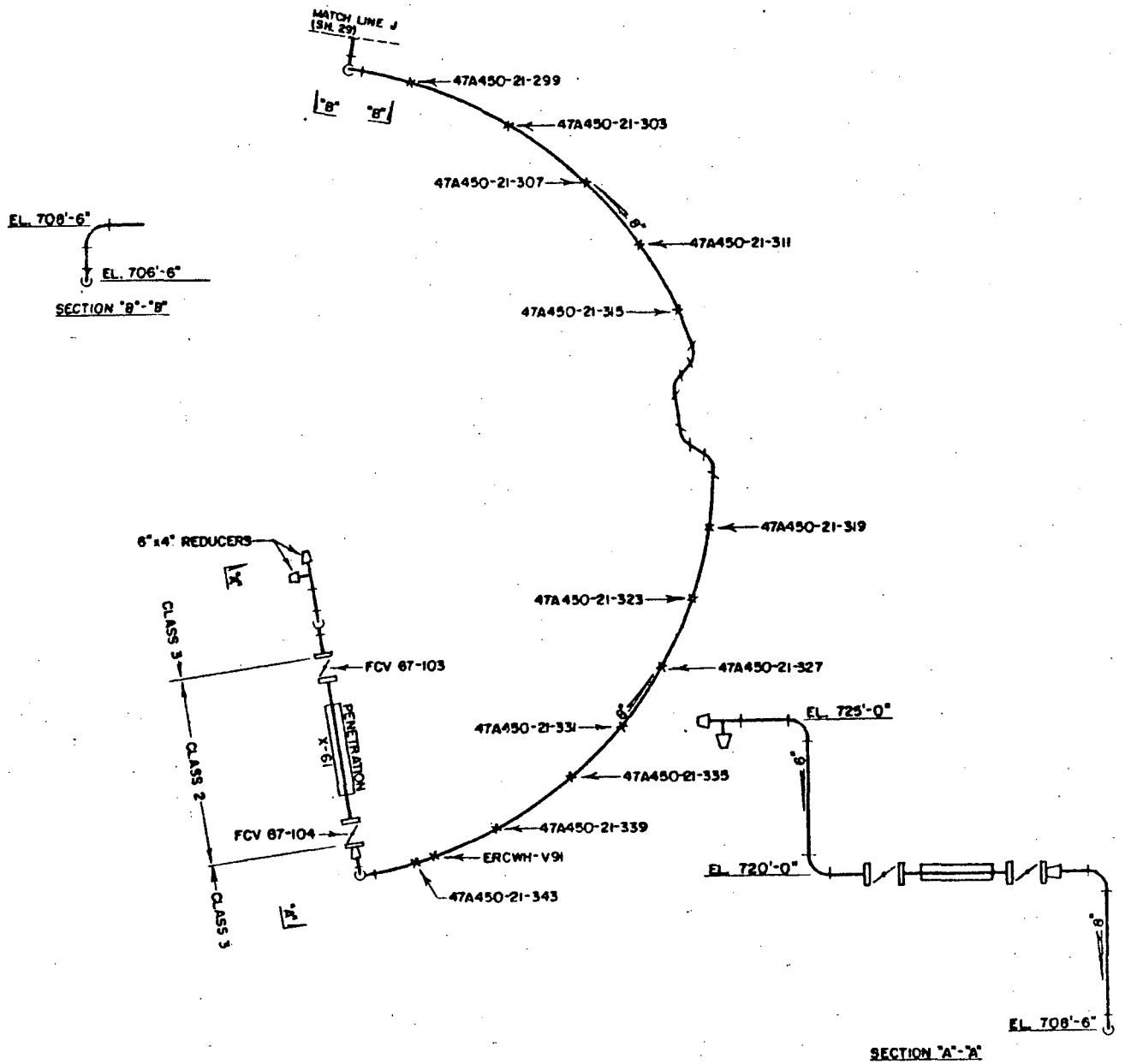
WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN DTS | DESIGNED DEV | SUBMITTED | APPROVED | DATE 5-19-83 | SCALE 1/2"=1'-0"

1SI-0112-C R0

WBNP
TI-50A
Appendix A
200 of 362
Revision 12

REFERENCE DRAWINGS
47W450-237
47W450-242
CLASS 3



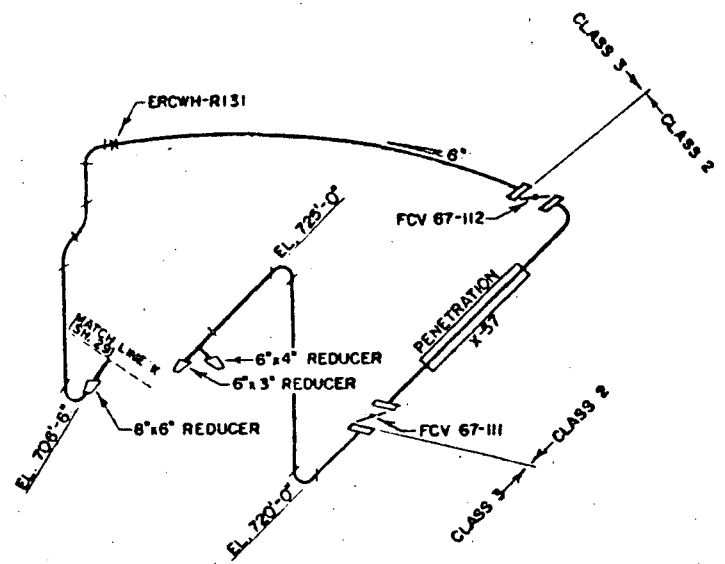
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN RTS | DATE 9-19-83
DESIGNED | DATE 2-20-84
REVIEWED ALP
ISI-0112-C R0

REFERENCE DRAWINGS
47W450-205
47W450-237
CLASS 3



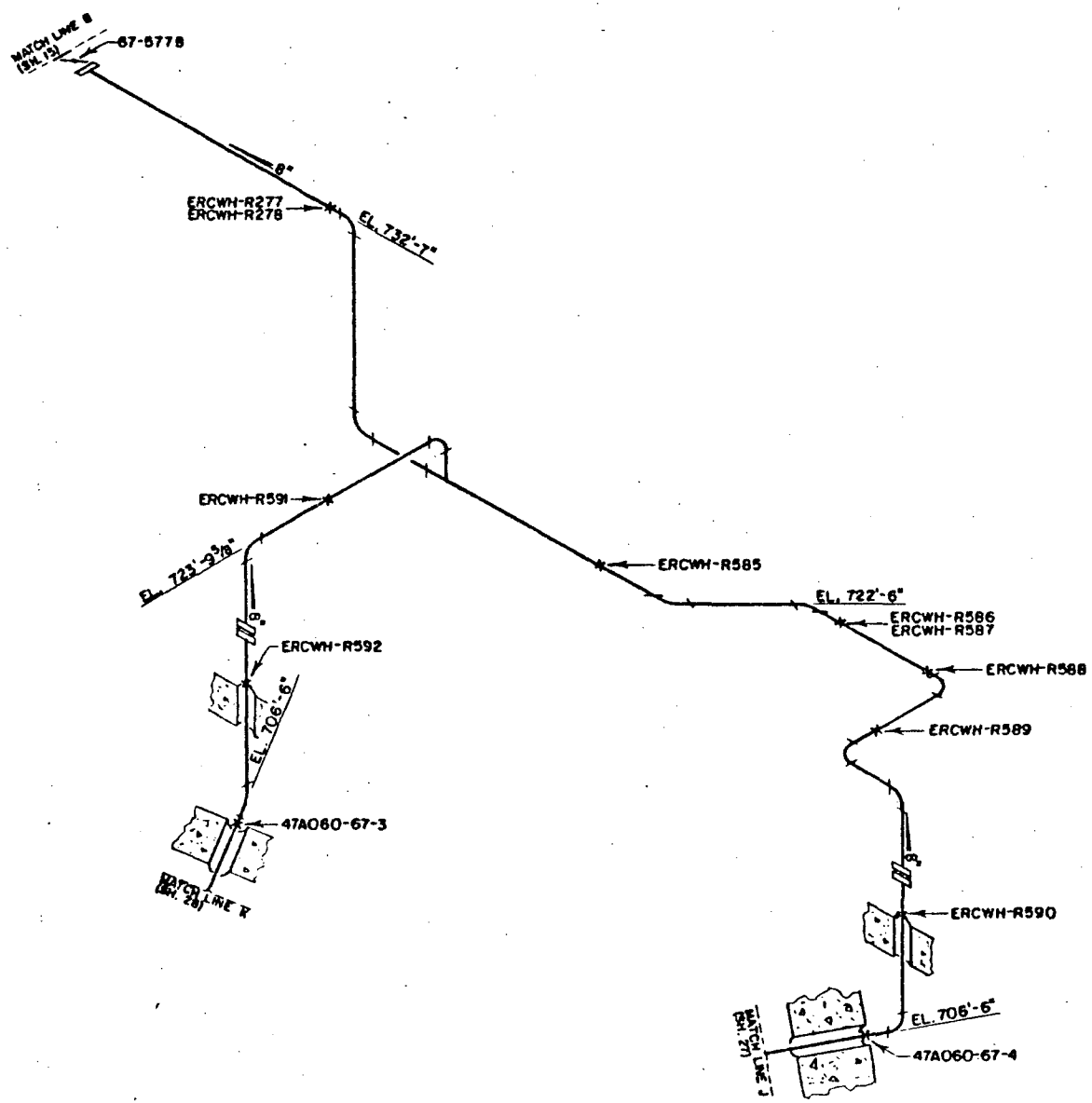
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DATE 9-20-83
1SI-0112-C

REFERENCE DRAWING
47W450-208
CLASS 3



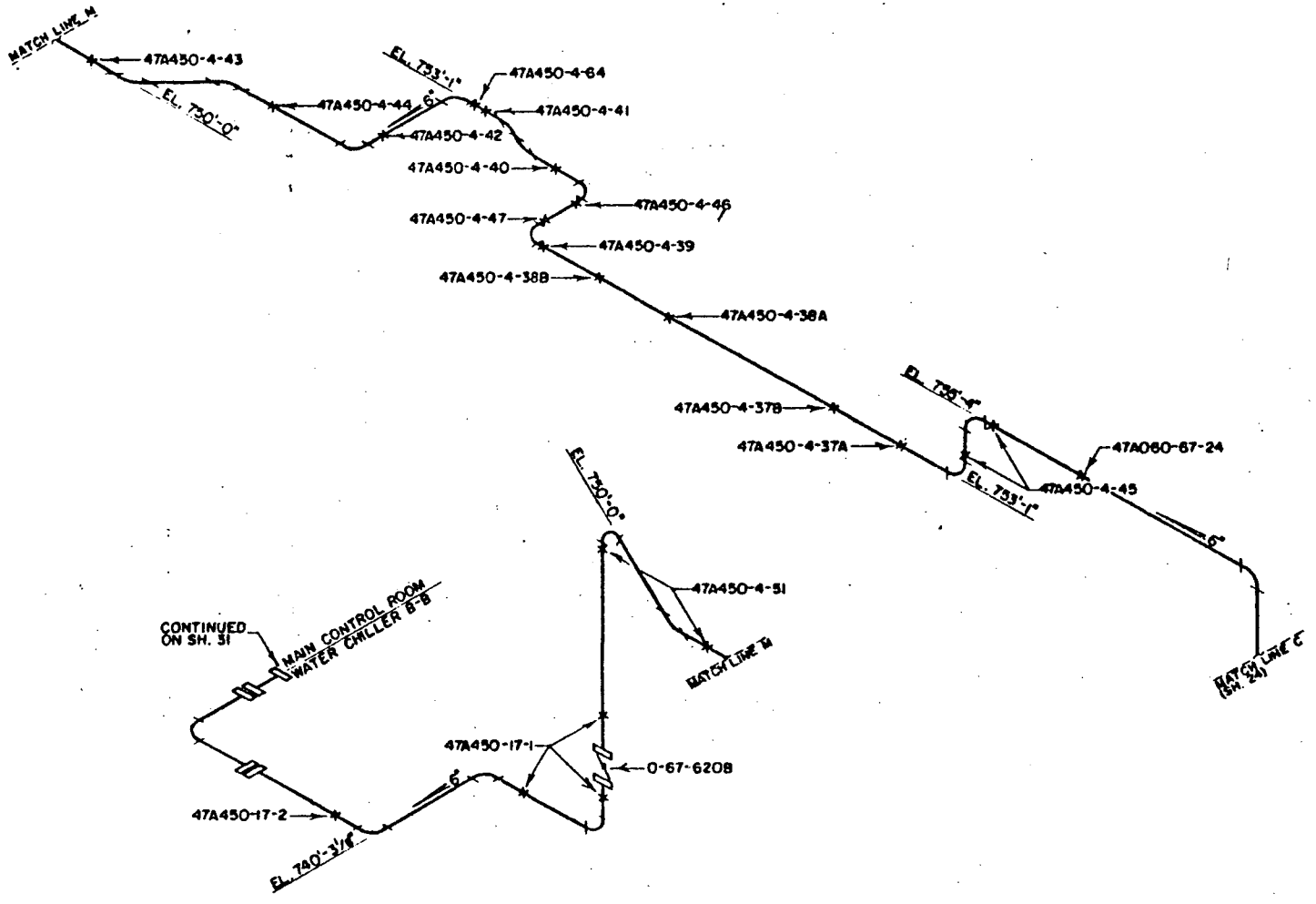
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

NTS | 5-21-83 | 1SI-0112-C | R0

REFERENCE DRAWINGS
47W450-218
47W450-229
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

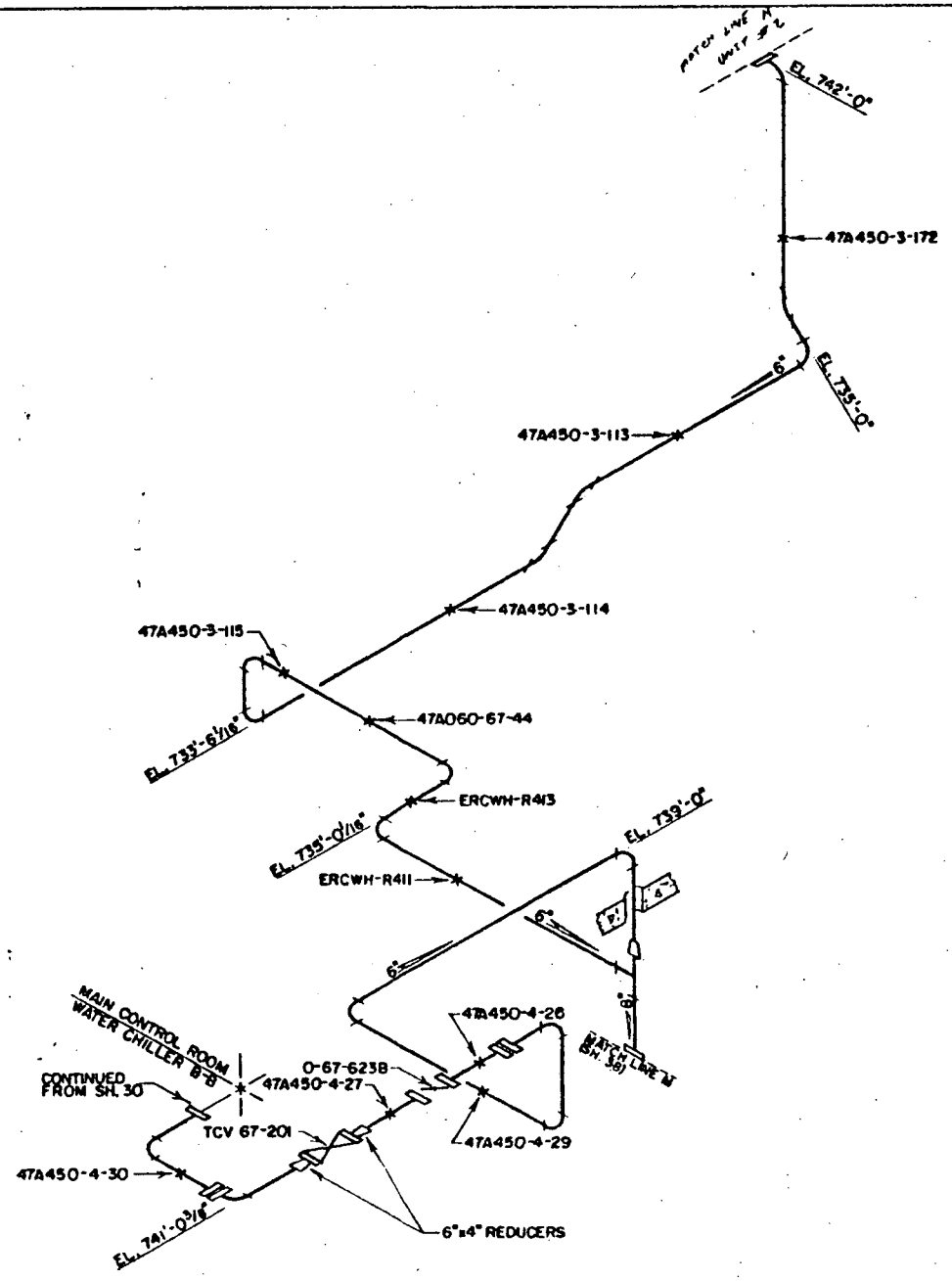
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM

HANGER LOCATIONS

DRAWN NTS | SUBMITTED | APPROVED | DATE 5-21-83 | SCALE NONE | 151-0112-C | R0

REFERENCE DRAWINGS
47W450-210
47W450-228
47W450-232
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

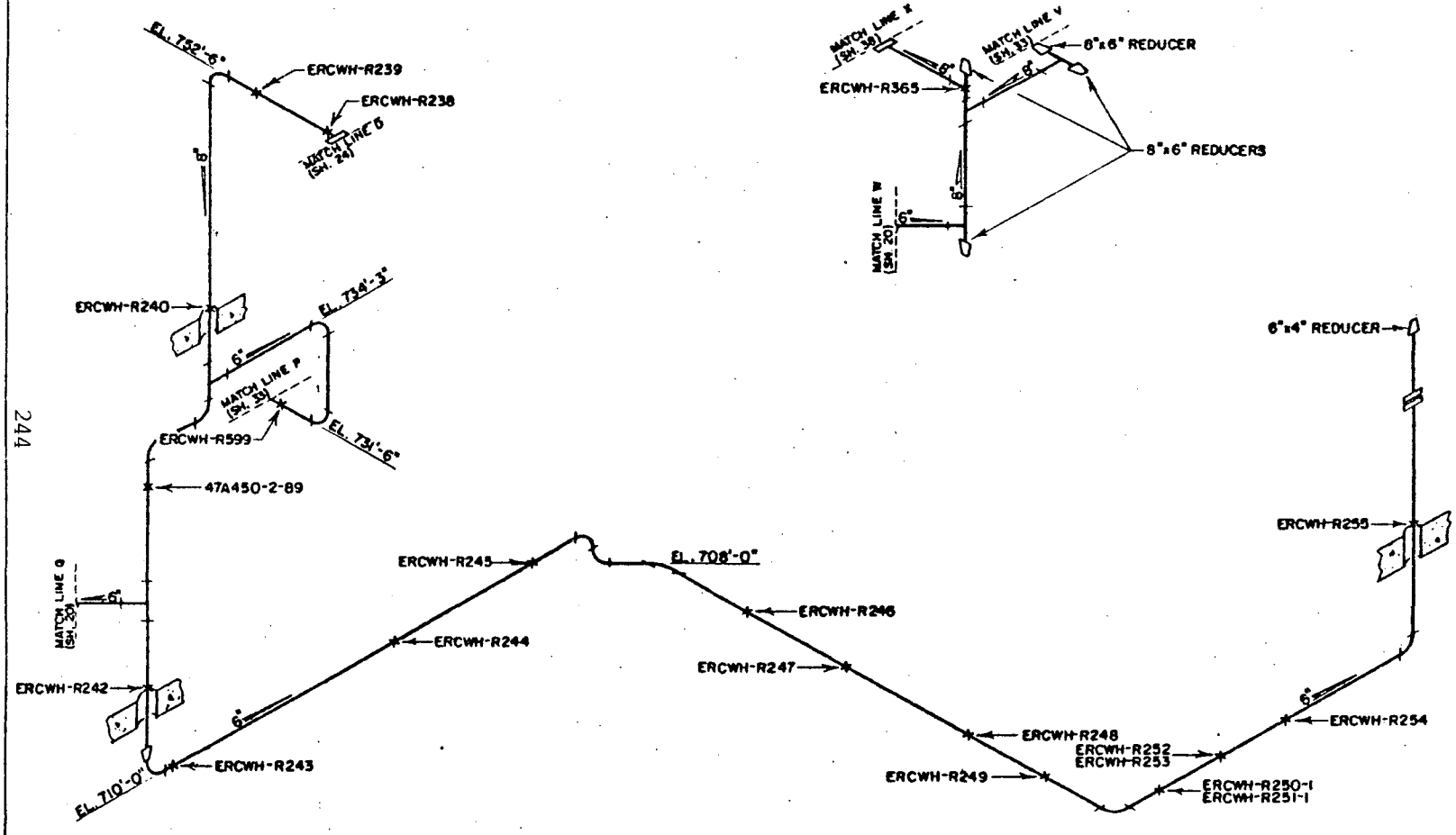
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN N.S. | DATE 9-27-83
DESIGN REV. | SCALE
CHECK JCG | ISI-0112-C

R0

REFERENCE DRAWINGS
47A450-211
47A450-219
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

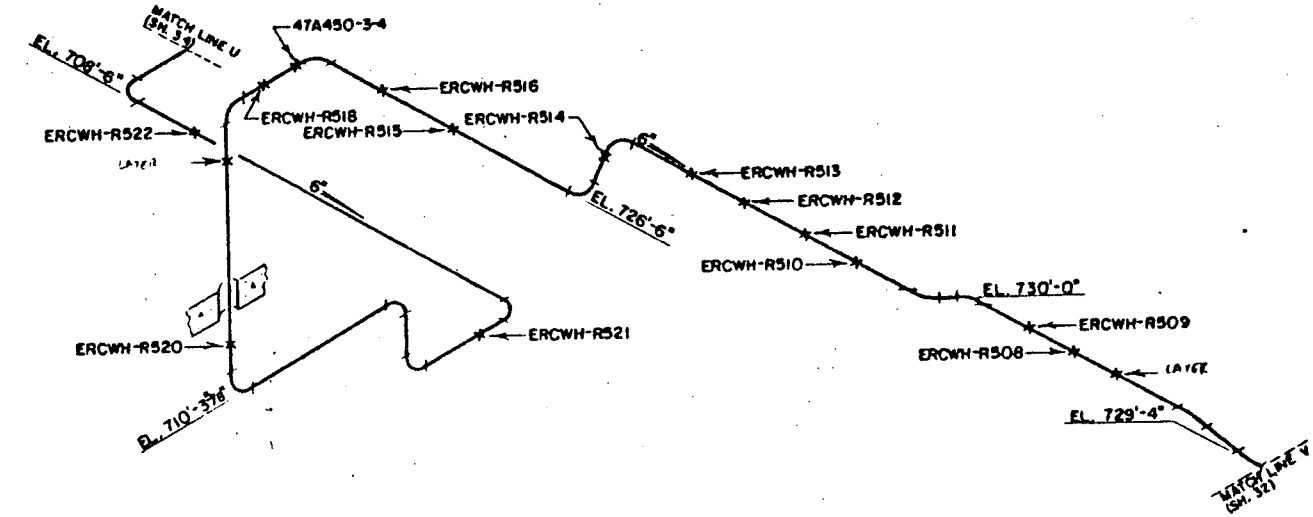
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

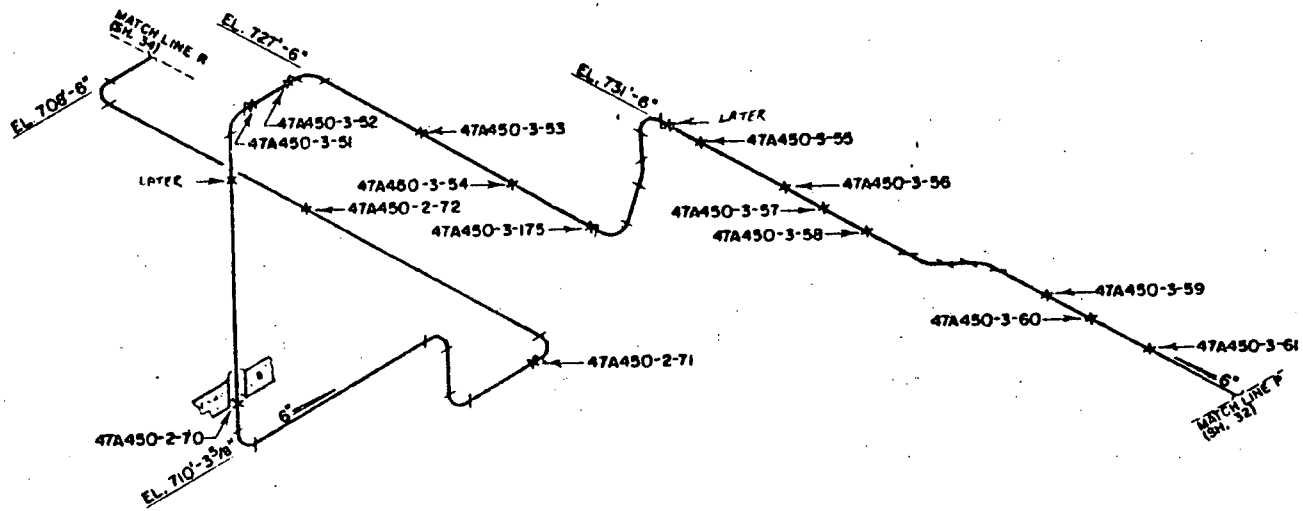
WATTS BAR NUCLEAR PLANT
UNIT #1

ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN NTS | SUBMITTED | APPROVED | DATE 9-28-83
DESIGN MEP | DESIGN ICG | 1SI-0112-C | R0

REFERENCE DRAWINGS
47W450-211
47W450-225
47W450-227
CLASS 3





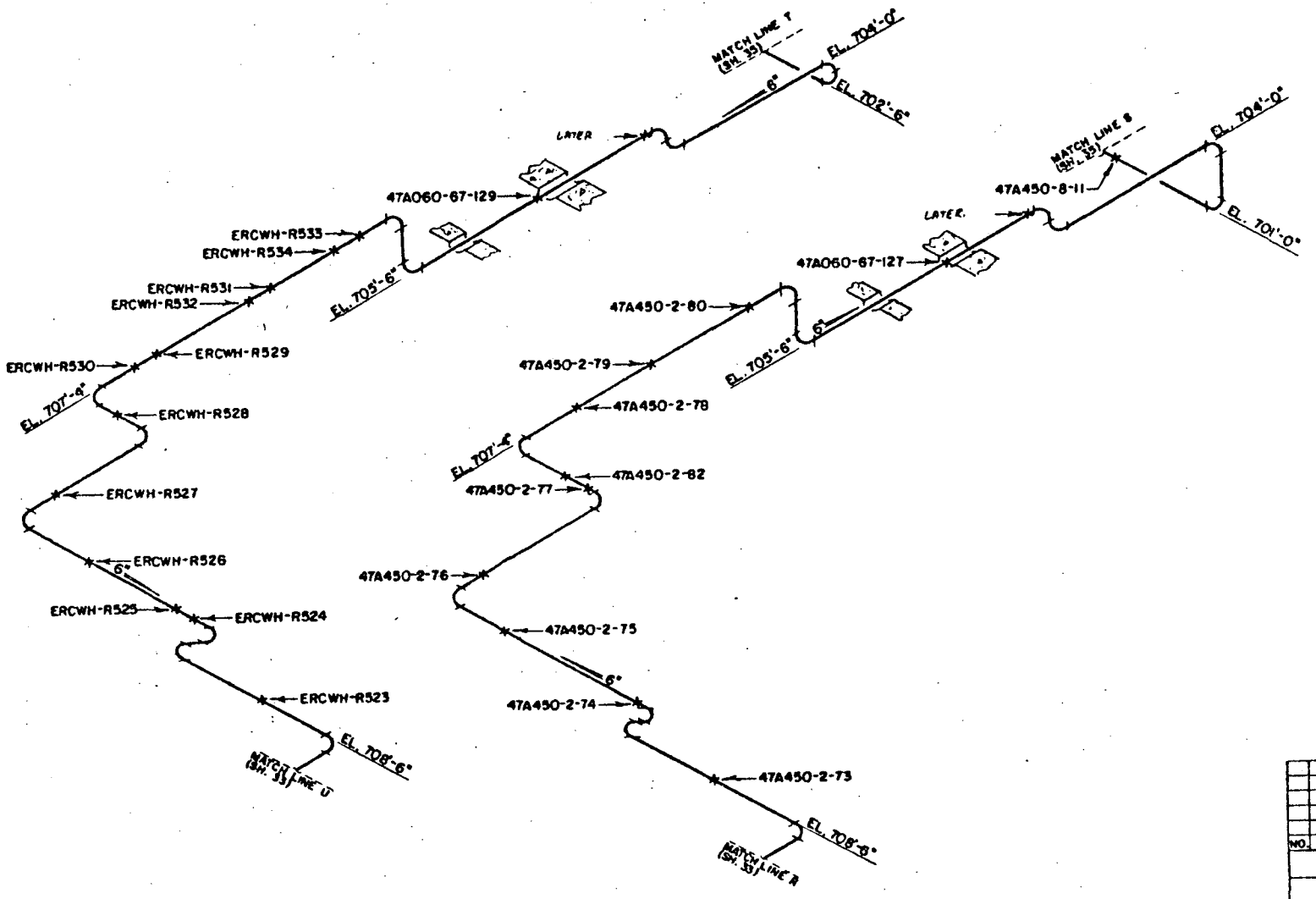
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTM
HANGER LOCATIONS

SCALE NTS. | DRAWN NAV | CHECKED CG | SUBMITTED | APPROVED | DATE 9-28-83 | SHEET 33-38 | ISI-0112-C | R0

REFERENCE DRAWINGS
47W450-225
47W450-227
47W450-235
47W450-236
CLASS 3



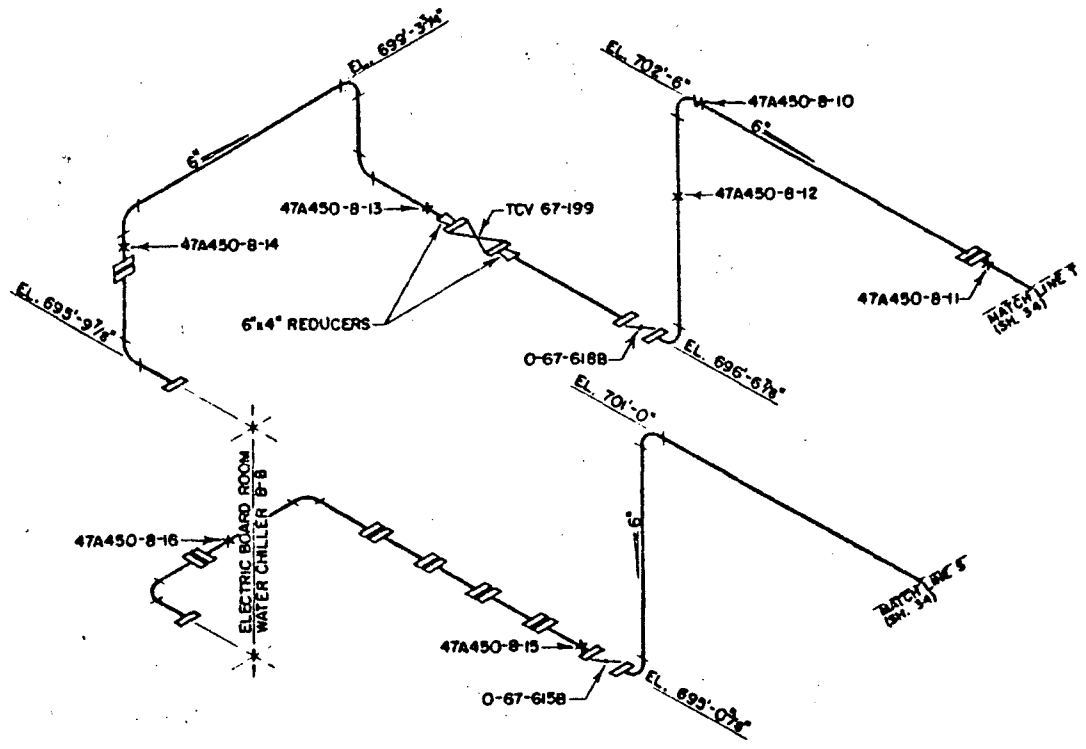
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN B.T.S. | DATE 9-28-83
DESIGNED REF | SCALE 1/8"=1'-0"
TRACED | 1SI-0112-C | A0

REFERENCE DRAWINGS
47W450-235
47W450-236
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

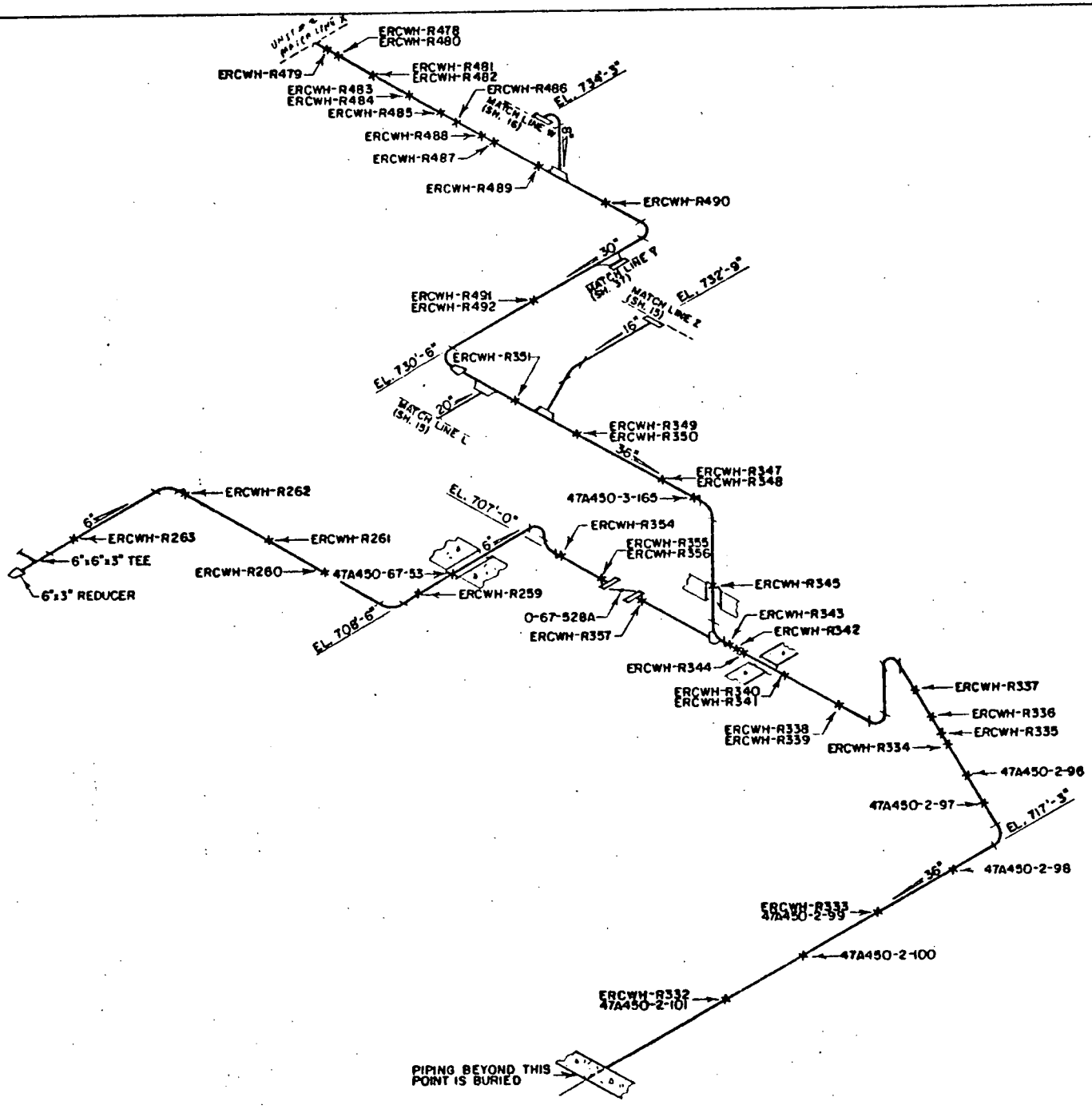
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN NTS. DATE 9-28-83
ISI-0112-C Ro

WBNP
TI-50A
Appendix A
Page 209 of 362
Revision 12

REFERENCE DRAWINGS
47W450-212
47W450-214
47W450-223
CLASS 3



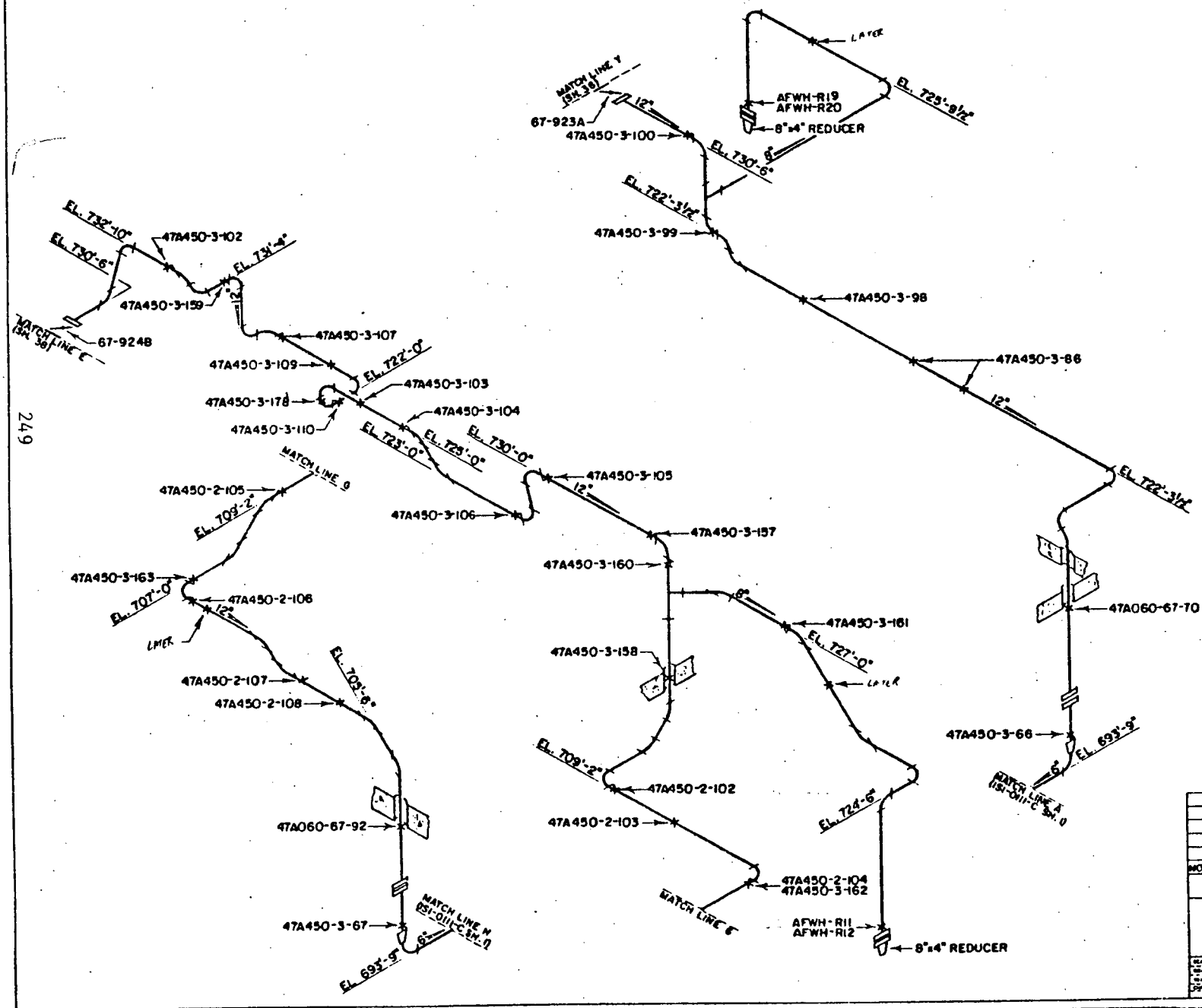
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

SCALE NTS | DRAWN REV | DATE 9-20-83 | ISI-0112-C | R0

REFERENCE DRAWINGS
47W427-206
47W450-231
CLASS 3



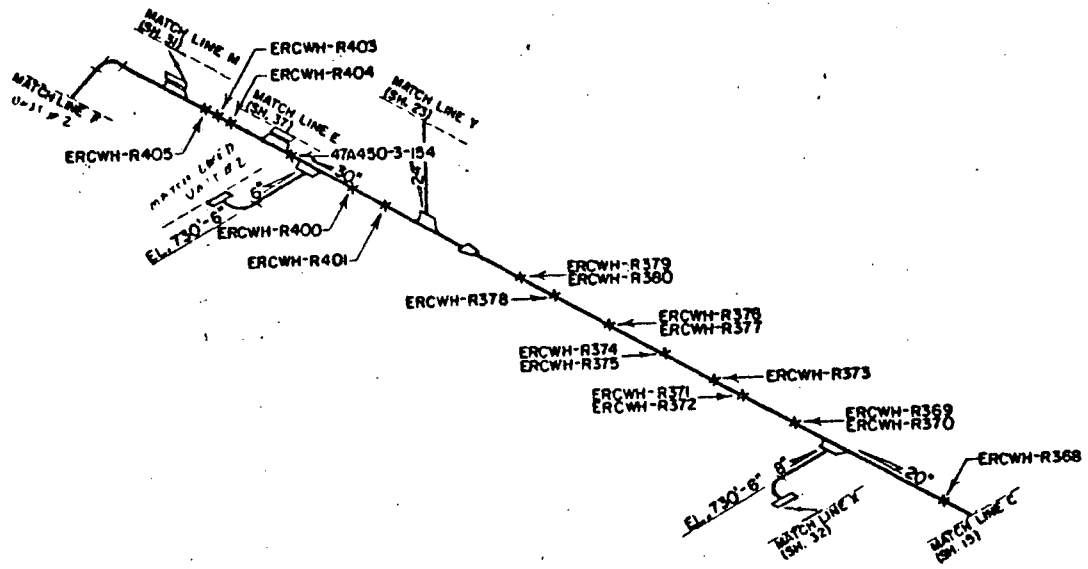
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN RLS | SUBMITTED | APPROVED | DATE 9-29-83 | CHECKED | 1SI-0112-C | R0

REFERENCE DRAWINGS
47W450-210
47W450-211
CLASS 3



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
ESSENTIAL RAW COOLING WATER SYSTEM
HANGER LOCATIONS

DRAWN RTS | DATE 9-30-83
DESIGNED | DATE 10-28
CHECKED | APPROVED DJB
ISI-0112-C

WBNP
TI-50A
Appendix A
Page 212 of 362
Revision 12

HANGER LOCATIONS DRAWINGS CLASS 3

ESSENTIAL RAW COOLING WATER
(Continued)

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

ESSENTIAL RAW COOLING WATER
(Continued)

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

ESSENTIAL RAW COOLING WATER
(Continued)

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

ESSENTIAL RAW COOLING WATER
(Continued)

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

RAW SERVICE WATER AND FIRE PROTECTION

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

RAW SERVICE WATER AND FIRE PROTECTION
(Continued)

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

RAW SERVICE WATER AND FIRE PROTECTION
(Continued)

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

COMPONENT COOLING

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

COMPONENT COOLING
(Continued)

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

COMPONENT COOLING
(Continued)

Drawings to be added later for inservice

HANGER LOCATIONS DRAWINGS CLASS 3

COMPONENT COOLING
(Continued)

Drawings to be added later for inservice

TABLE D
Class 1 Valves
Valves Subject to the Requirements of Examination Category B-M-2 of
Table IWB-2500-1 of Section XI

Valve No.	Code Class	Valve Cat.	Piping System	Valve Size	Valve Type	Valve Act	Group No.	TVA Dwg No (Weld Map)	Vendor Dwg No.	Vendor	Material Spec.	Valve Function	Forging/ Casting
FCV-63-67	I	B-ACT	SIS	10"	GATE	MO	1	CH-M-2758-C	115E013	W	ASTM-A182 F316	PSIV	Forging
FCV-63-80	I	B-ACT	SIS	10"	GATE	MO	1	CH-M-2758-C	115E013	W	ASTM-A182 F316	PSIV	Forging
FCV-63-98	I	B-ACT	SIS	10"	GATE	MO	1	CH-M-2758-C	115E013	W	ASTM-A182 F316	PSIV	Forging
FCV-63-118	I	B-ACT	SIS	10"	GATE	MO	1	CH-M-2758-C	115E013	W	ASTM-A182 F316	PSIV	Forging
63-558	I	AC-ACT	SIS	6"	CK	SA	2	CH-M-2758-C	934D185	W	ASTM-A182 F316	PSIV	Forging
63-559	I	AC-ACT	SIS	6"	CK	SA	2	CH-M-2758-C	934D185	W	ASTM-A182 F316	PSIV	Forging
63-560	I	AC-ACT	SIS	10"	CK	SA	3	CH-M-2758-C	934D187	W	ASTM-A182 F316	PSIV	Forging
63-561	I	AC-ACT	SIS	10"	CK	SA	3	CH-M-2758-C	934D187	W	ASTM-A182 F316	PSIV	Forging
63-562	I	AC-ACT	SIS	10"	CK	SA	3	CH-M-2758-C	934D187	W	ASTM-A182 F316	PSIV	Forging
63-563	I	AC-ACT	SIS	10"	CK	SA	3	CH-M-2758-C	934D187	W	ASTM-A182 F316	PSIV	Forging
63-622	I	C-ACT	SIS	10"	CK	SA	4	CH-M-2758-C	934D187	W	ASTM-A182 F316	PSIV	Forging
63-623	I	C-ACT	SIS	10"	CK	SA	4	CH-M-2758-C	934D187	W	ASTM-A182 F316	PSIV	Forging
63-624	I	C-ACT	SIS	10"	CK	SA	4	CH-M-2758-C	934D187	W	ASTM-A182 F316	PSIV	Forging
63-625	I	C-ACT	SIS	10"	CK	SA	4	CH-M-2758-C	934D187	W	ASTM-A182 F316	PSIV	Forging
63-632	I	C-ACT	SIS	6"	CK	SA	5	CH-M-2758-C	934D185	W	ASTM-A182 F316	PSIV	Forging
63-633	I	C-ACT	SIS	6"	CK	SA	5	CH-M-2758-C	934D185	W	ASTM-A182 F316	PSIV	Forging
63-634	I	C-ACT	SIS	6"	CK	SA	5	CH-M-2758-C	934D185	W	ASTM-A182 F316	PSIV	Forging

TABLE D (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Category B-M-2 of
Table IWB-2500-1 of Section XI

Valve No.	Code Class	Valve Cat.	Piping System	Valve Size	Valve Type	Valve Act	Group No.	TVA Dwg No (Weld Map)	Vendor Dwg No.	Vendor	Material Spec.	Valve Function	Forging/ Casting
63-635	I	C-ACT	SIS	6"	CK	SA	5	CH-M-2758-C	934D185	W	ASTM-A182 F316	PSIV	Forging
63-640	I	C-ACT	SIS	8"	CK	SA	6	CH-M-2758-C	934D186	W	ASTM-A182 F316	PSIV	Forging
63-643	I	C-ACT	SIS	8"	CK	SA	6	CH-M-2758-C	934D186	W	ASTM-A182 F316	PSIV	Forging
63-641	I	AC-ACT	SIS	6"	CK	SA	7	CH-M-2758-C	934D185	W	ASTM-A182 F316	PSIV	Forging
63-644	I	AC-ACT	SIS	6"	CK	SA	7	CH-M-2758-C	934D185	W	ASTM-A182 F316	PSIV	Forging
68-563	I	C-ACT	RCS	6"	REL	SA	8	ISI-0017-C	DSCA56964	Crosby	ASTM-A182 F316		Forging
68-564	I	C-ACT	RCS	6"	REL	SA	8	ISI-0017-C	DSCA56964	Crosby	ASTM-A182 F316		Forging
68-565	I	C-ACT	RCS	6"	REL	SA	8	ISI-0017-C	DSCA56964	Crosby	ASTM-A182 F316		Forging
FCV-74-1	I	A-ACT	RHR	14"	GATE	MO	9	CH-M-2636-C	115E622	W	ASTM-A182 F316	PSIV	Forging
FCV-74-2	I	A-ACT	RHR	14"	GATE	MO	9	CH-M-2636-C	115E622	W	ASTM-A182 F316	PSIV	Forging
FCV-74-8	I	A-ACT	RHR	10"	GATE	MO	10	CH-M-2636-C	1167E79	W	ASTM-A182 F316	PSIV	Forging
FCV-74-9	I	A-ACT	RHR	10"	GATE	MO	10	CH-M-2636-C	1167E79	W	ASTM-A182 F316	PSIV	Forging
87-558	I	AC-ACT	UHI	8"	CK	SA	11	ISI-0004-C	934D186	W	ASTM-A182 F316	PSIV	Forging
87-559	I	AC-ACT	UHI	8"	CK	SA	11	ISI-0004-C	934D186	W	ASTM-A182 F316	PSIV	Forging
87-560	I	AC-ACT	UHI	8"	CK	SA	11	ISI-0004-C	934D186	W	ASTM-A182 F316	PSIV	Forging
87-561	I	AC-ACT	UHI	8"	CK	SA	11	ISI-0004-C	934D186	W	ASTM-A182 F316	PSIV	Forging
87-562	I	AC-ACT	UHI	12"	CK	SA	12	ISI-0004-C	5055D40	W	ASTM-A182 F316	PSIV	Forging
87-563	I	AC-ACT	UHI	12"	CK	SA	12	ISI-0004-C	5055D40	W	ASTM-A182 F316	PSIV	Forging

TABLE E
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
63-543	2	No	No	No	No	No	Sh 8 of 8 CH-M-2636-C	Kerotest	TVD-D-9911X03-(1)
63-545	2	No	No	No	No	No	Sh 8 of 8 CH-M-2636-C	Kerotest	TVD-D-9911X03-(1)
63-640	8	Yes	No	No	No	No	Sh 7 of 8 CH-M-2636-C	Westinghouse	934D186
63-641	6	Yes	No	No	No	No	Sh 7 of 8 CH-M-2636-C	Westinghouse	934D185
63-643	8	Yes	No	No	No	No	Sh 8 of 8 CH-M-2636-C	Westinghouse	934D186
63-644	8	Yes	No	No	No	No	Sh 8 of 8 CH-M-2636-C	Westinghouse	934D185
FCV-74-1	14	Yes	No	No	No	No	Sh 1 of 8 CH-M-2636-C	Westinghouse	115E622
FCV-74-2	14	Yes	No	No	No	No	Sh 1 of 8 CH-M-2636-C	Westinghouse	115E622
FCV-74-8	10	Yes	No	No	No	No	Sh 1 of 8 CH-M-2636-C	Westinghouse	1167E79
FCV-74-9	10	Yes	No	No	No	No	Sh 1 of 8 CH-M-2636-C	Westinghouse	1167E79
FCV-63-67	10	Yes	No	No	No	No	Sh 10 of 13 CH-M-2758-C	Westinghouse	115E013

TABLE E (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
FCV-63-80	10	Yes	No	No	No	No	Sh 9 of 13 CH-M-2758-C	Westinghouse	115E013
FCV-63-98	10	Yes	No	No	No	No	Sh 8 of 13 CH-M-2758-C	Westinghouse	115E013
FCV-63-118	10	Yes	No	No	No	No	Sh 7 of 13 CH-M-2758-C	Westinghouse	115E013
63-547	1 1/2	No	No	No	No	No	Sh 8 of 13 CH-M-2758-C	Kerotest	TVD-D-9911X03-(1)
63-549	2	No	No	No	No	No	Sh 10 of 13 Ch-M-2758-C	Kerotest	TVD-D-9911X03-(1)
63-551	2	No	No	No	No	No	Sh 7 of 13 CH-M-2758-C	Kerotest	TVD-D-9911X03-(1)
63-553	2	No	No	No	No	No	Sh 8 of 13 CH-M-2758-C	Kerotest	TVD-D-9911X03-(1)
63-555	2	No	No	No	No	No	Sh 9 of 13 CH-M-2758-C	Kerotest	TVD-D-9911X03-(1)
63-557	2	No	No	No	No	No	Sh 10 of 13 CH-M-2758-C	Kerotest	TVD-D-9911X03-(1)
63-558	6	Yes	No	No	No	No	Sh 10 of 13 CH-M-2758-C	Westinghouse	934D185
63-559	6	Yes	No	No	No	No	Sh 8 of 13 CH-M-2758-C	Westinghouse	934D185

TABLE (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
63-560	10	Yes	No	No	No	No	Sh 7 of 13 CH-M-2758-C	Westinghouse	934D187
63-561	10	Yes	No	No	No	No	Sh 8 of 13 CH-M-2758-C	Westinghouse	934D187
63-562	10	Yes	No	No	No	No	Sh 9 of 13 CH-M-2758-C	Westinghouse	934D187
63-563	10	Yes	No	No	No	No	Sh 10 of 13 CH-M-2758-C	Westinghouse	934D187
63-581	3	Yes	No	No	No	No	Sh 4 of 13 CH-M-2758-C	Westinghouse	934D183
63-582	1 1/2	No	No	No	No	No	Sh 11 of 13 CH-M-2758-C	Borg Warner	80880
63-583	1 1/2	No	No	No	No	No	Sh 12 of 13 CH-M-2758-C	Borg Warner	80880
63-584	1 1/2	No	No	No	No	No	Sh 13 of 13 CH-M-2758-C	Borg Warner	80880
63-585	1 1/2	No	No	No	No	No	Sh 13 of 13 CH-M-2758-C	Borg Warner	80880
63-586	1 1/2	No	No	No	No	No	Sh 11 of 13 CH-M-2758-C	Kerotest	TVD-D-9958X03-(1)
63-587	1 1/2	No	No	No	No	No	Sh 12 of 13 CH-M-2758-C	Kerotest	TVD-D-9958X03-(1)

TABLE E (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
63-588	1 1/2	No	No	No	No	No	Sh 13 of 13 CH-M-2758-C	Kerotest	TVD-D-9958X03-(1)
63-589	1 1/2	No	No	No	No	No	Sh 13 of 13 CH-M-2758-C	Kerotest	TVD-D-9958X03-(1)
63-622	10	Yes	No	No	No	No	Sh 7 of 13 CH-M-2758-C	Westinghouse	934D187
63-623	10	Yes	No	No	No	No	Sh 8 of 13 CH-M-2758-C	Westinghouse	934D187
63-624	10	Yes	No	No	No	No	Sh 9 of 13 CH-M-2758-C	Westinghouse	934D187
63-625	10	Yes	No	No	No	No	Sh 10 of 13 CH-M-2758-C	Westinghouse	934D187
63-632	6	Yes	No	No	No	No	Sh 8 of 13 CH-M-2758-C	Westinghouse	934D185
63-633	6	Yes	No	No	No	No	Sh 7 of 13 CH-M-2758-C	Westinghouse	934D185
63-634	6	Yes	No	No	No	No	Sh 9 of 13 CH-M-2758-C	Westinghouse	934D185
63-635	6	Yes	No	No	No	No	Sh 10 of 13 CH-M-2758-C	Westinghouse	934D185
FCV-87-7	2	Yes	No	No	No	No	Sh 3 of 5 ISI-0004-C	Fisher	53A7672

TABLE E (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
FCV-87-8	2	Yes	No	No	No	No	Sh 1 of 5 ISI-0004-C	Fisher	53A7672
87-558	8	Yes	No	No	No	No	Sh 2 of 5 ISI-0004-C	Westinghouse	934D186
87-559	8	Yes	No	No	No	No	Sh 1 of 5 ISI-0004-C	Westinghouse	934D186
87-560	8	Yes	No	No	No	No	Sh 4 of 5 ISI-0004-C	Westinghouse	934D186
87-561	8	Yes	No	No	No	No	Sh 3 of 5 ISI-0004-C	Westinghouse	934D186
87-562	12	Yes	No	No	No	No	Sh 1 of 5 ISI-0004-C	Westinghouse	5055D40
87-563	12	Yes	No	No	No	No	Sh 3 of 5 ISI-0004-C	Westinghouse	5055D40
FCV-62-69	3	Yes	No	No	No	No	Sh 1 of 2 ISI-0005-C	Fisher	54A0228
FCV-62-70	3	Yes	No	No	No	No	Sh 1 of 2 ISI-0005-C	Fisher	54A0228
FCV-62-84	2	Yes	No	No	No	No	Sh 2 of 2 ISI-0005-C	Fisher	54A0235
62-560	2	No	No	No	No	No	Sh 1 of 4 ISI-0050-C	Kerotest	TVD-D-9911-(1)

TABLE E (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
62-561	2	No	No	No	No	No	Sh 2 of 4 ISI-0050-C	Kerotest	TVD-D-9911-(1)
62-562	2	No	No	No	No	No	Sh 3 of 4 ISI-0050-C	Kerotest	TVD-D-9911-(1)
62-563	2	No	No	No	No	No	Sh 4 of 4 ISI-0050-C	Kerotest	TVD-D-9911-(1)
62-564	2	No	No	No	No	No	Sh 1 of 4 ISI-0050-C	Kerotest	TVD-D-9909-(1)
62-565	2	No	No	No	No	No	Sh 2 of 4 ISI-0050-C	Kerotest	TVD-D-9909-(1)
62-566	2	No	No	No	No	No	Sh 3 of 4 ISI-0050-C	Kerotest	TVD-D-9909-(1)
62-567	2	No	No	No	No	No	Sh 4 of 4 ISI-0050-C	Kerotest	TVD-D-9909-(1)
62-576	2	No	No	No	No	No	Sh 1 of 4 ISI-0050-C	Kerotest	TVD-D-9911-(1)
62-577	2	No	No	No	No	No	Sh 2 of 4 ISI-0050-C	Kerotest	TVD-D-9911-(1)
62-578	2	No	No	No	No	No	Sh 3 of 4 ISI-0050-C	Kerotest	TVD-D-9911-(1)
62-579	2	No	No	No	No	No	Sh 4 of 4 ISI-0050-C	Kerotest	TVD-D-9911-(1)

TABLE E (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
62-580	3	Yes	No	No	No	No	SH 1 of 2 ISI-0005-C	Velan	E73-035R
62-638	3	Yes	No	No	No	No	Sh 1 of 2 ISI-0005-C	Westinghouse	934D183
62-640	3	Yes	No	No	No	No	Sh 1 of 2 ISI-0005-C	Westinghouse	934D183
62-659	3	Yes	No	No	No	No	Sh 1 of 2 ISI-0005-C	Westinghouse	934D183
62-660	3	Yes	No	No	No	No	Sh 1 of 2 ISI-0005-C	Westinghouse	934D183
62-661	2	No	No	No	No	No	Sh 2 of 2 ISI-0005-C	Kerotest	TVD-D-9911-(2)
63-513	2	No	No	No	No	No	Sh 7 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-514	3	Yes	No	No	No	No	Sh 4 of 11 ISI-0017-C	Westinghouse	115E021
68-515	2	No	No	No	No	No	Sh 8 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-516	2	No	No	No	No	No	Sh 8 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-519	3	Yes	No	No	No	No	Sh 3 of 11 ISI-0017-C	Westinghouse	115E021

TABLE (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
68-520	2	No	No	No	No	No	Sh 8 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-521	2	No	No	No	No	No	Sh 8 of 11 ISI-0017-6	Kerotest	TVD-D-9909X03-(1)
68-524	2	No	No	No	No	No	Sh 8 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-525	3	Yes	No	No	No	No	Sh 3 of 11 ISI-0017-C	Westinghouse	115E021
68-526	2	No	No	No	No	No	Sh 9 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-527	2	No	No	No	No	No	Sh 9 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
FCV-68-332	3	Yes	No	No	No	No	Sh 1 of 11 ISI-0017-C	Westinghouse	115E010
FCV-68-333	3	Yes	No	No	No	No	Sh 1 of 11 ISI-0017-C	Westinghouse	115E010
PCV-68-334	3	Yes	No	No	No	No	Sh 1 of 11 ISI-0017-C	Fisher	54A0273
PCV-68-340A	3	Yes	No	No	No	No	Sh 1 of 11 ISI-0017-C	Fisher	54A0273
PCV-68-340B	4	Yes	No	No	No	No	Sh 2 of 11 ISI-0017-C	Fisher	54A0278

TABLE E (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
PCV-68-340D	4	Yes	No	No	No	No	Sh 2 of 11 ISI-0017-C	Fisher	54A0278
68-504	2	No	No	No	No	No	Sh 7 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-505	2	No	No	No	No	No	Sh 7 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-508	3	Yes	No	No	No	No	Sh 4 of 11 ISI-0017-C	Westinghouse	115E021
68-509	2	No	No	No	No	No	Sh 7 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-510	2	No	No	No	No	No	Sh 7 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-530	3	Yes	No	No	No	No	Sh 5 of 11 ISI-0017-C	Westinghouse	115E021
68-531	2	No	No	No	No	No	Sh 9 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-532	2	No	No	No	No	No	Sh 9 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-535	2	No	No	No	No	No	Sh 9 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-536	3	Yes	No	No	No	No	Sh 5 of 11 ISI-0017-C	Westinghouse	115E021

TABLE E (continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
68-537	2	No	No	No	No	No	Sh 10 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-538	2	No	No	No	No	No	Sh 10 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-541	3	Yes	No	No	No	No	Sh 6 of 11 ISI-0017-C	Westinghouse	115E021
68-543	2	No	No	No	No	No	Sh 10 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-546	2	No	No	No	No	No	Sh 10 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-547	3	Yes	No	No	No	No	Sh 6 of 11 ISI-0017-C	Westinghouse	115E021
68-542	2	No	No	No	No	No	Sh 10 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-549	2	No	No	No	No	No	Sh 11 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-550	2	No	No	No	No	No	Sh 11 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-553	2	No	No	No	No	No	Sh 11 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-554	2	No	No	No	No	No	Sh 11 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)

TABLE E (Continued)
Class 1 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
68-557	2	No	No	No	No	No	Sh 11 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-558	2	No	No	No	No	No	Sh 11 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-563	6	Yes	No	No	No	No	Sh 1 of 11 ISI-0017-C	Crosby	DSCA56964
68-564	6	Yes	No	No	No	No	Sh 1 of 11 ISI-0017-C	Crosby	DSCA56964
68-565	6	Yes	No	No	No	No	Sh 1 of 11 ISI-0017-C	Crosby	DSCA56964
68-581	2	No	No	No	No	No	Sh 11 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)
68-582	2	No	No	No	No	No	Sh 11 of 11 ISI-0017-C	Kerotest	TVD-D-9909X03-(1)

E F
Class 2 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting < = 2"	Valve Bolting > 2"	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
HCV-74-34	8	No	No	No	No	No	CH-M-2636-C	Westinghouse	115E017
HCV-74-36	8	No	No	No	No	No	CH-M-2636-C	Westinghouse	115E017
HCV-74-37	8	No	No	No	No	No	CH-M-2636-C	Westinghouse	115E017
74-514	8	No	No	No	No	No	CH-M-2636-C	Westinghouse	934D179
74-515	8	No	No	No	No	No	CH-M-2636-C	Westinghouse	934D179
74-520	8	No	No	No	No	No	CH-M-2636-C	Westinghouse	115E017
74-521	8	No	No	No	No	No	CH-M-2636-C	Westinghouse	115E017
74-524	8	No	No	No	No	No	CH-M-2636-C	Westinghouse	115E017
74-525	8	No	No	No	No	No	CH-M-2636-C	Westinghouse	115E017

TABLE F (Continued)
Class 2 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting > 2	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
FCV-63-72	18	No	No	No	No	CH-M-2636-C	Westinghouse	115E615
FCV-63-73	18	No	No	No	No	CH-M-2636-C	Westinghouse	115E615
FCV-63-172	12	No	No	No	No	CH-M-2636-C	Westinghouse	1167E81
63-502	14	No	No	No	No	CH-M-2636-C	Westinghouse	5061D45
FCV-74-3	14	No	No	No	No	CH-M-2636-C	Westinghouse	115E007
FCV-74-16	8	No	No	No	No	CH-M-2636-C	Fisher	F-42433
FCV-74-21	14	No	No	No	No	CH-M-2636-C	Westinghouse	115E007
FCV-74-28	8	No	No	No	No	CH-M-2636-C	Fisher	F-42433
FCV-74-32	8	No	No	No	No	CH-M-2636-C	Fisher	F-42433
FCV-74-33	8	No	No	No	No	CH-M-2636-C	Westinghouse	1167E82
FCV-74-35	8	No	No	No	No	CH-M-2636-C	Westinghouse	1167E82
FCV-1-4	32	No	No	No	No	CH-M-2669-C	Atwood Morrill	13824
FCV-1-11	32	No	No	No	No	CH-M-2669-C	Atwood Morrill	13824
FCV-1-22	32	No	No	No	No	CH-M-2669-C	Atwood Morrill	13824
FCV-1-29	32	No	No	No	No	CH-M-2669-C	Atwood Morrill	13824
PCV-1-5	6	No	No	No	No	CH-M-2669-C	Copes Vulcan	174269
PCV-1-12	6	No	No	No	No	CH-M-2669-C	Copes Vulcan	174269

TA F (Continued)
Class 2 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting > 2	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
PCV-1-23	6	No	No	No	No	CH-M-2669-C	Copes Vulcan	174269
PCV-1-30	6	No	No	No	No	CH-M-2669-C	Copes Vulcan	174269
1-512	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-513	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-514	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-515	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-516	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-517	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-518	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-519	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-520	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-521	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-522	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-523	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-524	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-525	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-526	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040

TABLE F (Continued)
Class 2 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting > 2	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
1-527	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-528	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-529	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-530	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-531	6	No	Yes	No	No	CH-M-2669-C	Dresser	3NC-040
1-619	6	No	No	No	No	CH-M-2669-C	Walworth	SA-2034-4B
1-620	6	No	No	No	No	CH-M-2669-C	Walworth	SA-2034-4B
1-621	6	No	No	No	No	CH-M-2669-C	Walworth	SA-2034-4B
1-622	6	No	No	No	No	CH-M-2669-C	Walworth	SA-2034-4B
FCV-3-33	16	No	No	No	No	CH-M-2671-C	Walworth	A-12819-M-1D
FCV-3-47	16	No	No	No	No	CH-M-2671-C	Walworth	A-12819-M-1D
FCV-3-87	16	No	No	No	No	CH-M-2671-C	Walworth	A-12819-M-1D
FCV-3-100	16	No	No	No	No	CH-M-2671-C	Walworth	A-12819-M-1D
FCV-3-236	6	No	No	No	No	CH-M-2671-C	Leslie	717543030D
FCV-3-239	6	No	No	No	No	CH-M-2671-C	Leslie	717543030D
FCV-3-242	6	No	No	No	No	CH-M-2671-C	Leslie	717543030D
FCV-3-245	6	No	No	No	No	CH-M-2671-C	Leslie	717543030D

TABLE F (Continued)
Class 2 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting > 2	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
3-508	16	No	No	No	No	CH-M-2671-C	Walworth	A-12386-M-3
3-509	16	No	No	No	No	CH-M-2671-C	Walworth	A-12386-M-3
3-510	16	No	No	No	No	CH-M-2671-C	Walworth	A-12386-M-3
3-511	16	No	No	No	No	CH-M-2671-C	Walworth	A-12386-M-3
3-638	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
3-644	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
3-645	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
3-652	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
3-655	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
3-656	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
3-669	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
3-670	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
3-678	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
3-679	6	No	Yes	No	No	CH-M-2671-C	Borg Warner	455KAB1-001
FCV-63-8	8	No	No	No	No	CH-M-2758-C	Westinghouse	115E005
FCV-63-11	8	No	No	No	No	CH-M-2758-C	Westinghouse	115E005
FCV-63-93	8	No	No	No	No	CH-M-2758-C	Westinghouse	115E012

TABLE F (Continued)
Class 2 Valves
Valves Subject to the Requirements of Examination Categories
Table IWB-2500 of Section XI

Valve No.	Valve Size	Valve Bolting > 2	Valve Body Welds	Integrally Welded Supports	Support Components	Reference Drawing No.	Vendor	Vendor Dwg. No.
FCV-63-94	8	No	No	No	No	CH-M-2758-C	Westinghouse	115E012
FCV-87-21	12	No	No	No	No	ISI-0004-C	Anchor Darling	93-13540
FCV-87-22	12	No	No	No	No	ISI-0004-C	Anchor Darling	93-13540
FCV-87-23	12	No	No	No	No	ISI-0004-C	Anchor Darling	93-13540
FCV-87-24	12	No	No	No	No	ISI-0004-C	Anchor Darling	93-13540
FCV-72-40	8	No	No	No	No	CHM-2758-C	Westinghouse	1167E82
FCV-72-41	8	No	No	No	No	CHM-2758-C	Westinghouse	1167E82
FCV-63-1	14	No	No	No	No	CHM-2758-C	Westinghouse	115E285

LE G

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-79	1	3	X				No	VT-3	Yes	
RCH-80	1	3		X			No	VT-3,4	Yes	
RCH-81	1	3			X		No	VT-3,4	Yes	
RCH-92	1	3	X				No	VT-3	Yes	
RCH-93	1	3		X			No	VT-3,4	Yes	
RCH-94	1	3			X		No	VT-3,4	Yes	
RCH-96	1	3		X			No	VT-3,4	Yes	
RCH-411	1	6	X				No	VT-3	No	
RCH-412	1	6		X			No	VT-3,4	Yes	
RCH-413	1	6		X			Yes 3/4" lug	VT-3,4,ST	Yes	
RCH-415	1	3		X			Yes 1/2" lug	VT-3,4	Yes	
RCH-420	1	6	X				No	VT-3	Yes	
RCH-426	1	6		X			No	VT-3,4	Yes	
RCH-427	1	6		X			No	VT-3,4	Yes	
RCH-432	1	6	X				No	VT-3	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-433	1	6		X			No	VT-3,4	Yes	
RCH-11	2	6			X		No	VT-3,4	Yes	
RCH-12	2	6		X			No	VT-3,4	Yes	
RCH-14	2	6	X				No	VT-3	Yes	
RCH-15	2	6	X				No	VT-3	Yes	
RCH-18	2	6		X			No	VT-3,4	Yes	
RCH-20	2	4		X			No	VT-3,4	Yes	
RCH-21	2	4		X			No	VT-3,4	Yes	
RCH-22	2	4		X			No	VT-3,4	Yes	
RCH-25	2	4			X		No	VT-3,4	Yes	
RCH-26	2	4	X				No	VT-3	Yes	
RCH-27	2	4		X			No	VT-3,4	Yes	
RCH-28	2	4			X		No	VT-3,4	Yes	
RCH-29	2	4	X				No	VT-3	Yes	
RCH-30	2	4		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-31	2	4		X			No	VT-3,4	Yes	
RCH-34	2	4		X			No	VT-3,4	Yes	
RCH-35	2	4			X		No	VT-3,4	Yes	
RCH-36	2	4		X			No	VT-3,4	Yes	
RCH-37	2	4	X				No	VT-3	Yes	
RCH-38	2	4	X				No	VT-3	Yes	
RCH-39	2	4		X			No	VT-3,4	Yes	
RCH-40	2	4	X				No	VT-3	Yes	
RCH-41	2	4		X			No	VT-3,4	Yes	
RCH-54	2	6	X				No	VT-3	Yes	
RCH-55	2	6		X			No	VT-3,4	Yes	
RCH-57	2	6	X				No	VT-3	Yes	
RCH-151	3	3		X			No	VT-3,4	Yes	
RCH-152	3	3		X			No	VT-3,4	Yes	
RCH-153	3	3	X				No	VT-3	Yes	

TABLE (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-155	3	3		X			No	VT-3,4	Yes	
RCH-156	3	3	X				No	VT-3	No	
RCH-157	3	3		X			No	VT-3,4	Yes	
RCH-163	3	3			X		No	VT-3,4	Yes	
RCH-164	3	3		X			No	VT-3,4	Yes	
RCH-165	3	3	X				No	VT-3	Yes	
RCH-166	3	3	X				No	VT-3	Yes	
RCH-167	3	3		X			No	VT-3,4	Yes	
RCH-168	3	3	X				No	VT-3	Yes	
RCH-192	4	3		X			No	VT-3,4	Yes	
RCH-193	4	3		X			No	VT-3,4	Yes	
RCH-194	4	3		X			No	VT-3,4	Yes	
RCH-195	4	3		X			No	VT-3,4	Yes	
RCH-196	4	3	X				No	VT-3	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-197	4	3	X				No	VT-3	Yes	
RCH-198	4	3	X				No	VT-3	Yes	
RCH-199	4	3		X			No	VT-3,4	Yes	
RCH-200	4	3	X				No	VT-3	No	
RCH-201	4	3		X			No	VT-3,4	Yes	
RCH-202	4	3	X				No	VT-3	Yes	
RCH-203	4	3	X				No	VT-3	Yes	
RCH-204	4	3		X			No	VT-3,4	Yes	
RCH-246	5	3			X		No	VT-3,4	Yes	
RCH-251	5	3		X			No	VT-3,4	Yes	
RCH-252	5	3		X			No	VT-3,4	Yes	
RCH-253	5	3	X				No	VT-3	Yes	
RCH-255	5	3		X			No	VT-3,4	Yes	
RCH-257	5	3		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-263	5	3			X		No	VT-3,4	Yes	
RCH-264	5	3		X			No	VT-3,4	Yes	
RCH-265	5	3	X				No	VT-3	Yes	
RCH-266	5	3	X				No	VT-3	Yes	
RCH-267	5	3	X				No	VT-3	Yes	
RCH-268	5	3		X			No	VT-3,4	Yes	
RCH-301	6	3		X			No	VT-3,4	Yes	
RCH-302	6	3		X			No	VT-3,4	Yes	
RCH-303	6	3	X				No	VT-3	Yes	
RCH-305	6	3		X			No	VT-3,4	Yes	
RCH-306	6	3	X				No	VT-3	Yes	
RCH-307	6	3		X			No	VT-3,4	Yes	
RCH-313	6	3			X		No	VT-3,4	Yes	
RCH-314	6	3		X			No	VT-3,4	Yes	
RCH-315	6	3	X				No	VT-3	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-316	6	3	X				No	VT-3	Yes	
RCH-317	6	3	X				No	VT-3	Yes	
RCH-318	6	3		X			No	VT-3,4	Yes	
RCH-146	7	2			X		No	VT-3,4	Yes	
RCH-147	7	2		X			No	VT-3,4	Yes	
RCH-148	7	2	X				No	VT-3	Yes	
RCH-149	7	2	X				No	VT-3	Yes	
RCH-150	7	2		X			No	VT-3,4	Yes	
RCH-158	7	2	X				No	VT-3	Yes	
RCH-159	7	2	X				No	VT-3	Yes	
RCH-160	7	2	X				No	VT-3	Yes	
RCH-161	7	2	X				No	VT-3	Yes	
RCH-162	7	2		X			No	VT-3,4	Yes	
RCH-173	7	2		X			No	VT-3,4	Yes	

TABLE (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-190	8	2	X				No	VT-3	Yes	
RCH-191	8	2	X				No	VT-3	Yes	
RCH-205	8	2	X				No	VT-3	Yes	
RCH-206	8	2	X				No	VT-3	Yes	
RCH-207	8	2		X			No	VT-3,4	Yes	
RCH-208	8	2		X			No	VT-3,4	Yes	
RCH-209	8	2	X				No	VT-3	Yes	
RCH-210	8	2		X			No	VT-3,4	Yes	
RCH-215	8	2		X			No	VT-3,4	Yes	
RCH-246	9	2			X		No	VT-3,4	Yes	
RCH-247	9	2	X				No	VT-3	Yes	
RCH-248	9	2	X				No	VT-3	Yes	
RCH-250	9	2		X			No	VT-3,4	Yes	
RCH-258	9	2	X				No	VT-3	Yes	
RCH-259	9	2	X				No	VT-3	Yes	
RCH-260	9	2		X			No	VT-3,4	Yes	

TABLE G[illegible]NTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-261	9	2	X				No	VT-3	No	
RCH-262	9	2	X				No	VT-3	Yes	
RCH-296	10	2			X		No	VT-3,4	Yes	
RCH-297	10	2	X				No	VT-3	Yes	
RCH-298	10	2	X				No	VT-3	Yes	
RCH-299	10	2	X				No	VT-3	Yes	
RCH-300	10	2	X				No	VT-3	Yes	
RCH-308	10	2	X				No	VT-3	Yes	
RCH-309	10	2	X				No	VT-3	Yes	
RCH-310	10	2		X			No	VT-3,4	Yes	
RCH-311	10	2	X				No	VT-3	Yes	
RCH-312	10	2		X			No	VT-3,4	Yes	
RCH-319	10	2		X			No	VT-3,4	Yes	
RCH-333	11	2		X			No	VT-3,4	Yes	
RCH-334	11	2			X		No	VT-3,4	Yes	

TABLE (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RC	ISI-0010-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RCH-335	11	2		X			No	VT-3,4	Yes	
RCH-347	11	2		X			No	VT-3,4	Yes	
RCH-348	11	2			X		No	VT-3,4	Yes	
RCH-349	11	2		X			No	VT-3,4	Yes	
RCH-350	11	2		X			No	VT-3,4	Yes	
RCH-363	11	2		X			No	VT-3,4	Yes	
RCH-364	11	2		X			No	VT-3,4	Yes	
RCH-365	11	2		X			No	VT-3,4	Yes	
RCH-378	11	2		X			No	VT-3,4	Yes	
RCH-379	11	2		X			No	VT-3,4	Yes	
RCH-380	11	2		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-2	1	14	X				No	VT-3	Yes	
RHRH-5	1	14	X				No	VT-3	Yes	
RHRH-6	1	14	X				No	VT-3	Yes	
RHRH-7	1	14		X			No	VT-3,4	Yes	
RHRH-8	1	14		X			No	VT-3,4	Yes	
RHRH-10	1	14	X				No	VT-3	Yes	
RHRH-11	1	10	X				No	VT-3	Yes	
RHRH-12	1	10	X				No	VT-3	No	
RHRH-20	1	14		X			No	VT-3,4	Yes	
RHRH-22	1	14			X		No	VT-3	Yes	
RHRH-23	1	14		X			No	VT-3, 4	Yes	
SIH-365	7	6		X			No	VT-3,4	Yes	
SIH-366	7	6		X			No	VT-3,4	Yes	
SIH-367	7	8			X		No	VT-3	Yes	
SIH-368	7	8		X			No	VT-3,4	Yes	
SIH-369	7	8	X				No	VT-3	Yes	

TABLE [illegible] (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-370	7	8	X				No	VT-3	Yes	
SIH-340	8	8		X			No	VT-3,4	Yes	
SIH-341	8	8	X				No	VT-3	Yes	
SIH-342	8	8			X		No	VT-3	Yes	
SIH-343	8	8	X				No	VT-3	Yes	
SIH-344	8	8		X			No	VT-3,4	Yes	
SIH-345	8	8	X				No	VT-3	Yes	
SIH-346	8	8	X				No	VT-3	Yes	
SIH-588	8	8		X	X		No	VT-3,4	Yes	
SIH-596	8	2		X			No	VT-3,4	Yes	
SIH-597	8	8	X				No	VT-3	Yes	
SIH-598	8	8		X			No	VT-3,4	Yes	
SIH-602	8	8	X				No	VT-3	No	
SIH-388	7	2	X				No	VT-3	Yes	
SIH-387	7	2	X				No	VT-3	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-065	4	6		X			No	VT-3,4	Yes	
SIH-066	4	6		X			No	VT-3,4	Yes	
SIH-067	4	6	X				No	VT-3	Yes	
SIH-068	4	6	X				No	VT-3	Yes	
SIH-070	4	10	X				No	VT-3	Yes	
SIH-071	4	10		X			No	VT-3,4	Yes	
SIH-072	4	10	X				No	VT-3	Yes	
SIH-073	4	10	X				No	VT-3	Yes	
SIH-080	4	6			X		No	VT-3	Yes	
SIH-081	4	6		X			No	VT-3,4	Yes	
SIH-082	4	6	X				No	VT-3	Yes	
SIH-083	4	6	X				No	VT-3	Yes	
SIH-084	4	10	X				No	VT-3	Yes	
SIH-085	4	10		X			No	VT-3,4	Yes	
SIH-086	4	10		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-087	4	10	X				No	VT-3	Yes	
SIH-088	4	10		X			No	VT-3,4	Yes	
SIH-089	4	10		X			No	VT-3,4	Yes	
SIH-090	4	10	X				No	VT-3	Yes	
47A435-9-69	4	10	X				No	VT-3	Yes	
SIH-1	7	10		X			No	VT-3,4	Yes	
SIH-2	7	10			X		No	VT-3	Yes	
SIH-3	7	10		X			No	VT-3,4	Yes	
SIH-4	7	10	X				No	VT-3	Yes	
SIH-5	7	10		X			No	VT-3,4	Yes	
SIH-6	7	10	X				No	VT-3	Yes	
SIH-7	7	10	X				No	VT-3	No	
SIH-8	7	10		X			No	VT-3,4	Yes	
SIH-10	7	6	X				No	VT-3	Yes	
SIH-11	7	6		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-12	7	6	X				No	VT-3	Yes	
SIH-451	7	10			X		No	VT-3,4	Yes	
SIH-452	7	10		X			No	VT-3,4	Yes	
SIH-453	7	10		X			No	VT-3,4	Yes	
SIH-454	7	10		X			No	VT-3,4	Yes	
SIH-455	7	10		X			No	VT-3,4	Yes	
SIH-456	7	10	X				No	VT-3	Yes	
SIH-458	7	10		X			No	VT-3,4	Yes	
SIH-459	7	10		X			No	VT-3,4	Yes	
SIH-444	7	10			X		No	VT-3	Yes	
SIH-480	7	10		X			No	VT-3,4	Yes	
SIH-482	7	10	X				No	VT-3	No	
47A435-7-60	7	10		X			No	VT-3,4	Yes	
SIH-461	7	6	X				No	VT-3	Yes	
SIH-462	7	6		X			No	VT-3,4	Yes	
SIH-463	7	6	X				No	VT-3	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-464	7	6	X				No	VT-3	Yes	
SIH-150	8	2 1/2	X				No	VT-3	Yes	
SIH-151	8	2 1/2	X				No	VT-3	Yes	
SIH-152	8	2 1/2	X				No	VT-3	Yes	
SIH-153	8	2 1/2	X				No	VT-3	Yes	
SIH-154	8	2 1/2	X				No	VT-3	Yes	
SIH-155	8	2 1/2	X				No	VT-3	Yes	
SIH-166	8	3	X				No	VT-3	Yes	
SIH-167	8	3	X				No	VT-3	No	
SIH-168	8	3	X				No	VT-3	No	
SIH-191	8	2 1/2	X				No	VT-3	Yes	
SIH-192	8	2 1/2	X				No	VT-3	Yes	
SIH-193	8	2 1/2	X				No	VT-3	Yes	
SIH-194	8	2 1/2	X				No	VT-3	Yes	
SIH-195	8	2 1/2	X				No	VT-3	Yes	
SIH-196	8	2 1/2		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-197	8	2 1/2	X				No	VT-3	Yes	
SIH-198	8	2 1/2	X				No	VT-3	No	
SIH-199	8	2 1/2	X				No	VT-3	No	
47A435-8-73	9	2	X				No	VT-3	Yes	
SIH-119	9	2	X				No	VT-3	Yes	
SIH-093	9	2	X				No	VT-3	Yes	
SIH-094	9	2		X			No	VT-3,4	Yes	
SIH-096	9	2		X			No	VT-3,4	Yes	
SIH-097	9	2	X				No	VT-3	Yes	
SIH-115	9	2	X				No	VT-3	Yes	
SIH-116	9	2		X			No	VT-3	Yes	
SIH-117	9	2	X				No	VT-3	Yes	
RHRH-17	10	2		X			No	VT-3,4	Yes	
RHRH-18	10	2	X				No	VT-3	No	
RHRH-19	10	2	X				No	VT-3	No	
RHRH-21	10	2	X				No	VT-3	No	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-38	10	2		X			No	VT-3,4	Yes	
SIH-39	10	2		X			No	VT-3,4	Yes	
47A435-8-34	10	6	X				No	VT-3	Yes	
47A435-8-35	10	2		X			No	VT-3,4	Yes	
47A435-8-36	10	2		X			No	VT-3,4	Yes	
47A435-8-38	10	2	X				No	VT-3	No	
47A435-8-39	10	2		X			No	VT-3,4	Yes	
47A435-8-40	10	2		X			No	VT-3,4	Yes	
SIH-283	10	2	X				No	VT-3	No	
SIH-284	10	2	X				No	VT-3	Yes	
SIH-288	10	2	X				No	VT-3	Yes	
SIH-328	10	2	X				No	VT-3	Yes	
SIH-329	10	2	X				No	VT-3	Yes	
SIH-442	10	2	X				No	VT-3	Yes	
SIH-465	10	2		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-175	11	1 1/2	X				No	VT-3	Yes	
SIH-176	11	1 1/2	X				No	VT-3	No	
SIH-177	11	1 1/2	X				No	VT-3	Yes	
SIH-178	11	1 1/2	X				No	VT-3	No	
SIH-179	11	1 1/2	X				No	VT-3	Yes	
SIH-180	11	1 1/2	X				No	VT-3	No	
SIH-181	11	1 1/2	X				No	VT-3	Yes	
SIH-182	11	1 1/2	X				No	VT-3	No	
SIH-183	11	1 1/2	X				No	VT-3	Yes	
SIH-184	11	1 1/2	X				No	VT-3	No	
SIH-185	11	1 1/2		X			No	VT-3,4	Yes	
SIH-186	11	1 1/2	X				No	VT-3	Yes	
SIH-187	11	1 1/2		X			No	VT-3,4	Yes	
SIH-189	11	1 1/2	X				No	VT-3	No	
RHRH-14	10	6		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-24	10	6	X				No	VT-3	No	
RHRH-15	10	6		X			No	VT-3,4	Yes	
RHRH-13	10	6	X				No	VT-3	Yes	
SIH-520	11	1 1/2		X			No	VT-3,4	Yes	
SIH-521	11	1 1/2	X				No	VT-3	No	
SIH-522	11	1 1/2	X				No	VT-3	No	
SIH-523	11	1 1/2		X			No	VT-3,4	Yes	
SIH-524	11	1 1/2	X				No	VT-3	No	
SIH-525	11	1 1/2	X				No	VT-3	No	
SIH-526	11	1 1/2	X				No	VT-3,4	Yes	
SIH-212	12	1 1/2	X				No	VT-3	No	
SIH-213	12	1 1/2	X				No	VT-3	Yes	
SIH-214	12	1 1/2	X				No	VT-3	Yes	
SIH-215	12	1 1/2	X				No	VT-3	No	
SIH-216	12	1 1/2	X				No	VT-3	No	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-217	12	1 1/2	X				No	VT-3	No	
SIH-218	12	1 1/2	X				No	VT-3	No	
SIH-219	12	1 1/2	X				No	VT-3	No	
SIH-220	12	1 1/2	X				No	VT-3	No	
SIH-221	12	1 1/2	X				No	VT-3	No	
SIH-222	12	1 1/2	X				No	VT-3	Yes	
SIH-223	12	1 1/2	X				No	VT-3	Yes	
SIH-224	12	1 1/2		X			No	VT-3,4	Yes	
SIH-225	12	1 1/2	X				No	VT-3	No	
SIH-226	12	1 1/2	X				No	VT-3	No	
SIH-227	12	1 1/2	X				No	VT-3	Yes	
SIH-228	12	1 1/2		X			No	VT-3,4	Yes	
SIH-550	12	1 1/2	X				No	VT-3	No	
SIH-546	12	1 1/2	X				No	VT-3	Yes	
SIH-547	12	1 1/2		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-548	12	1 1/2		X			No	VT-3,4	Yes	
SIH-549	12	1 1/2		X			No	VT-3,4	Yes	
SIH-553	12	1 1/2	X				No	VT-3	Yes	
SIH-200	13	1 1/2	X				No	VT-3	No	
SIH-201	13	1 1/2	X				No	VT-3	Yes	
SIH-202	13	1 1/2		X			No	VT-3,4	Yes	
SIH-203	13	1 1/2	X				No	VT-3	Yes	
SIH-204	13	1 1/2	X				No	VT-3	No	
SIH-205	13	1 1/2	X				No	VT-3	No	
SIH-206	13	1 1/2	X				No	VT-3	Yes	
SIH-209	13	1 1/2	X				No	VT-3	No	
SIH-211	13	1 1/2		X			No	VT-3	No	
SIH-156	13	1 1/2		X			No	VT-3,4	Yes	
SIH-157	13	1 1/2	X				No	VT-3	Yes	
SIH-158	13	1 1/2	X				No	VT-3	No	
SIH-159	13	1 1/2	X				No	VT-3	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-160	13	1 1/2		X			No	VT-3,4	Yes	
SIH-161	13	1 1/2		X			No	VT-3,4	Yes	
SIH-162	13	1 1/2	X				No	VT-3	Yes	
SIH-163	13	1 1/2		X			No	VT-3	Yes	
SIH-164	13	1 1/2		X			No	VT-3,4	Yes	
SIH-165	12	1 1/2			X		No	VT-3	Yes	
SIH-545	13	1 1/2	X				No	VT-3	Yes	
SIH-551	13	1 1/2		X			No	VT-3,4	Yes	
SIH-552	13	1 1/2		X			No	VT-3,4	Yes	

TABLE C[illegible]ONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
UHI	ISI-0025-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
UHIH-040	1	8	X				No	VT-3	Yes	
UHIH-043	1	8	X				No	VT-3	Yes	
UHIH-044	1	8	X				No	VT-3	No	
UHIH-045	1	8	X				No	VT-3	Yes	
UHIH-063	1	8		X			No	VT-3,4	Yes	
UHIH-064	1	8		X			No	VT-3,4	Yes	
UHIH-065	1	8	X				No	VT-3	Yes	
UHIH-066	1	8	X				No	VT-3	No	
UHIH-067	1	8		X			No	VT-3,4	Yes	
UHIH-068	1	8		X			No	VT-3,4	Yes	
UHIH-069	1	8			X		No	VT-3,4	Yes	
UHIH-070	1	8		X			No	VT-3,4	Yes	
UHIH-071	1	8		X			No	VT-3,4	Yes	
UHIH-072	1	8			X		No	VT-3,4	Yes	
UHIH-073	1	8		X			No	VT-3,4	Yes	
UHIH-074	1	8		X			No	VT-3,4	Yes	

TABLE (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
UHI	ISI-0025-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
UHIH-075	1	8	X				No	VT-3	No	
UHIH-079	1	5		X			No	VT-3,4	Yes	
UHIH-084	1	2	X				No	VT-3	Yes	
UHIH-085	1	2	X				No	VT-3	Yes	
UHIH-180	1	5		X			No	VT-3,4	Yes	
UHIH-046	2	8	X				No	VT-3	No	
UHIH-047	2	8	X				No	VT-3	No	
UHIH-048	2	8	X				No	VT-3	No	
UHIH-049	2	8	X				No	VT-3	No	
UHIH-050	2	8	X				No	VT-3	No	
UHIH-051	2	8		X			No	VT-3,4	Yes	
UHIH-055	2	8		X			No	VT-3,4	Yes	
UHIH-057	2	8		X			No	VT-3,4	Yes	
UHIH-058	2	8		X			No	VT-3,4	Yes	
UHIH-059	2	8		X			No	VT-3,4	Yes	
UHIH-060	2	8		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
UHI	ISI-0025-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
UHIH-061	2	5		X			No	VT-3,4	Yes	
UHIH-062	2	5		X			No	VT-3,4	Yes	
UHIH-076	2	8			X		No	VT-3	Yes	
UHIH-077	2	8		X			No	VT-3,4	Yes	
UHIH-078	2	8	X				No	VT-3	No	
UHIH-001	3	12	X				No	VT-3	Yes	
UHIH-002	3	12	X				No	VT-3	Yes	
UHIH-003	3	12	X				No	VT-3	Yes	
UHIH-004	3	12	X				No	VT-3	Yes	
UHIH-005	3	12	X				No	VT-3	Yes	
UHIH-006	3	12	X				No	VT-3	No	
UHIH-007	3	12	X				No	VT-3	Yes	
UHIH-024	3	5		X			No	VT-3,4	Yes	
UHIH-025	3	5		X			No	VT-3,4	Yes	
UHIH-026	3	8	X				No	VT-3	No	
UHIH-027	3	8	X				No	VT-3	No	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
UHI	ISI-0025-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
UHIH-028	3	8		X			No	VT-3,4	Yes	
UHIH-029	3	8		X			No	VT-3,4	Yes	
UHIH-033	3	8		X			No	VT-3,4	Yes	
UHIH-034	3	8			X		No	VT-3	Yes	
UHIH-036	3	8		X			No	VT-3,4	Yes	
UHIH-039	3	8			X		No	VT-3,4	Yes	
UHIH-087	3	2	X				No	VT-3	Yes	
UHIH-31	3	8		X			Yes (2 lug 1/2" thick)	VT-3,4	Yes	
UHIH-30	3	8		X			No	VT-3,4	Yes	
UHIH-38	3	8	X				No	VT-3	Yes	
UHIH-150	3	8		X			No	VT-3,4	Yes	
UHIH-008	4	8	X				No	VT-3	Yes	
UHIH-009	4	8	X				No	VT-3	Yes	
UHIH-010	4	8	X				No	VT-3	No	
UHIH-011	4	8	X				No	VT-3	No	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
UHI	ISI-0025-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
UHIH-020	4	8	X				No	VT-3	No	
UHIH-012	4	8		X			No	VT-3,4	Yes	
UHIH-013	4	8		X			No	VT-3,4	Yes	
UHIH-014	4	8	X				No	VT-3	Yes	
UHIH-015	4	8		X			No	VT-3,4	Yes	
UHIH-016	4	8			X		No	VT-3	Yes	
UHIH-018	4	8		X			No	VT-3,4	Yes	
UHIH-021	4	8		X			No	VT-3,4	Yes	
UHIH-022	4	5		X			No	VT-3,4	Yes	
UHIH-023	4	5		X			No	VT-3,4	Yes	
UHIH-035	4	8	X				No	VT-3	Yes	
UHIH-037	4	8		X			No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
CVC	ISI-0026-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
CVCH-290	1	3			X		No	VT-3,4	Yes	
CVCH-291	1	3		X			No	VT-3,4	Yes	
CVCH-292	1	3		X			No	VT-3,4	Yes	
CVCH-293	1	3	X				No	VT-3	Yes	
CVCH-294	1	3		X			No	VT-3,4	Yes	
CVCH-295	1	3	X				No	VT-3	Yes	
CVCH-296	1	3	X				No	VT-3	Yes	
CVCH-297	1	3	X				No	VT-3	Yes	
CVCH-298	1	3	X				No	VT-3	Yes	
CVCH-299	1	3	X				No	VT-3	Yes	
CVCH-300	1	3	X				No	VT-3	Yes	
CVCH-301	1	3	X				No	VT-3	Yes	
CVCH-302	1	3	X				No	VT-3	Yes	
CVCH-304	1	3	X				No	VT-3	Yes	
CVCH-305	1	3		X			No	VT-3,4	Yes	
CVCH-306	1	3	X				No	VT-3	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
CVC	ISI-0026-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
CVCH-307	1	3	X				No	VT-3	Yes	
CVCH-310	1	3	X				No	VT-3	Yes	
CVCH-366	1	3		X			No	VT-3,4	Yes	
CVCH-563	1	3		X			No	VT-3,4	Yes	
RCH-42	2	2	X				No	VT-3	No	
RCH-43	2	2	X				No	VT-3	No	
RCH-44	2	2	X				No	VT-3	No	
RCH-45	2	2	X				No	VT-3	No	
RCH-46	2	2	X				No	VT-3	No	
RCH-47	2	2	X				No	VT-3	No	
CVCH-331	2	2				X	No	VT-3	Yes	
CVCH-383	2	2	X				No	VT-3	Yes	
CVCH-384	2	2		X			No	VT-3,4	Yes	
CVCH-385	2	2			X		No	VT-3,4	Yes	

TABLE G (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
CVC	ISI-0063-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
CVCH-1	1	2	X				No	VT-3	Yes	
CVCH-2	1	2		X			No	VT-3,4	Yes	
CVCH-3	1	2	X				No	VT-3	Yes	
CVCH-4	1	2		X			No	VT-3,4	Yes	
CVCH-5	1	2	X				No	VT-3	Yes	
CVCH-6	1	2		X			No	VT-3,4	Yes	
CVCH-7	1	2	X				No	VT-3	Yes	
47A406-8-56	1	2		X			No	VT-3,4	Yes	
CVCH-30	2	2	X				No	VT-3	Yes	
CVCH-31	2	2		X			No	VT-3,4	Yes	
CVCH-32	2	2	X				No	VT-3	Yes	
CVCH-33	2	2		X			No	VT-3,4	Yes	
CVCH-34	2	2		X			No	VT-3,4	Yes	
CVCH-35	2	2	X				No	VT-3	Yes	
CVCH-37	2	2	X				No	VT-3	Yes	
CVCH-38	2	2	X				No	VT-3	No	
CVCH-64	2	2		X			No	VT-3,4	Yes	

TABLE G[illegible]TINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 1 SUPPORTS

System	Dwg. No.	Table
CVC	ISI-0063-C	IWB

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
CVCH-65	2	2		X			No	VT-3,4	Yes	
CVCH-67	2	2	X				No	VT-3	Yes	
CVCH-70	3	2			X		No	VT-3,4	Yes	
CVCH-71	3	2	X				No	VT-3	Yes	
CVCH-72	3	2	X				No	VT-3	Yes	
CVCH-73	3	2	X				No	VT-3	Yes	
CVCH-74	3	2	X				No	VT-3	Yes	
CVCH-95	3	2		X			No	VT-3,4	Yes	
CVCH-100	4	2	X				No	VT-3	No	
CVCH-101	4	2		X			No	VT-3,4	Yes	
CVCH-102	4	2		X			No	VT-3,4	Yes	
CVCH-103	4	2		X			No	VT-3	No	
CVCH-105	4	2	X				No	VT-3,4	Yes	
CVCH-106	4	2		X			No	VT-3	No	
CVCH-107	4	2	X				No	VT-3	Yes	
CVCH-108	4	2	X				No	VT-3	Yes	
CVCH-109	4	2	X				No	VT-3	No	

TABLE H

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
MS	ISI-0011-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
MSH-300	1	32		X			No	VT-3,4	Yes	
MSH-301	1	32		X			No	VT-3,4	Yes	
MSH-302	1	32			X		Yes 1" lug	VT-3,4, ST	Yes	
MSH-303	1	32		X			Yes 1" lug	VT-3,4, ST	Yes	
MSH-304	1	32		X			No	VT-3	Yes	
MSH-305	1	32			X		No	VT-3,4	Yes	
MSH-306	1	32	X				No	VT-3,4	Yes	
MSH-307	1	32		X			No	VT-3,4	Yes	
MSH-308	1	32		X			No	VT-3,4	Yes	
MSH-309	1	32			X		No	VT-3	Yes	
MSH-310	1	32	X				No	VT-3	Yes	
MSH-311	1	32	X				No	VT-3	Yes	
MSH-312	1	32		X			No	VT-3,4	Yes	
MSH-313	1	32		X			No	VT-3,4	Yes	
MSH-315	1	32	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
MS	ISI-0011-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
MSH-340	2	32		X			No	VT-3,4	Yes	
MSH-341	2	32		X			No	VT-3,4	Yes	
MSH-342	2	32			X		Yes 1" lug	VT-3,4, ST	Yes	
MSH-343	2	32		X			Yes 1" lug	VT-3,4. ST	Yes	
MSH-344	2	32			X		No	VT-3,4	Yes	
MSH-345	2	32	X				No	VT-3	Yes	
MSH-346	2	32		X			No	VT-3,4	Yes	
MSH-347	2	32	X				No	VT-3	Yes	
MSH-348	2	32		X			No	VT-3,4	Yes	
MSH-349	2	32		X			No	VT-3,4	Yes	
MSH-350	2	32		X			No	VT-3,4	Yes	
MSH-352	2	32	X				No	VT-3	No	
MSH-380	3	32		X			No	VT-3,4	Yes	
MSH-381	3	32		X			No	VT-3,4	Yes	
MSH-382	3	32			X		Yes 1" lug	VT-3,4, ST	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
MS	ISI-0011-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
MSH-383	3	32		X			Yes 1" lug	VT-3,4. ST	Yes	
MSH-384	3	32			X		No	VT-3,4	Yes	
MSH-385	3	32	X				No	VT-3	Yes	
MSH-386	3	32			X		No	VT-3,4	Yes	
MSH-387	3	32		X			No	VT-3,4	Yes	
MSH-388	3	32	X				No	VT-3	Yes	
MSH-389	3	32		X	X		No	VT-3,4	Yes	
MSH-391	3	32		X			No	VT-3,4	Yes	
MSH-392	3	32		X			No	VT-3,4	Yes	
MSH-394	3	32	X				No	VT-3	Yes	
MSH-420	4	32		X			No	VT-3,4	Yes	
MSH-421	4	32		X			No	VT-3,4	Yes	
MSH-422	4	32			X		Yes 1" lug	VT-3,4, ST	Yes	
MSH-423	4	32		X			Yes 1" lug	VT-3,4, ST	Yes	
MSH-424	4	32		X			No	VT-3,4	Yes	
MSH-425	4	32			X		No	VT-3,4	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
MS	ISI-0011-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
MSH-426	4	32	X				No	VT-3	Yes	
MSH-427	4	32		X			No	VT-3,4	Yes	
MSH-428	4	32		X			No	VT-3,4	Yes	
MSH-429	4	32		X			No	VT-3,4	Yes	
MSH-430	4	32		X			No	VT-3,4	Yes	
MSH-431	4	32			X		No	VT-3,4	Yes	
MSH-432	4	32	X				No	VT-3	Yes	
MSH-434	4	32		X			No	VT-3,4	Yes	
MSH-435	4	32		X			No	VT-3,4	Yes	
MSH-437	4	32	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-1	1	10	X				No	VT-3	Yes	
RHRH-4	1	14	X				No	VT-3	Yes	
47A432-2-1	2	14		X			No	VT-3,4	Yes	
47A432-6-2	2	14	X				No	VT-3	Yes	
47A432-6-1	2	14		X			No	VT-3,4	Yes	
SIH-V132	2	14			X		No	VT-3	Yes	
SIH-R133	2	14	X				No	VT-3	No	
SIH-V134	2	14	X				No	VT-3	Yes	
SIH-R135	2	14	X				No	VT-3	Yes	
SIH-R157	2	14	X				No	VT-3	No	
SIH-V158	2	14	X				No	VT-3	Yes	
SIH-R159	2	14	X				No	VT-3	Yes	
SIH-R177	2	14	X				No	VT-3	Yes	
SIH-R178	2	14	X				No	VT-3	Yes	
SIH-V179	2	14			X		No	VT-3	Yes	
SIH-V180	2	14			X		No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-R181	2	14	X				No	VT-3	Yes	
SIH-R182	2	14	X				No	VT-3	Yes	
47A432-1-5	3	14		X			No	VT-3,4	Yes	
SIH-V136	3	14			X		No	VT-3,4	Yes	
SIH-R142	3	14		X			No	VT-3,4	Yes	
SIH-V145	3	14			X		No	VT-3,4	Yes	
SIH-R146	3	14		X			No	VT-3,4	Yes	
SIH-R147	3	14		X			No	VT-3,4	Yes	
SIH-R148	3	14		X			No	VT-3,4	Yes	
SIH-R149	3	14		X			No	VT-3,4	Yes	
SIH-R137	3	14	X				No	VT-3	Yes	
SIH-R138	3	14	X				No	VT-3	Yes	
SIH-V139	3	14	X				No	VT-3	Yes	
SIH-R140	3	14	X				No	VT-3	Yes	
SIH-R141	3	14	X				No	VT-3	Yes	
SIH-V143	3	14			X		No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A432-1-7	3	14	X				No	VT-3	Yes	
47A432-1-6	3	14	X				No	VT-3	Yes	
SIH-R144	3	14	X				No	VT-3	Yes	
SIH-V150	3	14			X		No	VT-3	Yes	
SIH-R151	3	14		X			No	VT-3,4	Yes	
SIH-R152	3	14	X				No	VT-3	Yes	
SIH-R153	3	14	X				No	VT-3	Yes	
SIH-R155	3	14		X			No	VT-3,4	Yes	
SIH-R156	3	14	X				No	VT-3	Yes	
SIH-R161	3	14	X				No	VT-3	Yes	
SIH-R162	3	14	X				No	VT-3	Yes	
SIH-V163	3	14	X				No	VT-3	Yes	
SIH-R164	3	14		X			No	VT-3,4	Yes	
SIH-R165	3	14	X				No	VT-3	Yes	
SIH-V166	3	14			X		No	VT-3	Yes	
SIH-R168	3	14		X			No	VT-3,4	Yes	
SIH-R169	3	14	X				No	VT-3,4	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-R170	3	14	X				No	VT-3	Yes	
SIH-R171	3	14	X				No	VT-3	Yes	
SIH-R173	3	14		X			No	VT-3,4	Yes	
SIH-R174	3	14		X			No	VT-3,4	Yes	
SIH-R175	3	14		X			No	VT-3,4	Yes	
SIH-R176	3	14	X				No	VT-3	Yes	
SIH-R285	3	14	X				No	VT-3	Yes	
SIH-R286	3	14	X				No	VT-3	Yes	
RHRH-R37	4	8		X			No	VT-3,4	Yes	
RHRH-V38	4	8	X				No	VT-3	Yes	
RHRH-R39	4	8	X				No	VT-3	Yes	
RHRH-R86	4	8	X				No	VT-3	Yes	
RHRH-V87	4	8			X		No	VT-3	Yes	
RHRH-R88	4	8		X			No	VT-3,4	Yes	
RHRH-R89	4	8		X			No	VT-3,4	Yes	
RHRH-V90	4	8			X		No	VT-3	Yes	
RHRH-R91	4	8	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-R92	4	8	X				No	VT-3	Yes	
RHRH-R93	4	8	X				No	VT-3	Yes	
RHRH-R94	4	8	X				No	VT-3	Yes	
RHRH-R95	4	8		X			No	VT-3,4	Yes	
RHRH-R96	4	8		X			No	VT-3,4	Yes	
RHRH-R97	4	8	X				No	VT-3	Yes	
RHRH-R98	4	8	X				No	VT-3	Yes	
RHRH-R99	4	8		X			No	VT-3,4	Yes	
RHRH-R100	4	8		X			No	VT-3,4	Yes	
RHRH-R101	4	8	X				No	VT-3	Yes	
RHRH-R102	4	8	X				No	VT-3	Yes	
RHRH-R40	5	8		X			No	VT-3,4	Yes	
RHRH-V41	5	8			X		No	VT-3	Yes	
RHRH-R42	5	8	X				No	VT-3	Yes	
RHRH-R43	5	8		X			No	VT-3,4	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-R44	5	8	X				No	VT-3	Yes	
RHRH-V45	5	8			X		No	VT-3	Yes	
RHRH-R46	5	8		X			No	VT-3,4	Yes	
RHRH-R47	5	8		X			No	VT-3,4	Yes	
RHRH-R48	5	8		X			No	VT-3,4	Yes	
RHRH-V49	5	8			X		No	VT-3	Yes	
RHRH-R50	5	8	X				No	VT-3	Yes	
RHRH-R51	5	8	X				No	VT-3	Yes	
RHRH-R52	5	8	X				No	VT-3	Yes	
RHRH-V53	5	8			X		No	VT-3	Yes	
RHRH-R54	5	8	X				No	VT-3	Yes	
RHRH-R55	5	8		X			No	VT-3,4	Yes	
RHRH-R56	5	8	X				No	VT-3	Yes	
RHRH-R57	5	8		X			No	VT-3,4	Yes	
RHRH-R58	5	8		X			No	VT-3,4	Yes	
RHRH-R59	5	8	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-R60	5	8	X				No	VT-3	Yes	
RHRH-R61	5	8		X			No	VT-3,4	Yes	
RHRH-R63	5	8	X				No	VT-3	Yes	
RHRH-R64	5	8	X				No	VT-3	Yes	
RHRH-R3	6	8		X			No	VT-3,4	Yes	
RHRH-R4	6	8		X			No	VT-3,4	Yes	
RHRH-R5	6	8	X				No	VT-3	Yes	
RHRH-R6	6	8		X			No	VT-3,4	Yes	
RHRH-R7	6	8	X				No	VT-3	Yes	
RHRH-R8	6	8	X				No	VT-3	Yes	
RHRH-R12	6	8	X				No	VT-3	Yes	
RHRH-R13	6	8	X				No	VT-3	Yes	
RHRH-R14	6	8		X			No	VT-3,4	Yes	
RHRH-V15	6	8			X		Yes 1/2"	VT-3,4	Yes	
RHRH-R16	6	8		X			No	VT-3,4	Yes	
RHRH-R17	6	8	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-R18	6	8	X				No	VT-3	Yes	
RHRH-R19	6	8		X			No	VT-3,4	Yes	
RHRH-R20	6	8	X				No	VT-3	Yes	
RHRH-R21	6	8	X				No	VT-3	Yes	
RHRH-R22	6	12	X				No	VT-3	Yes	
RHRH-R23	6	12	X				No	VT-3	Yes	
RHRH-R24	6	12	X				No	VT-3	Yes	
RHRH-R25	6	12	X				No	VT-3	Yes	
RHRH-R26	6	12	X				No	VT-3	Yes	
RHRH-R27	6	12	X				No	VT-3	Yes	
RHRH-R28	6	12	X				No	VT-3	Yes	
RHRH-R29	6	12	X				No	VT-3	Yes	
RHRH-R10	6	8		X			No	VT-3,4	Yes	
RHRH-V11	6	8			X		No	VT-3,4	Yes	
RHRH-R30	6	12	X				No	VT-3	Yes	
RHRH-R31	6	12	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-R32	6	12	X				No	VT-3	Yes	
RHRH-R33	6	12	X				No	VT-3	Yes	
RHRH-R34	6	12		X			No	VT-3,4	Yes	
RHRH-R35	6	12	X				No	VT-3	Yes	
RHRH-R36	6	8		X			No	VT-3,4	Yes	
47A432-1-1A	6	12	X				No	VT-3	Yes	
SIH-363	7	12	X				No	VT-3	Yes	
SIH-371	7	8	X				No	VT-3	Yes	
SIH-372	7	8	X				No	VT-3	Yes	
SIH-373	7	8	X				No	VT-3	Yes	
SIH-374	7	8	X				No	VT-3	Yes	
SIH-375	7	8	X				No	VT-3	Yes	
SIH-376	7	8	X				No	VT-3	Yes	
SIH-377	7	8	X				No	VT-3	Yes	
SIH-378	7	8	X				No	VT-3	Yes	
SIH-379	7	8	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-347	8	8	X				No	VT-3	Yes	
SIH-349	8	8	X				No	VT-3	Yes	
SIH-350	8	8	X				No	VT-3	Yes	
SIH-351	8	8	X				No	VT-3	Yes	
SIH-352	8	8	X				No	VT-3	Yes	
47A432-3-3	8	8		X			No	VT-3,4	Yes	
SIH-353	8	8	X				No	VT-3	Yes	
SIH-354	8	8	X				No	VT-3	Yes	
SIH-355	8	8	X				No	VT-3	Yes	
SIH-356	8	8	X				No	VT-3	Yes	
SIH-357	8	8	X				No	VT-3	Yes	
SIH-358	8	8	X				No	VT-3	Yes	
SIH-359	8	8	X				No	VT-3	Yes	
SIH-360	8	8	X				No	VT-3	Yes	
SIH-361	8	8	X				No	VT-3	Yes	
SIH-362	8	8	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0020-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-589	8	8		X			No	VT-3,4	Yes	
SIH-590	8	8		X			No	VT-3,4	Yes	
SIH-591	8	8		X			No	VT-3,4	Yes	
SIH-592	8	8		X			No	VT-3,4	Yes	
SIH-593	8	8		X			No	VT-3,4	Yes	
SIH-594	7	12	X				No	VT-3	Yes	
SIH-595	7	12		X			No	VT-3,4	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-V121	1	8			X		No	VT-3	Yes	
RHRH-R122	1	8	X				No	VT-3	Yes	
RHRH-R134	1	8	X				No	VT-3	No	
RHRH-R211	2	8	X				No	VT-3	Yes	
RHRH-R212	2	8	X				No	VT-3	Yes	
RHRH-R213	2	8	X				Yes - 1/2"	VT-3	Yes	
RHRH-R214	2	8	X				No	VT-3	Yes	
RHRH-R215	2	8	X				No	VT-3	Yes	
RHRH-R216	2	8		X			No	VT-3,4	Yes	
RHRH-R217	2	8	X				No	VT-3	Yes	
RHRH-R218	2	8	X				No	VT-3	No	
RHRH-R219	2	8	X				No	VT-3	Yes	
RHRH-R220	2	8	X				No	VT-3	Yes	
SIH-R129	1	16	X				No	VT-3	Yes	
SIH-R130	1	16		X			No	VT-3,4	Yes	
SIH-R131	1	16		X			No	VT-3,4	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A435-6-74	3	8		X			No	VT-3,4	Yes	
SIH-051	3	8	X				No	VT-3	Yes	
SIH-052	3	8	X				No	VT-3	Yes	
SIH-053	3	8	X				No	VT-3	Yes	
SIH-054	3	8	X				No	VT-3	Yes	
SIH-055	3	8		X			No	VT-3,4	Yes	
SIH-056	3	8	X				No	VT-3	Yes	
SIH-057	3	6	X				No	VT-3	Yes	
SIH-058	3	6	X				No	VT-3	Yes	
SIH-059	3	6	X				No	VT-3	Yes	
SIH-060	3	6	X				No	VT-3	Yes	
SIH-062	3	6		X			No	VT-3,4	Yes	
SIH-069	3	6	X				No	VT-3	Later	
SIH-040	3	8	X				No	VT-3	Yes	
SIH-042	3	8		X			No	VT-3	Yes	
SIH-044	3	8	X				No	VT-3	Yes	

TABLE H[illegible]TINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-045	3	8	X				No	VT-3	Yes	
SIH-046	3	8	X				No	VT-3	Yes	
SIH-047	3	8	X				Yes 3/4"	VT-3, ST	Yes	
SIH-048	3	8	X				No	VT-3	Yes	
SIH-049	3	8	X				Yes - 3/4"	VT-3, ST	Yes	
SIH-050	3	8	X				No	VT-3	Yes	
SIH-077	3	6	X				No	VT-3	Yes	
SIH-078	3	6		X			No	VT-3,4	Yes	
SIH-079	3	6		X			No	VT-3,4	Yes	
SIH-063	3	6			X		No	VT-3	Yes	
SIH-064	3	6		X			No	VT-3,4	Yes	
47A435-1-12	5	8	X				No	VT-3	Yes	
RHRH-R221	5	8	X				No	VT-3	Yes	
RHRH-R222	5	8	X				No	VT-3	Yes	
RHRH-R223	5	8	X				No	VT-3	Yes	
RHRH-R224	5	8	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-R225	5	8	X				No	VT-3	Yes	
RHRH-R226	5	8	X				No	VT-3	Yes	
RHRH-R227	5	8	X				No	VT-3	Yes	
RHRH-R228	5	8	X				No	VT-3	Yes	
RHRH-R230	5	8		X			No	VT-3,4	Yes	
RHRH-R231	5	8	X				No	VT-3	Yes	
RHRH-R232	5	8		X			No	VT-3,4	Yes	
RHRH-R233	5	8	X				No	VT-3	Yes	
SIH-13	6	6			X		No	VT-3	Yes	
SIH-14	6	6		X			No	VT-3,4	Yes	
SIH-15	6	6	X				No	VT-3	Yes	
SIH-16	6	6			X		No	VT-3	Yes	
SIH-17	6	6		X			No	VT-3,4	Yes	
SIH-18	6	6		X			No	VT-3,4	Yes	
SIH-19	6	6		X			No	VT-3,4	Yes	
SIH-20	6	6			X		No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0021-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-21	6	6		X			No	VT-3,4	Yes	
SIH-22	6	6		X			No	VT-3,4	Yes	
SIH-23	6	6		X			No	VT-3,4	Yes	
SIH-24	6	6		X			No	VT-3,4	Yes	
SIH-25	6	6	X				No	VT-3	Yes	
SIH-26	6	8			X		No	VT-3	Yes	
SIH-27	6	8	X				No	VT-3	Yes	
SIH-28	6	8			X		No	VT-3	Yes	
SIH-29	6	8		X			No	VT-3,4	Yes	
SIH-30	6	8		X			No	VT-3,4	Yes	
SIH-31	6	8		X			No	VT-3,4	Yes	
SIH-32	6	8		X			No	VT-3,4	Yes	
SIH-33	6	8	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
UHI	ISI-0025-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
UHIH-100	5	12	X				No	VT-3	Yes	
UHIH-102	5	12	X				No	VT-3	Yes	
UHIH-105	5	12	X				No	VT-3	Yes	
UHIH-107	5	12	X				No	VT-3	Yes	
UHIH-108	5	12	X				Yes - 3/4"	VT-3, ST	Yes	
UHIH-109	5	12	X				Yes - 3/4"	VT-3, ST	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
FD	ISI-0062-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FDH-200	1	16		X			No	VT-3,4	Yes	
FDH-201	1	16		X			No	VT-3,4	Yes	
FDH-202	1	16	X				No	VT-3	Yes	
FDH-203	1	16	X				No	VT-3	Yes	
FDH-204	1	16	X				No	VT-3	Yes	
FDH-205	1	16		X			No	VT-3,4	Yes	
FDH-206	1	16	X				No	VT-3	Yes	
FDH-207	1	16		X			No	VT-3,4	Yes	
FDH-208	1	16	X				No	VT-3	Yes	
FDH-209	1	18	X				No	VT-3	Yes	
FDH-240	2	16		X			No	VT-3,4	Yes	
FDH-241	2	16		X			No	VT-3,4	Yes	
FDH-242	2	16	X				No	VT-3	Yes	
FDH-243	2	16	X				No	VT-3	Yes	
FDH-244	2	16		X			No	VT-3,4	Yes	
FDH-245	2	16	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
FD	ISI-0062-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FDH-246	2	16	X				No	VT-3	Yes	
FDH-247	2	16	X				No	VT-3	Yes	
FDH-248	2	16		X			No	VT-3	Yes	
FDH-249	2	18	X				No	VT-3	Yes	
FDH-280	3	16		X			No	VT-3,4	Yes	
FDH-281	3	16		X			No	VT-3,4	Yes	
FDH-282	3	16	X				No	VT-3	Yes	
FDH-283	3	16		X			No	VT-3,4	Yes	
FDH-284	3	16	X				No	VT-3	Yes	
FDH-285	3	16		X			No	VT-3,4	Yes	
FDH-286	3	16	X				No	VT-3	Yes	
FDH-287	3	16		X			No	VT-3,4	Yes	
FDH-288	3	16	X				No	VT-3	Yes	
FDH-289	3	16		X			No	VT-3,4	Yes	
FDH-290	3	16	X				No	VT-3	No	
FDH-291	3	18	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
FD	ISI-0062-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FDH-320	4	16		X			No	VT-3,4	Yes	
FDH-321	4	16		X			No	VT-3,4	Yes	
FDH-322	4	16	X				No	VT-3	Yes	
FDH-323	4	16		X			No	VT-3,4	Yes	
FDH-324	4	16	X				No	VT-3	Yes	
FDH-325	4	16	X				No	VT-3	Yes	
FDH-326	4	16		X			No	VT-3,4	Yes	
FDH-327	4	16	X				No	VT-3	Yes	
FDH-328	4	16		X			No	VT-3,4	Yes	
FDH-329	4	16	X				No	VT-3	Yes	
FDH-330	4	16		X			No	VT-3,4	Yes	
FDH-331	4	18	X				No	VT-3	Yes	
FDH-332	4	18	X				No	VT-3	Yes	
FDH-360	5	6	X				No	VT-3	Yes	
FDH-363	5	6	X				No	VT-3	Yes	
FDH-364	5	6	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
FD	ISI-0062-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FDH-365	5	6	X				No	VT-3	Yes	
FDH-366	5	6	X				No	VT-3	Yes	
FDH-367	5	6	X				No	VT-3	Yes	
FDH-368	5	6	X				No	VT-3	Yes	
FDH-369	5	6	X				No	VT-3	Yes	
FDH-370	5	6		X			No	VT-3,4	Yes	
FDH-371	5	6		X			No	VT-3,4	Yes	
FDH-372	5	6	X				No	VT-3	Yes	
FDH-373	5	6		X			No	VT-3,4	Yes	
FDH-374	5	6		X			No	VT-3,4	Yes	
FDH-377	5	6		X	X		No	VT-3,4	Yes	
FDH-378	5	6			X		No	VT-3,4	Yes	
FDH-379	5	6	X				No	VT-3	Yes	
FDH-380	5	6	X				No	VT-3	Yes	
FDH-381	5	6	X				No	VT-3	Yes	
FDH-382	5	6	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
FD	ISI-0062-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FDH-480	8	6		X			No	VT-3,4	Yes	
FDH-481	8	6		X			No	VT-3,4	Yes	
FDH-482	8	6	X				No	VT-3	Yes	
FDH-483	8	6			X		No	VT-3,4	Yes	
FDH-484	8	6	X				No	VT-3	Yes	
FDH-485	8	6			X		No	VT-3,4	Yes	
FDH-486	8	6	X				No	VT-3	Yes	
FDH-487	8	6		X			No	VT-3,4	Yes	
FDH-488	8	6	X				No	VT-3	Yes	
FDH-489	8	6	X				No	VT-3	Yes	
FDH-490	8	6	X				No	VT-3	No	
FDH-491	8	6	X				No	VT-3	Yes	
FDH-492	8	6	X				No	VT-3	Yes	
FDH-493	8	6	X				No	VT-3	Yes	
FDH-494	8	6		X			No	VT-3,4	Yes	
FDH-495	8	6	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
FD	ISI-0062-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FDH-496	8	6	X				No	VT-3	Yes	
FDH-497	8	6		X			No	VT-3,4	Yes	
FDH-498	8	6	X				No	VT-3	Yes	
FDH-499	8	6	X				No	VT-3	Yes	
FDH-500	8	6	X				No	VT-3	Yes	
FDH-502	8	6	X				No	VT-3	Yes	
FDH-503	8	6	X				No	VT-3	Yes	
FDH-504	8	6	X				No	VT-3	Yes	
FDH-407	6	6	X				No	VT-3	Yes	
FDH-408	6	6			X		No	VT-3,4	Yes	
FDH-409	6	6		X			No	VT-3,4	Yes	
FDH-410	6	6		X			No	VT-3,4	Yes	
FDH-411	6	6	X				No	VT-3	Yes	
FDH-412	6	6	X				No	VT-3	Yes	
FDH-416	6	6	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
FD	ISI-0062-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FDH-417	6	6	X				No	VT-3	Yes	
FDH-418	6	6	X				No	VT-3	Yes	
FDH-421	6	6	X				No	VT-3	Yes	
FDH-422	6	6	X				No	VT-3	Yes	
FDH-423	6	6		X			No	VT-3,4	Yes	
FDH-424	6	6	X				No	VT-3	Yes	
FDH-425	6	6	X				No	VT-3	Yes	
FDH-426	6	6		X			No	VT-3,4	Yes	
FDH-428	6	6	X				No	VT-3	Yes	
FDH-429	6	6				X	No	VT-3	Yes	
47A401-8-1	6	6		X			No	VT-3,4	Yes	
FDH-403	6	6	X				No	VT-3	Yes	
FDH-405	6	6		X			No	VT-3,4	Yes	
FDH-406	6	6	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
FD	ISI-0062-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A427-6-1	6	6		X			No	VT-3,4	Yes	
FDH-446	7	6	X				No	VT-3	Yes	
FDH-447	7	6			X		No	VT-3,4	Yes	
FDH-449	7	6		X			No	VT-3,4	Yes	
FDH-450	7	6		X			No	VT-3,4	Yes	
FDH-452	7	6	X				No	VT-3	Yes	
FDH-453	7	6		X			No	VT-3,4	Yes	
FDH-454	7	6	X				No	VT-3	Yes	
FDH-455	7	6		X			No	VT-3,4	Yes	
FDH-456	7	6	X				No	VT-3	Yes	
FDH-457	7	6	X				No	VT-3	Yes	
FDH-458	7	6	X				No	VT-3	Yes	
FDH-459	7	6	X				No	VT-3	Yes	
FDH-460	7	6	X				No	VT-3	Yes	
FDH-461	7	6	X				No	VT-3	Yes	
FDH-462	7	6	X				No	VT-3	Yes	

TABLE H (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 2 SUPPORTS

System	Dwg. No.	Table
FD	ISI-0062-C	IWC

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FDH-465	7	6	X				No	VT-3	Yes	
FDH-466	7	6		X			No	VT-3,4	Yes	
FDH-467	7	6	X				No	VT-3	Yes	
FDH-468	7	6		X			No	VT-3,4	Yes	
FDH-469	7	6	X				No	VT-3	Yes	
FDH-472	7	6	X				No	VT-3	Yes	
FDH-473	7	6				X	No	VT-3	Yes	

TA[illegible]I

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0106-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-472	1	6								
47A435-8-75	1	10								
SIH-76	1	10								
SIH-496	1	10								
SIH-473	1	6								
SIH-R106	2	24								
SIH-R107	2	24								
SIH-R108	2	24								
SIH-R109	2	24								
SIH-R110	2	24								
47A435-3-2	2	24								
SIH-R111	2	24								
SIH-R112	2	24								
SIH-R113	2	24								
SIH-R114	2	24								
SIH-R115	2	24								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0106-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-R116	2	24								
SIH-V117	2	24								
SIH-R118	2	24								
SIH-R119	2	24								
SIH-R120	2	24								
SIH-R121	2	24								
47A435-3-5	2	24								
47A435-3-6	2	24								
47A435-3-4	2	24								
47A435-3-3	2	24								
SIH-R123	2	24								
SIH-R127	3	20								
SIH-R126	3	20								
SIH-R125	3	24								
SIH-R124	3	24								
SIH-R200	3	16								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
SIS	ISI-0106-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-R201	3	16								
SIH-R203	3	16								
47A060-63-2	3	8								
SIH-R204	3	14								
SIH-R205	3	14								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
RHR	ISI-0107-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
RHRH-V2	1	8								
RHRH-R1	1	8								
47A060-63-12	1	8								
SIH-R237	1	8								
SIH-R235	1	8								
47A432-5-2	1	8								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
CS	ISI-0108-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
CSH-R43	1	6								
CSH-R44	1	6								
CSH-R61	1	6								
CSH-R62	1	6								
CSH-R63	1	6								
CSH-R64	1	6								
CSH-R65	1	6								
CSH-R66	1	6								
CSH-R67	1	6								
CSH-R68	1	6								
CSH-R83	1	6								
CSH-R84	1	6								
CSH-R85	1	6								
CSH-R86	1	6								
CSH-R87	1	6								
CSH-R88	1	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
CS	ISI-0108-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
CSH-R89	1	6								
CSH-R90	1	6								
CSH-R91	1	6								
CSH-R92	1	6								
CSH-R93	1	6								
CSH-R94	1	6								
CSH-R95	1	6								
CSH-R96	1	6								
CSH-R97	1	6								
CSH-R98	1	6								
CSH-R99	1	6								
CSH-R100	1	6								
CSH-R101	1	6								
47A437-3-1	1	6								
47A437-3-3	1	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
CS	ISI-0108-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
SIH-R226	1	12								
SIH-R227	1	12								
SIH-R225	1	12								
SIH-R224	1	12								
SIH-R206	1	14								
SIH-R207	1	12								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
CVCS	ISI-0109-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A406-1-7	1	8								
CVCH-R1	1	8								
LCVCH-R5	1	6								
LCVCH-R4	1	6								
LCVCH-R3	1	6								
LCVCH-R125	1	6								
LCVCH-R2	1	6								
LCVCH-R1	1	6								
LCVCH-R244	1	6								
LCVCH-V245	1	6								
LCVCH-V246	1	6								
Later	1	6								
Later	1	6								
Later	1	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
FPCH	ISI-0110-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FPCH-V48	1	10								
FPCH-R49	1	10								
FPCH-R50	1	10								
FPCH-R51	1	10								
FPCH-R52	1	10								
FPCH-R53	1	10								
Later	1	10								
FPCH-R59	1	10								
FPCH-R60	1	10								
FPCH-R58	1	10								
Later	1	10								
FPCH-R62	1	10								
FPCH-V75	1	10								
FPCH-R77	1	10								
FPCH-R78	1	10								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
FPCH	ISI-0110-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FPCH-R79	1	10								
Later	1	10								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
FPCS	ISI-0110-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FPCH-R46	2	8								
FPCH-R47	2	8								
FPCH-R45	2	8								
FPCH-R44	2	8								
FPCH-R43	2	8								
FPCH-R41	2	8								
FPCH-R42	2	8								
FPCH-R40	2	8								
FPCH-V39	2	8								
FPCH-R38	2	8								
FPCH-R37	2	8								
FPCH-R36	2	8								
FPCH-R28	2	8								
FPCH-V29	2	8								
FPCH-R30	2	8								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
FPCS	ISI-0110-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FPCH-R55	2	8								
FPCH-R57	2	8								
FPCH-R56	2	8								
FPCH-V68	2	8								
FPCH-V69	2	8								
FPCH-R70	2	8								
FPCH-R72	2	8								
47A454-3-1	2	8								
FPCH-R74	2	8								
FPCH-R73	2	8								
FPCH-V67	2	8								
FPCH-R66	2	8								
FPCH-R65	2	8								
FPCH-R64	2	8								
FPCH-R31	2	8								
FPCH-V32	2	8								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
FPCS	ISI-0110-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FPCH-R33	2	8								
FPCH-R16	3	10								
FPCH-R17	3	10								
FPCH-R20	3	10								
FPCH-R21	3	10								
FPCH-R22	3	10								
FPCH-R23	3	10								
FPCH-R24	3	10								
FPCH-V25	3	10								
FPCH-R26	3	10								
FPCH-V27	3	8								
FPCS-R15	4	10								
FPCS-R14	4	10								
FPCS-R13	4	10								
FPCS-R12	4	10								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
FPCS	ISI-0110-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
FPCS-R11	4	10								
FPCS-R10	4	10								
FPCS-R9	4	10								
47A454-3-59	5	10								
47A454-3-60	5	10								
47A454-3-61	5	10								
47A454-3-62	5	10								
47A454-3-63	5	10								
47A454-3-64	5	10								
47A454-3-65	5	10								
47A454-3-66	5	10								
47A454-3-67	5	10								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
AFWS	ISI-0111-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
AFWH-R10	1	8								
AFWH-R18	1	8								
AFWH-R30	1	10								
AFWH-R31	1	10								
AFWH-R29	1	10								
AFWH-R32	1	6								
AFWH-R33	1	6								
47A060-3-3	2	6								
AFWH-R104	2	6								
AFWH-R105	2	6								
AFWH-R106	2	6								
AFWH-R107	2	6								
AFWH-R108	2	6								
AFWH-R109	2	6								
47A060-3-6	3	6								
AFWH-R103-1	3	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
AFWS	ISI-0111-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
AFWH-R102	3	6								
AFWH-R101	3	6								
AFWH-R100	3	6								
AFWH-R99	3	6								
AFWH-R98	3	6								
AFWH-R97	3	6								
AFWH-R46	4	6								
AFWH-R45	4	6								
AFWH-R44	4	6								
AFWH-R43	4	6								
AFWH-R42	4	6								
AFWH-R41	4	6								
AFWH-V40	4	6								
AFWH-R38	4	6								
AFWH-R39	4	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-1141	1	20								
ERCWH-862	1	20								
ERCWH-877	1	24								
ERCWH-864	1	20								
ERCWH-871	1	20								
ERCWH-879	1	24								
ERCWH-866	1	20								
ERCWH-873	1	20								
ERCWH-881	1	24								
ERCWH-883	1	24								
ERCWH-868	1	20								
ERCWH-875	1	20								
ERCWH-887	1	24								
ERCWH-884	1	24								
Later (26 supports)	3									

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
Later (26 supports)	4									
17A586-5-11	5	8								Not installed. Bldg still under const.
17A586-5-9	5	8								Not installed. Bldg still under const.
17A586-5-8	5	8								Not installed. Bldg still under const.
17A586-5-7	5	8								Not installed. Bldg still under const.
17A586-5-5	5	10								Not installed. Bldg still under const.
17A586-5-13	5	10								Not installed. Bldg still under const.
17A586-5-17	5	10								Not installed. Bldg still under const.

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
17A586-5-16	5	10								Not installed. Bldg still under const.
17A586-5-22	5	8								Not installed. Bldg still under const.
ERCWH-R167	6	30								
ERCWH-R168	6	30								
ERCWH-R169	6	30								
ERCWH-R170	6	30								
ERCWH-R171	6	30								
ERCWH-R172	6	30								
ERCWH-R173	6	30								
ERCWH-R174	6	30								
ERCWH-R175	6	30								
ERCWH-R176	6	30								
ERCWH-R177	6	30								
ERCWH-R178	6	30								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R179	6	30								
ERCWH-R180	6	30								
ERCWH-R181	6	30								
ERCWH-R182	6	30								
ERCWH-R183	6	30								
ERCWH-R184	6	30								
ERCWH-R185	6	30								
ERCWH-R186	6	30								
ERCWH-R187	6	30								
ERCWH-R188	6	30								
ERCWH-R189	6	30								
47A060-67-76	7	24								
Later	7	24								
ERCWH-R141	7	24								
ERCWH-R140	7	24								
ERCWH-R139	7	24								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R142	7	24								
ERCWH-R143	7	24								
47A450-2-113	7	10								
ERCWH-R144	7	24								
ERCWH-R145	7	24								
ERCWH-R46	7	20								
ERCWH-R47	7	20								
ERCWH-R48	7	20								
ERCWH-R45	7	20								
ERCWH-R44	7	20								
ERCWH-V43	7	20								
ERCWH-R41	7	24								
ERCWH-R42	7	24								
ERCWH-R567	7	24								
ERCWH-R40	7	24								
ERCWH-R566	7	24								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R30	7	24								
ERCWH-R31	7	24								
ERCWH-R32	7	24								
ERCWH-R93	7	24								
ERCWH-R190	7	24								
47A450-4-48	7	24								
ERCWH-R92	7	24								
ERCWH-R95	7	18								
47A060-67-82	8	8								
ERCWH-R132	8	8								
ERCWH-R133	8	8								
ERCWH-R134	8	8								
47A060-67-83	8	8								
47A060-67-22	8	8								
ERCWH-R152	8	8								
ERCWH-R151	8	8								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R153	8	8								
ERCWH-R154	8	8								
ERCWH-R155	8	8								
ERCWH-R156	8	8								
47A060-67-21	8	8								
47A450-21-301	9	8								
47A450-21-305	9	8								
47A450-21-309	9	8								
47A450-21-313	9	8								
47A450-21-317	9	8								
47A450-21-321	9	8								
47A450-21-325	9	8								
47A450-21-329	9	8								
47A450-21-333	9	8								
47A450-21-337	9	8								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-21-341	9	8								
47A450-21-345	9	8								
47A450-21-347	9	8								
47A450-21-124	10	6								
47A450-21-125	10	6								
47A450-21-126	10	6								
47A450-21-128	10	6								
ERCWH-R90	10	6								
ERCWH-V127	10	6								
ERCWH-R126	10	6								
ERCWH-R125	10	6								
47A450-21-97	10	6								
47A450-21-98	10	6								
47A450-21-96	10	6								
47A450-21-95	10	6								
ERCWH-R135	11	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R53	11	6								
47A450-21-349	12	8								
47A450-21-302	12	8								
47A450-21-306	12	8								
47A450-21-310	12	8								
47A450-21-314	12	8								
47A450-21-318	12	8								
47A450-21-322	12	8								
47A450-21-326	12	8								
47A450-21-330	12	8								
47A450-21-334	12	8								
47A450-21-338	12	8								
47A450-21-342	12	8								
47A450-21-346	12	8								
47A450-21-348	12	8								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCW-R468	13	8								
ERCW-R467	13	8								
ERCW-R469	13	8								
ERCW-R470	13	8								
ERCW-R471	13	8								
ERCW-R477	13	8								
ERCW-R475	13	8								
ERCW-R476	13	8								
ERCW-R473	13	8								
ERCW-R474	13	8								
ERCW-R473	13	8								
47A060-67-29	13	8								
47A060-67-30	13	8								
ERCWH-R198	14	18								
ERCWH-R199	14	18								
ERCWH-R197	14	18								

TABLE (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R196	14	18								
ERCWH-R195	14	18								
ERCWH-R194	14	18								
ERCWH-R280	14	18								
ERCWH-R192	14	18								
ERCWH-R193	14	18								
ERCWH-R191	14	18								
ERCWH-R279	14	18								
ERCWH-V105	14	18								
ERCWH-R104	14	18								
ERCWH-R103	14	18								
ERCWH-R102	14	18								
ERCWH-R99	14	18								
ERCWH-R101	14	18								
ERCWH-R100	14	18								
ERCWH-R97	14	18								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R98	14	18								
ERCWH-R96	14	18								
ERCWH-V266	15	18								
ERCWH-R273	15	18								
ERCWH-R271	15	18								
ERCWH-R272	15	18								
ERCWH-R269	15	18								
ERCWH-R270	15	18								
ERCWH-R268	15	20								
ERCWH-R267	15	20								
47A060-67-27	15	20								
47A450-3-84	15	20								
ERCWH-R352	15	16								
ERCWH-V458	15	18								
ERCWH-R460	15	18								
ERCWH-R459	15	18								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R461	15	18								
ERCWH-R462	15	18								
ERCWH-R463	15	18								
ERCWH-R464	15	20								
ERCWH-R465	15	20								
ERCWH-R466	15	20								
47A450-3-171	16	6								
Later	16	6								
ERCWH-R15	16	6								
ERCWH-R16	16	6								
ERCWH-R17	16	6								
ERCWH-R18	16	6								
ERCWH-R19	16	6								
ERCWH-R20	16	6								
ERCWH-R21	16	6								
ERCWH-R22	16	6								

TABLE 1 (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R23	16	6								
ERCWH-R24	16	6								
ERCWH-R25	16	6								
ERCWH-R26	16	8								
47A060-67-78	16	8								
ERCWH-R27	16	8								
ERCWH-R28	16	8								
ERCWH-R29	16	8								
ERCWH-R550	17	6								
ERCWH-R549	17	6								
ERCWH-R548	17	6								
ERCWH-R547	17	6								
ERCWH-R546	17	6								
ERCWH-R545	17	6								
ERCWH-R544	17	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R543	17	6								
47A450-3-19	17	6								
ERCWH-R541	17	6								
ERCWH-R542	17	6								
ERCWH-R540	17	6								
ERCWH-R539	17	6								
ERCWH-R538	17	6								
ERCWH-R537	17	6								
ERCWH-R536	17	6								
47A450-3-18	17	6								
47A450-R493	17	6								
ERCWH-R576	17	6								
ERCWH-R575	17	6								
ERCWH-R574	17	6								
ERCWH-R573	17	6								
ERCWH-R572	17	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type				Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
			Restraint	Snubber	Spring	Anchor				
ERCWH-R571	17	6								
ERCWH-R570	17	6								
ERCWH-R569	17	6								
ERCWH-R568	17	6								
ERCWH-R124	17	6								
ERCWH-R123	17	6								
ERCWH-R121	17	6								
ERCWH-R122	17	6								
ERCWH-R577	18	6								
ERCWH-R578	18	6								
ERCWH-R579	18	6								
ERCWH-R580	18	6								
ERCWH-R581	18	6								
ERCWH-R582	18	6								
ERCWH-R583	18	6								
ERCWH-R584	18	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A060-67-71	18	6								
47A450-8-1	18	6								
47A450-8-17	17	6								
ERCWH-R551	18	6								
ERCWH-R552	18	6								
ERCWH-R553	18	6								
ERCWH-R554	18	6								
ERCWH-R555	18	6								
ERCWH-R556	18	6								
ERCWH-R557	18	6								
ERCWH-R558	18	6								
ERCWH-R559	18	6								
ERCWH-R560	18	6								
ERCWH-R561	18	6								
ERCWH-R562	18	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R563	18	6								
47A060-67-128	18	6								
47A450-8-1	18	6								
47A450-8-17	18	6								
47A450-8-9	18	6								
47A450-8-8	19	6								
47A450-8-6	19	6								
47A450-8-4	19	6								
47A450-8-5	19	6								
47A450-8-7	19	6								
47A450-8-2	19	6								
47A060-62-79	20	6								
47A060-67-8	20	6								
ERCW-R494	20	6								
47A060-67-47	20	6								
47A060-3-13	20	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-3-12A	20	6								
47A450-3-12B	20	6								
47A450-3-38	20	6								
47A450-3-10	20	6								
47A450-3-11	20	6								
47A450-3-15	20	6								
47A450-3-9A	20	6								
47A450-3-9B	20	6								
47A450-3-16	20	6								
47A450-3-17	20	6								
47A450-3-36	20	6								
47A450-3-21A	20	6								
47A450-3-21B	20	6								
47A450-3-21C	20	6								
47A450-3-21D	20	6								
47A060-67-50	20	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-3-64	20	6								
ERCW-R360	20	6								
47A450-3-63	20	6								
ERCWH-R107	21	8								
ERCWH-R608	21	8								
ERCWH-R609	21	8								
ERCWH-R617	21	8								
ERCWH-R618	21	8								
ERCWH-R615	21	8								
ERCWH-R616	21	8								
ERCWH-R614	21	8								
47A450-4-57	21	8								
Later	21	8								
ERCWH-R613	21	8								
ERCWH-R612	21	8								
ERCWH-R611	21	8								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R610	21	8								
ERCW-R496	22	8								
ERCW-R497	22	8								
ERCW-R499	22	8								
ERCW-R498	22	8								
ERCW-R500	22	8								
47A450-4-28	22	6								
ERCHW-R506	22	6								
47A450-4-31	22	6								
47A450-4-32	22	6								
47A450-4-33	22	6								
47A450-4-34	22	6								
47A450-4-35	22	6								
ERCWH-R381	23	24								
47A450-4-36	23	24								
ERCWH-R391	23	24								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R392	23	24								
ERCWH-R382	23	24								
ERCWH-R383	23	24								
ERCWH-R384	23	24								
ERCWH-R388	23	24								
ERCWH-R389	23	24								
ERCWH-R165	24	24								
ERCWH-R166	24	24								
ERCWH-R202	24	24								
ERCWH-R203	24	24								
Later	24	24								
ERCWH-R206	24	24								
ERCWH-R207	24	24								
ERCWH-R208	24	24								
ERCWH-R209	24	24								
ERCWH-R210	24	24								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R211	24	24								
ERCWH-R212	24	24								
ERCWH-R213	24	24								
ERCWH-R214	24	24								
ERCWH-R215	24	24								
ERCWH-R216	24	24								
ERCWH-R146	24	24								
ERCWH-R147	24	24								
ERCWH-R148	24	24								
ERCWH-R149	24	24								
ERCWH-R157	24	24								
ERCWH-R158	24	24								
Later	24	24								
ERCWH-R159	24	24								
ERCWH-R162	24	24								
ERCWH-R163	24	24								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R164	24	24								
47A450-21-300	25	8								
47A450-21-304	25	8								
47A450-21-308	25	8								
47A450-21-312	25	8								
47A450-21-316	25	8								
47A450-21-320	25	8								
47A450-21-324	25	8								
47A450-21-328	25	8								
47A450-21-332	25	8								
47A450-21-336	25	8								
47A450-21-340	25	8								
47A450-21-344	25	8								
47A450-21-81	26	6								
47A450-21-82	26	6								
47A450-21-83	26	6								
47A450-21-84	26	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-21-111	26	6								
47A450-21-112	26	6								
47A450-21-110	26	6								
47A450-21-109	26	6								
ERCWH-R13	26	6								
47A450-21-299	27	8								
47A450-21-303	27	8								
47A450-21-307	27	8								
47A450-21-311	27	8								
47A450-21-315	27	8								
47A450-21-319	27	8								
47A450-21-323	27	8								
47A450-21-327	27	8								
47A450-21-331	27	8								
47A450-21-335	27	8								
47A450-21-339	27	8								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-21-343	27	8								
ERCWH-V91	27	8								
ERCWH-R131	28	6								
ERCWH-R277	29	8								
ERCWH-R278	29	8								
ERCWH-R585	29	8								
ERCWH-R586	29	8								
ERCWH-R587	29	8								
ERCWH-R588	29	8								
ERCWH-R589	29	8								
ERCWH-R590	29	8								
ERCWH-R591	29	8								
ERCWH-R592	29	8								
47A060-67-3	29	8								
47A060-67-4	29	8								
47A450-17-2	30	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-17-1	30	6								
47A450-4-51	30	6								
47A450-4-43	30	6								
47A450-4-44	30	6								
47A450-4-42	30	6								
47A450-4-64	30	6								
47A450-4-41	30	6								
47A450-4-40	30	6								
47A450-4-46	30	6								
47A450-4-47	30	6								
47A450-4-39	30	6								
47A450-4-38B	30	6								
47A450-4-38A	30	6								
47A450-4-37B	30	6								
47A450-4-37A	30	6								
47A450-4-45	30	6								

TABLE 1 (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-67-24	30	6								
47A450-4-30	31	6								
47A450-4-27	31	6								
47A450-4-26	31	6								
47A450-4-29	31	6								
ERCWH-R411	31	6								
ERCWH-R413	31	6								
47A060-67-44	31	6								
47A450-3-115	31	6								
47A450-3-114	31	6								
47A450-3-113	31	6								
47A450-3-172	31	6								
ERCWH-R255	32	6								
ERCWH-R254	32	6								
ERCWH-R253	32	6								
ERCWH-R252	32	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-250-1	32	6								
ERCWH-251-1	32	6								
ERCWH-R249	32	6								
ERCWH-R248	32	6								
ERCWH-R247	32	6								
ERCWH-R246	32	6								
ERCWH-R245	32	6								
ERCWH-R244	32	6								
ERCWH-R243	32	6								
ERCWH-R242	32	8								
47A450-2-89	32	8								
ERCWH-R240	32	8								
ERCWH-R239	32	8								
ERCWH-R238	32	8								
ERCWH-R599	32	6								
ERCWH-R365	32	8								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-2-72	33	6								
47A450-2-71	33	6								
47A450-2-70	33	6								
Later	33	6								
47A450-3-51	33	6								
47A450-3-52	33	6								
47A450-3-53	33	6								
47A450-3-54	33	6								
47A450-3-175	33	6								
Later	33	6								
47A450-3-55	33	6								
47A450-3-56	33	6								
47A450-3-57	33	6								
47A450-3-58	33	6								
47A450-3-59	33	6								
47A450-3-60	33	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-3-61	33	6								
ERCWH-R522	33	6								
ERCWH-R521	33	6								
ERCWH-R520	33	6								
Later	33	6								
ERCWH-518	33	6								
47A450-3-4	33	6								
ERCWH-R516	33	6								
ERCWH-R515	33	6								
ERCWH-R514	33	6								
ERCWH-R513	33	6								
ERCWH-R512	33	6								
ERCWH-R511	33	6								
ERCWH-R510	33	6								
ERCWH-R509	33	6								
ERCWH-R508	33	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
Later	33	6								
ERCWH-R523	34	6								
ERCWH-R524	34	6								
ERCWH-R525	34	6								
ERCWH-R526	34	6								
ERCWH-R527	34	6								
ERCWH-R528	34	6								
ERCWH-R530	34	6								
ERCWH-R529	34	6								
ERCWH-R532	34	6								
ERCWH-R531	34	6								
ERCWH-R534	34	6								
ERCWH-R533	34	6								
47A060-67-129	34	6								
Later	34	6								
47A450-2-73	34	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-2-74	34	6								
47A450-2-75	34	6								
47A450-2-76	34	6								
47A450-2-77	34	6								
47A450-2-82	34	6								
47A450-2-78	34	6								
47A450-2-79	34	6								
47A450-2-80	34	6								
47A450-2-127	34	6								
Later	34	6								
47A450-8-11	34	6								
47A450-8-16	35	6								
47A450-8-15	35	6								
47A450-8-14	35	6								
47A450-8-13	35	6								
47A450-8-12	35	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.'	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-8-10	35	6								
47A450-8-11	35	6								
ERCWH-R332	36	36								
47A450-2-101	36	36								
47A450-2-100	36	36								
47A450-2-99	36	36								
ERCWH-R333	36	36								
47A450-2-98	36	36								
47A450-2-97	36	36								
47A450-2-96	36	36								
ERCWH-R334	36	36								
ERCWH-R335	36	36								
ERCWH-R336	36	36								
ERCWH-R337	36	36								
ERCWH-R338	36	36								
ERCWH-R339	36	36								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R340	36	36								
ERCWH-R341	36	36								
ERCWH-R342	36	36								
ERCWH-R343	36	36								
ERCWH-R344	36	36								
ERCWH-R345	36	36								
47A450-3-165	36	36								
ERCWH-R347	36	36								
ERCWH-R348	36	36								
ERCWH-R349	36	36								
ERCWH-R350	36	36								
ERCWH-R351	36	36								
ERCWH-R491	36	30								
ERCWH-R492	36	30								
ERCWH-R490	36	30								
ERCWH-R489	36	30								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Snubber	Spring	Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R487	36	30								
ERCWH-R480	36	30								
ERCWH-R486	36	30								
ERCWH-R485	36	30								
ERCWH-R484	36	30								
ERCWH-R483	36	30								
ERCWH-R482	36	30								
ERCWH-R481	36	30								
ERCWH-R478	36	30								
ERCWH-R480	36	30								
ERCWH-R479	36	30								
ERCWH-R357	36	6								
ERCWH-R356	36	6								
ERCWH-R355	36	6								
ERCWH-R354	36	6								
47A450-67-53	36	6								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R259	36	6								
ERCWH-R260	36	6								
ERCWH-R261	36	6								
ERCWH-R262	36	6								
ERCWH-R263	36	6								
47A450-3-102	37	12								
47A450-3-159	37	12								
47A450-3-107	37	12								
47A450-3-109	37	12								
47A450-3-110	37	12								
47A450-3-178	37	12								
47A450-3-103	37	12								
47A450-3-104	37	12								
47A450-3-106	37	12								
47A450-3-105	37	12								
47A450-3-157	37	12								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-3-160	37	12								
47A450-3-158	37	12								
47A450-2-102	37	12								
47A450-2-103	37	12								
47A450-2-105	37	12								
47A450-2-106	37	12								
Later	37	12								
47A450-2-107	37	12								
47A450-2-108	37	12								
47A060-67-92	37	12								
47A450-3-67	37	8								
47A450-3-161	37	8								
Later	37	8								
AFWH-R11	37	8								
AFWH-R12	37	8								
47A450-3-100	37	12								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
47A450-3-99	37	12								
47A450-3-98	37	12								
47A450-3-86	37	12								
47A060-67-70	37	12								
47A450-3-66	37	12								
AFWH-R19	37	8								
AFWH-R20	37	8								
Later	37	8								
ERCWH-R368	38	20								
ERCWH-R369	38	20								
ERCWH-R370	38	20								
ERCWH-R371	38	20								
ERCWH-R372	38	20								
ERCWH-R373	38	20								
ERCWH-R374	38	20								
ERCWH-R375	38	20								

TABLE I (CONTINUED)

COMPONENTS SUBJECT TO EXAMINATION CATEGORY

ASME CLASS 3 SUPPORTS

System	Dwg. No.	Table
ERCW	ISI-0112-C	IWD

Support No.	Sheet No.	Pipe Size	Support Type: Restraint	Support Type: Snubber	Support Type: Spring	Support Type: Anchor	Integrally-Welded Attachment Size	Examinations Required	Bolting	Remarks
ERCWH-R376	38	20								
ERCWH-R377	38	20								
ERCWH-R378	38	20								
ERCWH-R379	38	20								
ERCWH-R380	38	20								
ERCWH-R401	38	30								
ERCW-R400	38	30								
47A450-3-154	38	30								
ERCWH-R404	38	30								
ERCWH-R403	38	30								
ERCWH-R405	38	30								

TABLE J

ASME Class 2 (TVA Safety Class B) Components Exempt From Examination

System	Reference Drawings	Boundary of Exempted Components	Basis for Exemption (See Notes)
CVC (62)	47W809-1	All Components from the 8" RWST pump supply line to the centrifugal charging pumps 1A-A and 1B-B and up to the 4" line leading to the reciprocating charging pump 1C.	1
SIS (63)	47W811-1 47W810-1 47W812-1	All components from and including the refueling water storage tank, FCV-63-8 and FCV-63-11 to LCV-62-135, LCV-62-136, to the supply side of the SIS pumps 1A-A and 1B-B, FCV-63-1, HCV-74-34, FCV-72-21, and FCV-72-22.	1
		All components from the containment sump to FCV-63-72, FCV-63-73, FCV-72-44, and FCV-72-45.	1
CS(72)	47W812-1	All components from valves FCV-72-2, 39, 40, and 41 to and including the ring headers.	1
		All components from valves 72-503 and 72-504 through the containment spray test line to the RWST.	1

TABLE J (Continued)

ASME Class 2 (TVA Safety Class B) Components Exempt From Examination

System	Reference Drawings	Boundary of Exempted Components	Basis for Exemption (See Notes)
CS(72)	47W812-1	All components from valves FCV-72-21, 22, 44, and 45 to the suction side of the containment spray pumps 1A-A and 1B-B	1
		All components from the discharge of the containment spray pumps 1A-A and 1B-B to valves FCV-72-2, FCV-72-39, 72-503, and 72-504.	2

NOTES:

(1) Components in systems where both the design pressure and temperature are equal to or less than 275 psig and 200 F, respectively,

(2) Components in systems or portions of sytems, other than emergency core cooling systems, which do not function during normal reactor operation,

DATA PACKAGE COVER SHEET

PRESERVICE BASELINE INSPECTION FOR TENNESSEE VALLEY AUTHORITY WATTS BAR NUCLEAR PLANT

Unit _____

All preservice inspection requirements have been conducted in accordance with this program and all acceptance criteria has been satisfied.

_____ NUC PR QE Branch, Chief

_____ Date

_____ Plant Manager

_____ Date

DATA SHEET 1

The Nuclear Power Quality Engineering Branch NDE Section representative shall sign-off the applicable portions of this data sheet when the examination requirements of Sections 6.0, 7.0, 8.0, and 9.0 of this program have been completed.

EXAMINATION SECTION	NDE STAFF REPRESENTATIVE	DATE
Class 1 Components		
Reactor Vessel		
6.1.1.1		
6.1.1.2		
6.1.1.3		
6.1.1.4		
6.1.1.5		
6.1.2		
6.1.3		
6.1.4		
6.1.5		
6.1.9		
6.1.10		
6.1.11		
Pressurizer		
6.2.1		
6.2.2		
6.2.3		
6.2.4		
6.2.6		
6.2.7		
Steam Generators		
6.3.1		
6.3.2		
6.3.3		
6.3.5		
6.3.8		

DATA SHEET 1 (Cont'd)

EXAMINATION SECTION	NDE STAFF REPRESENTATIVE	DATE
Class 1 Components (Continued)		
Piping		
6.4.1		
6.4.2		
6.4.3		
6.4.4		
6.4.5		
6.4.6		
6.4.8		
RCP		
6.5.1		
6.5.2		
6.5.4		
6.5.5		
6.5.6		
Valves		
6.6.2		
6.6.3		
6.6.4		
6.6.6		
Class 2 Components		
Steam Generators		
7.1.1		
7.1.2		
RHRHX		
7.2.1		
7.2.2		
7.2.3		
RHX		
7.3.1		
7.3.3		
LHX		
7.4.1		
7.4.3		

DATA SHEET 1 (cont'd)

EXAMINATION SECTION	NDE STAFF REPRESENTATIVE	DATE

Class 2 Components (Continued)

ELHX

7.5.1

BIT

7.6.1
7.6.2
7.6.3
7.6.4

WA

7.7.1
7.7.2
7.7.3
7.7.4

ST

7.8.1
7.8.3

Piping

7.9.1
7.9.2
7.9.3
7.9.5
7.9.6

RHRP

7.10.3
7.10.4

CCP

7.11.3
7.11.4

DATA SHEET 1 (cont'd)

EXAMINATION SECTION	NDE STAFF REPRESENTATIVE	DATE

Class 2 Components (Continued)

SIP

7.12.4

Valves

7.13.1
7.13.3
7.13.4

Class 3 Components

8.1
8.2

All examinations required by the referenced sections of this data sheet have been performed and acceptance criteria has been satisfied.

_____ _____
QE NDE Section Representative Date

Reviewed By: _____ _____
Supervisor, NDE Section Date

Reviewed By: _____ _____
Supervisor, ISI Programs Section Date

Approved by: _____ _____
Supervisor, Inservice Inspection Group Date

DATA SHEET 2

In the event system or component alterations or repairs are made which require reexamination or components are reexamined for other reasons following sign-off of all or portions of Data Sheet 2, this Data Sheet shall be used to reflect these additional examinations. Each area requiring reexamination shall be documented on a continuation sheet of this Data Sheet.

Additional examinations were required to be performed as noted above (check appropriate space):

_____ Yes _____ No

All additional examinations requiring use of this data sheet, if any, have been performed and all acceptance criteria has been satisfied. If additional examinations were performed, all continuation sheets have been completed, signed, and attached to this data sheet.

_____ QE NDE Section Representative _____ Date

Reviewed By: _____ Supervisor, NDE Section _____ Date

Reviewed By: _____ Supervisor, ISI Programs Section _____ Date

Approved By: _____ Supervisor, Inservice Inspection Group _____ Date

DATA SHEET 2 CONTINUATION SHEET

Component:

Component Identification:

Reference Drawing:

Program Section:

Examination Method:

Reason for Reexamination:

Reexamination complete and acceptance criteria has been satisfied.

QE NDE Section Representative

Date

APPENDIX C

NOTIFICATION OF INDICATION

PART I - FINDINGS

NOI No. _____ Plant/Unit _____

Examination Report No. _____ Component ID _____

Drawing No. _____

Description of Indication: (Sketch/Photograph if needed)

_____

_____

_____

Signature of Examiner/Certif. Level _____
Date

Signature of Field Supervisor (Contractor) _____
Date

NDE Section Representative _____
Date

Assigned to:

Outage Group _____

Mechanical Maintenance _____

Other _____ _____
Plant Manager

PART II - DISPOSITION

_____

_____

_____

Disposition Prepared By _____
Date

Disposition Approved By _____
Date

PART III - VERIFICATION

Verification of Completed Corrective Action and/or Examination By NDE Section Representative

_____

_____

_____

Signature _____ Date _____

REQUEST FOR RELIEF ISI-1

Components: 1) Various piping systems and 2) uncladded vessel welds in ferritic material less than 2½ inches in thickness.

Class: ASME Class 1 and 2 (TVA Safety Class A and B)

Inspection Requirement: Ultrasonic examination of welds, paragraph T-530 of ASME Section V, Article 5, thru Summer 1975 Addenda as referenced in paragraph IWA-2232 of ASME Section XI thru Summer 1975 Addenda.

Basis for Relief:

A. Paragraph T-533 of Article 5 of ASME Section V requires in part that drilled holes, parallel to the contact surface of the calibration block, be used to establish the primary reference response of the equipment and to construct a distance-amplitude-correction curve (DCA). No known technique exists for inducing drilled holes, which are parallel to the contact surface, in the circumferential direction of curved calibration blocks. It is virtually impossible, using standard ultrasonic examination techniques, to establish a repeatable distance-amplitude-correction curve in materials less than approximately 0.375-inch thick using drilled holes caused by saturation of the part by ultrasound. Additionally, drilled holes are not representative of the reflectivity of flaws which are of major concern, i.e., surface cracks, incomplete penetration, and stress corrosion cracking.

The inherent difficulties of utilizing drilled holes as reference reflectors, particularly in the area of austenitic and high nickel welds, is an industry recognized problem, and steps have been taken to address this in later addenda to both ASME Section V and Section XI. Paragraph T-547 of the winter 1978 addenda to ASME Section V required the use of longitudinal and circumferential notches located on the I.D. and O.D. surface of the calibration block at a nominal depth of 10%t in ferritic materials. Paragraph T-548 of this document allows these techniques to be modified and/or supplemented for the Section XI, Appendix III-4500 and IWA-2232, which require recording of all indications greater than 50% DAC with an evaluation required of those indications greater than 100% DAC.

Alternate Inspection: TVA proposes to continue the use of notches located on the I.D. and O.D. surfaces at a nominal depth of 5%t as reference reflectors. However, TVA at its discretion may use notches at a nominal depth up to 10%t as permitted by the Summer 1978 Addenda of Section XI. Further, TVA proposes to continue the detailed evaluation of all reflectors which exceed the 100% DAC and the recording of all other indications greater than 50% DAC. TVA considers the use of strip chart recorders as an acceptable recording method for the latter requirement.

Request for Relief ISI-2 has been withdrawn.

Request for Relief ISI-3 has been withdrawn.

REQUEST FOR RELIEF ISI-4

Components:	Pressure-retaining welds in piping (See List Below)
Class:	ASME Class 1 and 2 (TVA Safety Class A and B)
Inspection Requirement:	Volumetric examination of longitudinal, circumferential, and pipe branch connection welds, examination categories B-F, B-J, C-F, and C-G.
Basis for Relief:	In some cases it will be impractical to ultrasonically examine all welds in accordance with paragraph T-532 of Article 5, Section V of the ASME Code or Appendix III, Subarticle III-4400 of Section XI of ASME Code 1977 Edition, Summer 1978 Addenda and achieve meaningful results, i.e., removable hanger interference or valve and pump casings adjoining the welds. Each weld had a construction radiographic examination performed in accordance with ASME Section III.
Alternate Inspection:	Ultrasonic examinations will be performed to the extent practical and supplemented with Section XI surface examinations on all accessible areas of the weld.

REQUEST FOR RELIEF ISI-4

Weld Number[1]	Code Category[2]	Drawing Number	Physical Configuration[3]	Scan[4]/Limitation[5]	Remarks[6]
SIS-3-LS	CF	CHM-2758-C 1 of 13	E	9/No scan 10/No scan	ELL introdos prevents ultrasonic coupling
SIF-D091-4	BJ	CHM-2758-C 9 of 13	E/V	3/5:00-8:00 4/No scan from valve	ELL introdos prevents coupling from 5:00-8:00 (Note 7)
SIF-D090-5	BJ	CHM-2758-C 8 of 13	V/T	3/No scan 4/No scan	No examination due to component geometry (Note 7)
SIF-D089-6	BJ	CHM-2758-C 7 of 13	V/T	3/No scan 4/No scan	No examination due to component geometry (Note 7)
SIF-D089-7	BJ	CHM-2758-C 7 of 13	E/V	3/5:00-8:00 4/No scan from valve	ELL introdos prevents coupling from 5:00-8:00 (Note 7)
SIF-D092-7	BJ	CHM-2758-C 10 of 13	E/V	3/5:00-8:00 4/No scan from valve	ELL introdos prevents coupling from 5:00-8:00 (Note 7)
SIF-D091-6	BJ	CHM-2758-C 9 of 13	V/T	3/No scan 4/No scan	No examination due to component geometry (Note 7)
UHIF-D0043-6	BJ	ISI-0004-C 4 of 5	V/F	3/No scan 4/No scan	No examination due to component geometry (Note 7)
UHIF-D0043-5	BJ	ISI-0004-C 4 of 5	V/F	3/No scan 4/No scan	No examination due to component geometry
CVCF-D036-11C	BJ	ISI-0005-C 1 of 1	P/P	3/3:00-9:00 4/4:00-6:00	No examination due to component geometry (Note 8)

REQUEST FOR RELIEF ISI-4 (Continued)

Weld Number[1]	Code Category[2]	Drawing Number	Physical Configuration[3]	Scan[4]/Limitation[5]	Remarks[6]
SIF-D090-6	BJ	CHM-2758-C 8 of 13	P/V	3/No Scan 4/2:00-5:00	No examination due to component geometry (Note 7)
RCF-D234-3	BJ	ISI-0017-C 4 of 11	E/V	3/No scan 4/5:00-7:00	ELL introdos prevents coupling from 5:00-7:00 (Note 8)
RCF-D236-4	BJ	ISI-0017-C 5 of 11	E/V	3/5:00-7:00 4/No scan	ELL introdos prevents coupling from 5:00-7:00 (Note 8)
RCF-D232-2	BJ	ISI-0017-C 1 of 11	V/R	3/No scan 4/No scan 5/No base metal exam 6/No base metal exam	No examination due to component geometry (Note 7)
MSF-D001-1	CG	CHM-2669-C 1 of 4	E/P	3/No scan 4/ 1/2 VEE path exam	No examination due to component geometry
MSF-D006-15	CG	CHM-2669-C 4 of 4	V/P	3/No scan 4/No scan	No examination due to component geometry
FWF-D372-8	CG	CHM-2671-C 6 of 8	R/R	3/No scan 4/No scan	No examination due to component geometry
UHIS-66	CF	ISI-0004-C 5 of 5	P/F	3/No scan 4/12:00-3:00	No examination due to component geometry
RHRF-D047-4	CF	CHM-2636-C 2 of 8	E/T	4/2:00-4:00, 8:00-10:00	No examination due to component geometry
RHRS-132	CF	CHM-2636-C 6 of 8	E/E	3/4:00-8:00 4/12:00-5:00	ELL introdoses prevents coupling from 4:00-5:00

REQUEST FOR RELIEF ISI-4 (Continued)

Weld Number[1]	Code Category[2]	Drawing Number	Physical Configuration[3]	Scan[4]/Limitation[5]	Remarks[6]
RHRS-102	CF	CHM-2636-C 6 of 8	E/T	3/5:00-7:00 4/6:00-9:00	ELL introdoses prevent coupling from 6:00-7:00
RHRF-D051-12LS	CF	CHM-2636-C 6 of 8	E	9/No scan 10/No scan	ELL introdos prevents ultrasonic coupling
RHRS-132LS	CF	CHM-2636-C 6 of 8	E	9/No scan 10/No scan	ELL introdoses prevents ultrasonic coupling
SIS-40-LS	CF	CHM-2758-C 3 of 13	E	9/No scan 10/No scan	ELL introdos prevents ultrasonic coupling
SIS-13-LS	CF	CHM-2758-C 2 of 13	E	9/No scan 10/No scan	ELL introdos prevents ultrasonic coupling
FWF-D001-6	CG	CHM-2671-C 1 of 8	E/V	3/11:00-1:00, 2:00-4:00, 5:00-7:00 4/No scan 5/See scan 3 limits 6/See scan 3 limits	No examination due to component geometry and permanent support
FWS-41	CG	CHM-2671-C 4 of 8	R/P	4/3:00-5:00 5/3:00-5:00 6/3:00-5:00	No examination due to permanent support
UHIF-D039-17	CF	ISI-0004-C 5 of 5	P/ Penetra-tion	No scans	ND examination due to weld covered by guard pipe
MSS-61A-LS	CG	CHM-2669-C 4 of 4	P	All/Limited by 10%	Limited examinations due to pipe support

REQUEST FOR RELIEF ISI-4 (Continued)

Weld Number[1]	Code Category[2]	Drawing Number	Physical Configuration[3]	Scan[4]/Limitation[5]	Remarks[6]
MSS-61B-LS	CG	CHM-2669-C 4 of 4	P	All/Limited by 10%	Limited examinations due to pipe support
MSS-38-LS	CG	CHM-2669-C 3 of 4	T	All/Limited by 10%	Limited examinations due to pipe support

REQUEST FOR RELIEF ISI-A (Continued)

NOTES:

1. LS following seam number indicates longitudinal seam.

2. Categories determined in accordance with ASME XI 74S75.

3. P = Pipe, V = Valve, E = ELL, T = TEE, R = Reducer and F = Flange.

4. Scans 3 and 4 are perpendicular to circumferential welds.

   Scans 5 and 6 are parallel to circumferential welds.

   Scans 7 and 8 are perpendicular to longitudinal welds.

   Scans 9 and 10 are parallel to longitudinal welds.

5. Limitations are expressed in o'clock references. In general, the exact limitation is noted rather than a percentage of the required examinations.

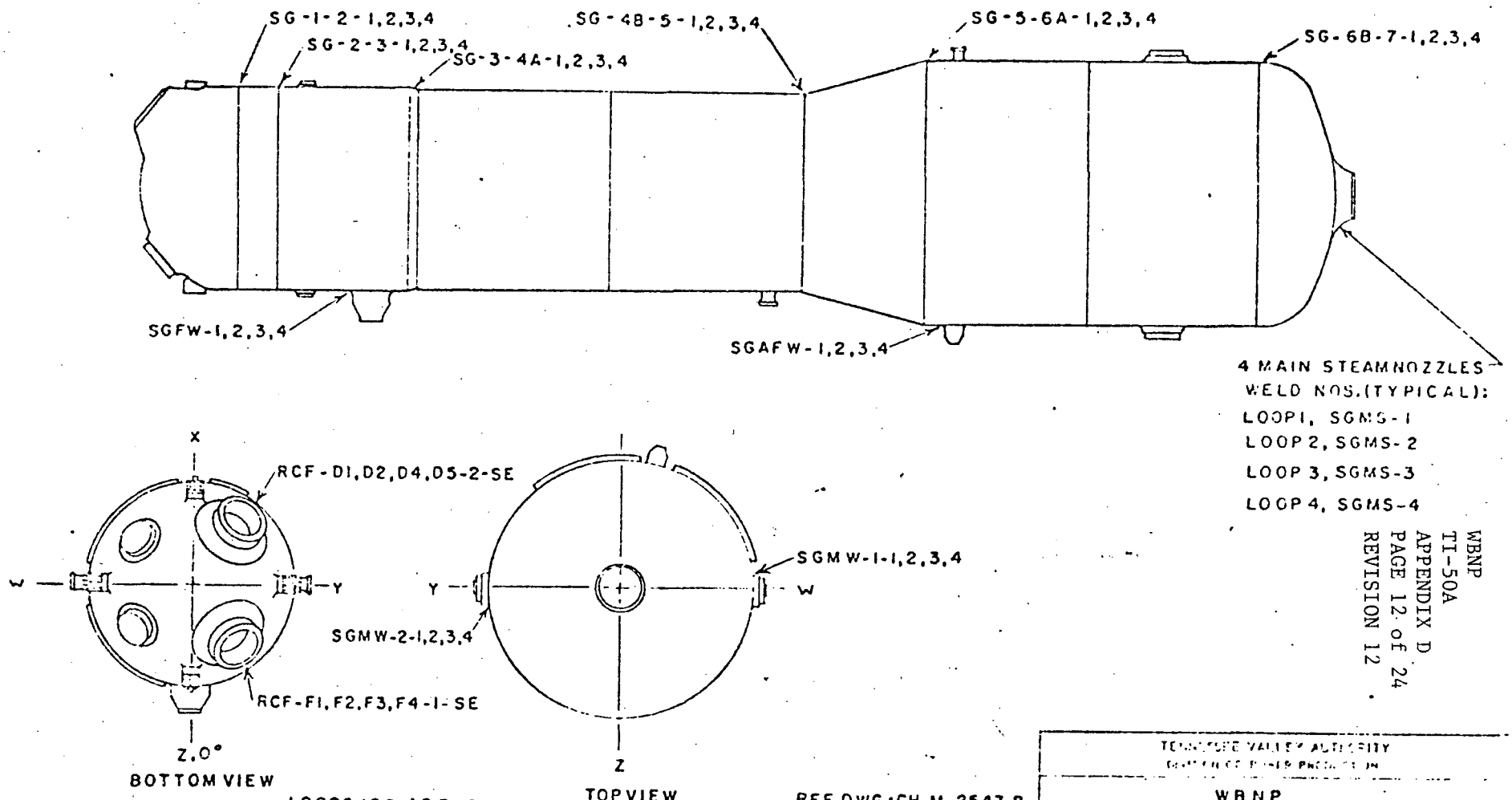
6. Examinations conducted from one side of the weld provide full coverage within the variable limits of weld penetrability and opposite surface condition.

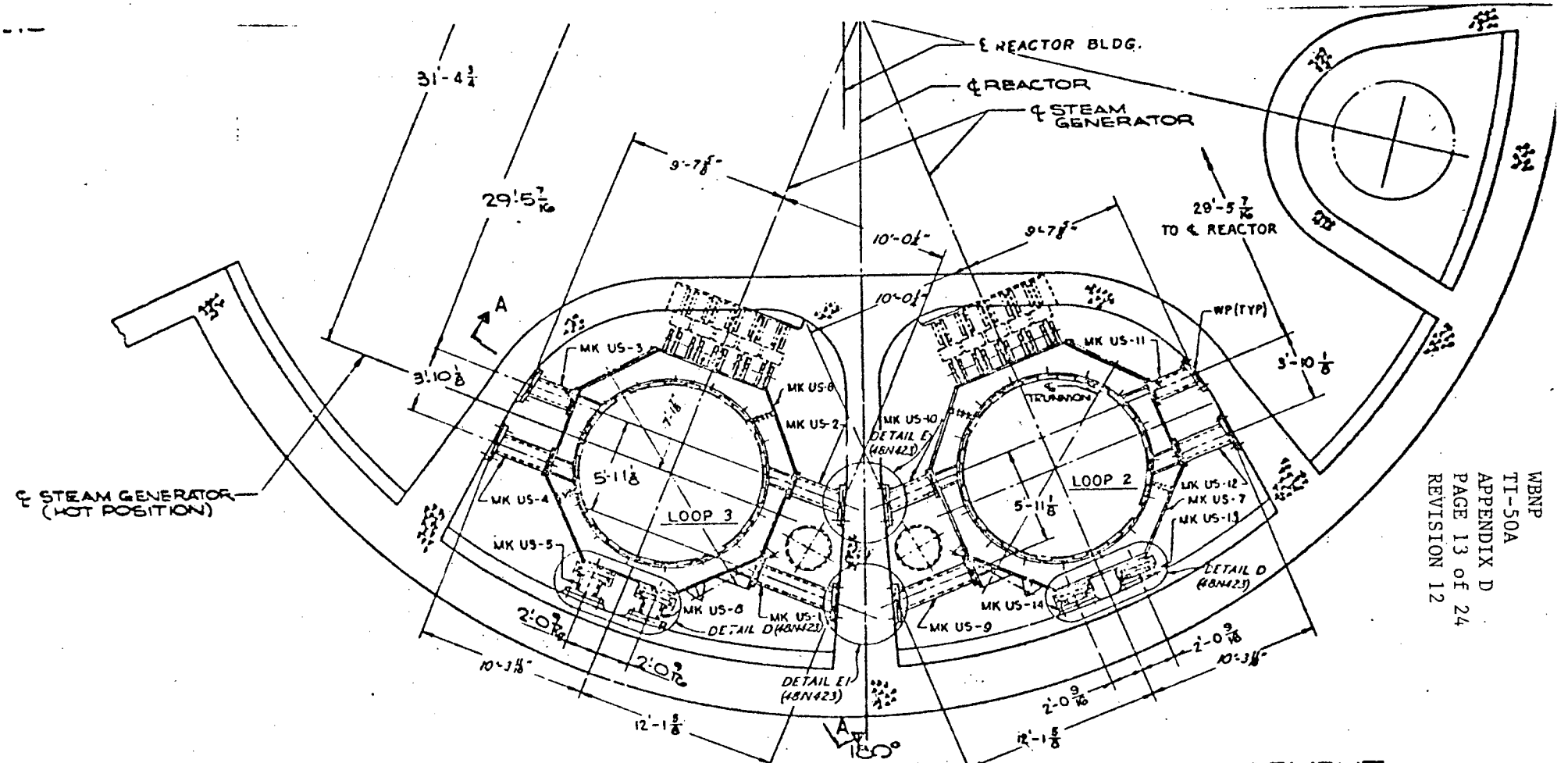
7. This weld can be exempt from examination to the later code since the stress level and usage factor were below the limits under loads associated with specific seismic events and operational conditions. [1977 Edition, Summer 1978 Addenda, Table IWB-2500-1, Category B-J, Noted (1)(b)]

8. This weld can be exempt from volumetric examination by the later code since the nominal pipe size is less than four inches. (1977 Edition, Summer 1978 Addenda, Table 2500-1, Category B-J)

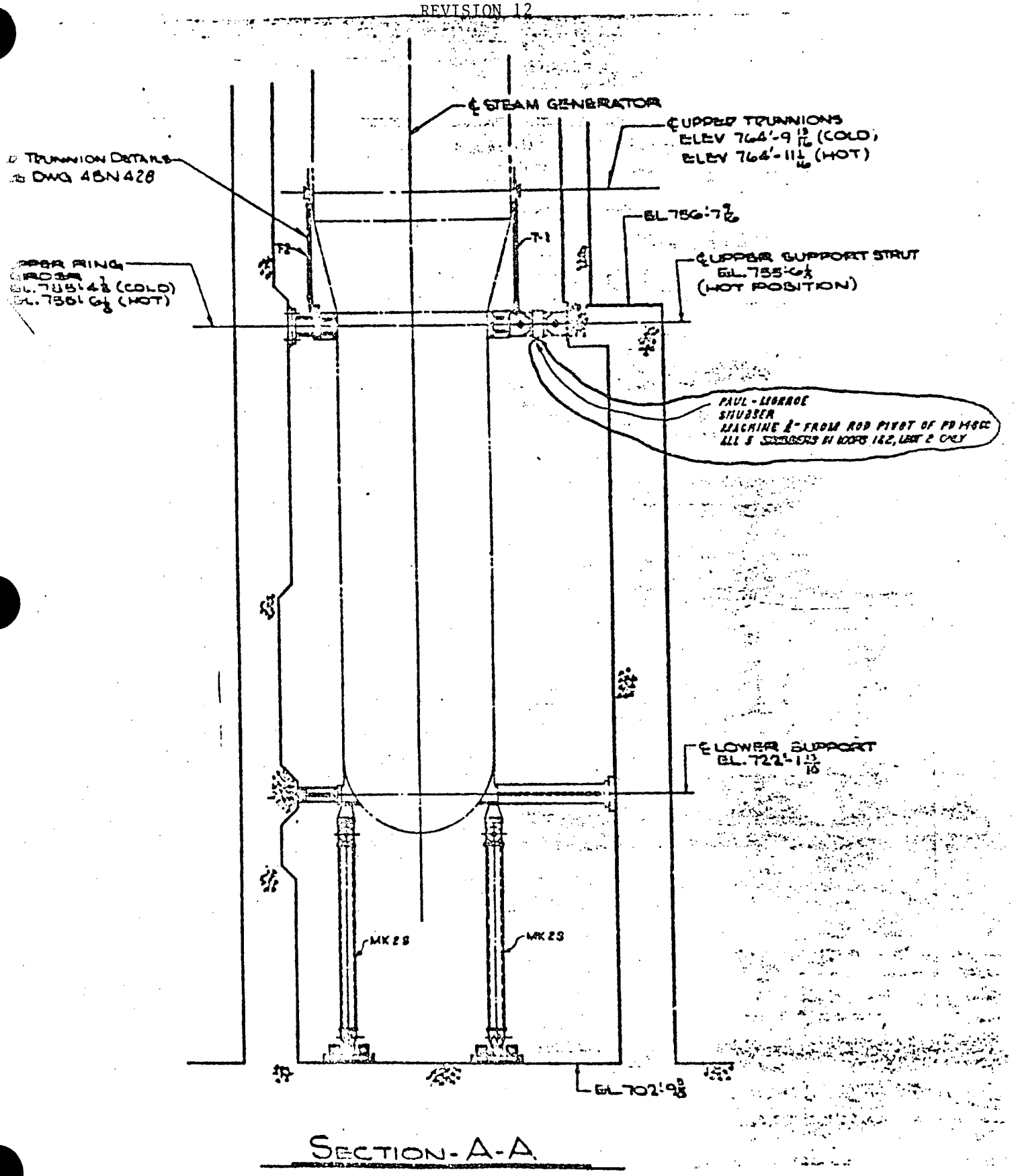
REQUEST FOR RELIEF ISI-5

Components:	Steam generator (four per unit)
Class:	ASME Class 2 (TVA Safety Class B)
Inspection Requirement:	Volumetric examination of circumferential shell welds, examination categories C-A.
Basis for Relief:	One circumferential shell weld on each generator is inaccessible due to the upper steam generator support brackets (weld numbers SG-4B-5-1, SG-4B-5-2, SG-4B-5-3, and SG-4B-5-4). See attached drawings. One weld on one generator will be examined on a "best effort" basis for the preservice examination. Weld SG-4B-5-1 was selected to be examined on a best effort basis for preservice inspection. It was determined that at least 55 percent of the examination volume was examined due to the support bracket interface.
Alernate Inspection:	None


SG-1-2-1,2,3,4
SG-2-3-1,2,3,4
SG-3-4A-1,2,3,4
SG-4B-5-1,2,3,4
SG-5-6A-1,2,3,4
SG-6B-7-1,2,3,4
SGFW-1,2,3,4
SGAFW-1,2,3,4
4 MAIN STEAM NOZZLES
WELD NOS.(TYPICAL):
LOOP 1, SGMS-1
LOOP 2, SGMS-2
LOOP 3, SGMS-3
LOOP 4, SGMS-4
X
RCF-D1,D2,D4,D5-2-SE
Z
Y
RCF-F1,F2,F3,F4-1-SE
Z,0°
BOTTOM VIEW
SGMW-1-1,2,3,4
Y
W
SGMW-2-1,2,3,4
Z
TOP VIEW
LOOPS 1&3 AS SHOWN
LOOPS 2&4 OPPOSITE HAND
REF. DWG.:CH-M-2547-B
TENNESSEE VALLEY AUTHORITY
WBNP
STEAM GENERATOR
WELD MAP UNIT 1
4-26-79
CH-M-2660-B



UPPER STEAM GENERATOR SUPPORT ARRANGEMENT


℄ STEAM GENERATOR
℄ UPPER TRUNNIONS
ELEV 764'-9 13/16 (COLD)
ELEV 764'-11 1/16 (HOT)
TRUNNION DETAILS
DWG 4BN428
EL 756'-7 9/16
T-1
T-2
℄ UPPER SUPPORT STRUT
EL. 755'-6 1/8
(HOT POSITION)
UPPER RING
EL. 785'-4 3/8 (COLD)
EL. 786'-6 1/8 (HOT)
PAUL-LEGRAGE
SNUBBER
MACHINE 2" FROM ROD PIVOT OF PD 1-6CC
ALL 5 SNUBBERS IN LOOPS 1&2, UNIT 2 ONLY
℄ LOWER SUPPORT
EL. 722'-1 13/16
MK 2S
MK 2S
EL. 702'-9 3/8

SECTION-A-A

REQUEST FOR RELIEF ISI-6

Component: Reactor Pressure Vessel

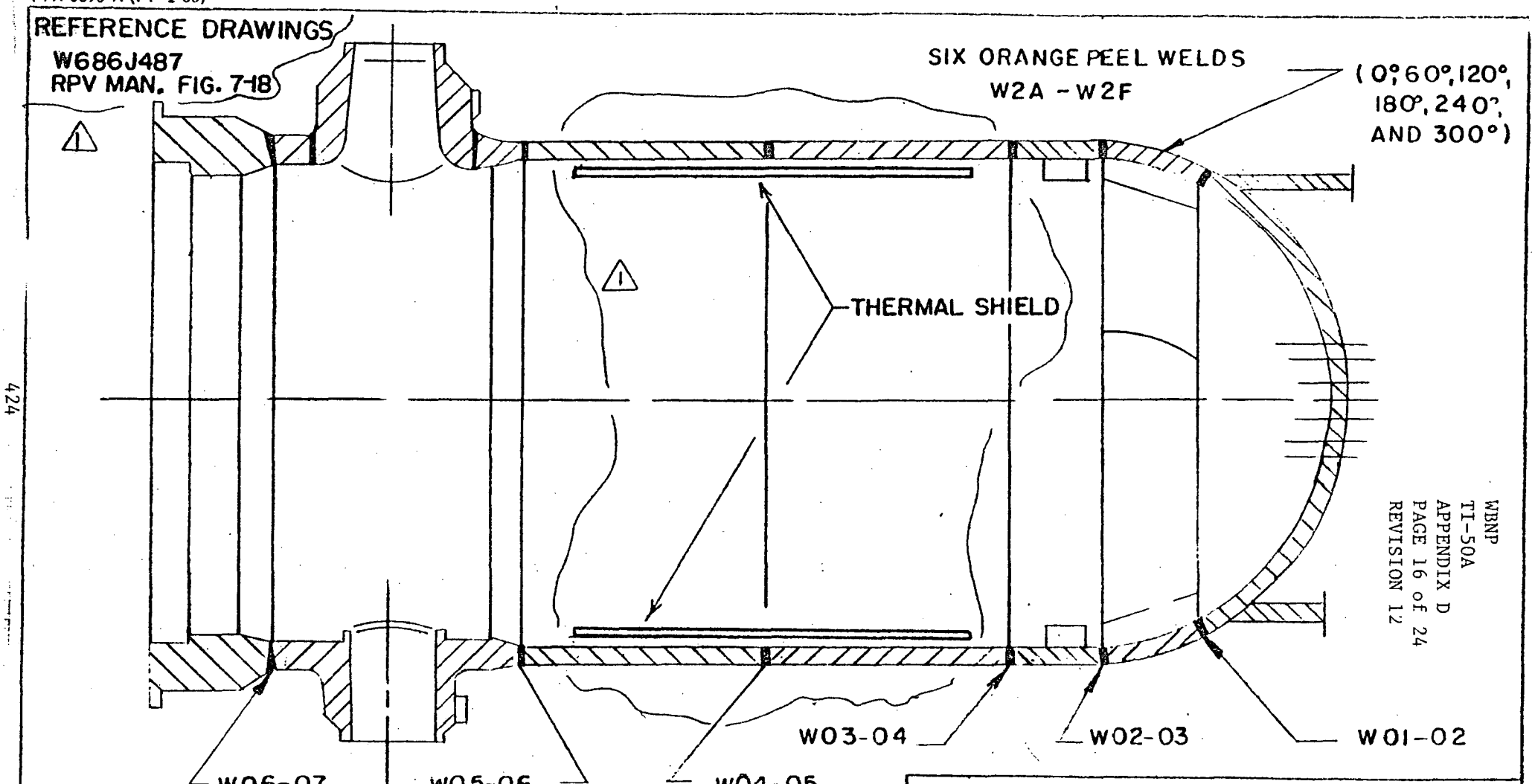
Class: ASME Class 1 (TVA Safety Class A)

Inspection Requirement: A 100 percent preservice volumetric examination of lower head dollar weld, examination category B-B, under conditions and with equipment and techniques equivalent to those expected to be employed during inservice inspection.

Basis for Relief: TVA will employ automated remote inspection devices to examine most of the reactor vessel welds. These examinations will be conducted from the vessel inside diameter. However, the lower head weld on each reactor pressure vessel is partially inaccessible for examination for the vessel inside diameter due to instrumentation tubes which penetrate the lower head (weld no. W01-02 see attached drawings). Portions of the weld can be examined from one side (as permitted by I-5121 of Section XI) and will include 100 percent of the examination volume in accordance with IWB-3511.1 of Section XI. These portions of the weld will be re-examined during the inservice intervals in accordance with examination categry B-B of Table IWB-2500.

Alternate Inspection: A 100 percent preservice examination of the weld will be conducted from the vessel outside diameter. This will be accomplished by performance of a manual ultrasonic examination. A remote ultrasonic examination will be conducted from the vessel inside diameter on all accessible areas of the weld.

TVA 6690-A (PP-2-60)



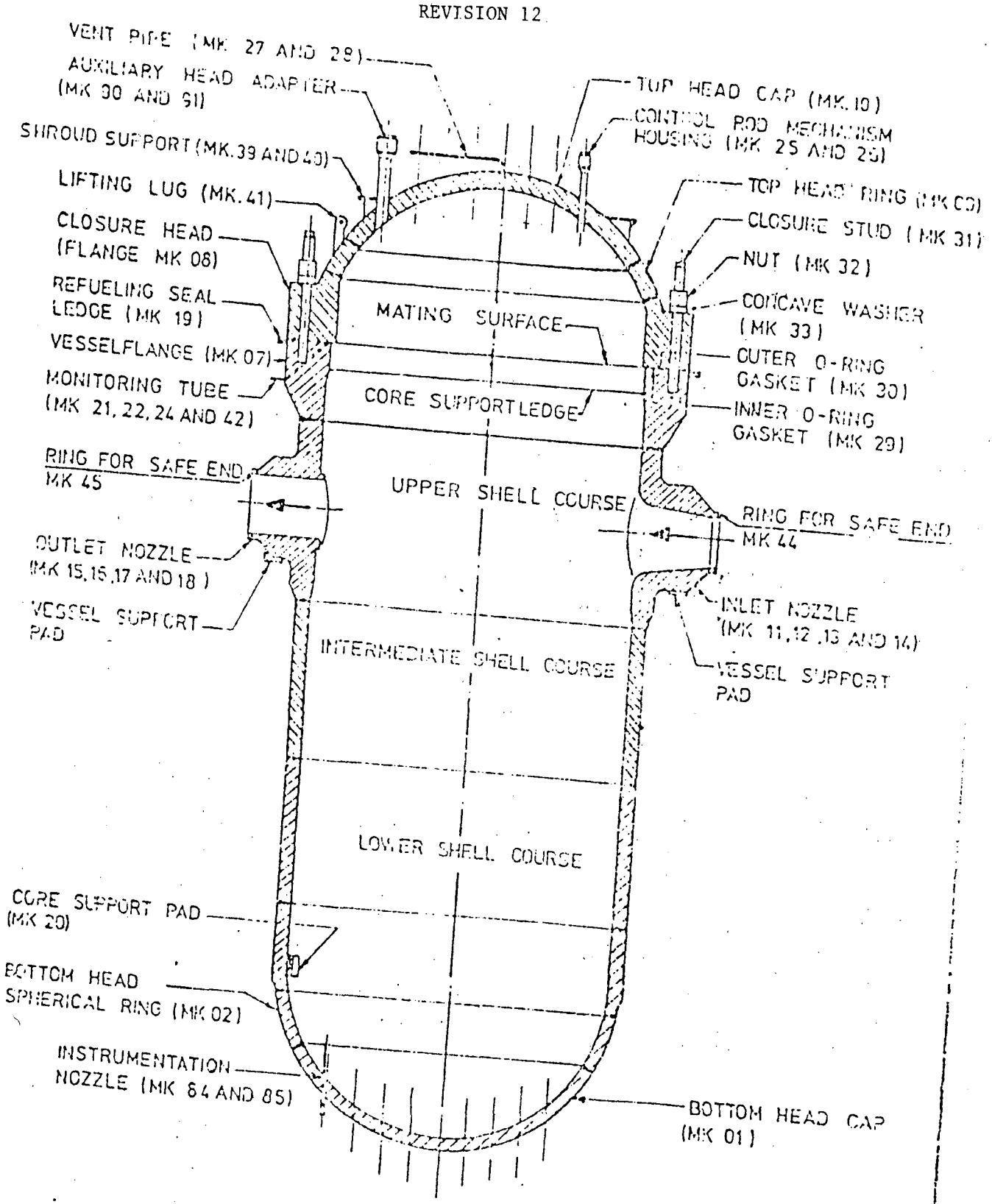
NO.	DATE	REVISIONS	CK'D	APP.
1	4-7-82	ADD THERMAL SHIELD AND REF. DWG REV	DAO	

TENNESSEE VALLEY AUTHORITY
DIVISION OF POWER PRODUCTION

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
REACTOR VESSEL
(SEAM WELDS)

SCALE: NTS
DRAWN
TRACED RAS
CHECKED
SUBMITTED
APPROVED
DATE 10-3-78
SHEET 1 OF 7 SHEETS
CH-M2551 A

WBNP
TI-50A
APPENDIX D
PAGE 16 of 24
REVISION 12


VENT PIPE (MK 27 AND 28)
AUXILIARY HEAD ADAPTER (MK 90 AND 91)
SHROUD SUPPORT (MK.39 AND 40)
LIFTING LUG (MK.41)
CLOSURE HEAD (FLANGE MK 08)
REFUELING SEAL LEDGE (MK 19)
VESSELFLANGE (MK 07)
MONITORING TUBE (MK 21, 22, 24 AND 42)
RING FOR SAFE END MK 45
OUTLET NOZZLE (MK 15, 16, 17 AND 18)
VESSEL SUPPORT PAD
CORE SUPPORT PAD (MK 20)
BOTTOM HEAD SPHERICAL RING (MK 02)
INSTRUMENTATION NOZZLE (MK 84 AND 85)
TOP HEAD CAP (MK.10)
CONTROL ROD MECHANISM HOUSING (MK 25 AND 26)
TOP HEAD RING (MK 09)
CLOSURE STUD (MK 31)
NUT (MK 32)
CONCAVE WASHER (MK 33)
OUTER O-RING GASKET (MK 30)
INNER O-RING GASKET (MK 29)
RING FOR SAFE END MK 44
INLET NOZZLE (MK 11, 12, 13 AND 14)
VESSEL SUPPORT PAD
BOTTOM HEAD CAP (MK 01)
MATING SURFACE
CORE SUPPORT LEDGE
UPPER SHELL COURSE
INTERMEDIATE SHELL COURSE
LOWER SHELL COURSE

REQUEST FOR RELIEF ISI-7

Component:	Steam Generator (four per unit)
Class:	ASME Class 1 (TVA Safety Class A)
Inspection Requirement:	Volumetric examination of nozzle inside radius section on the primary side, examination category B-D.
Basis for Relief:	Each steam generator consists of two integrally cast nozzles. The present capability of ultrasonic testing is not sufficient to examine cast material of this thichness and achieve meaningful results.
Alternate Inspection:	None.

Request for Relief ISI-8 has been withdrawn

REQUEST FOR RELIEF ISI-9

Components:	Reactor coolant pumps (four per unit)
Class:	ASME Class 1 (TVA Safety Class A)
Inspection Requirement:	Volumetric examination of pressure-retaining welds in pump casing, examination category B-L-1.
Basis for Relief:	Each reactor coolant pump casing consists of a two-piece welded type 304 SST casting. The present capability of ultrasonic testing is not sufficient to examine cast material of this thickness and achieve meaningful results.
Alternate Inspection:	All four welds will be surface examined for the preservice examinations.

REQUEST FOR RELIEF ISI-10

Components:	Regenerative Heat Exchanger
Class:	ASME Class 2 (TVA Safety Class B)
Inspection Requirement:	Volumetric examination of circumferential butt welds (head-to-shell, tube-sheet-to shell) in examination category C-A
Basis for Relief:	The shell of the regenerative heat exchanger is fabricated from SA-351, CF8. The present capability of ultrasonic testing is not sufficient to examine cast material of this thickness (1.070 inches) and achieve meaningful results. Examination from the head side of the weld cannot be performed with meaningful results because the thickness and configuration of the head does not leave ample space for suitable examination.
Alternate Inspection:	Surface examination of the circumferential weld.

REQUEST FOR RELIEF ISI-11

Components:	Letdown Heat Exchanger
Class:	ASME Class 2 (TVA Safety Class B)
Inspection Requirement:	Volumetric examination of at least twenty percent of each circumferential butt weld (head-to-shell, tube sheet-to-shell) in examination category C-A. This examination shall be uniformly distributed among three areas around the vessel circumference.
Basis for Relief:	Twenty percent of the circumferential welds can be examined, however, because of geometrical interference we cannot distribute the examination area uniformly.
Alternate Inspection:	The circumferential welds shall be volumetrically examined in all accesible areas. This will exceed the twenty percent examination requirements.

REQUEST FOR RELIEF ISI-12

Components:	Reactor Coolant System Main Loop Piping Welds
Class:	ASME Class 1 (TVA Safety Class A)
Inspection Requirement:	ASME Section XI, Table IWB-2600, examination category B-J, item B4.5, volumetric examination of circumferential and longitudinal pipe welds.
Basis for Relief:	The reactor coolant system main loop piping is fabricated of SA-351-CF8A, centrifugally cast stainless steel pipe. (Minimum wall thickness ranges from 2.21 inches to 2.48 inches). The primary piping welds were radiographically examined during fabrication and ultrasonically examined using nominal 1.5-MHz, dual-element, 45-degree refracted longitudinal search units during preservice inspection. Ultrasonic examination calibration was performed using 1/4T, 1/2T, and 3/4T holes in a calibration block fabricated of centrifugally cast stainless steel. Data generated during a vendor-sponsored study, Realiability of Ultrasonic Test Method for Detecting Natural Fatique Cracks in Centrifugally Cast Stainless Steel Pipe (WCAP-9894) indicates that, by utilizing these ultrasonic examination techniques, it is possible to detect fatique cracks of 15- to 25-percent through-wall depth. This technique represets existing state-of-the-art ultrasonic examination technology.
Alternate Inspection:	Section XI ultrasonic examination shall be performed to the extent practical using latest state-of-the-art ultrasonic examination technique.

REQUEST FOR RELIEF ISI-13

Components: Ultrasonic examination technique of piping welds

Class: ASME Class 1 and 2 (TVA Safety Class A and B)

Inspection Requirement: Appendix III - III - 3410 Material

III - 3430 Calibration Notches

III - 4450 Inaccessible Welds

Basis for Relief: The ultrasonic examination [IWA-2232(b), IWA-2232(c), and Appendix III] and evaluation (IWA-3000) of piping welds is being updated to the 1977 Edition, Summer 1978 Addenda of ASME Section XI to provide state-of-the-art methods for both. The calibration blocks were fabricated to the 1974 Edition, Summer 1975 Addenda of ASME Section XI and Request for Relief ISI-1.

In accordance with paragraph (g), 10 CFR 50.55a all Class 1 piping welds shall be designed and provided with access to enable the performance of inservice examinations. The code of record in effect six months prior to the date of issue of the construction permit for Watts Bar Nuclear Plant is 1971 Edition, Winter 1971 Addenda of ASME Section XI (required inspection of ASME Class 1 components only). Since ASME Class 2 piping welds were not necessarily designed for access some of the welds will not receive a 100-percent ultrasonic weld examination. In accordance with appendix III, paragraph III-4450, 1977 Edition, Summer 1978 Addenda of ASME Section XI welds that cannot be examined from at least one side (edge) using the angle beam technique shall be examined by another volumetric method. TVA does not intend to examine the "inaccessible" Class 2 welds using another volumetric method (radiographic technique), because these welds were radiographically examined in accordance with ASME Section III during fabrication. The inaccessible welds are addressed in Request for Relief ISI-4.

Alternate Inspection: As specified in Request for Relief ISI-1 and ISI-4.