WATTS BAR NUCLEAR PLANT

TECHNICAL INSTRUCTION

TI-50A

ASME SECTION XI

PRESERVICE INSPECTION PROGRAM

UNIT 1

CURRENT REVISION LEVEL 11

Prepared By Dave Detullio

Revised By Jeff Goulart

Submitted By Linda Jo Smith
Supervisor

PORC Review Date 9/21/83

Approved By H S Bounds
Superintendent

Date Approved 9/21/83

1C	Document Control Unit, 1520 CST2-C
1U	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
1C	Quality Assurance 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-WBNP-CONST

Last page of this instruction: 151

OS/6

8311280325 831121
PDR ADOCK 05000390
Q PDR

(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 Class A, B, C, and D 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 Superintendent the "Notification of Indication" form in Appendix D 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 superintendent or his assistant shall designate the organization (Field Services, 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 superintendent 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 corrective action is within NUC PR, they shall evaluate the unacceptable condition and process, as appropriate, in accordance with the requirements of N-OQAM, Part III, Section 7.2. Dispositions to correct the condition under the plant maintenance program shall be processed in accordance with N-OQAM, Part II, Section 2.1. Dispositions other than restoring to original requirements shall be processed as modifications in accordance with N-OQAM, Part II, Section 3.0. 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. 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 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 superintendent 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 Inspection 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 maintain as built calibration block drawings, copies of the original drawings and any revisions shall be submitted to the ISI Programs Section. The calibration blocks shall be stored at the plant site and maintained by the plant.

*APPENDIX D

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

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 _____

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	80d-80f
	UPPER HEAD INJECTION WATER ACCUMULATOR	
ISI-0073-B	Upper Head Injection Water Accumulator Weld Locations	80g
	PIPING AND VALVE WELD MAPS	
CH-M-2547-B	Reactor Coolant Piping	20-21
CH-M-2636-C	Residual Heat Removal	22-29
CH-M-2669-C	Mainsteam	30-33
CH-M-2671-C	Feedwater	34-41
CH-M-2758-C	Safety Injection	43-56
ISI-0004-C	Upperhead Injection	57-61
ISI-0005-C	Chemical and Volume Control	62-63
ISI-0017-C	Reactor Coolant System	64-74
ISI-0050-C	CVCS Seal Water Injection	76-79
ISI-0081-A	Mainsteam Relief Valve	79a
ISI-0082-A	Feedwater Check Valve	79b
	CLAD PATCH FRAMING FIXTURE	
CH-M-2525	Steam Generator and Pressurizer	80h
*	HANGER LOCATION DRAWING CLASS 1 AND CLASS 2	
ISI-0010-C	Reactor Coolant System	80JJ
ISI-0020-C	Residual Heat Removal	80V
ISI-0011-C	Mainsteam	80UU
ISI-0062-C	Feedwater	80YY
ISI-0021-C	Safety Injection	80I
ISI-0025-C	Upper Head Injection	80GGG
ISI-0026-C	Chemical and Volume Control	80DD
ISI-0063-C	CVCS Seal Water Injection	80FF

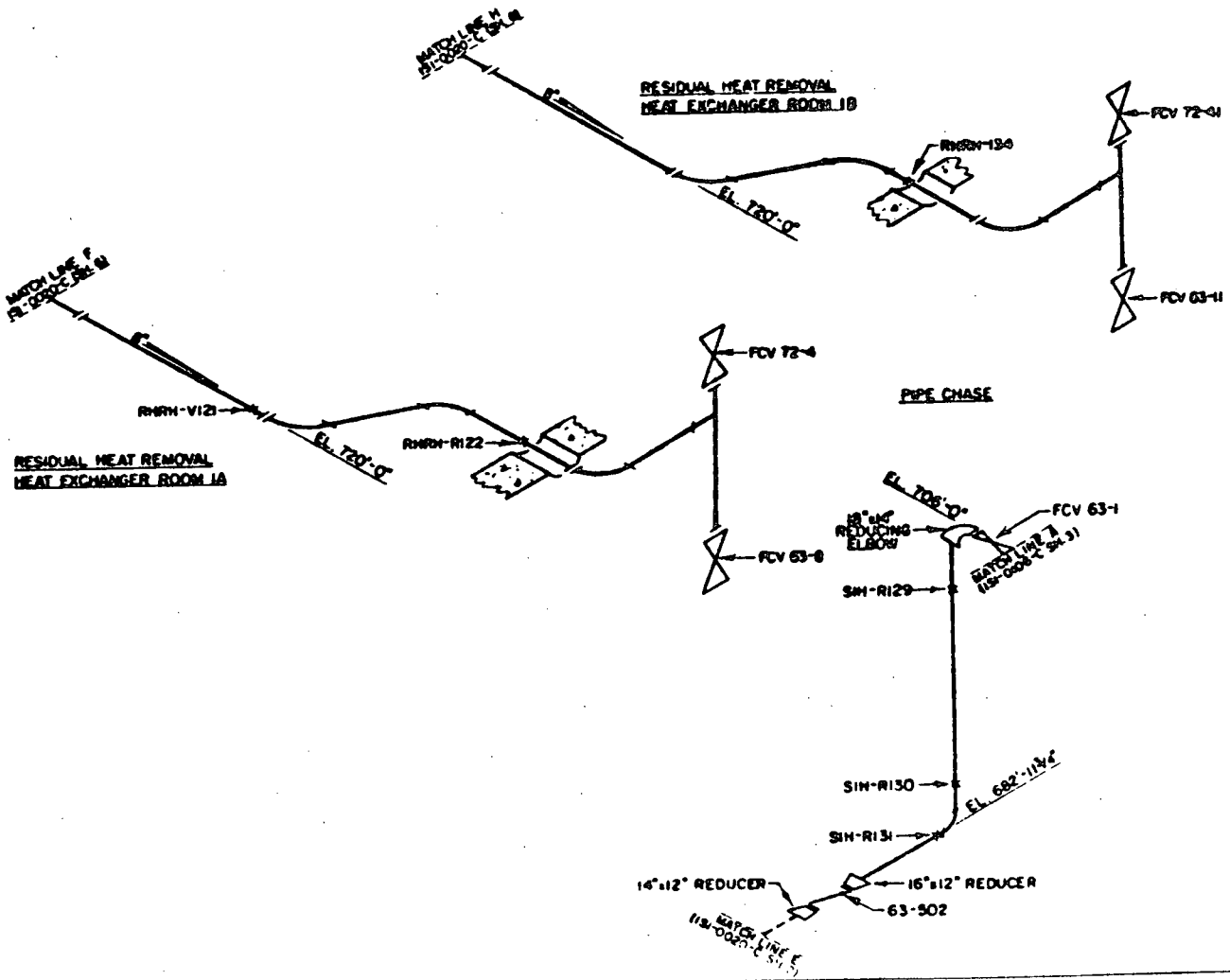
TABLE C (CONTINUED)

LIST OF DRAWINGS -UNIT #1

REACTOR VESSEL

DRAWING NO.	TITLE	APPENDIX A PAGE NO.
	HANGER LOCATION DRAWINGS CLASS 1 AND CLASS 2 (CONTINUED)	
ISI-0117-A	Residual Heat Removal Pump Supports	80JJ
ISI-0118-A	Centrifugal Charging Pump Supports	80MMM
ISI-0119-A	Reciprocation Charging Pump Supports	80NNN
ISI-0120-A	Safety Injection Pump Supports	80OOO
ISI-0121-A	Reactor Coolant Pump Supports	80PPP
ISI-0122-A	Steam Generator Supports	80QQQ

REFERENCE DRAWING
47W432-300
47W433-207
CLASS 2



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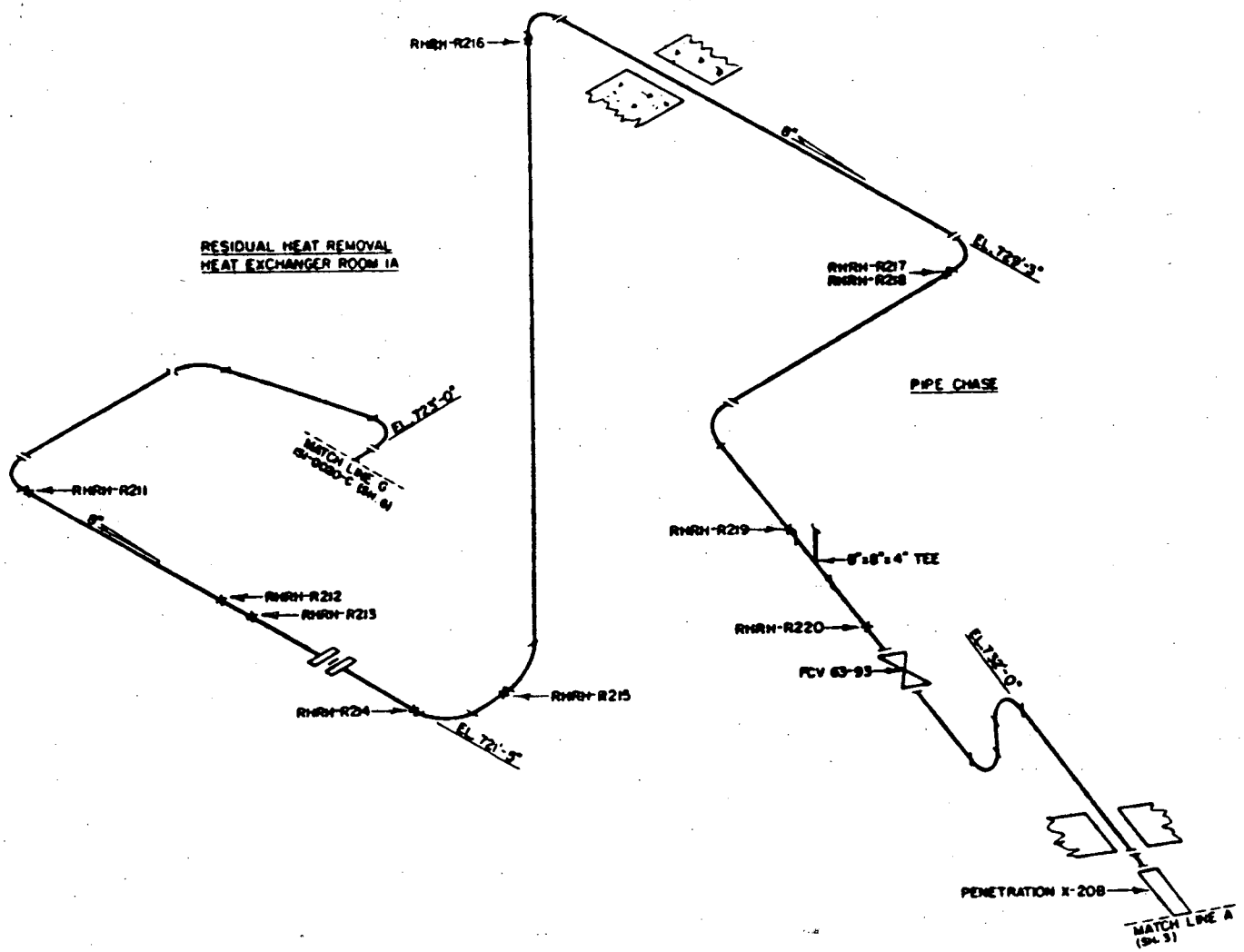
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

SI-0021-C

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



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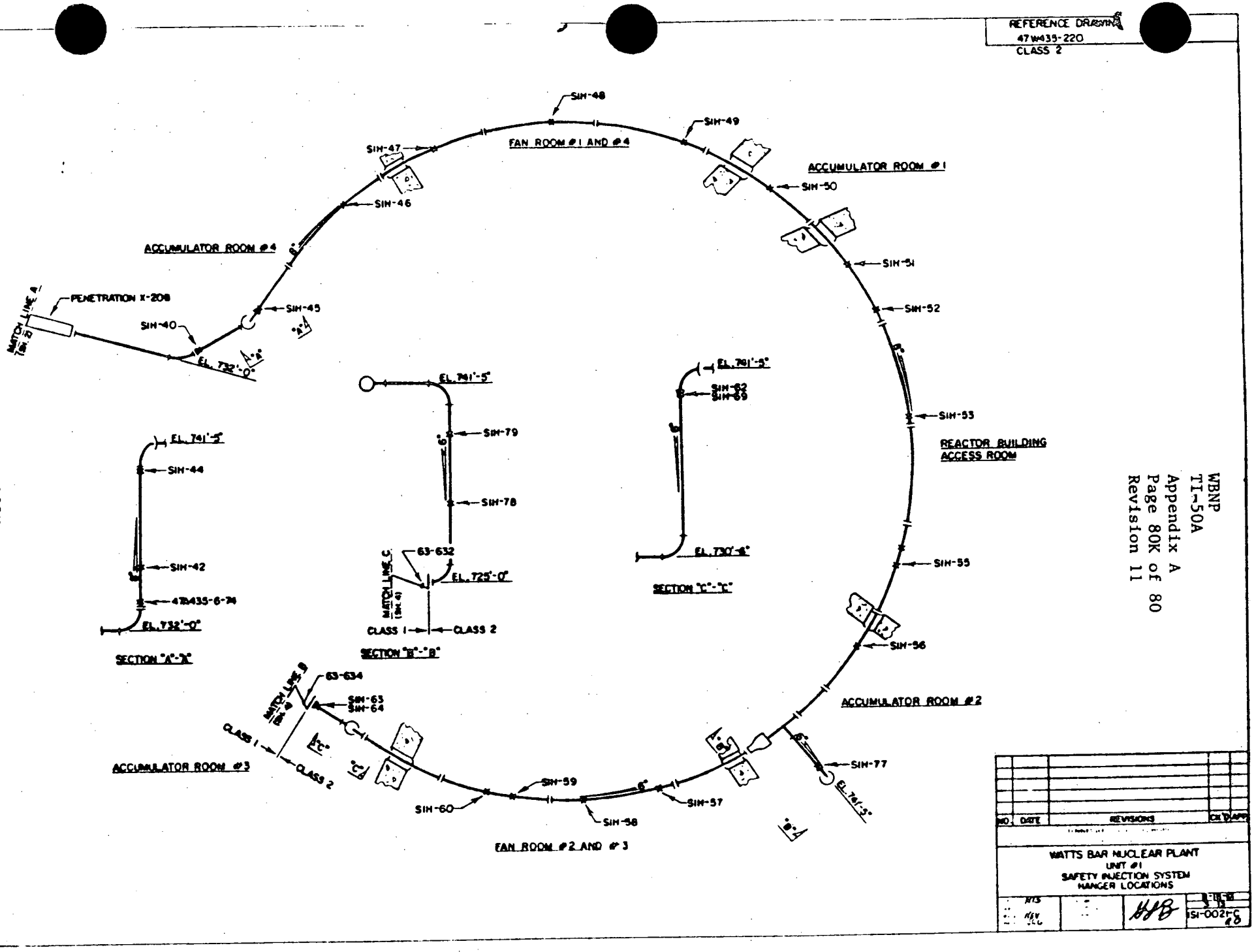
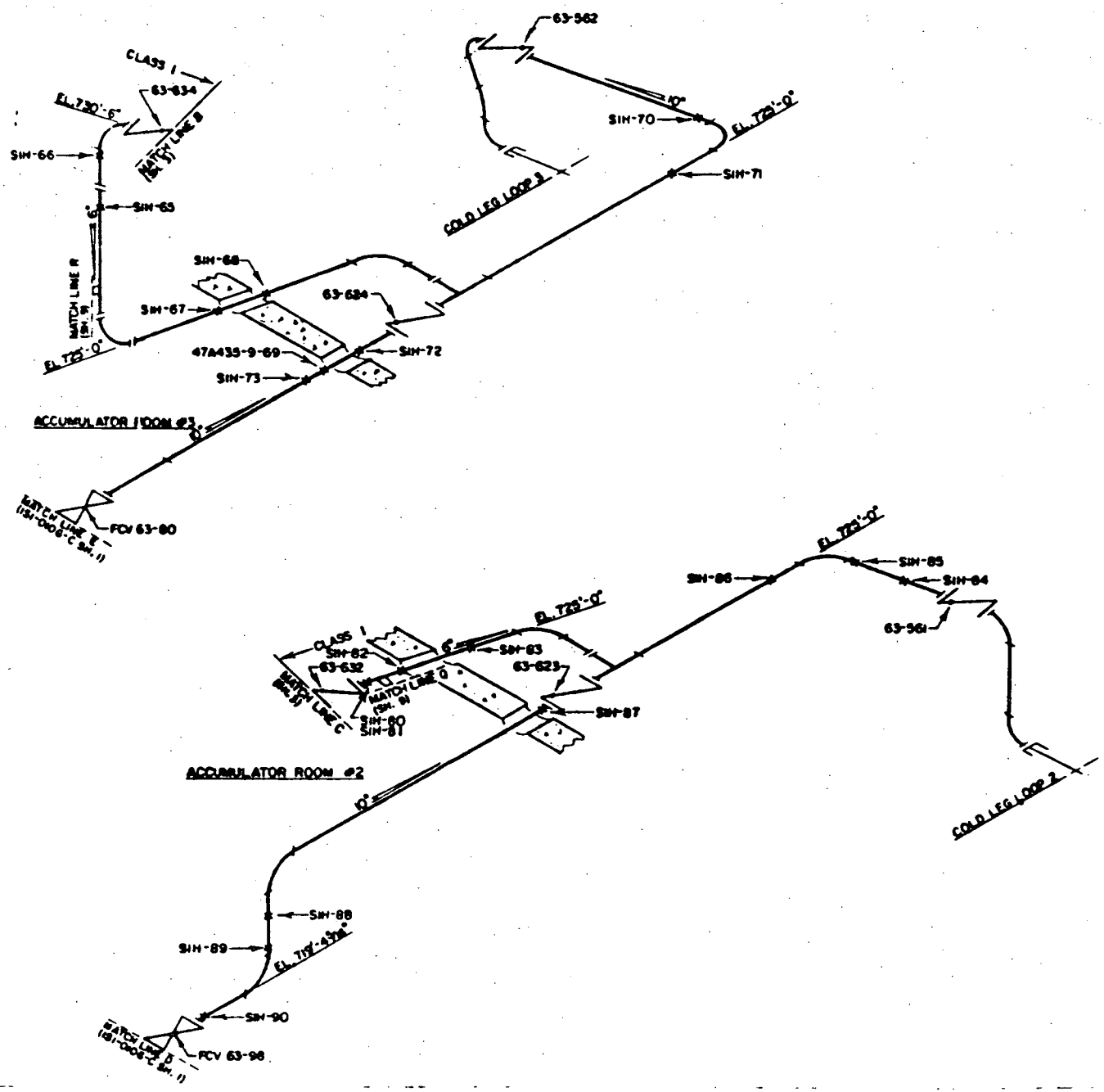
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

8-18-81
2-13
1SI-0021-C
R0


REFERENCE DRAWING
47W435-220
CLASS 2
SIH-48
SIH-49
FAN ROOM #1 AND #4
SIH-47
ACCUMULATOR ROOM #1
SIH-50
SIH-46
ACCUMULATOR ROOM #4
SIH-51
PENETRATION X-208
SIH-45
SIH-52
MATCH LINE A
SIH-40
EL. 732'-0"
EL. 741'-5"
SIH-62
SIH-69
SIH-53
REACTOR BUILDING ACCESS ROOM
EL. 741'-5"
SIH-79
SIH-44
SIH-78
63-632
EL. 725'-0"
EL. 730'-6"
SIH-55
SIH-42
47W435-6-74
EL. 732'-0"
MATCH LINE C
CLASS 1
CLASS 2
SECTION "C"-"C"
SECTION "A"-"A"
SECTION "B"-"B"
SIH-56
63-634
SIH-63
SIH-64
ACCUMULATOR ROOM #2
MATCH LINE B
CLASS 1
CLASS 2
ACCUMULATOR ROOM #3
SIH-77
EL. 741'-5"
SIH-59
SIH-57
SIH-60
SIH-58
FAN ROOM #2 AND #3
NO. DATE REVISIONS CK'D APP
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS
ISI-0021-C

REFERENCE DRAWING
47W435-220
CLASS I



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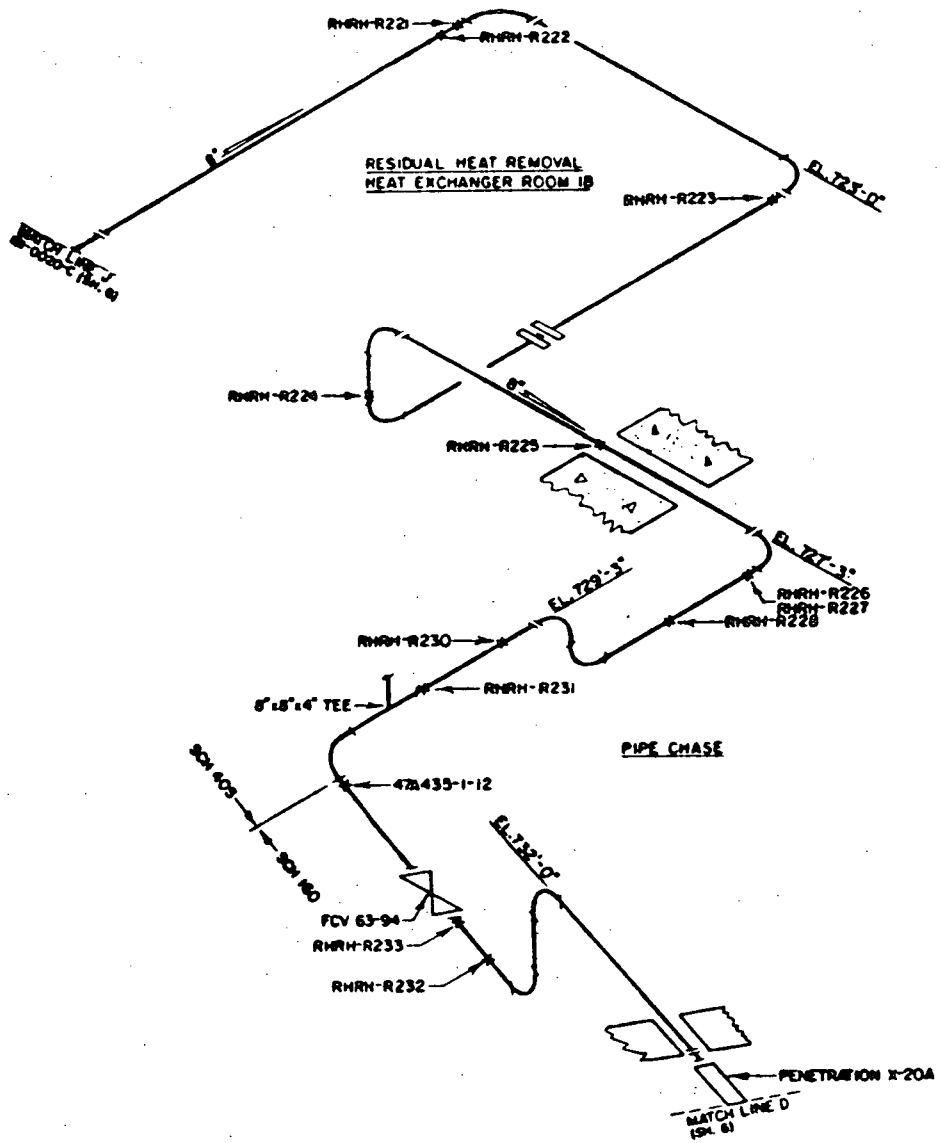
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

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

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



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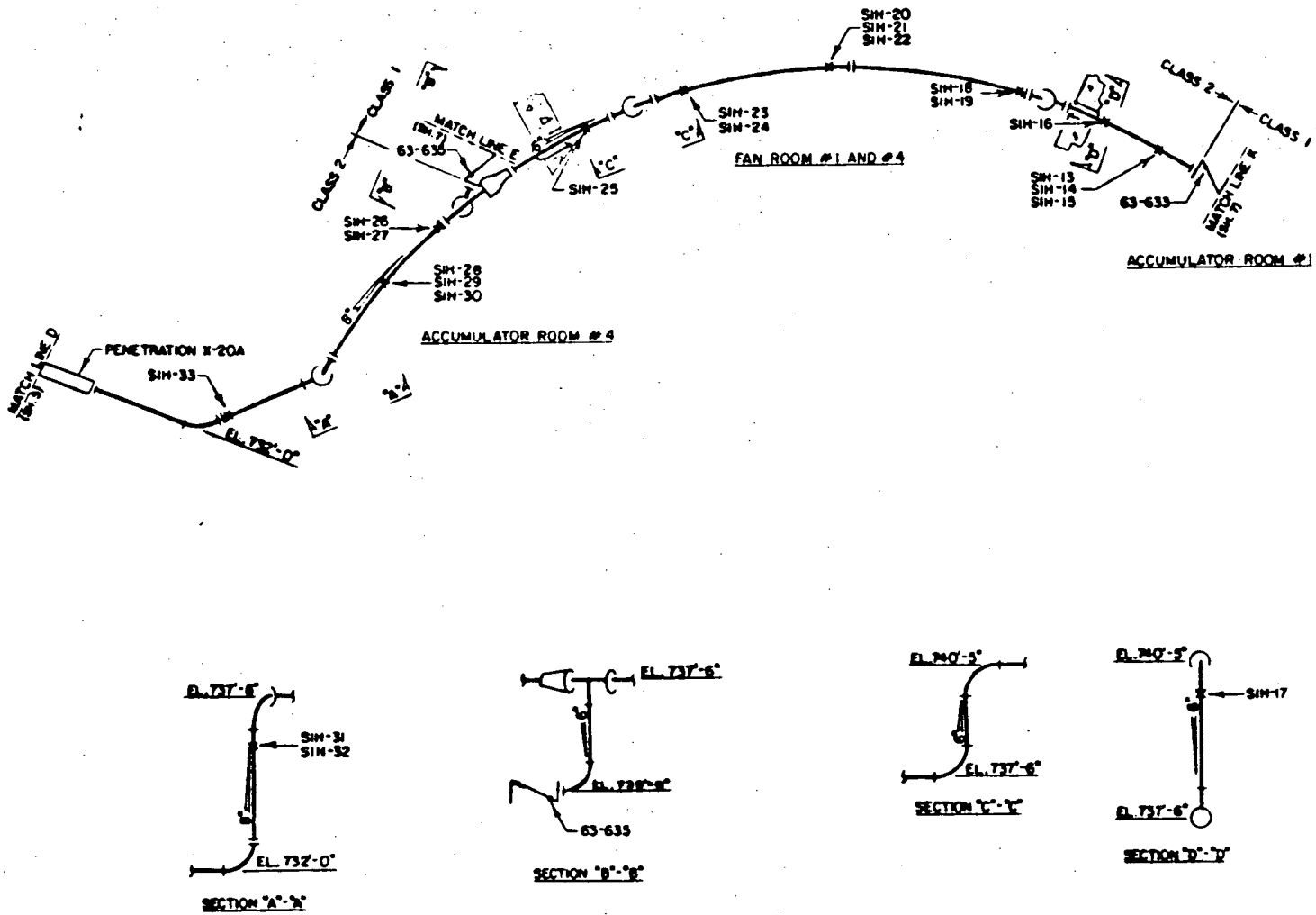
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

NTS
8-19-81
ISI-0021-C
80

109X

REFERENCE DRAWING
0600200-09-01
CHM-2758-C
CLASS 2

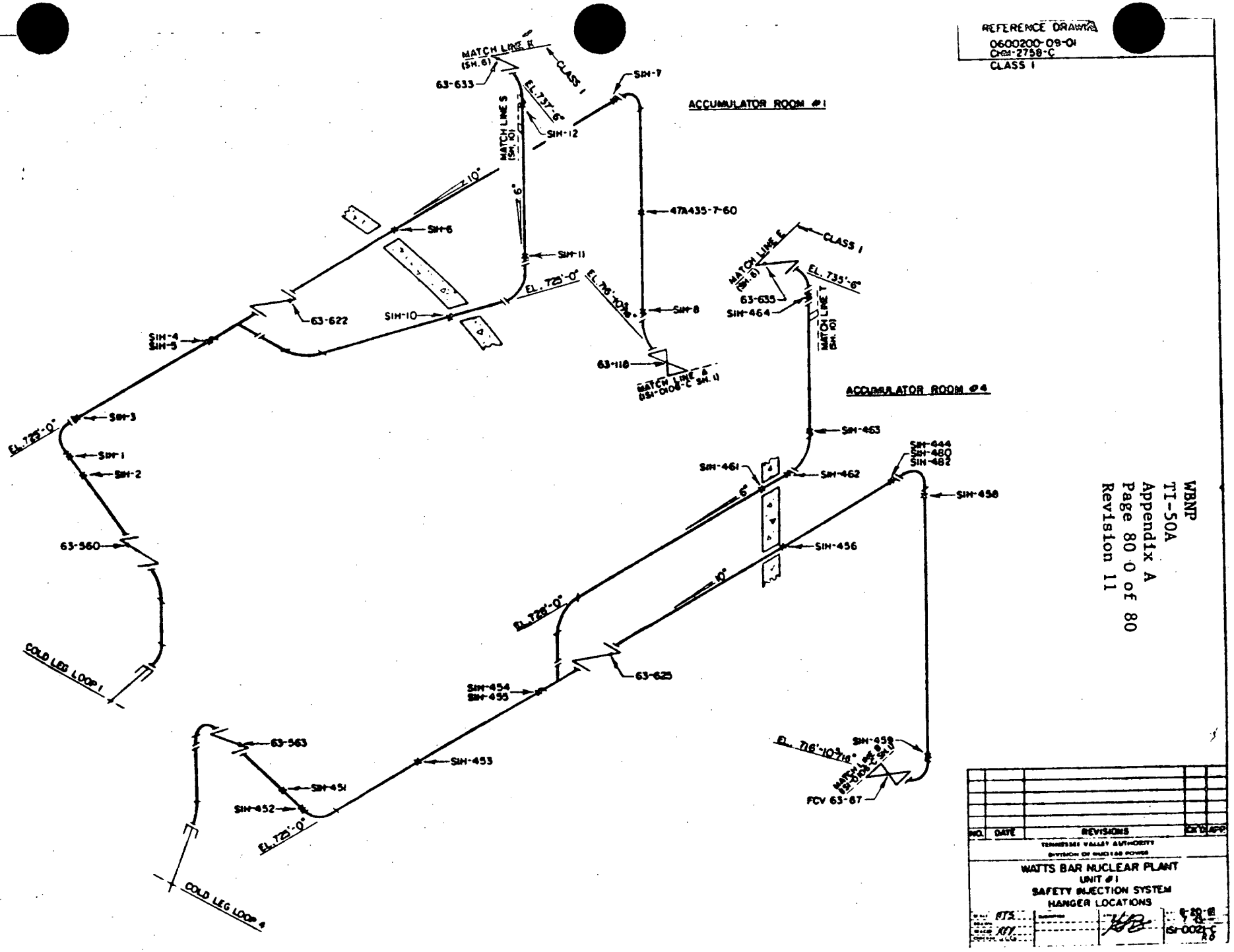


NO.	DATE	REVISIONS	CK'D	APP

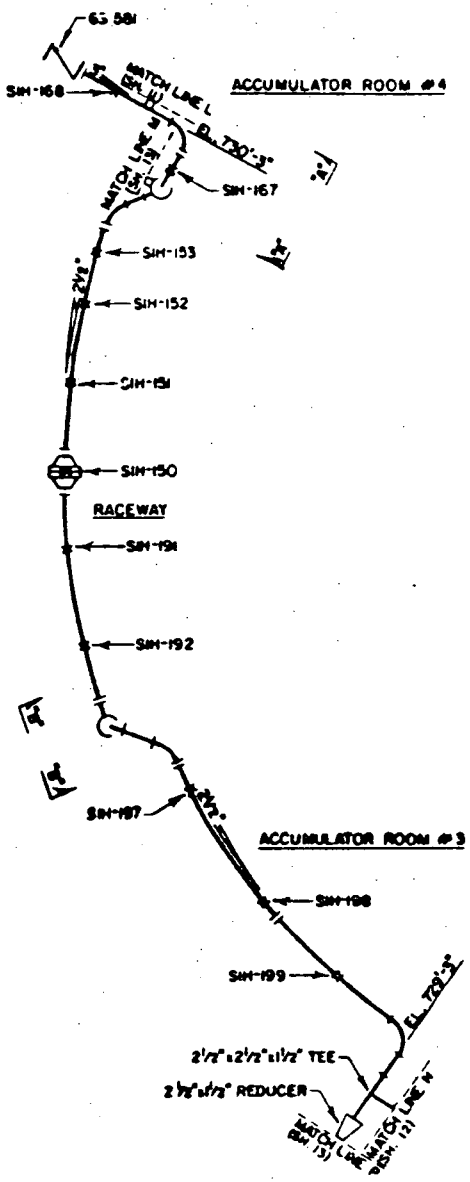
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

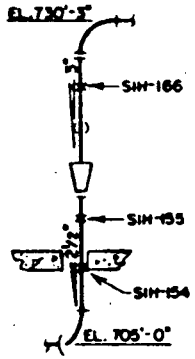
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS

NTS
NEO
8-19-81
ISI-0021-C
R0

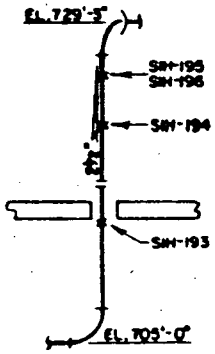

REFERENCE DRAWING
0600200-09-01
CHM-2758-C
CLASS I
ACCUMULATOR ROOM #1
ACCUMULATOR ROOM #4
MATCH LINE R (SH. 6)
CLASS I
63-633
EL. 737'-6"
SIH-12
SIH-7
MATCH LINE S (SH. 10)
10"
6"
47A435-7-60
SIH-6
SIH-11
EL. 725'-0"
EL. 716'-10 3/16"
SIH-8
63-622
SIH-10
SIH-4
SIH-5
63-118
MATCH LINE A (ISI-0108-C SH. 1)
MATCH LINE E (SH. 6)
CLASS I
EL. 735'-6"
63-635
SIH-464
MATCH LINE T (SH. 10)
SIH-3
EL. 725'-0"
SIH-1
SIH-2
SIH-463
SIH-444
SIH-480
SIH-482
SIH-461
SIH-462
SIH-458
6"
SIH-456
63-560
10"
EL. 728'-0"
COLD LEG LOOP 1
63-625
SIH-454
SIH-455
63-563
SIH-453
SIH-451
SIH-452
EL. 725'-0"
EL. 716'-10 3/16"
SIH-459
FCV 63-87
COLD LEG LOOP 4
NO. DATE REVISIONS CK'D APP
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS
ISI-0021-C

REFERENCE DRAWING
47W435-216
47W435-217
OHM-2758-C
CLASS 1





SECTION "A"-"A"



SECTION "B"-"B"

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
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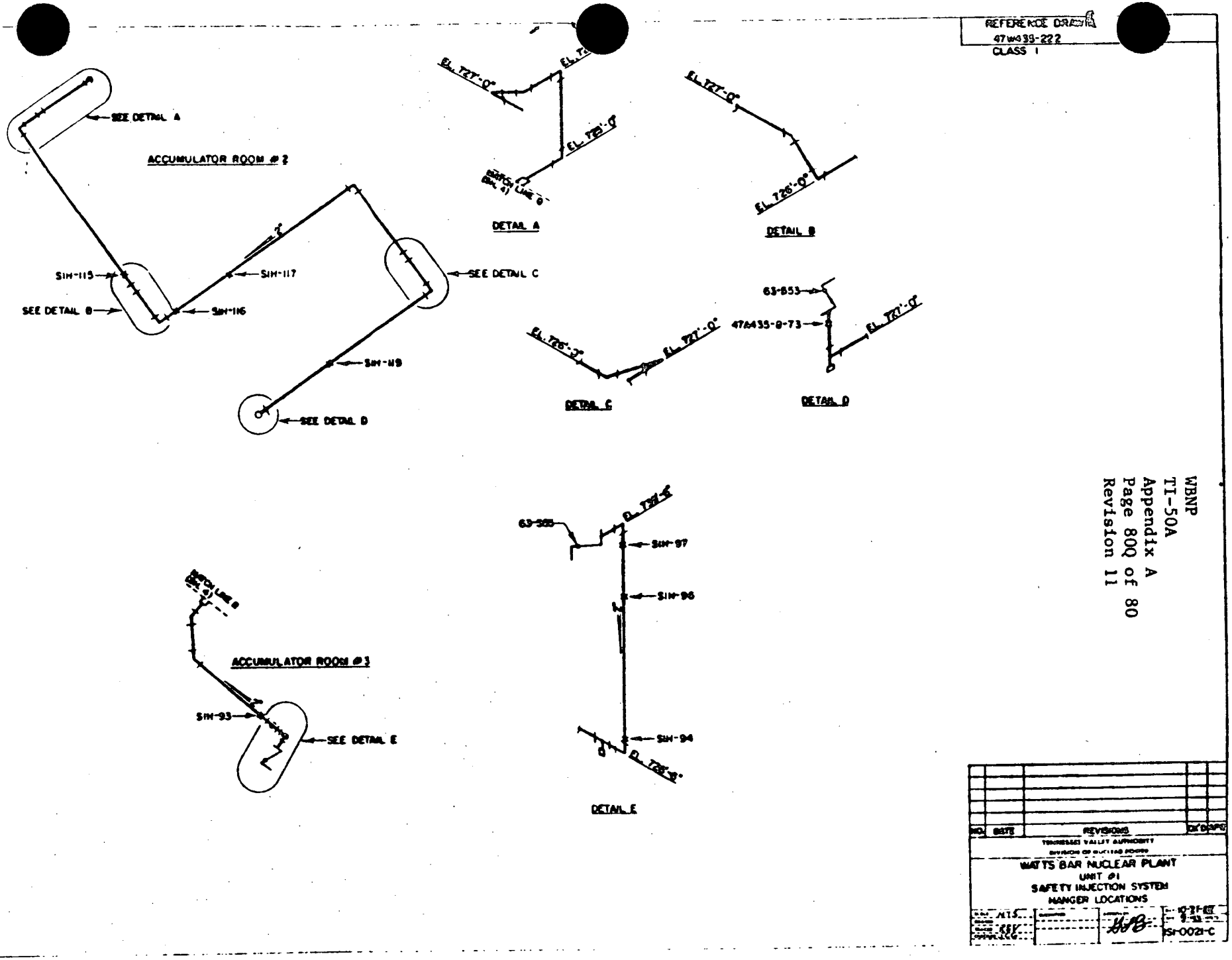
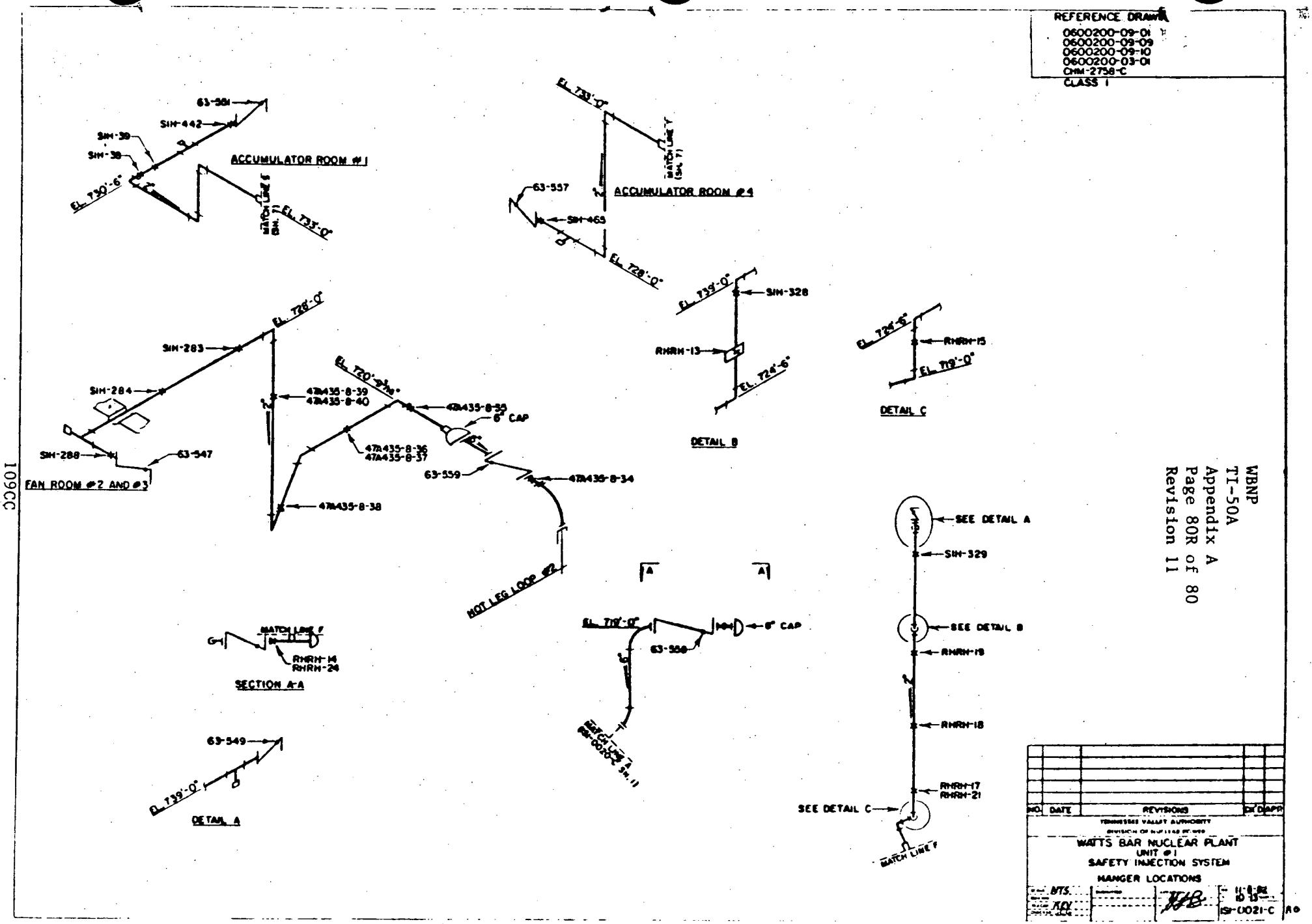
ISI-0021-C
30


REFERENCE DRAWING
47W435-222
CLASS I
SEE DETAIL A
ACCUMULATOR ROOM #2
SIH-115
SEE DETAIL B
SIH-116
SIH-117
SEE DETAIL C
SIH-119
SEE DETAIL D
EL. 727'-0"
EL. 725'-0"
DETAIL A
EL. 727'-0"
EL. 726'-0"
DETAIL B
EL. 726'-0"
EL. 727'-0"
DETAIL C
63-853
47A435-8-73
EL. 727'-0"
DETAIL D
63-585
SIH-97
SIH-96
SIH-94
DETAIL E
ACCUMULATOR ROOM #3
SIH-93
SEE DETAIL E
NO. DATE REVISIONS
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS
ISI-0021-C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0600200-09-01
0600200-09-09
0600200-09-10
0600200-03-01
CHM-2758-C
CLASS I
ACCUMULATOR ROOM #1
ACCUMULATOR ROOM #4
FAN ROOM #2 AND #3
HOT LEG LOOP #2
DETAIL A
DETAIL B
DETAIL C
SECTION A-A
SEE DETAIL A
SEE DETAIL B
SEE DETAIL C
MATCH LINE F
MATCH LINE A
63-551
SIH-442
SIH-39
SIH-38
EL. 730'-6"
EL. 733'-0"
63-557
SIH-465
EL. 728'-0"
EL. 739'-0"
SIH-328
RHRH-13
EL. 724'-6"
RHRH-15
EL. 719'-0"
SIH-283
SIH-284
SIH-288
63-547
47A435-8-39
47A435-8-40
47A435-8-35
6" CAP
47A435-8-36
47A435-8-37
63-559
47A435-8-34
47A435-8-38
RHRH-14
RHRH-24
63-549
63-558
SIH-329
RHRH-19
RHRH-18
RHRH-17
RHRH-21
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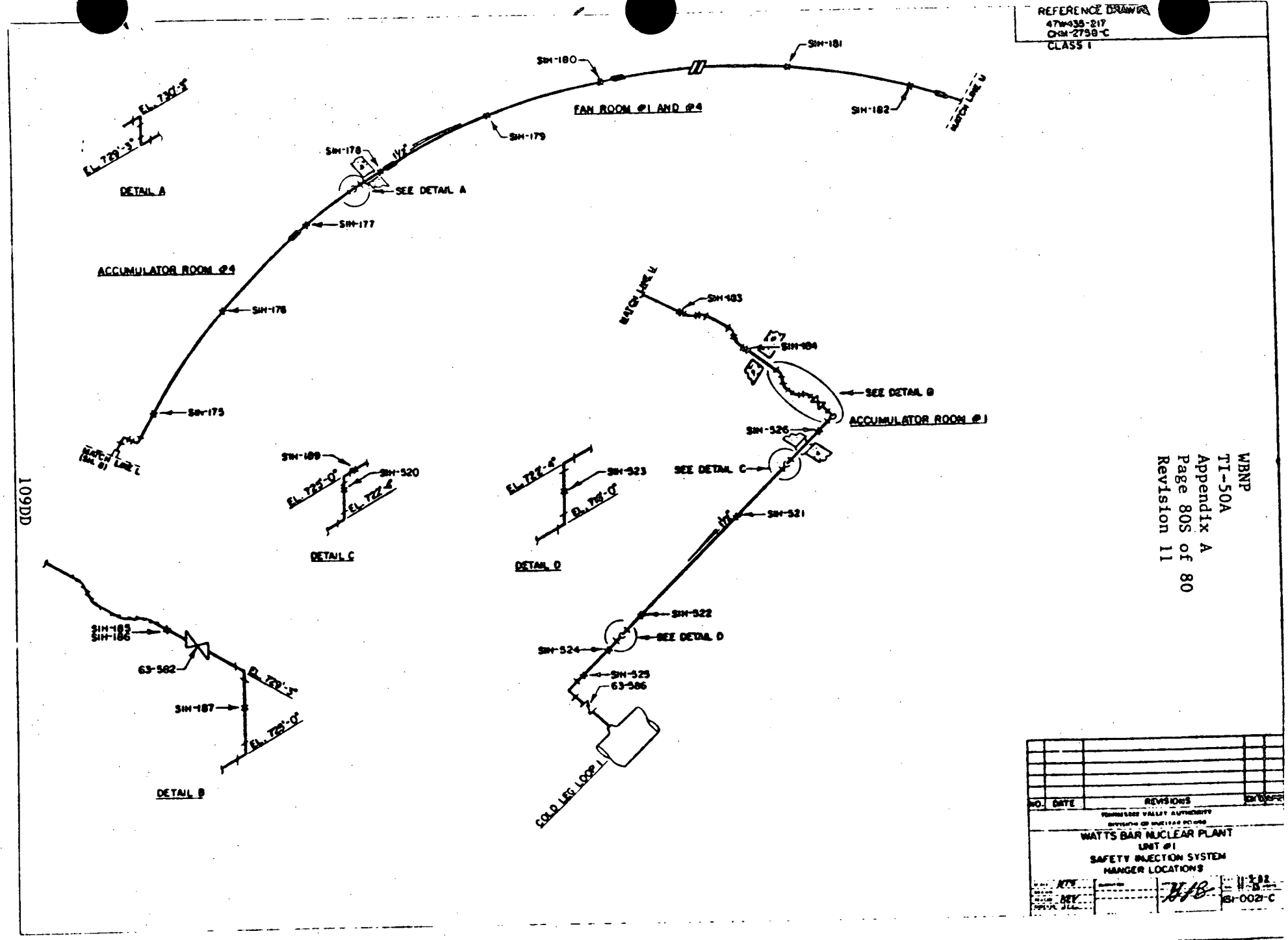
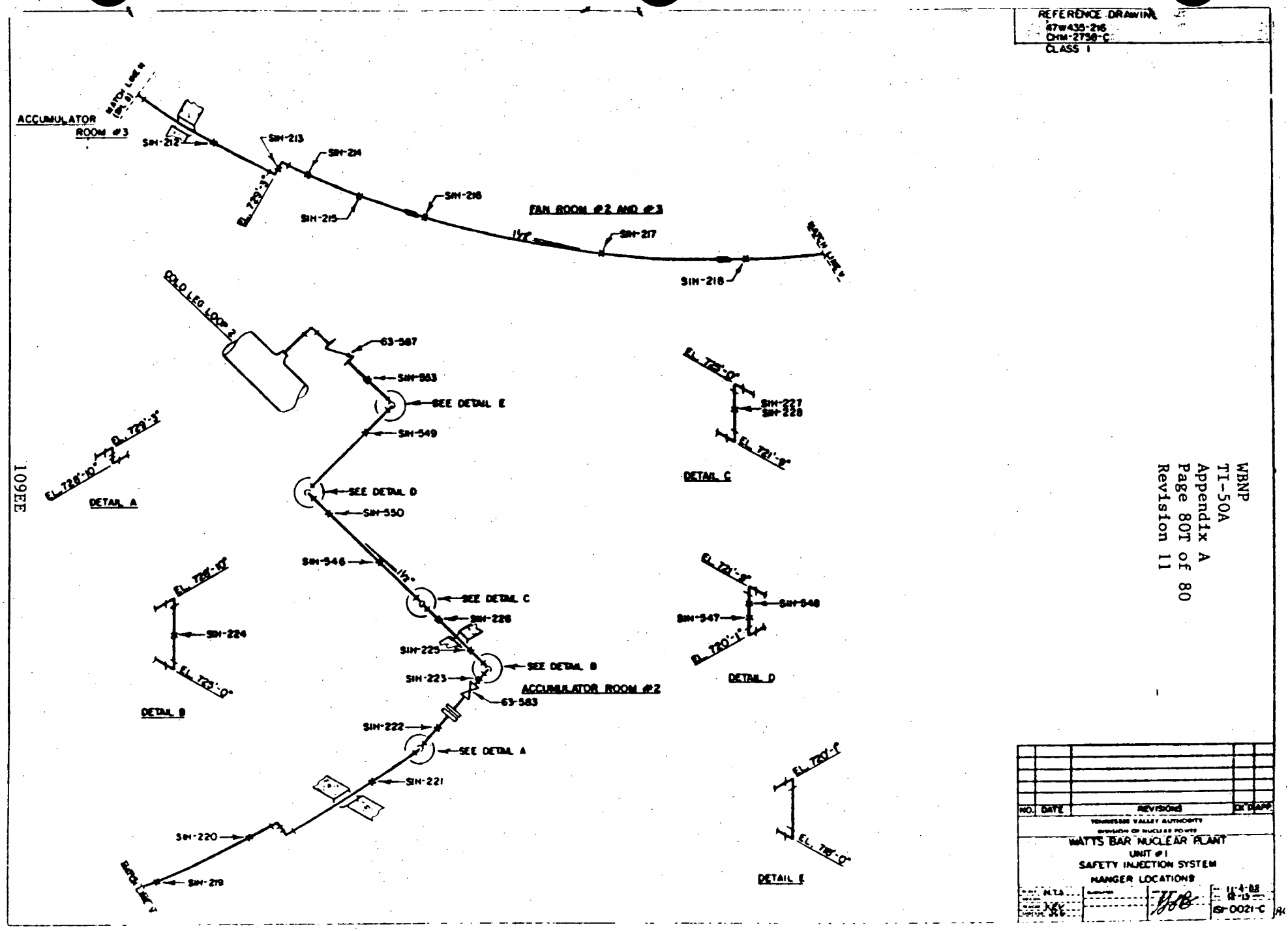
TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS
ISI-0021-C


REFERENCE DRAWING
47W435-217
CHM-2758-C
CLASS I
SIH-180
SIH-181
SIH-182
FAN ROOM #1 AND #4
SIH-179
SIH-178
SEE DETAIL A
SIH-177
ACCUMULATOR ROOM #4
SIH-176
SIH-175
DETAIL A
SIH-183
SIH-184
SEE DETAIL B
ACCUMULATOR ROOM #1
SIH-526
SEE DETAIL C
SIH-521
SIH-522
SEE DETAIL D
SIH-524
SIH-525
63-586
COLD LEG LOOP 1
SIH-189
SIH-520
DETAIL C
SIH-523
DETAIL D
SIH-185
SIH-186
63-582
SIH-187
DETAIL B
NO. DATE REVISIONS
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS
ISI-0021-C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47W435-216
CHM-2758-C
CLASS I
ACCUMULATOR ROOM #3
MATCH LINE
SIH-212
SIH-213
SIH-214
SIH-215
SIH-216
FAN ROOM #2 AND #3
SIH-217
SIH-218
COLD LEG LOOP 2
63-587
SIH-553
SEE DETAIL E
SIH-549
SEE DETAIL D
SIH-550
SIH-546
SEE DETAIL C
SIH-226
SIH-225
SEE DETAIL B
SIH-223
ACCUMULATOR ROOM #2
63-583
SIH-222
SEE DETAIL A
SIH-221
SIH-220
SIH-219
DETAIL A
DETAIL B
DETAIL C
DETAIL D
DETAIL E
SIH-227
SIH-228
SIH-548
SIH-547
SIH-224
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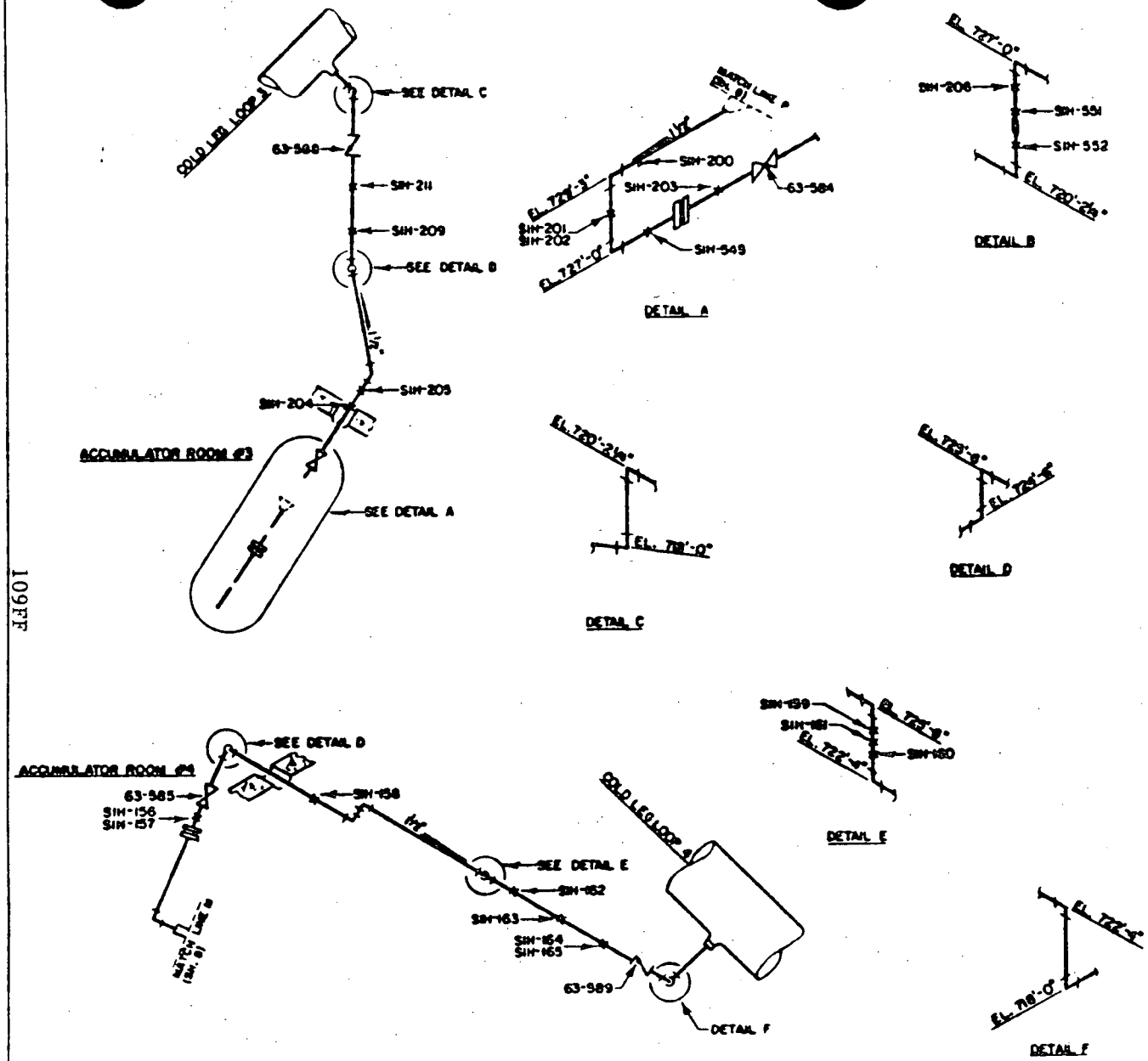
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
SAFETY INJECTION SYSTEM
HANGER LOCATIONS
ISI-0021-C

REFERENCE DRAWING
47W435-213
47W435-217
CHM-2758-C
CLASS I



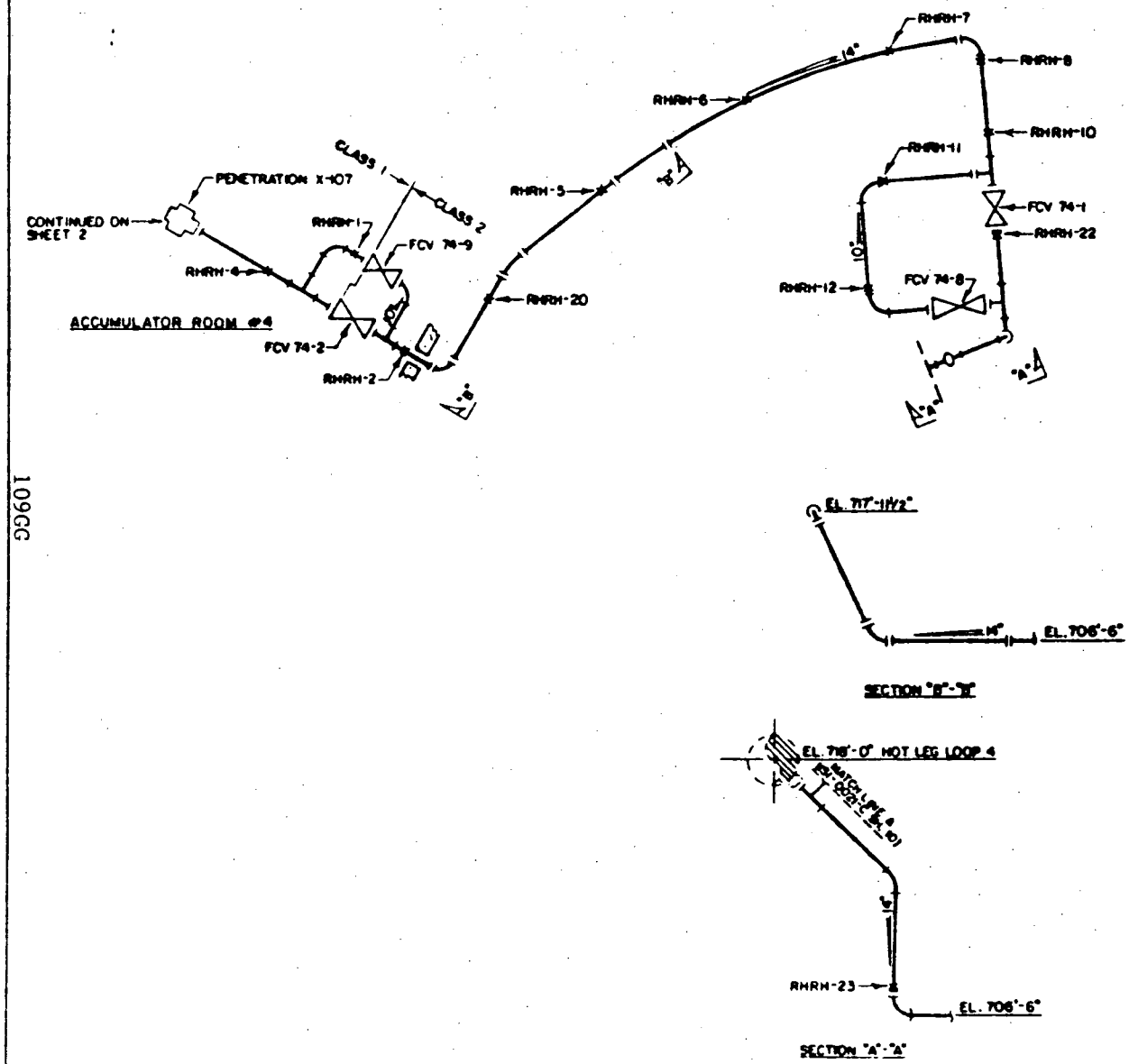
NO.	DATE	REVISIONS	DR'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

SI-0021-C

REFERENCE DRAWINGS
060020-03-01
CHM-2636-C
CLASS 1 & 2



NO.	DATE	REVISIONS	CK'D	APP

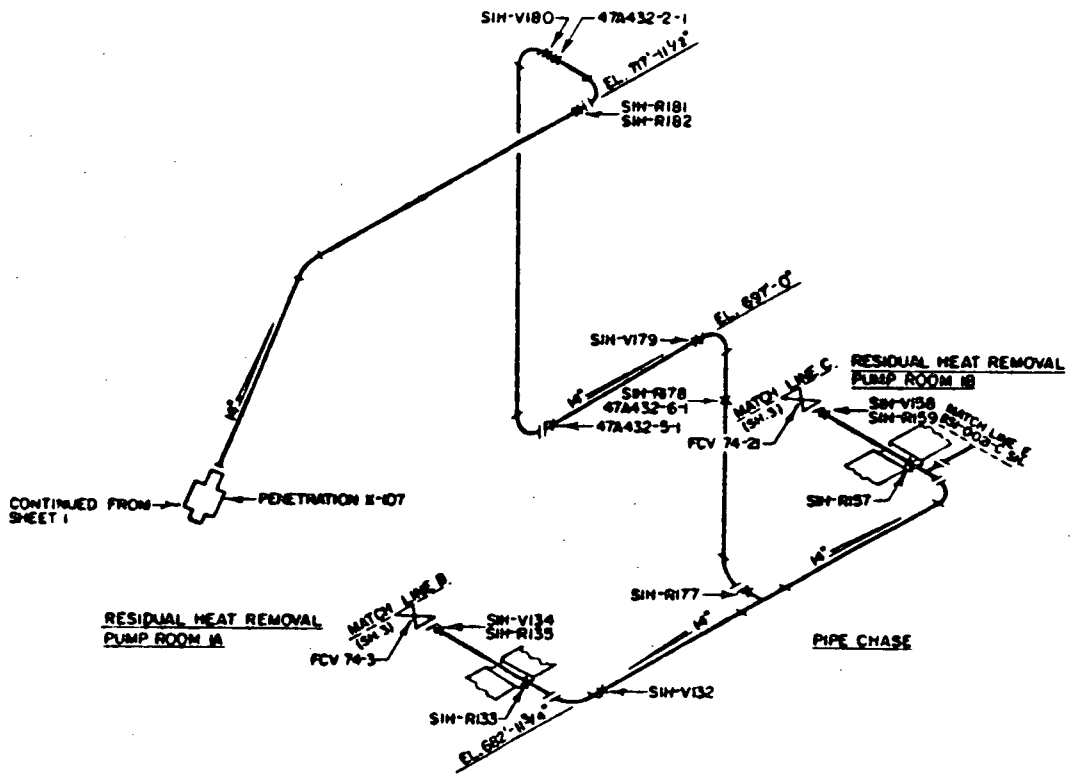
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

ISI-0020-C

109GG

REFERENCE DRAWINGS
47W435-206
CHM-2636-C
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

N.S.

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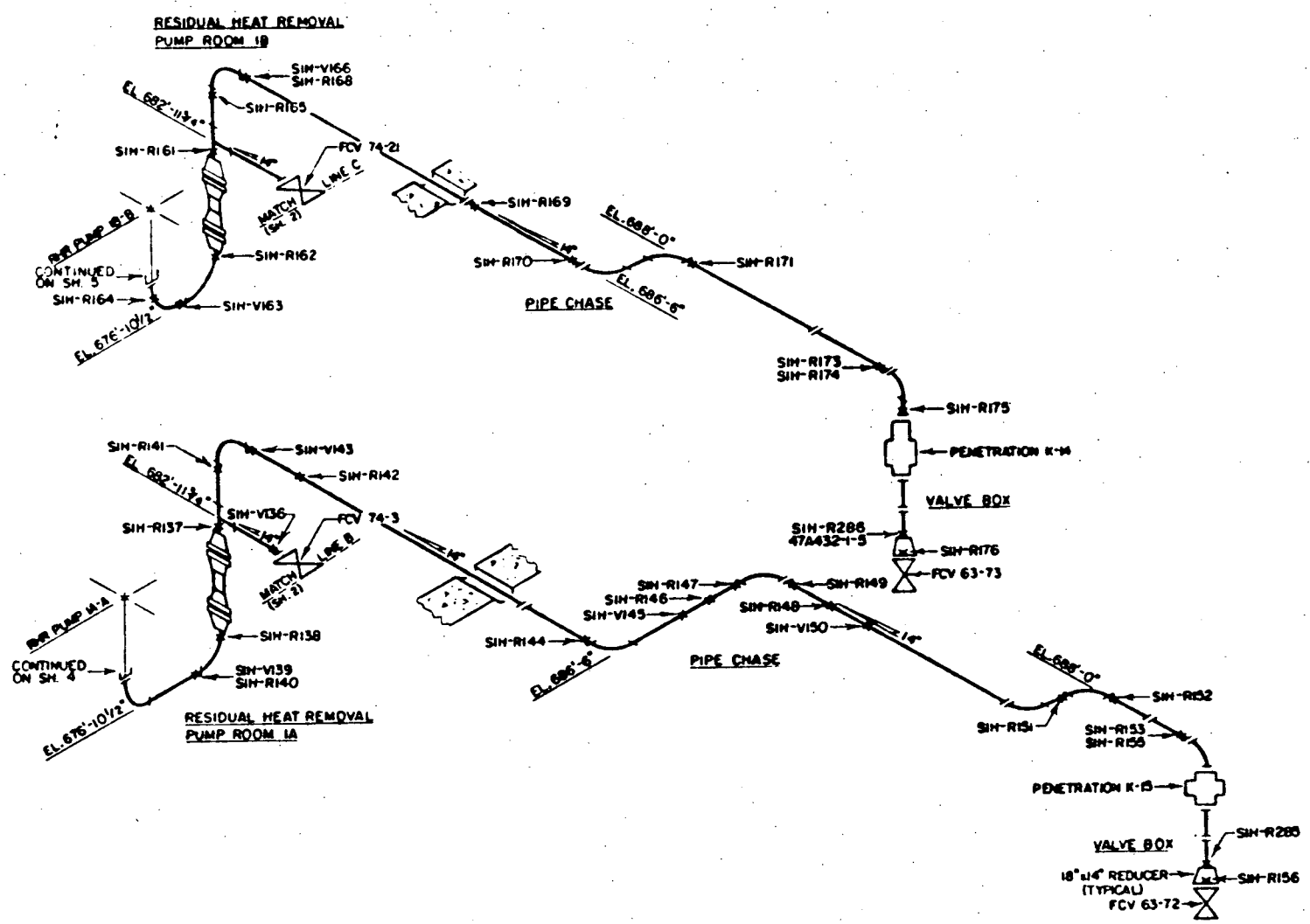
Revision 11

109HH

REFERENCE DRAWINGS
47W435-206
CHM-2636-C
CLASS 2

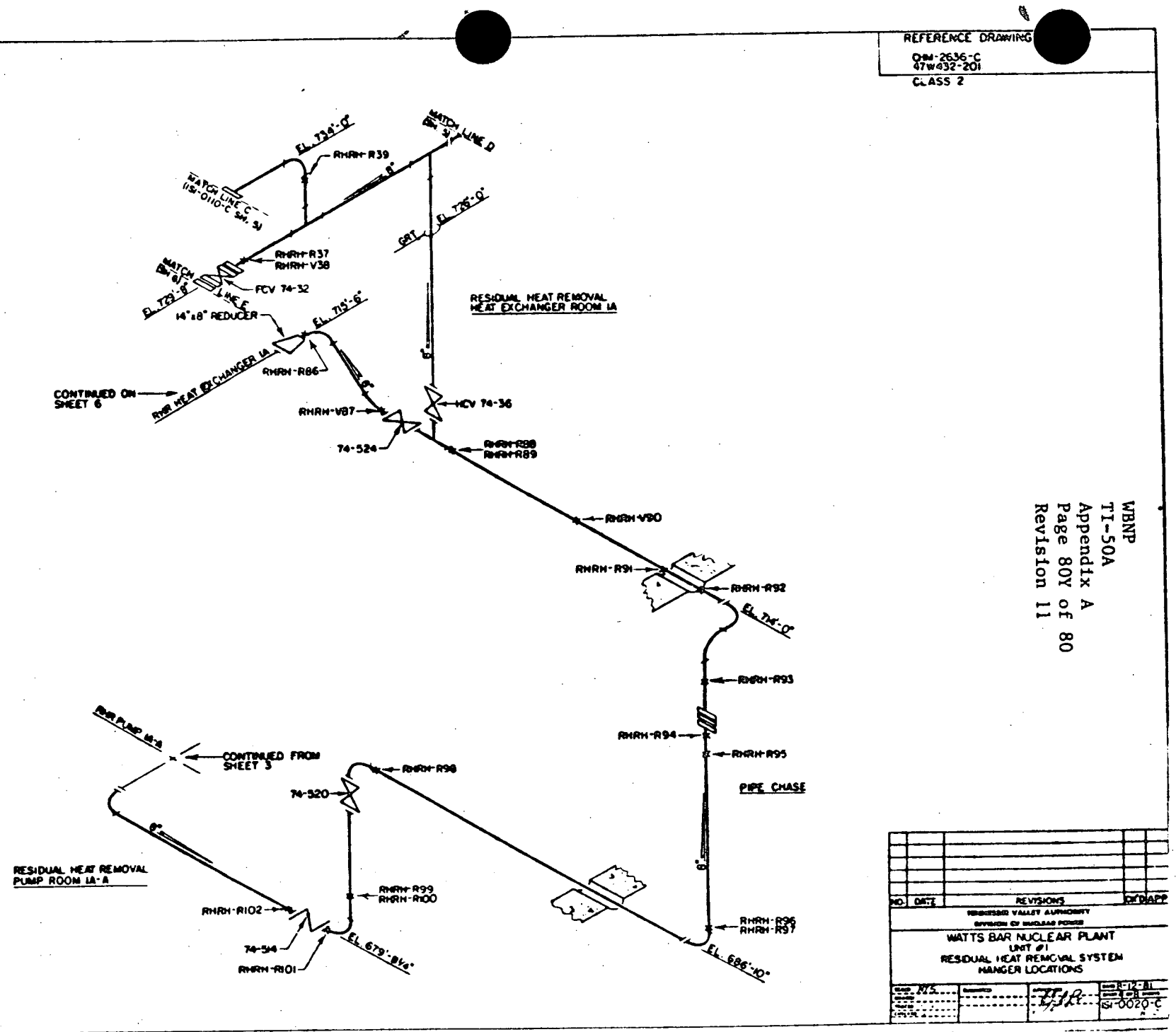


NO.	DATE	REVISIONS	CK	DAPP

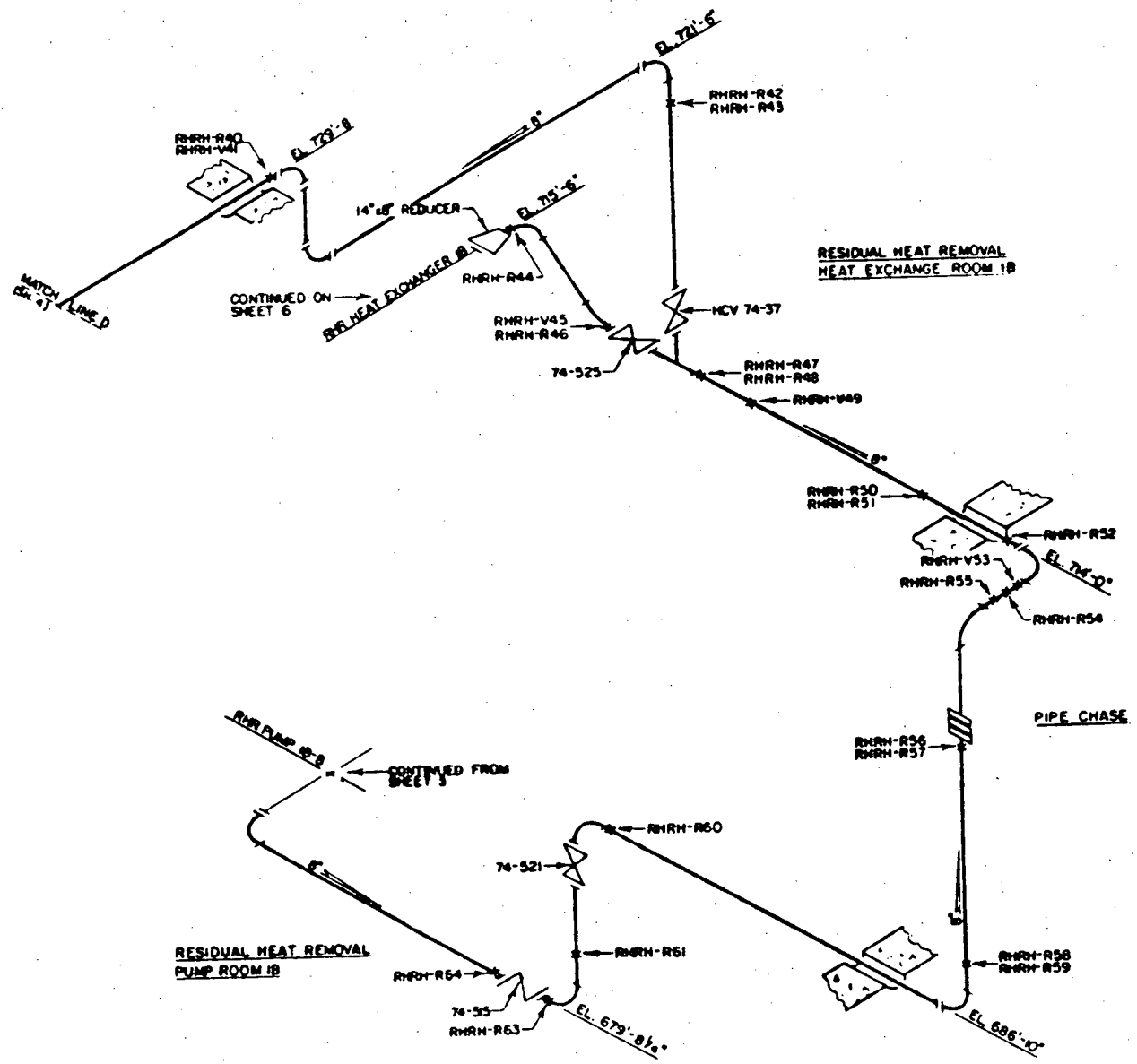
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

15-0020 C


REFERENCE DRAWING
OHM-2636-C
47W432-201
CLASS 2
EL. 734'-0"
RHRH-R39
MATCH LINE C
(ISI-0110-C SH. 5)
MATCH LINE D
GRT
EL. 725'-0"
RHRH-R37
RHRH-V38
FCV 74-32
MATCH LINE E
EL. 729'-8"
14"x8" REDUCER
EL. 715'-6"
RHRH-R86
RHR HEAT EXCHANGER 1A
CONTINUED ON SHEET 6
RHRH-V87
74-524
HCV 74-36
RHRH-R88
RHRH-R89
RESIDUAL HEAT REMOVAL HEAT EXCHANGER ROOM 1A
RHRH-V90
RHRH-R91
RHRH-R92
EL. 714'-0"
RHRH-R93
RHRH-R94
RHRH-R95
PIPE CHASE
RHRH-R96
RHRH-R97
EL. 686'-10"
RHR PUMP 1A-A
CONTINUED FROM SHEET 3
RHRH-R98
74-520
RHRH-R99
RHRH-R100
RHRH-R102
74-514
RHRH-R101
EL. 679'-8 1/4"
RESIDUAL HEAT REMOVAL PUMP ROOM 1A-A
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
R-12-81
ISI-0020-C

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



NO.	DATE	REVISIONS	CK'D	APP

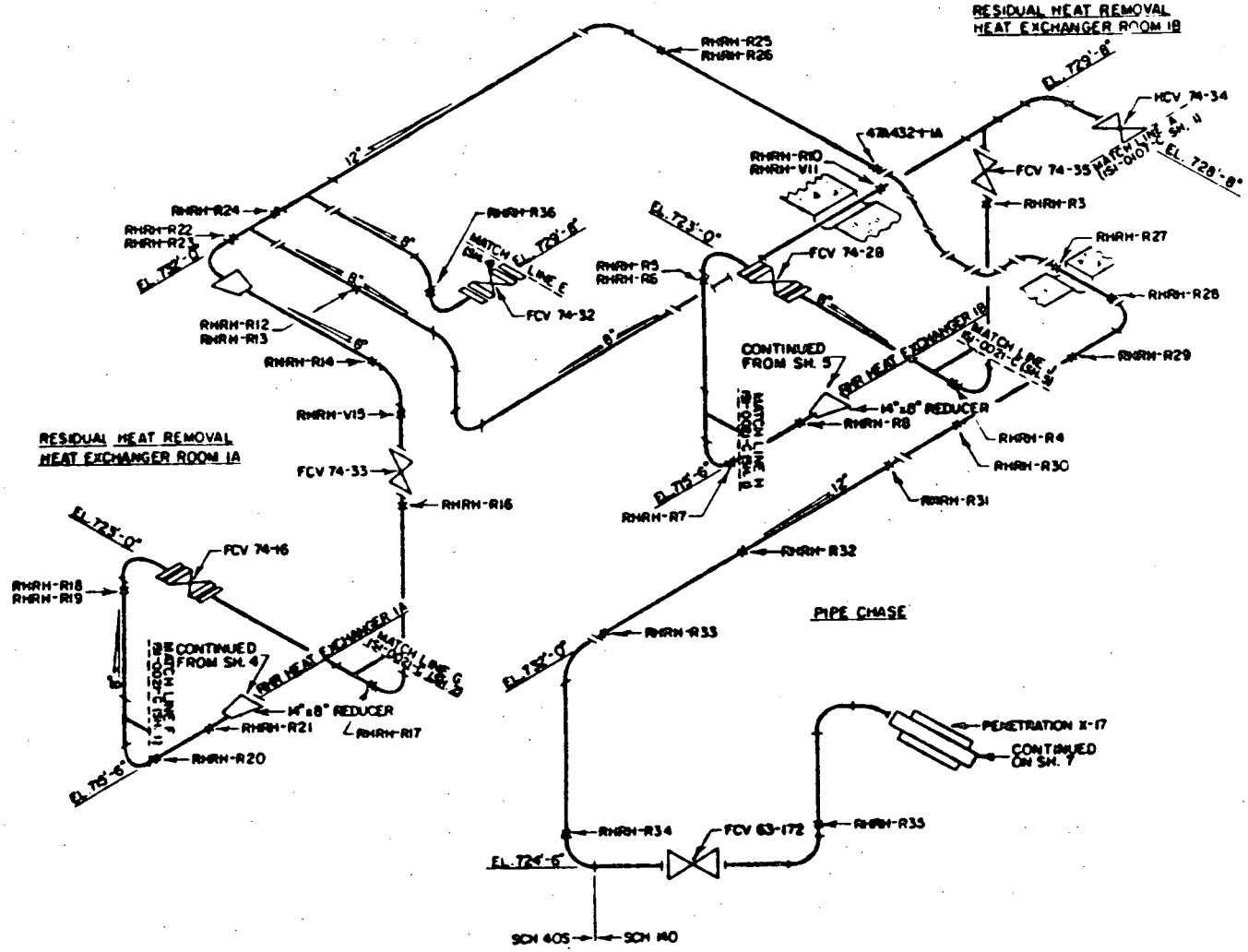
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

ISI-0020-C

109KK

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

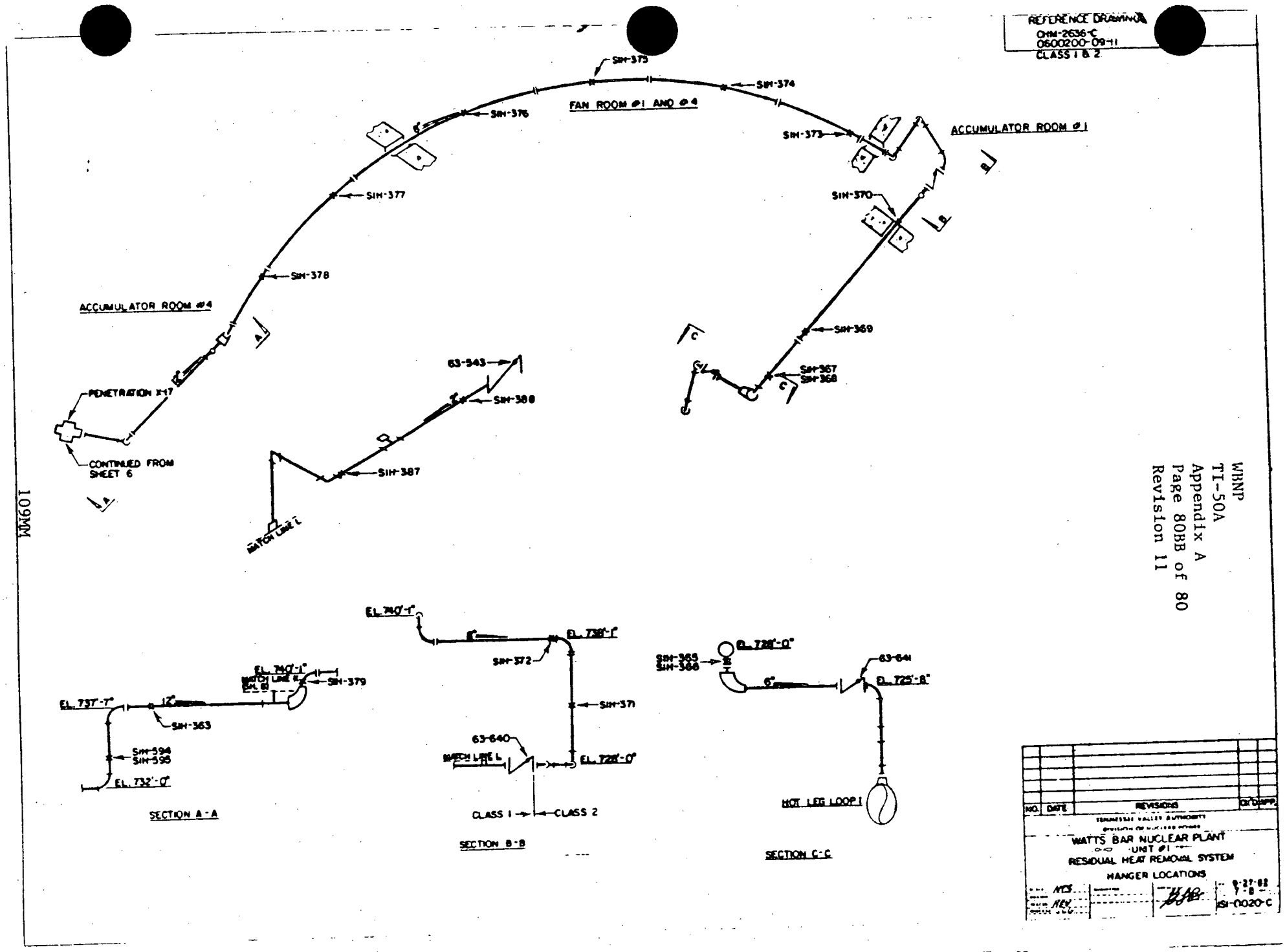


NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

SCALE NTS
DATE 8-17-81
ISI-0020-C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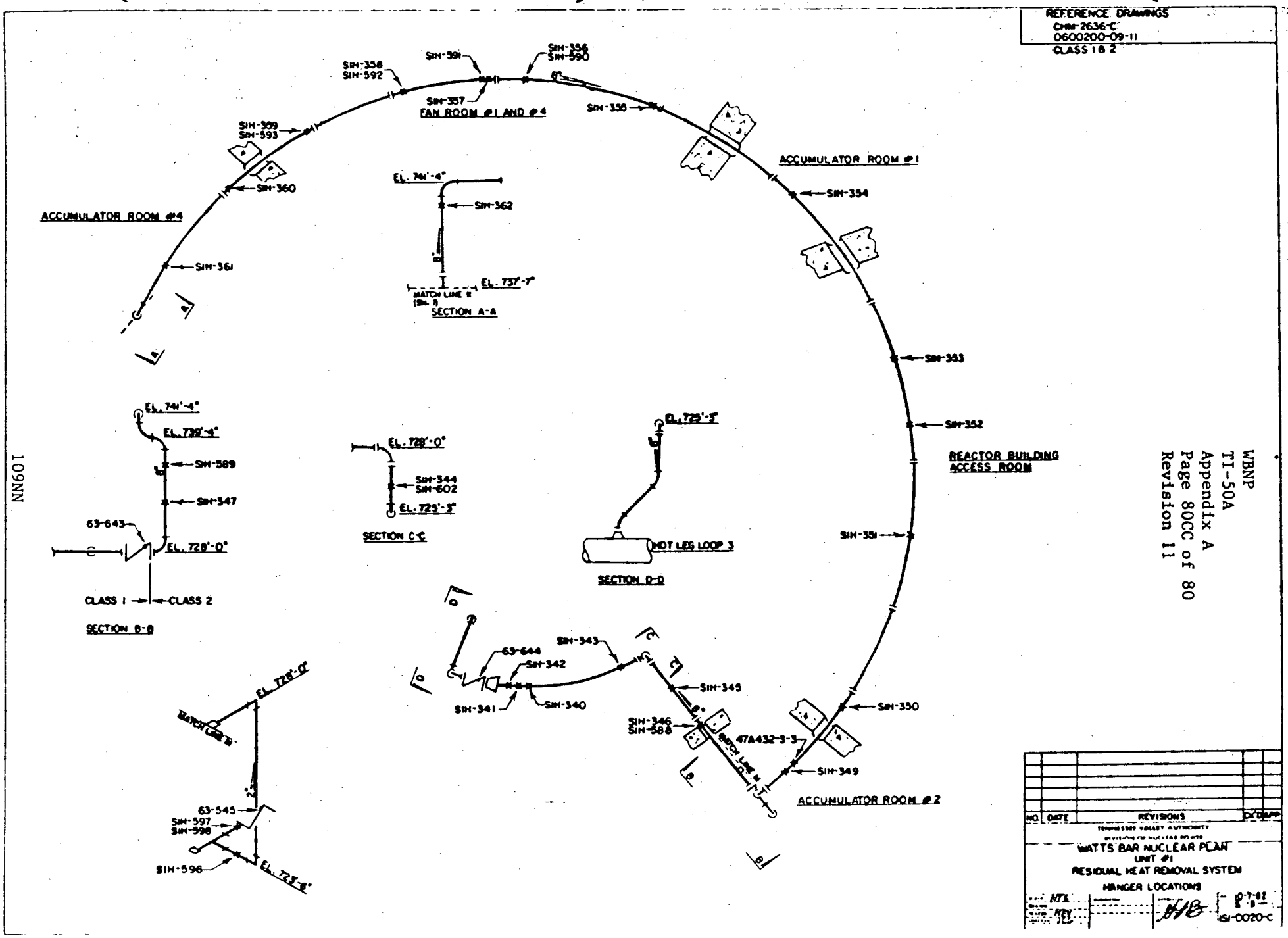
0600200-09-11
CLASS 1 & 2
SIH-375
SIH-374
FAN ROOM #1 AND #4
SIH-376
SIH-373
ACCUMULATOR ROOM #1
SIH-377
SIH-370
SIH-378
ACCUMULATOR ROOM #4
SIH-369
SIH-367
SIH-368
63-543
SIH-388
PENETRATION X-17
CONTINUED FROM SHEET 6
SIH-387
MATCH LINE L
EL. 740'-1"
EL. 738'-1"
SIH-372
EL. 740'-1"
MATCH LINE K
SIH-379
EL. 737'-7"
12"
SIH-363
SIH-371
63-640
MATCH LINE L
EL. 728'-0"
SIH-594
SIH-595
EL. 732'-0"
SECTION A-A
CLASS 1
CLASS 2
SECTION B-B
EL. 728'-0"
SIH-365
SIH-366
63-641
6"
EL. 725'-8"
HOT LEG LOOP 1
SECTION C-C
NO.
DATE
REVISIONS
TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS
NTS
NEV
9-27-82
7-8
ISI-0020-C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CHM-2636-C
0600200-09-11
CLASS 1 & 2
SIN-358
SIN-592
SIN-591
SIN-356
SIN-590
SIN-357
FAN ROOM #1 AND #4
SIN-355
ACCUMULATOR ROOM #1
SIN-354
SIN-353
SIN-352
REACTOR BUILDING
ACCESS ROOM
SIN-351
SIN-350
SIN-349
ACCUMULATOR ROOM #2
SIN-359
SIN-593
SIN-360
ACCUMULATOR ROOM #4
SIN-361
EL. 741'-4"
SIN-362
EL. 737'-7"
SECTION A-A
EL. 741'-4"
EL. 739'-4"
SIN-589
SIN-347
63-643
EL. 728'-0"
CLASS 1
CLASS 2
SECTION B-B
EL. 728'-0"
SIN-344
SIN-602
EL. 725'-3"
SECTION C-C
EL. 725'-3"
HOT LEG LOOP 3
SECTION D-D
63-644
SIN-342
SIN-341
SIN-340
SIN-343
SIN-345
SIN-346
SIN-588
47A432-3-3
EL. 728'-0"
63-545
SIN-597
SIN-598
SIN-596
EL. 725'-8"
NO. DATE REVISIONS CK'D APP
TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT
UNIT #1
RESIDUAL HEAT REMOVAL SYSTEM
HANGER LOCATIONS
NTS
10-7-82
ISI-0020-C

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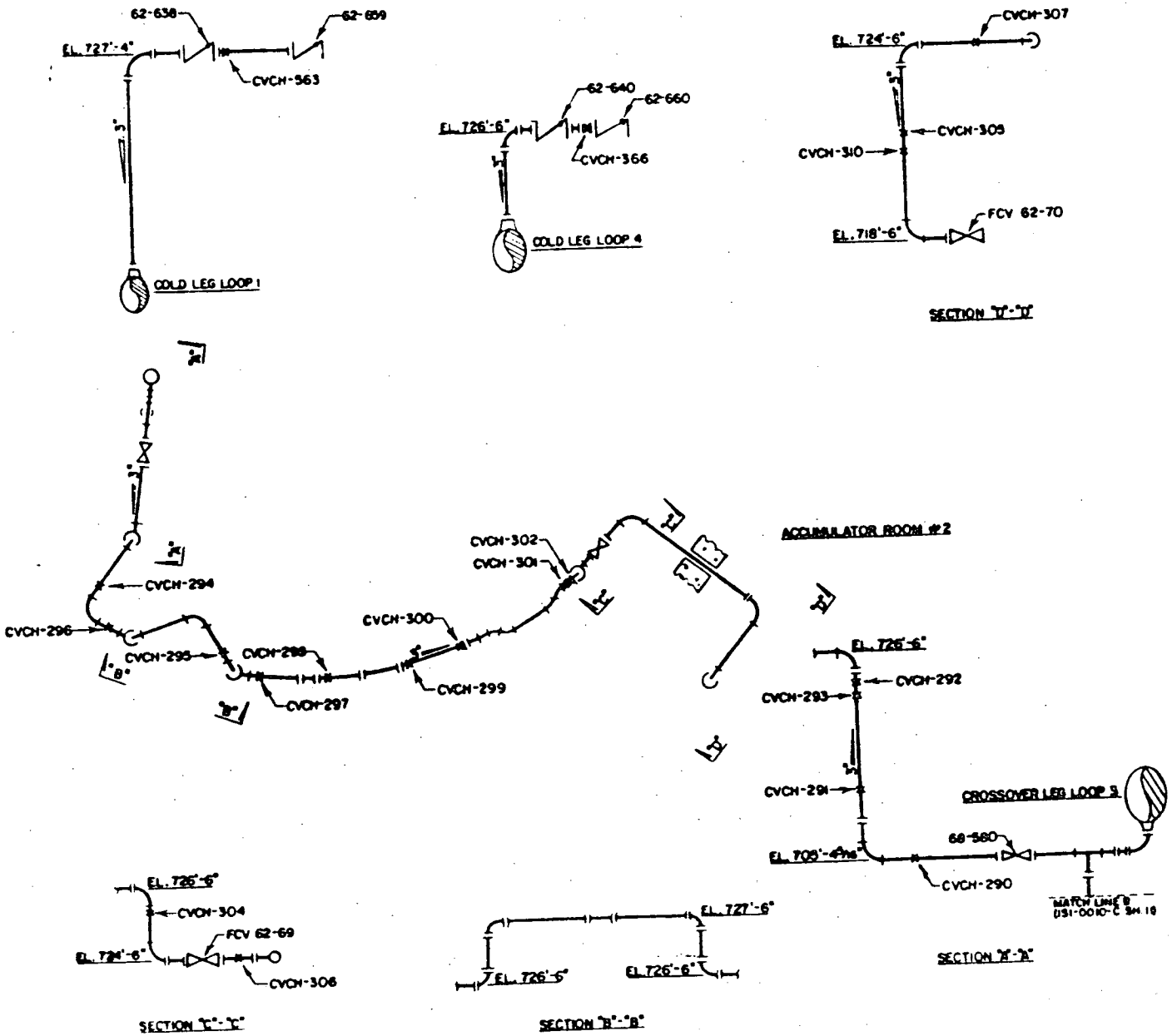
47W406-321
CLASS I



NO.	DATE	REVISIONS	CK'D	APR

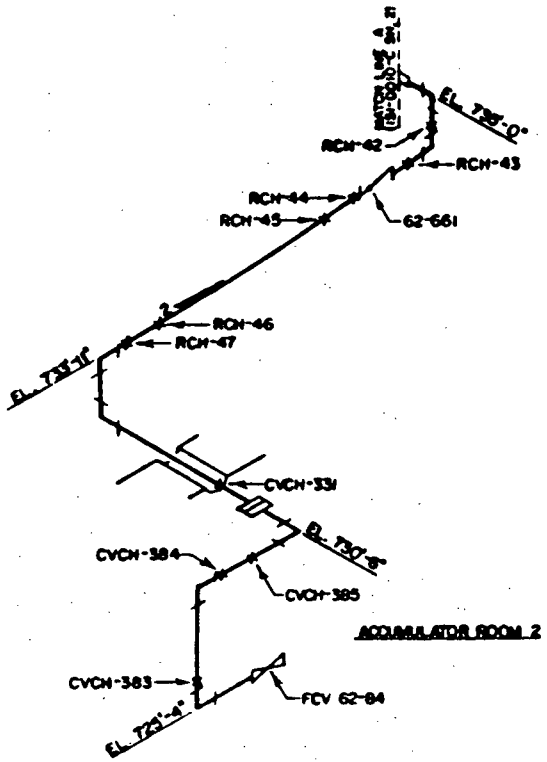
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

NTS
8-28-81
1S1-0026-C
R0

109 00

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



NO.	DATE	REVISIONS	CK'D	APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

ISI-0026-C

REFERENCE DRAWINGS
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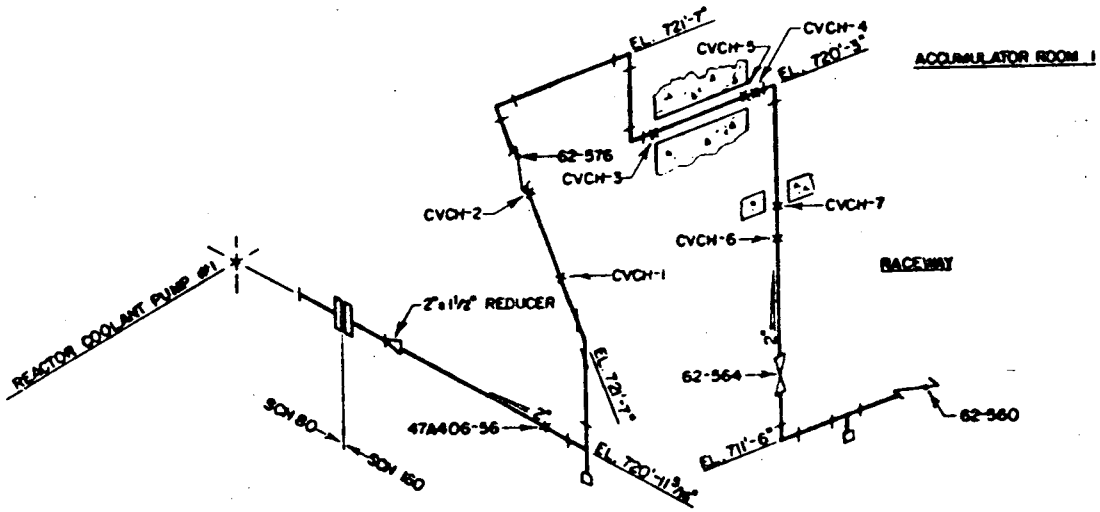
CLASS I



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

10900

REFERENCE DRAWINGS
0600200-08-02
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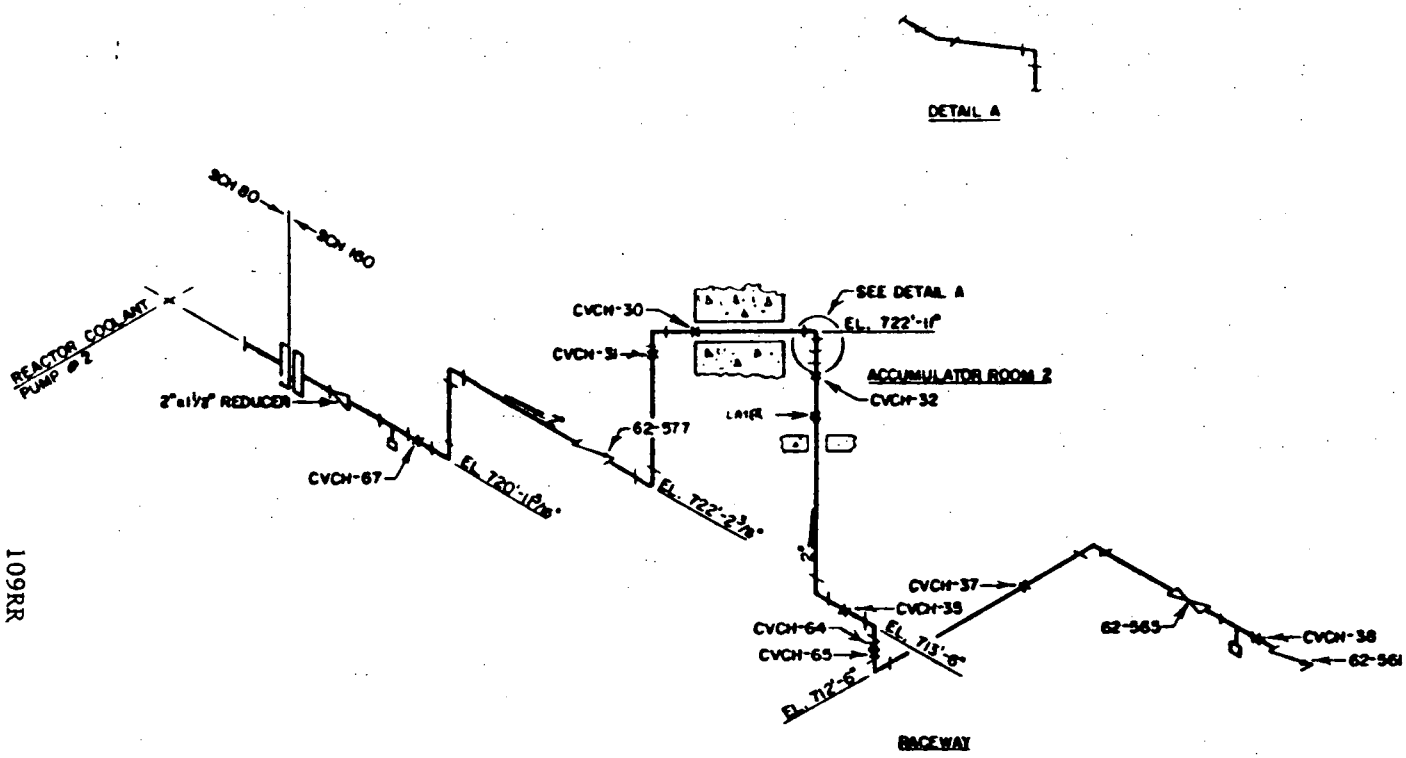


NO.	DATE	REVISIONS	CK'D	APR

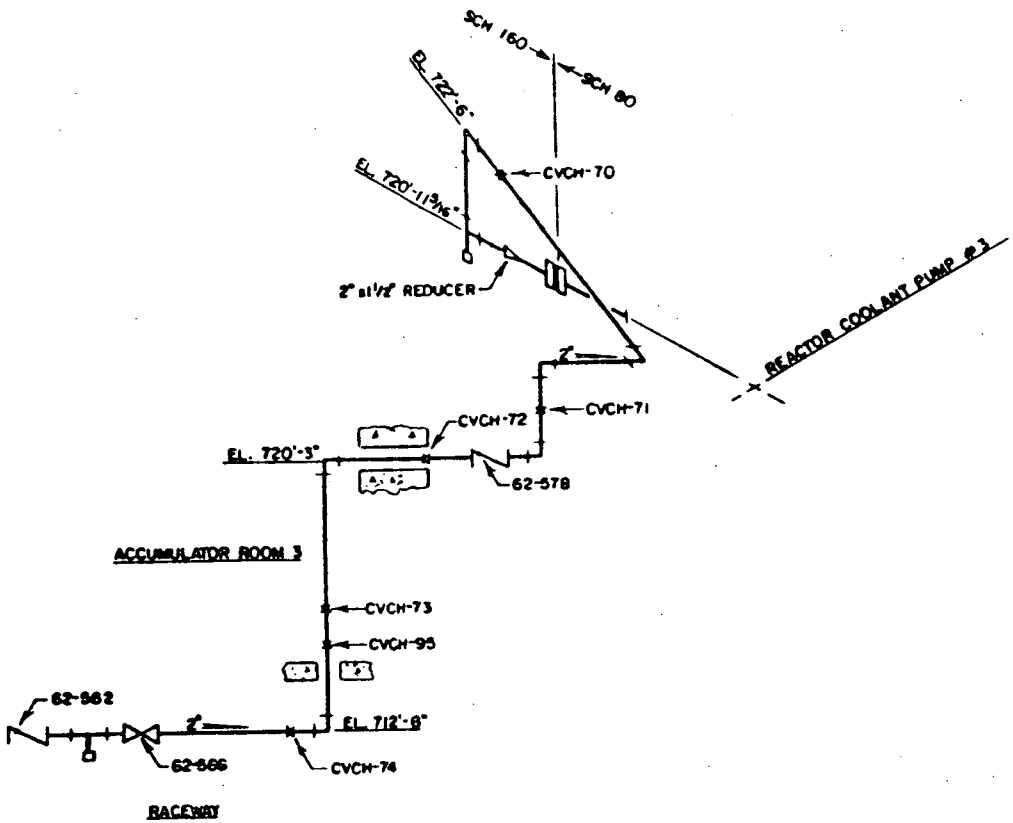
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

7-8-83

ISI-0063-C

REFERENCE DRAWINGS
47W406-315
CLASS I



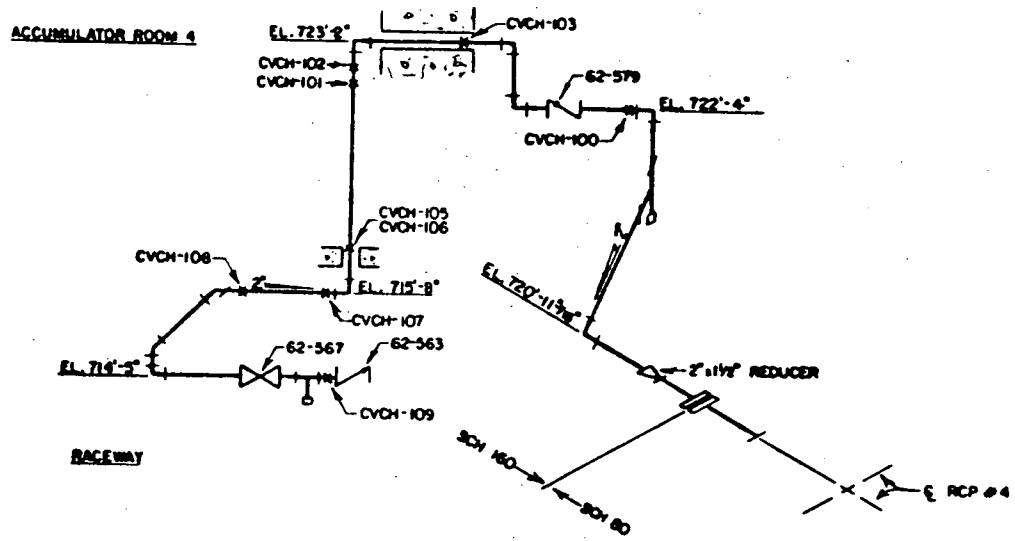
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

ISI-0063-C

REFERENCE DRAWING
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

NLS
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ISI-0063-C

REFERENCE DRAWINGS
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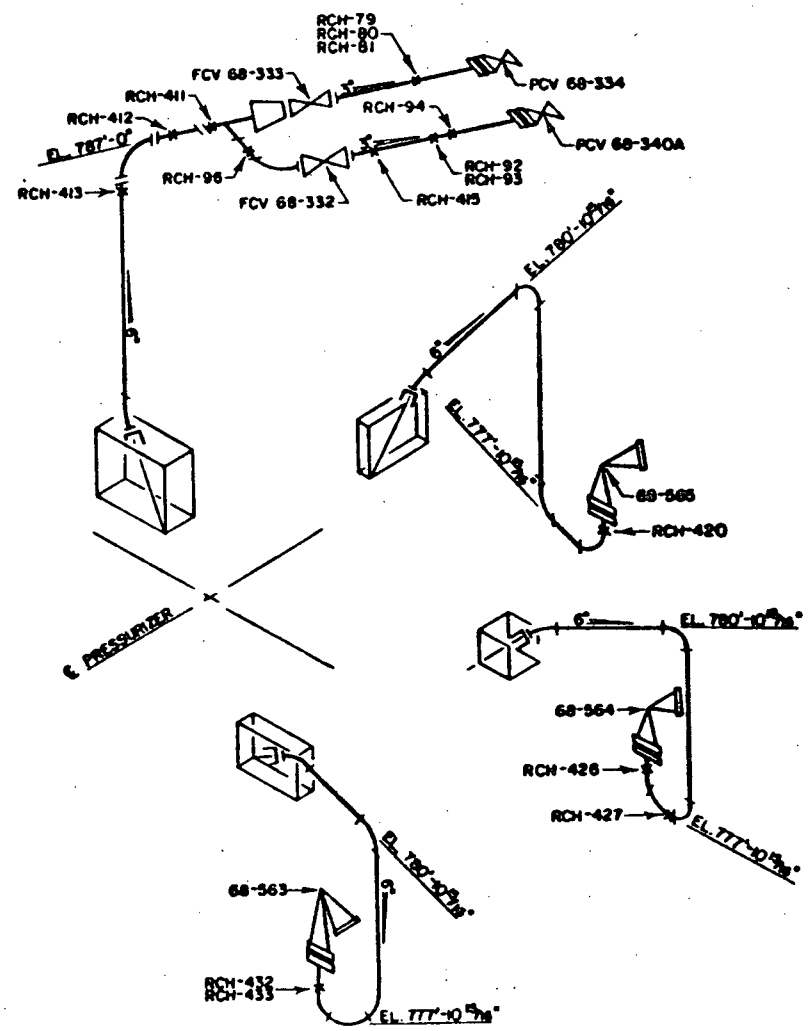


NO.	DATE	REVISIONS	CK'D	APP.

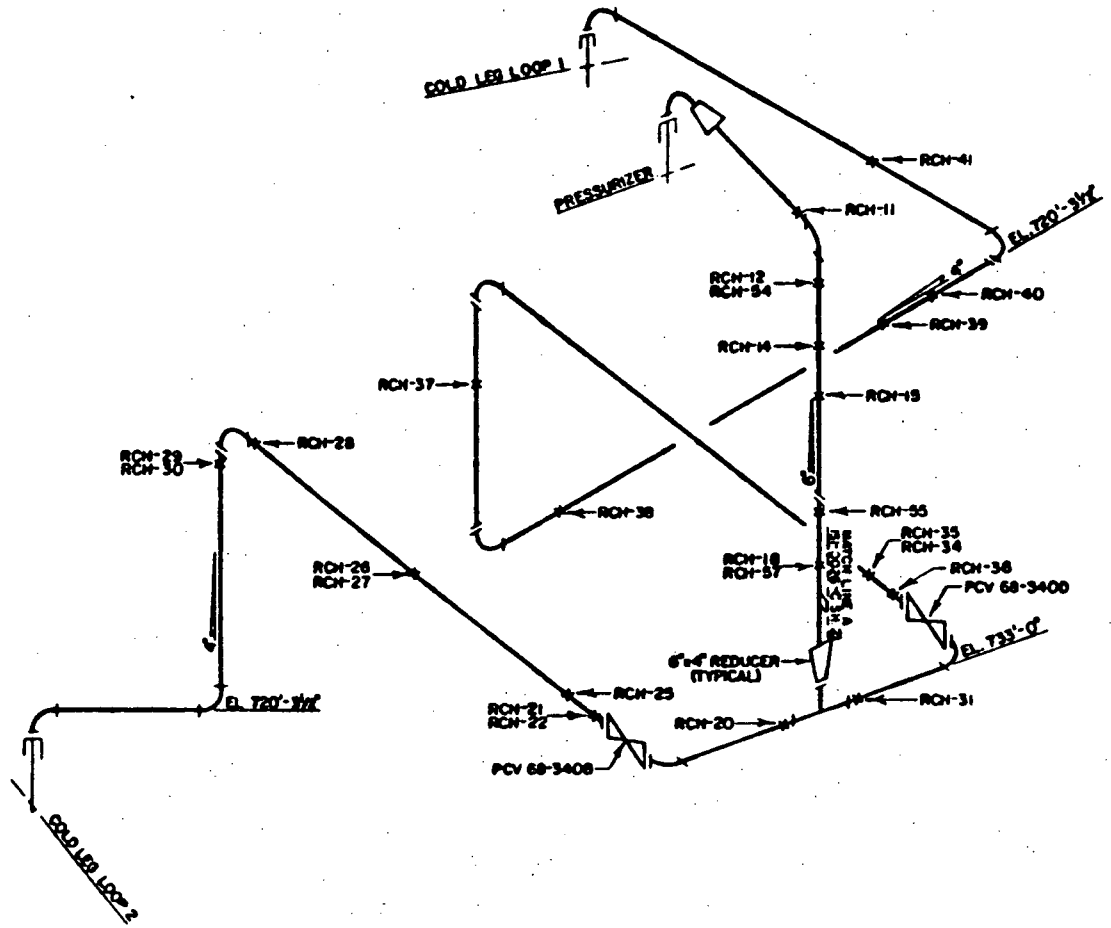
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

DATE 6-29-83
SHEET 1 OF 11
1S1-0010-C

109UU

REFERENCE DRAWINGS
47W465-206
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

8-20-81
ISI-0010-C
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REFERENCE DRAWINGS
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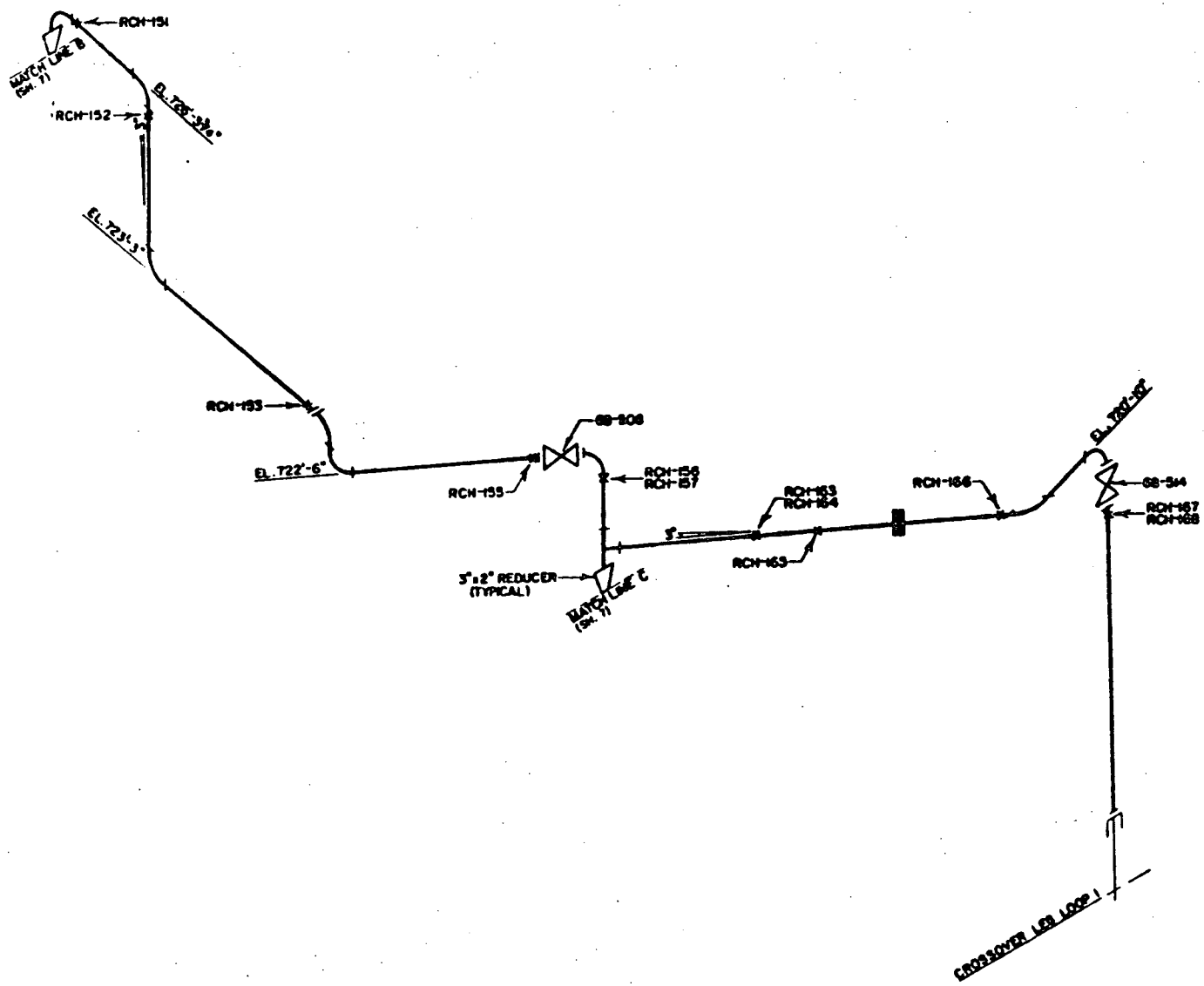
CLASS I



NO.	DATE	REVISIONS	CK'D	APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

8-20-81
ISI-0010-C
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REFERENCE DRAWINGS
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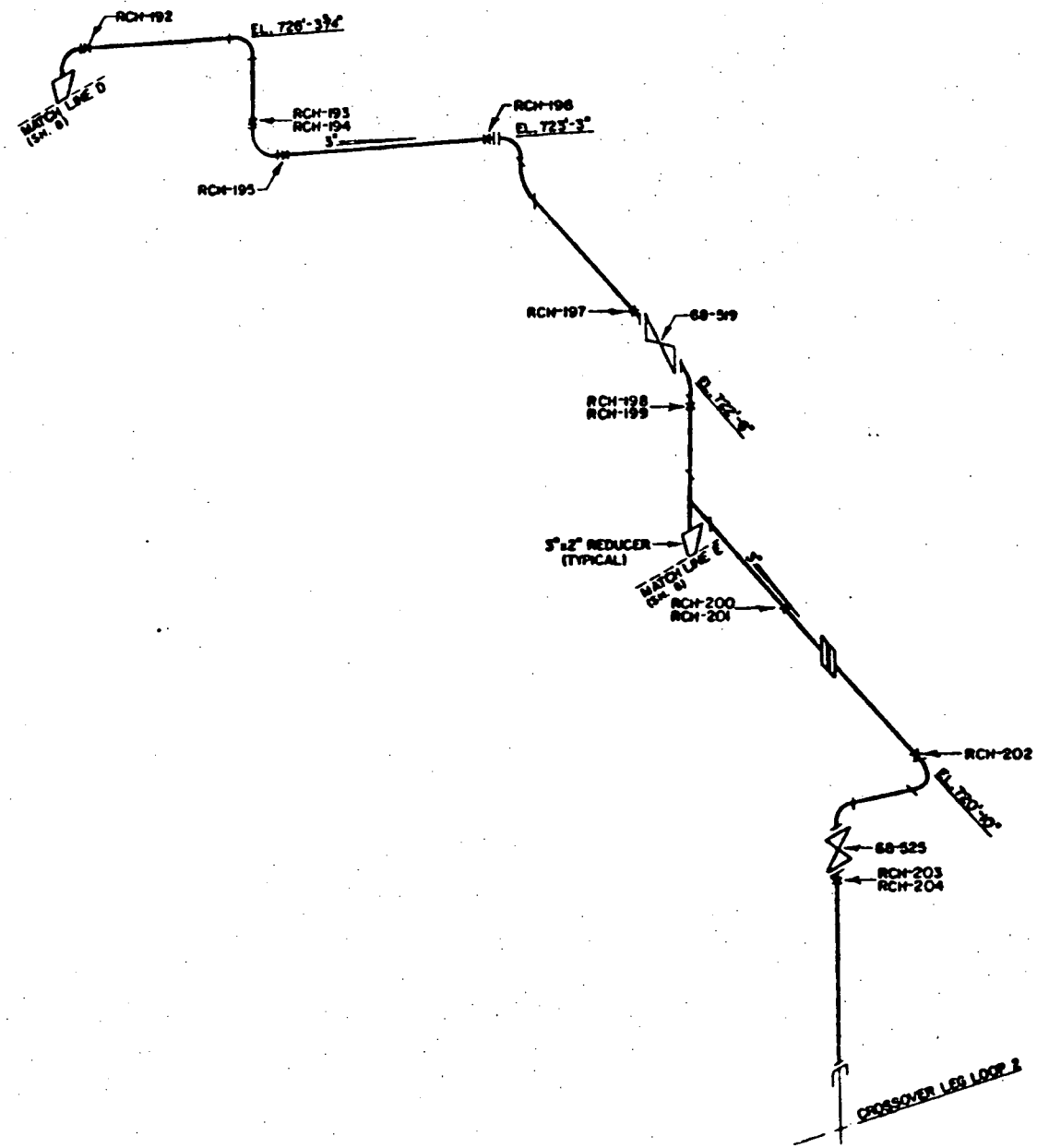
CLASS I



NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

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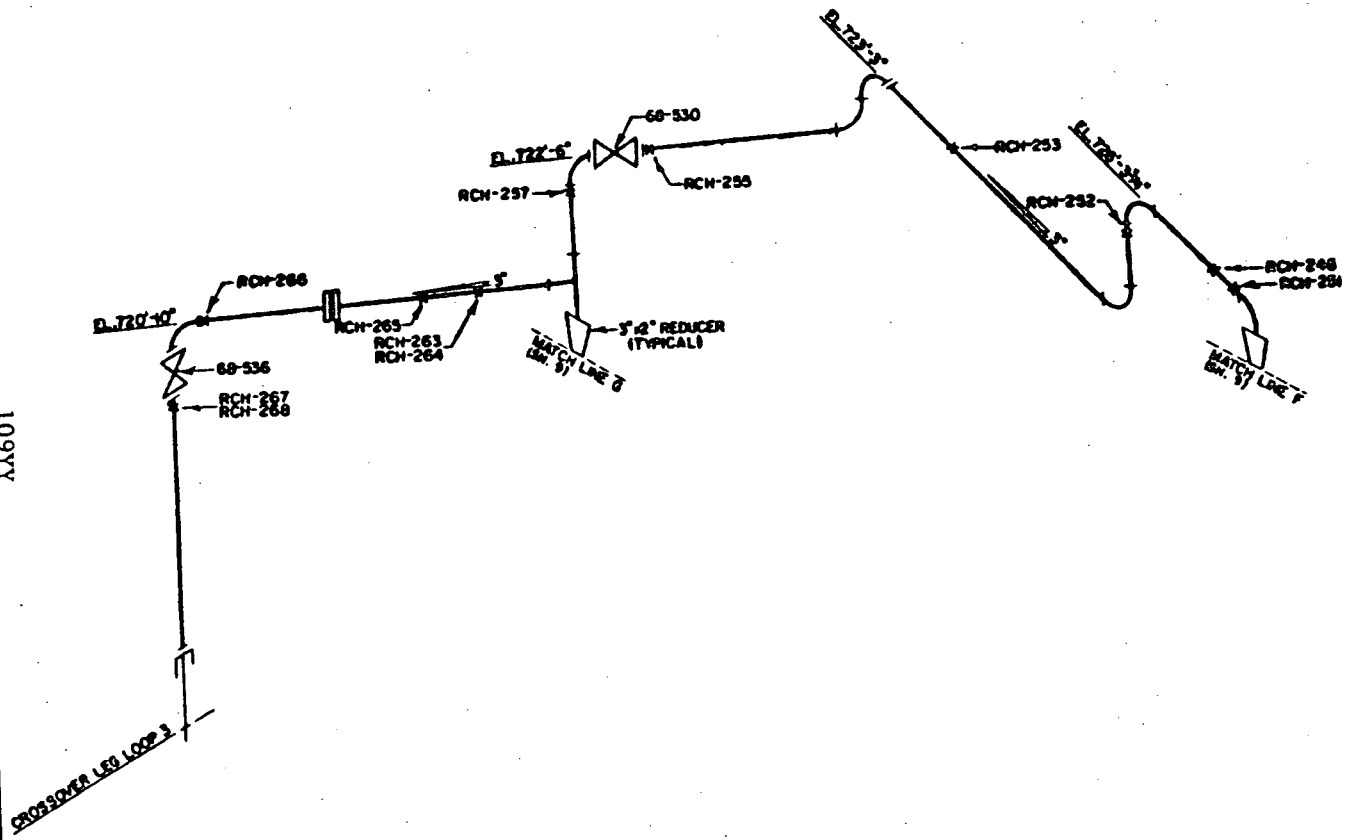
REFERENCE DRAWINGS
47W465-203
CLASS I



NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

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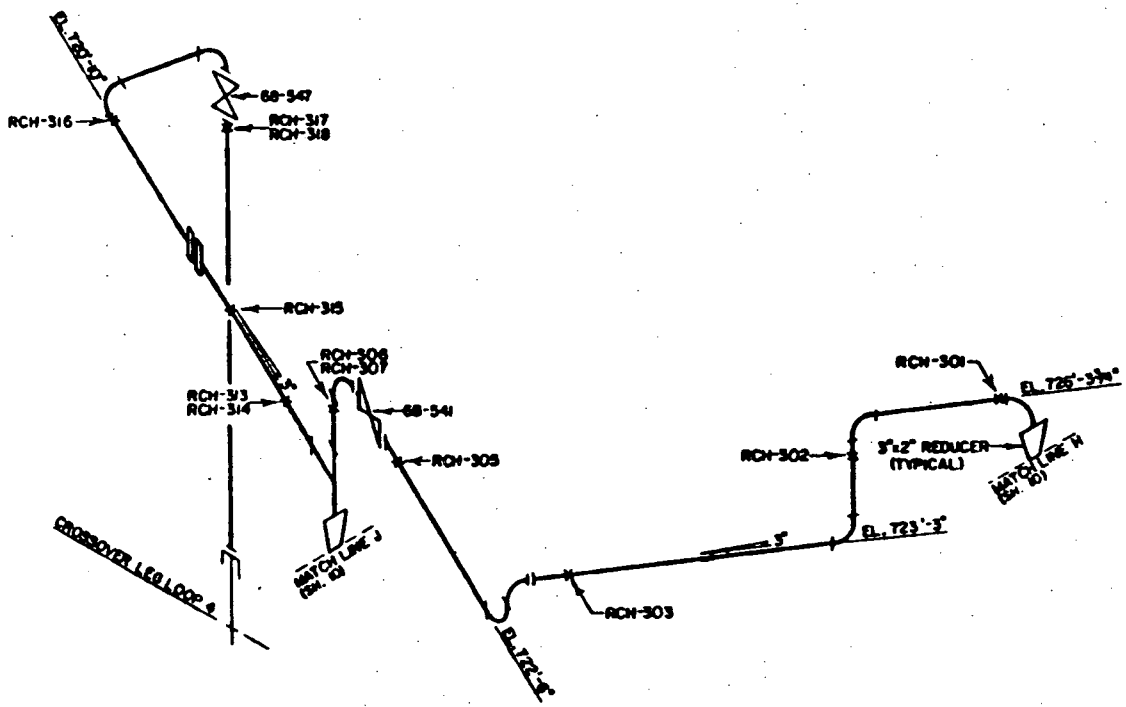
CLASS I



NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

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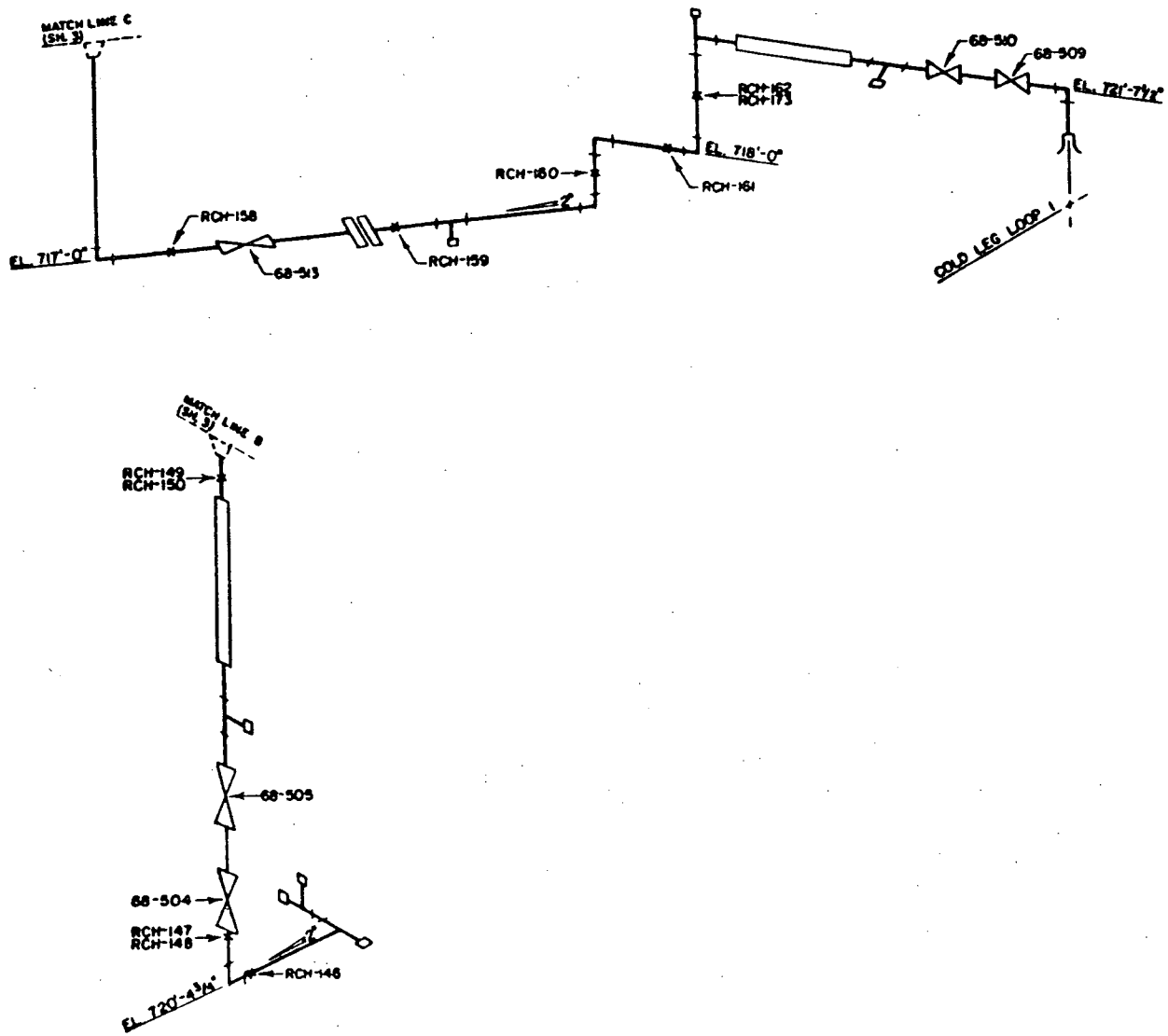

NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

DATE 6-30-83
ISI-0010-C

REFERENCE DRAWINGS
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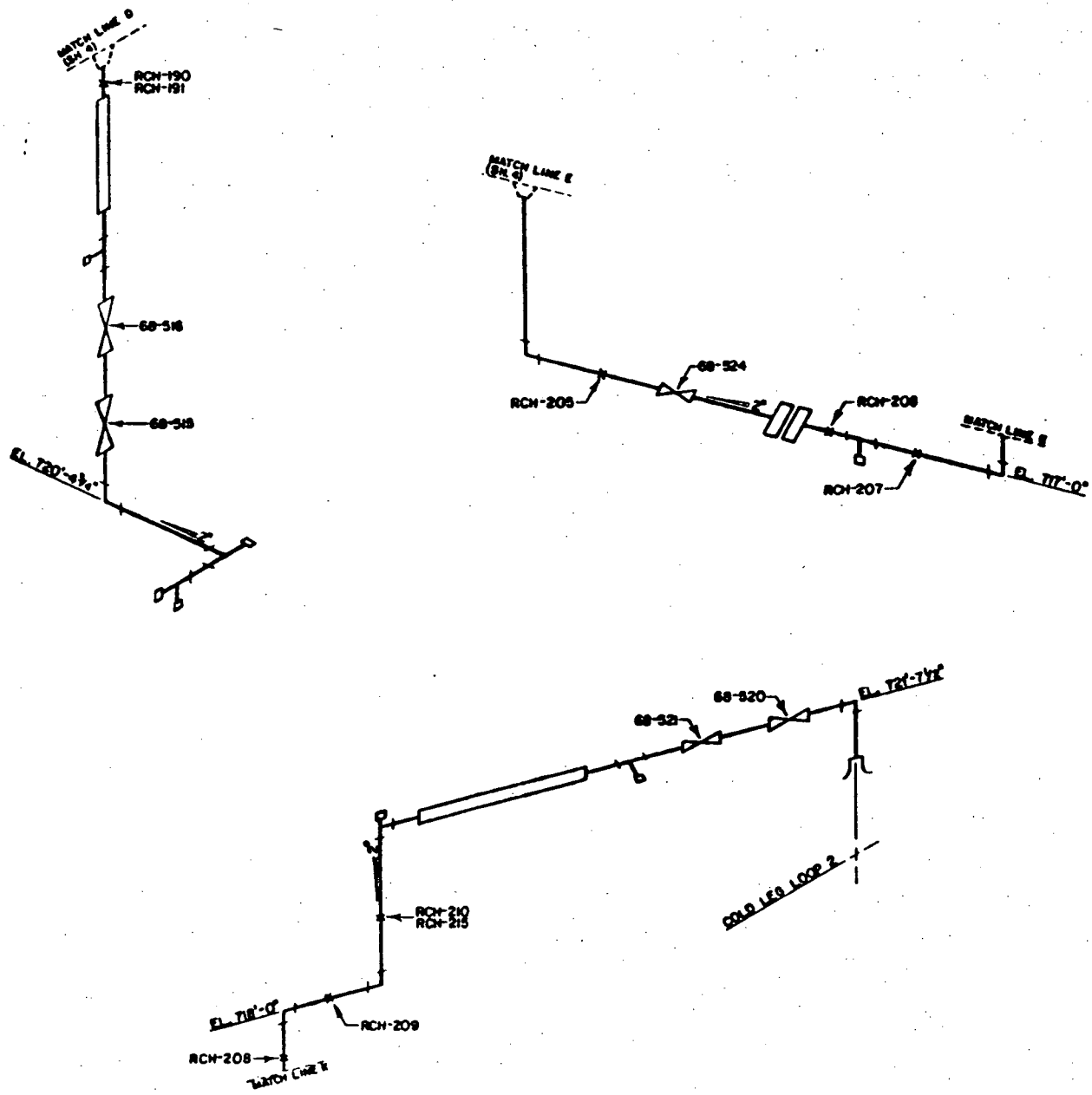
CLASS I



NO.	DATE	REVISIONS	CK'D	APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

ISI-0010-C

109BBB

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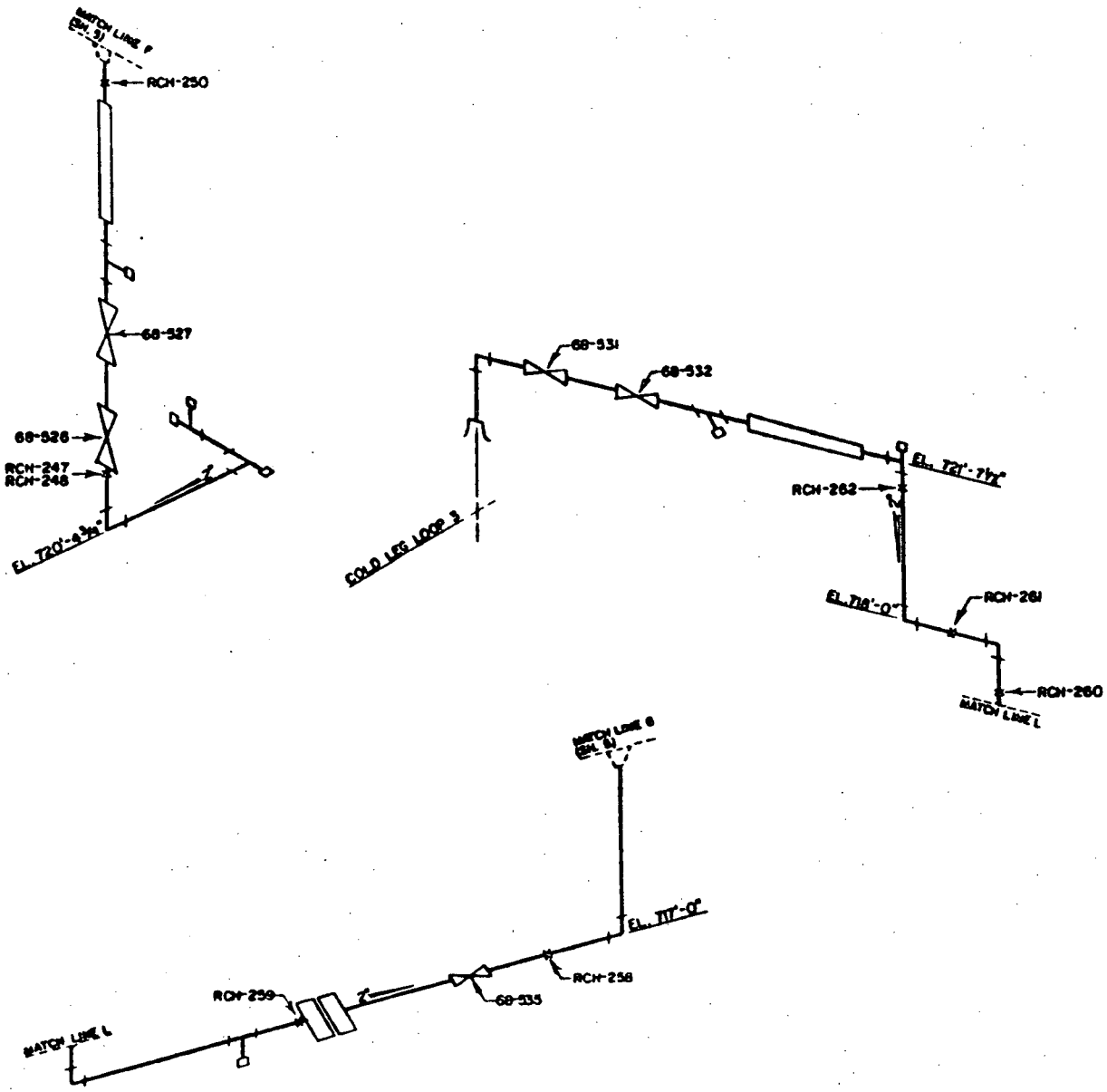
CLASS I



NO.	DATE	REVISIONS	CK'D	APP'D

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

ISI-0010-C

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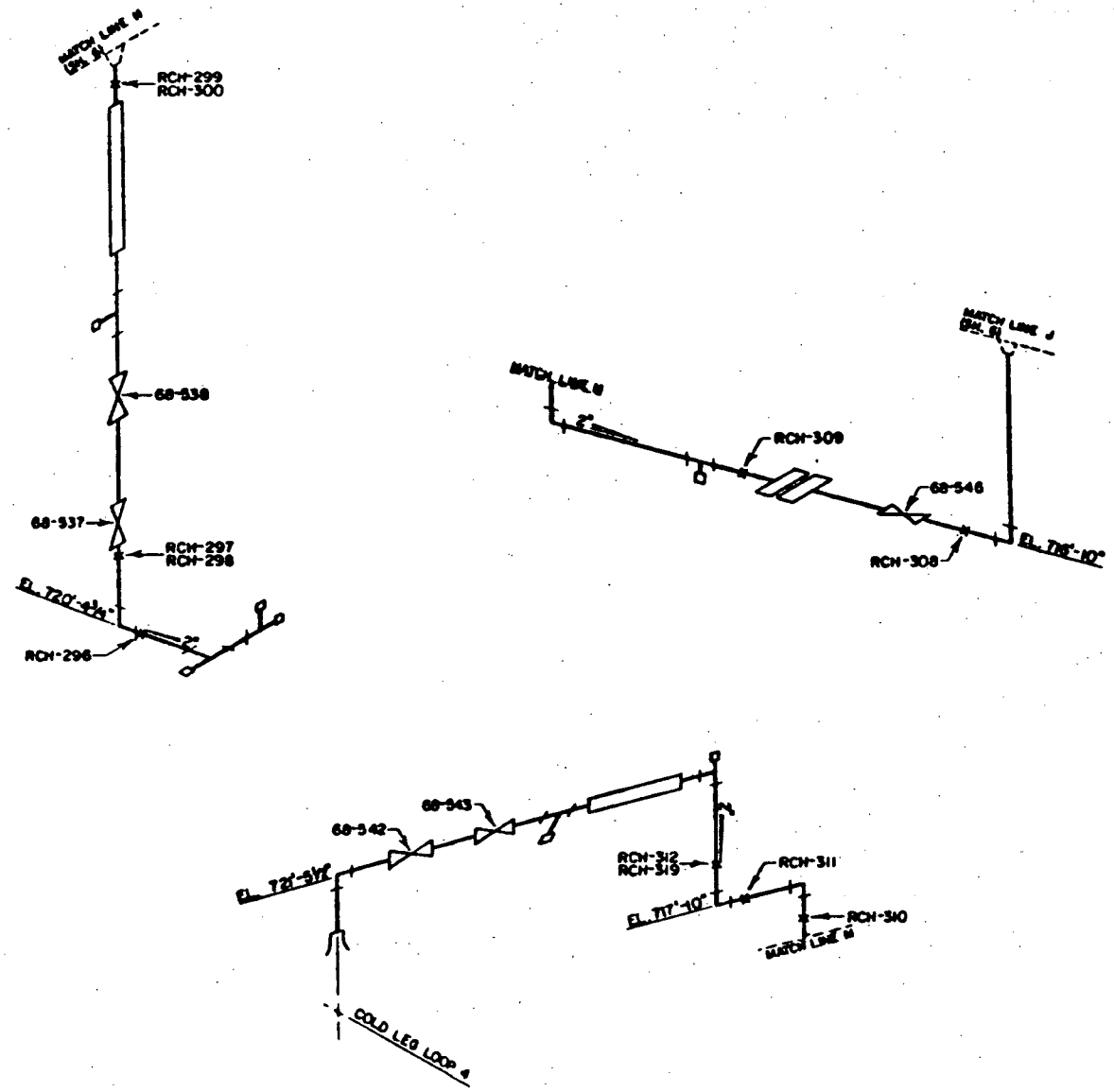
REFERENCE DRAWINGS
47W465-205
CLASS 1



NO.	DATE	REVISIONS	CK'D	APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

ISI-0010-C

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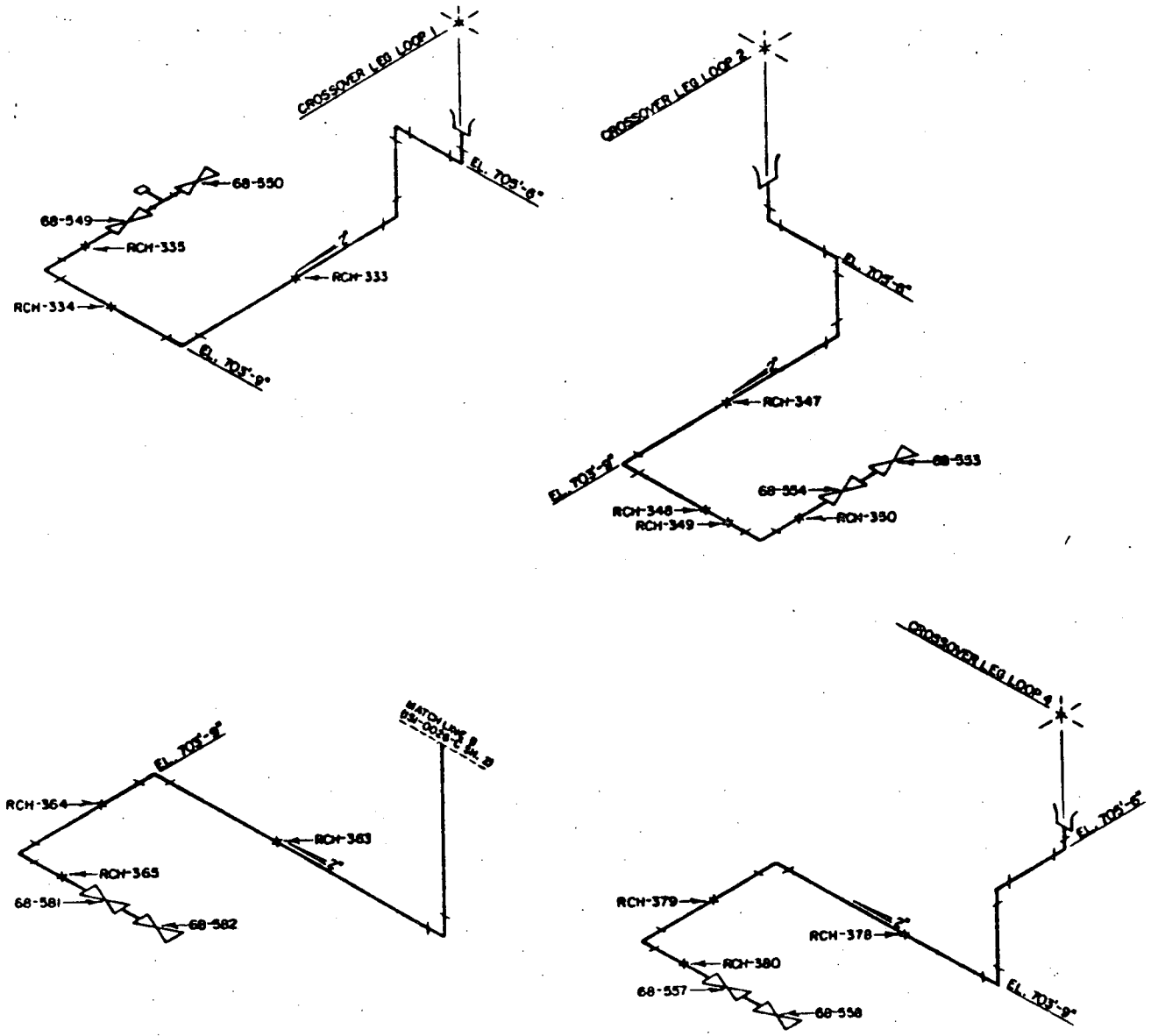
CLASS I



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

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109EEE

REFERENCE DRAWINGS
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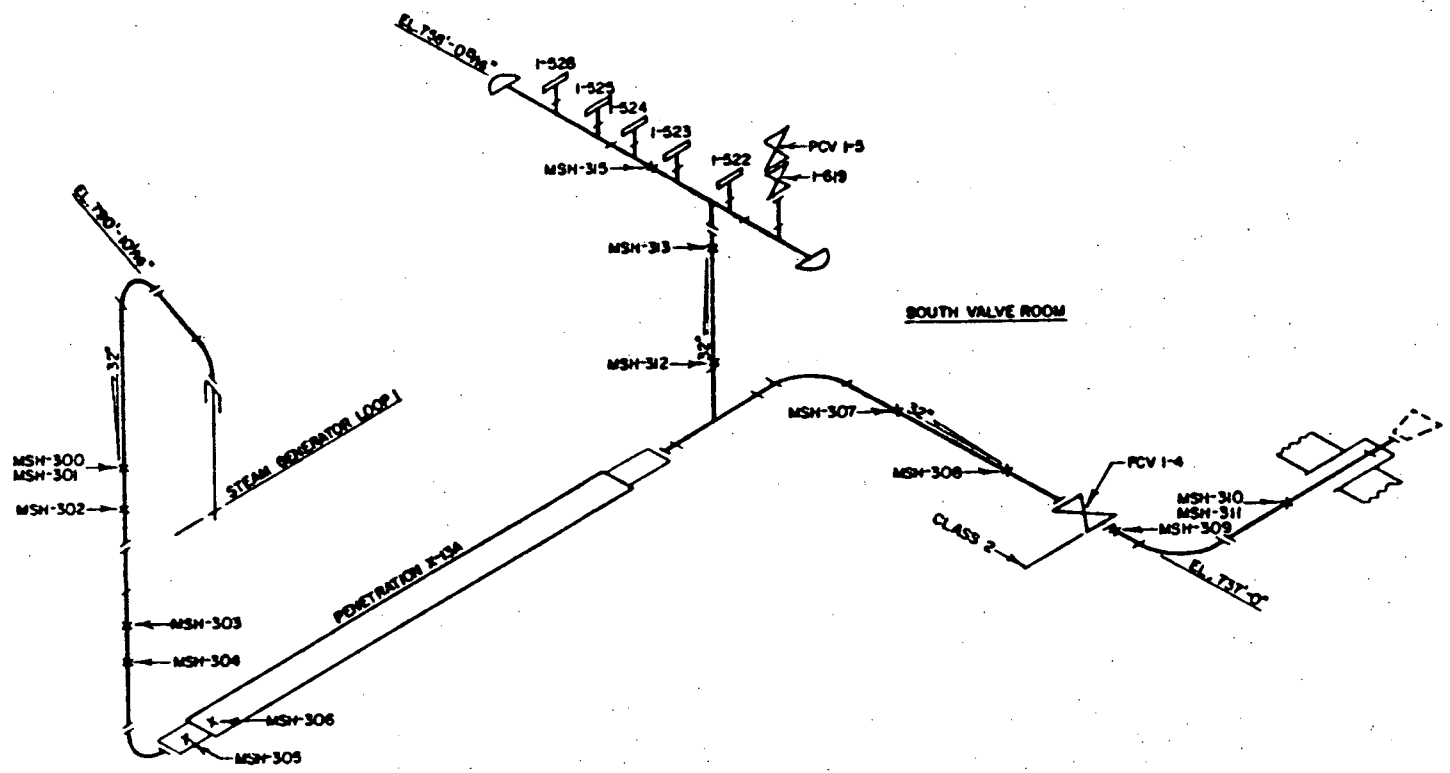
CLASS 2



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
HANGER LOCATIONS

DTS
KEY
8-21-81
ISI-C011-C
RD

109FFF

REFERENCE DRAWINGS
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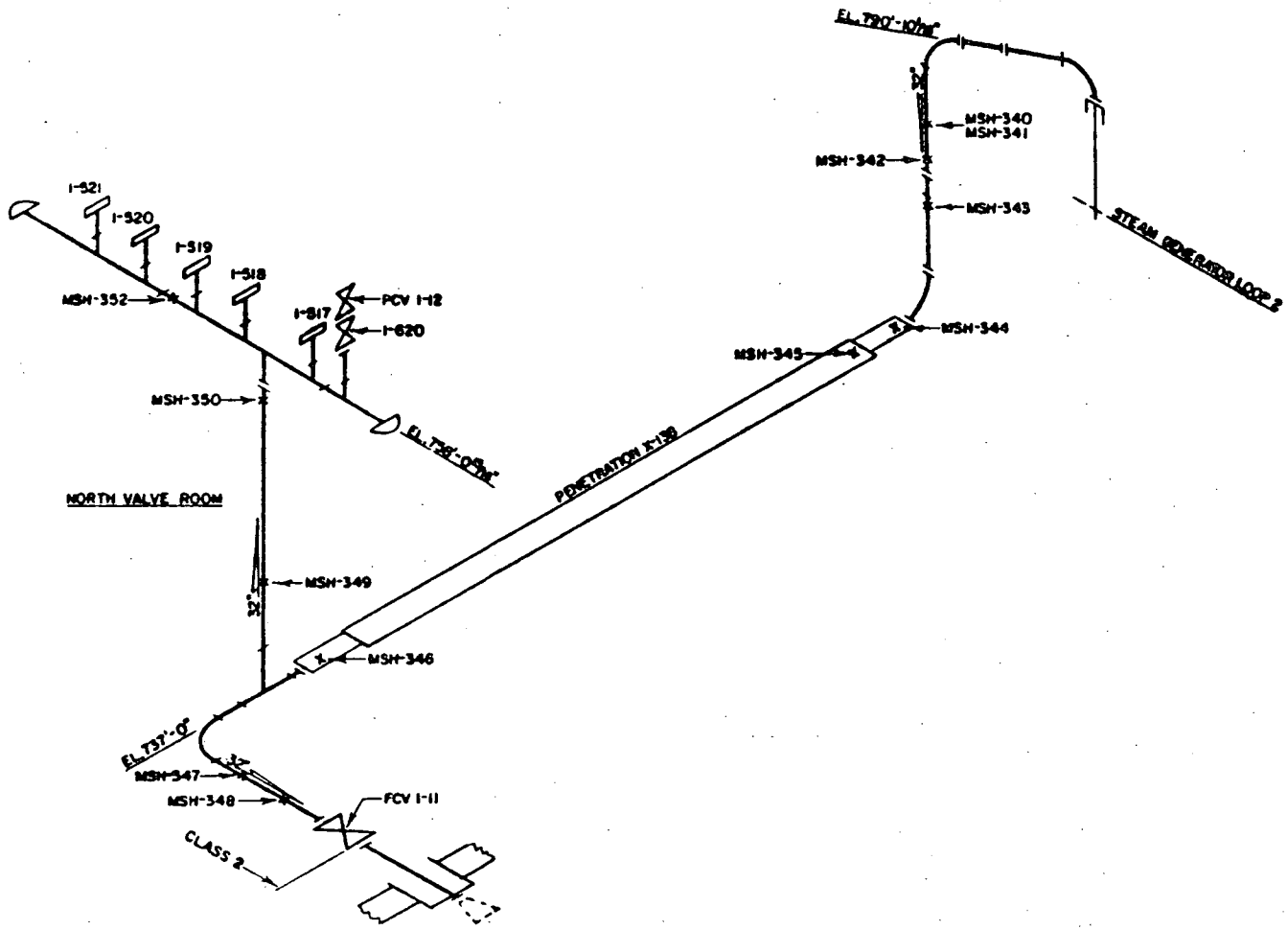
CLASS 2



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
HANGER LOCATIONS

8-24-81
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SI-0011-C
R0

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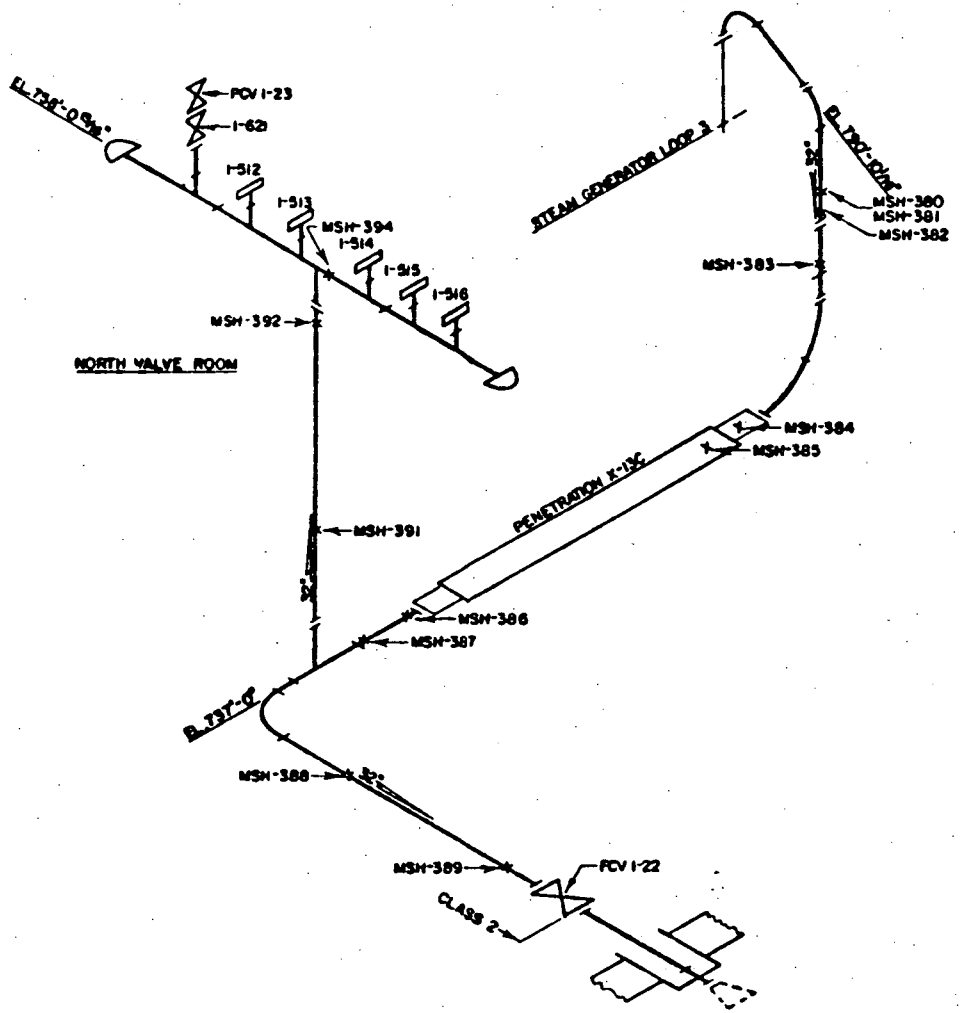
REFERENCE DRAWINGS
0600200-06-03
CLASS 2



NO.	DATE	REVISIONS	CK	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
HANGER LOCATIONS

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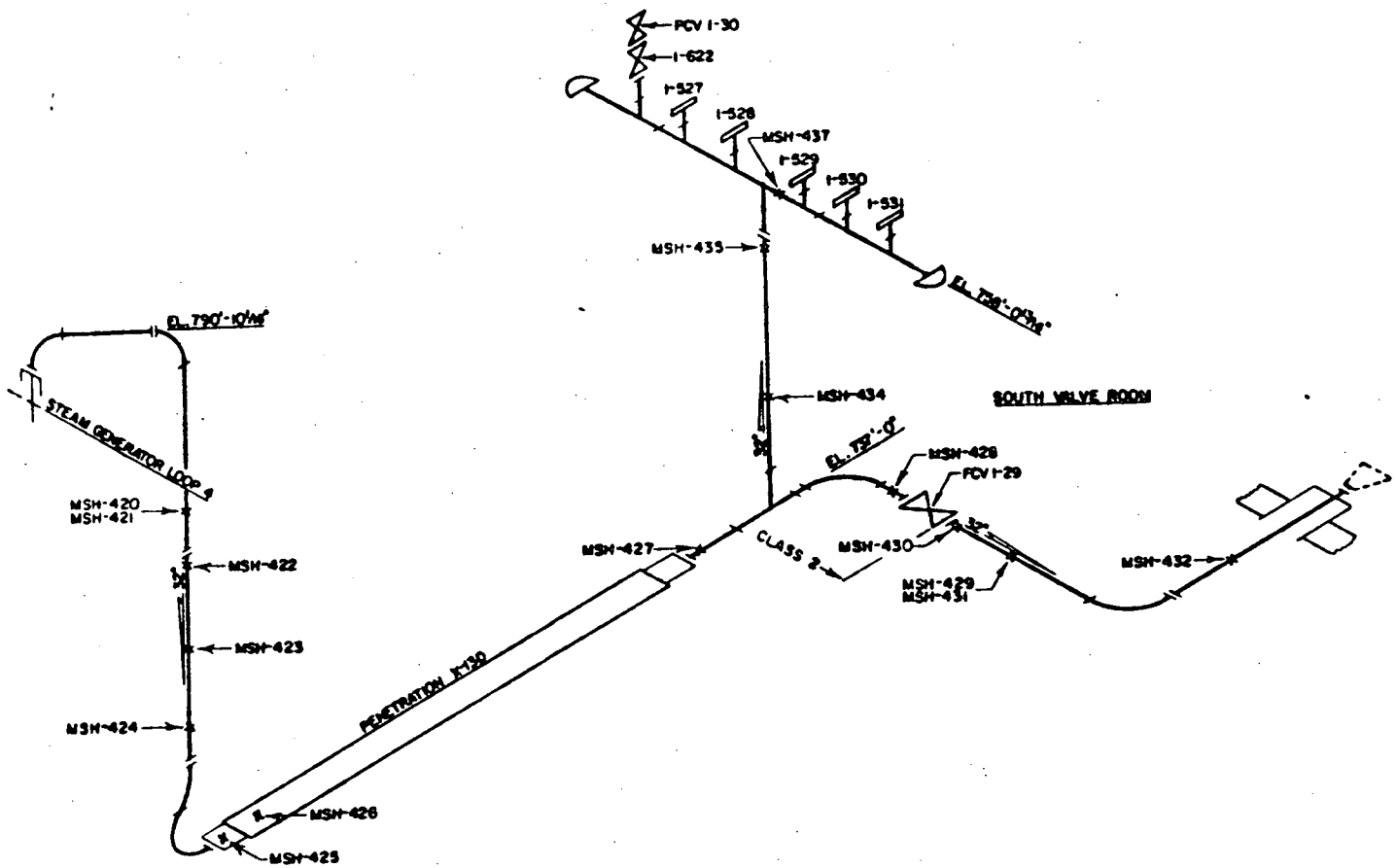
REFERENCE DRAWINGS
0600200-06-04
CLASS 2



NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
MAINSTEAM SYSTEM
HANGER LOCATIONS

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8-24-81
ISI-0011-C
80

REFERENCE DRAWINGS
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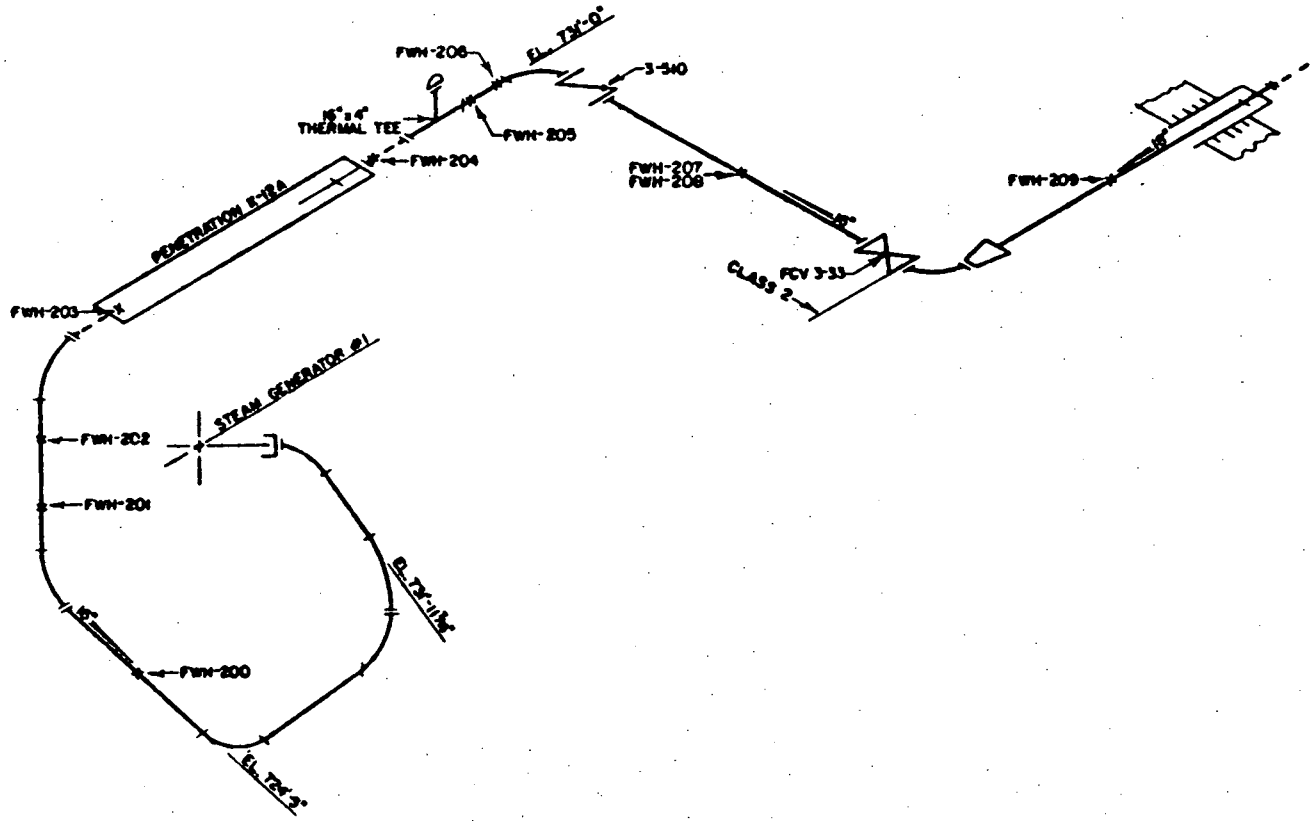
CLASS 2



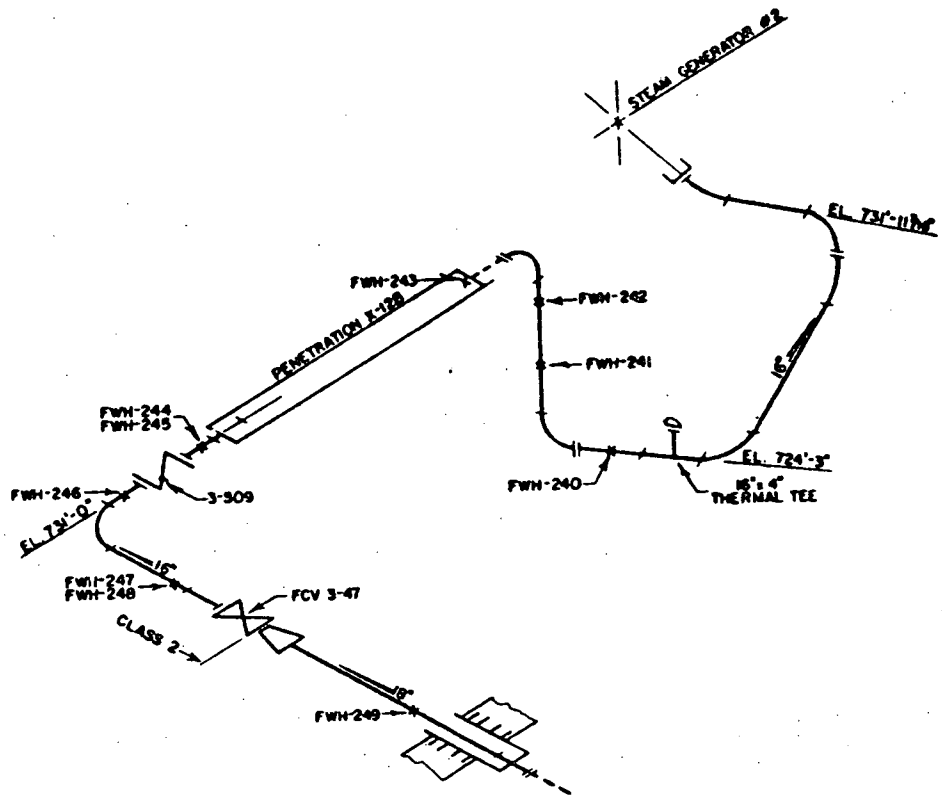
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

4-8-82
ISI-0062-C
R0

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



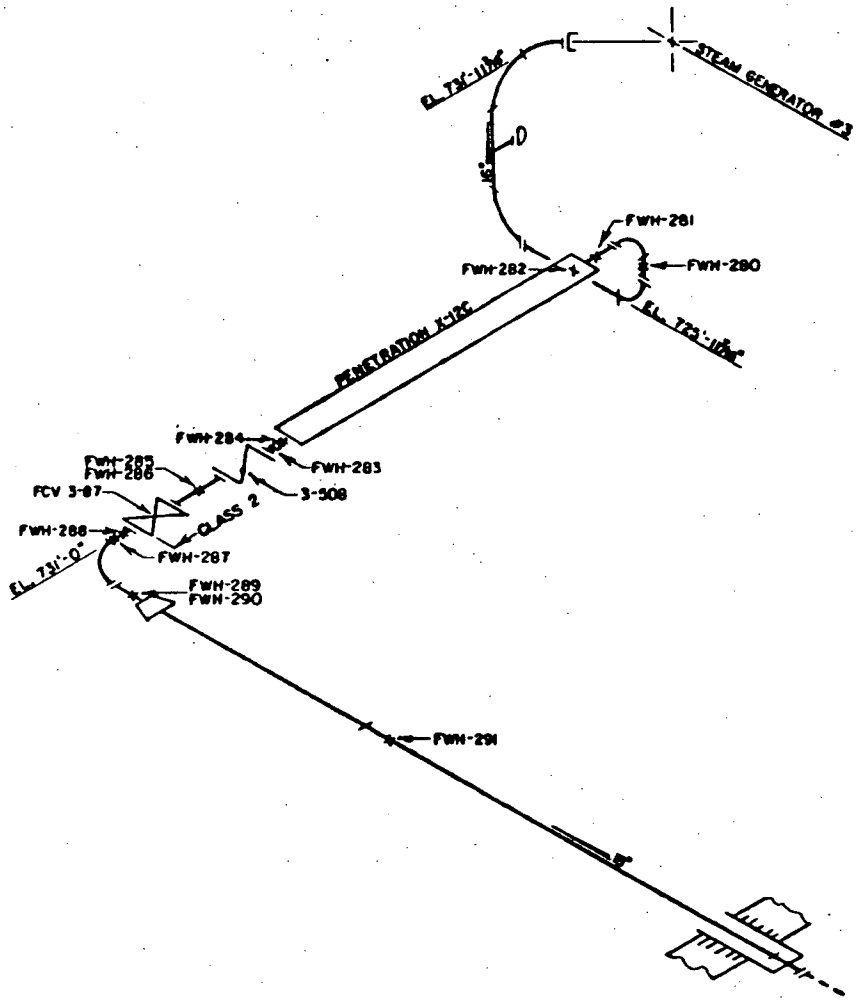
NO.	DATE	REVISIONS	CK'D	APP.

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

ISI-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

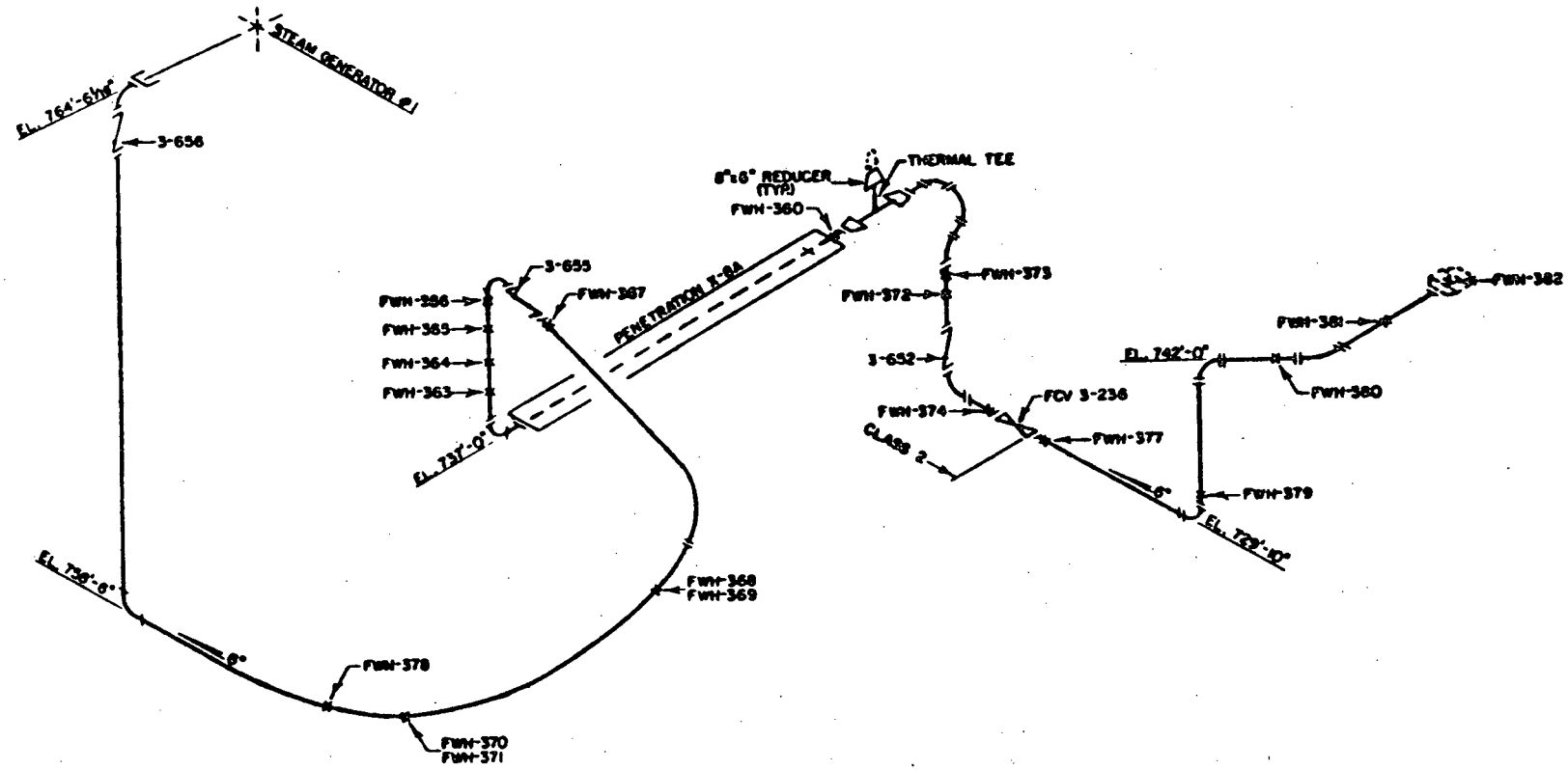
NTS

1-8-82

ISI-00E2-C

RO

REFERENCE DRAWINGS
47W401-212
CLASS 2



NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

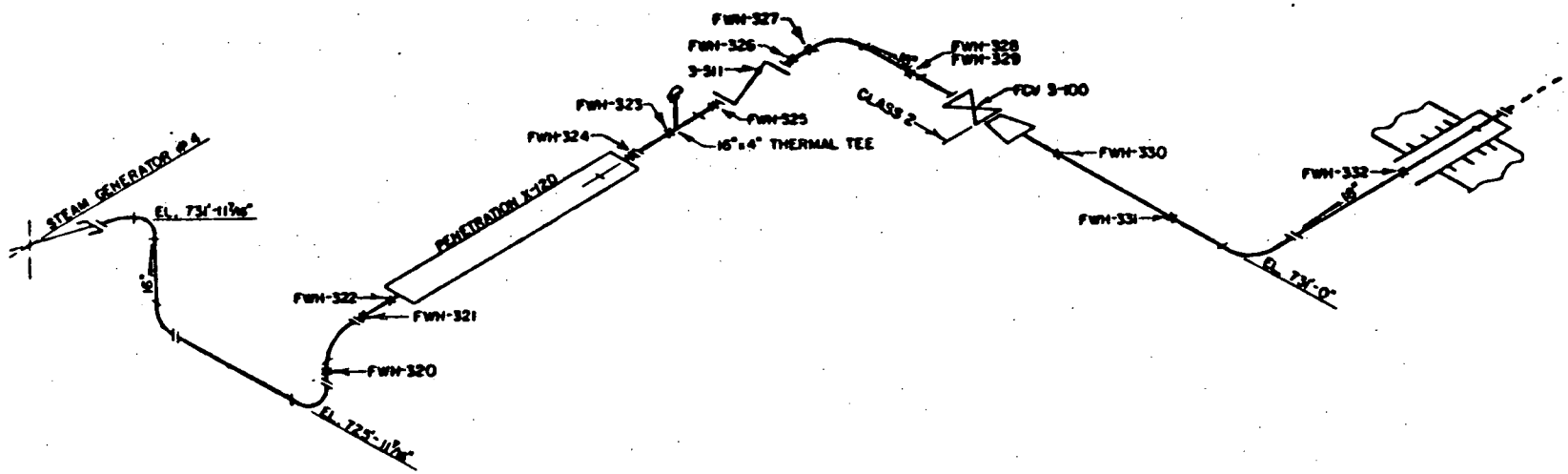
WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

7-5-83
ISI-0062-C

80

109NNN

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



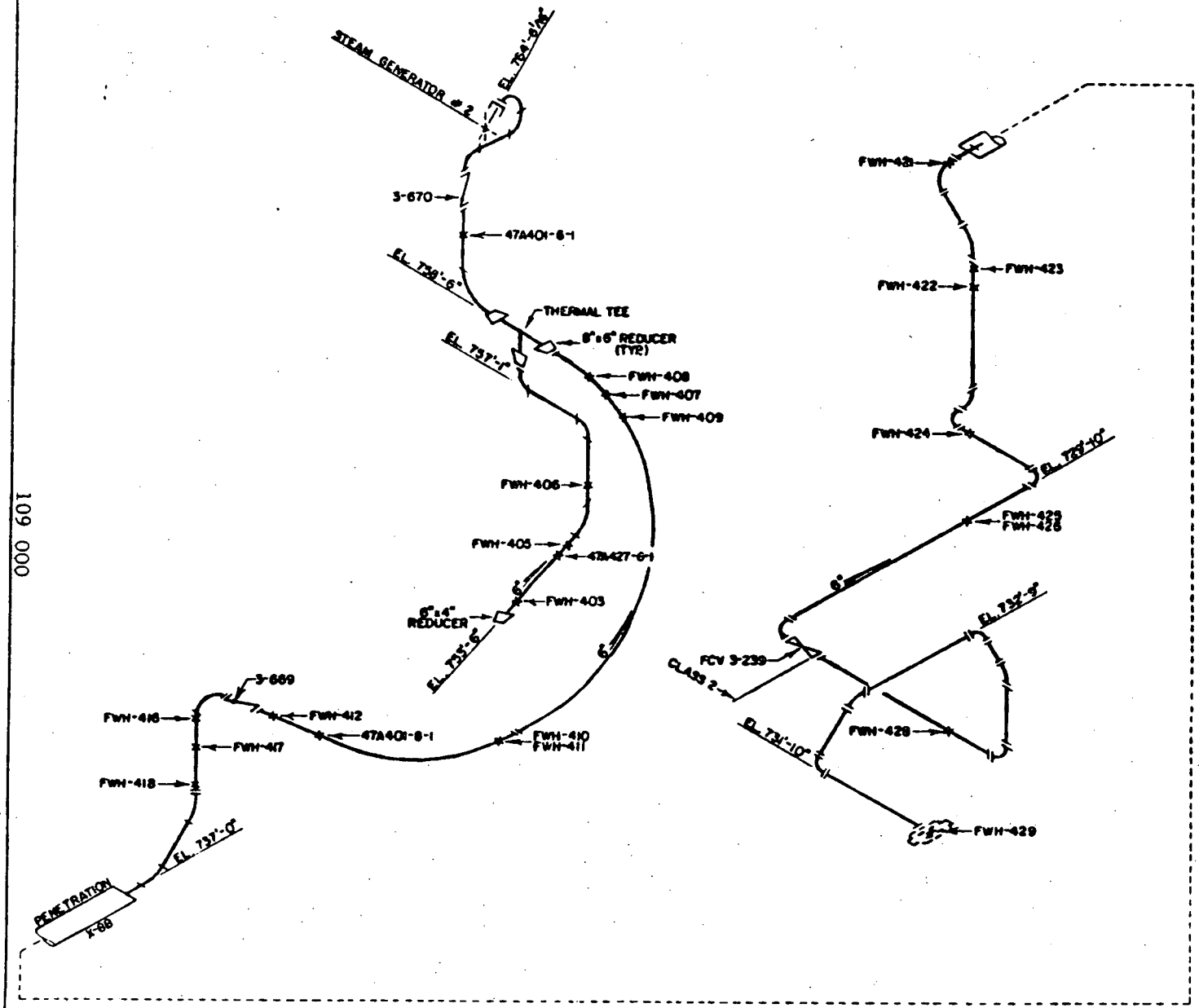
NO.	DATE	REVISIONS	CK'D	APR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

SCALE NTS
DRAWN
CHECKED
DATE 1-8-82
SHEET 1 OF 8
ISI-0062-C
R0

109MM



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

NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

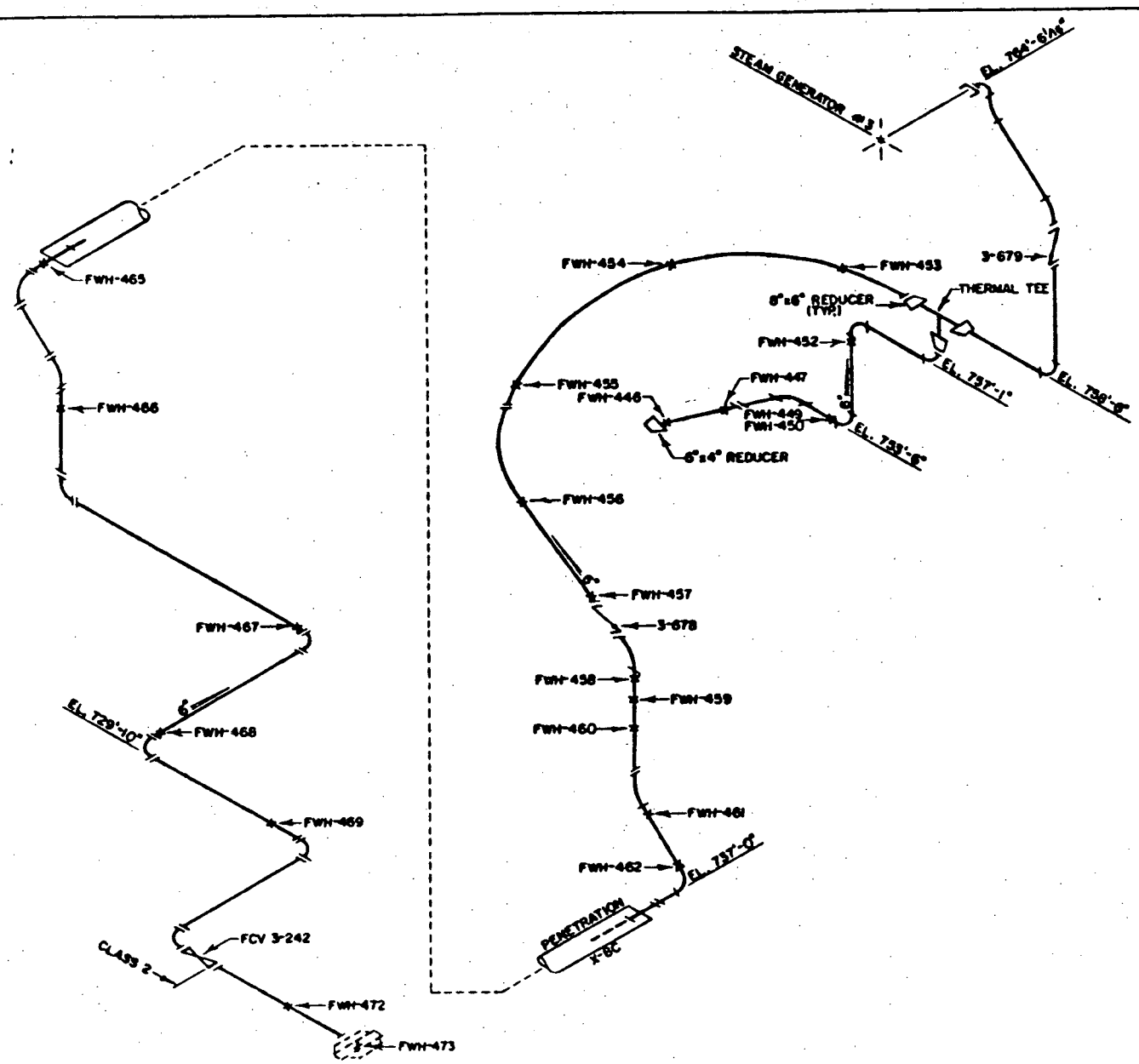
WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM

HANGER LOCATIONS

ISI-0062-C

109 000

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



NO.	DATE	REVISIONS	CK'D	APPR

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

1SI-0062-C R0

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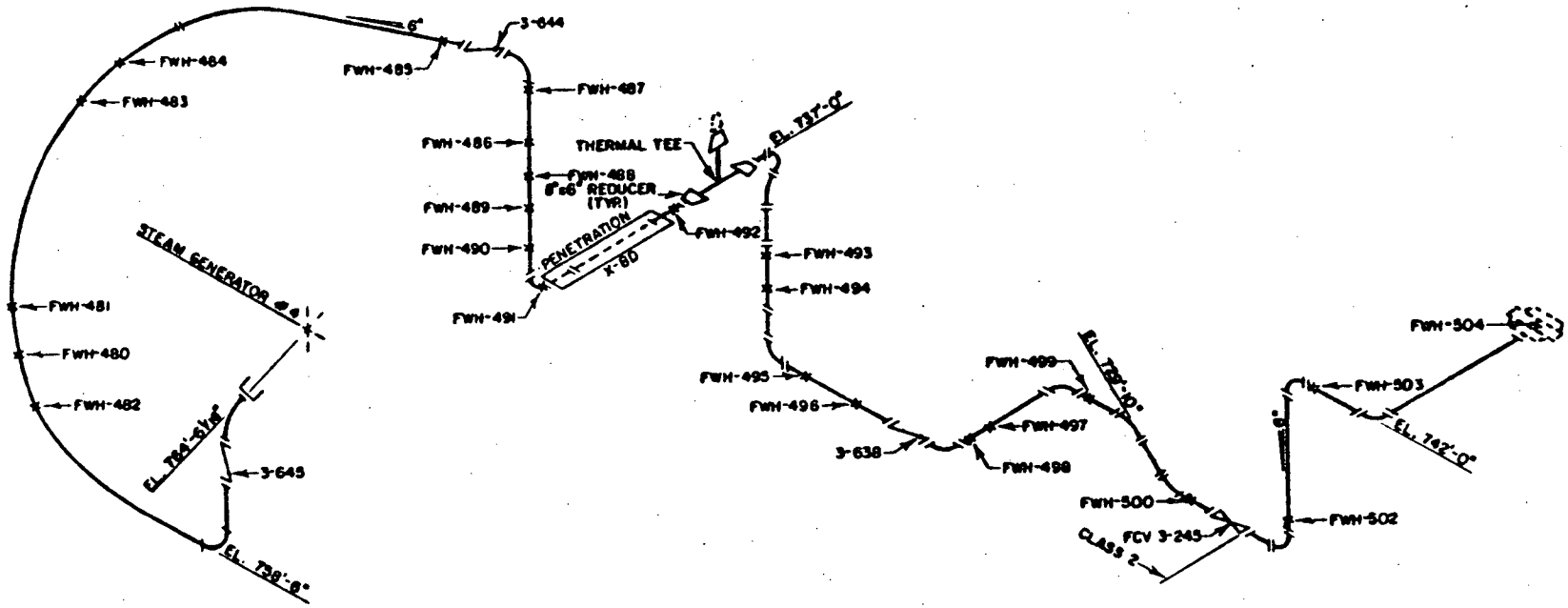
REFERENCE DRAWINGS
47W401-215
CLASS 2



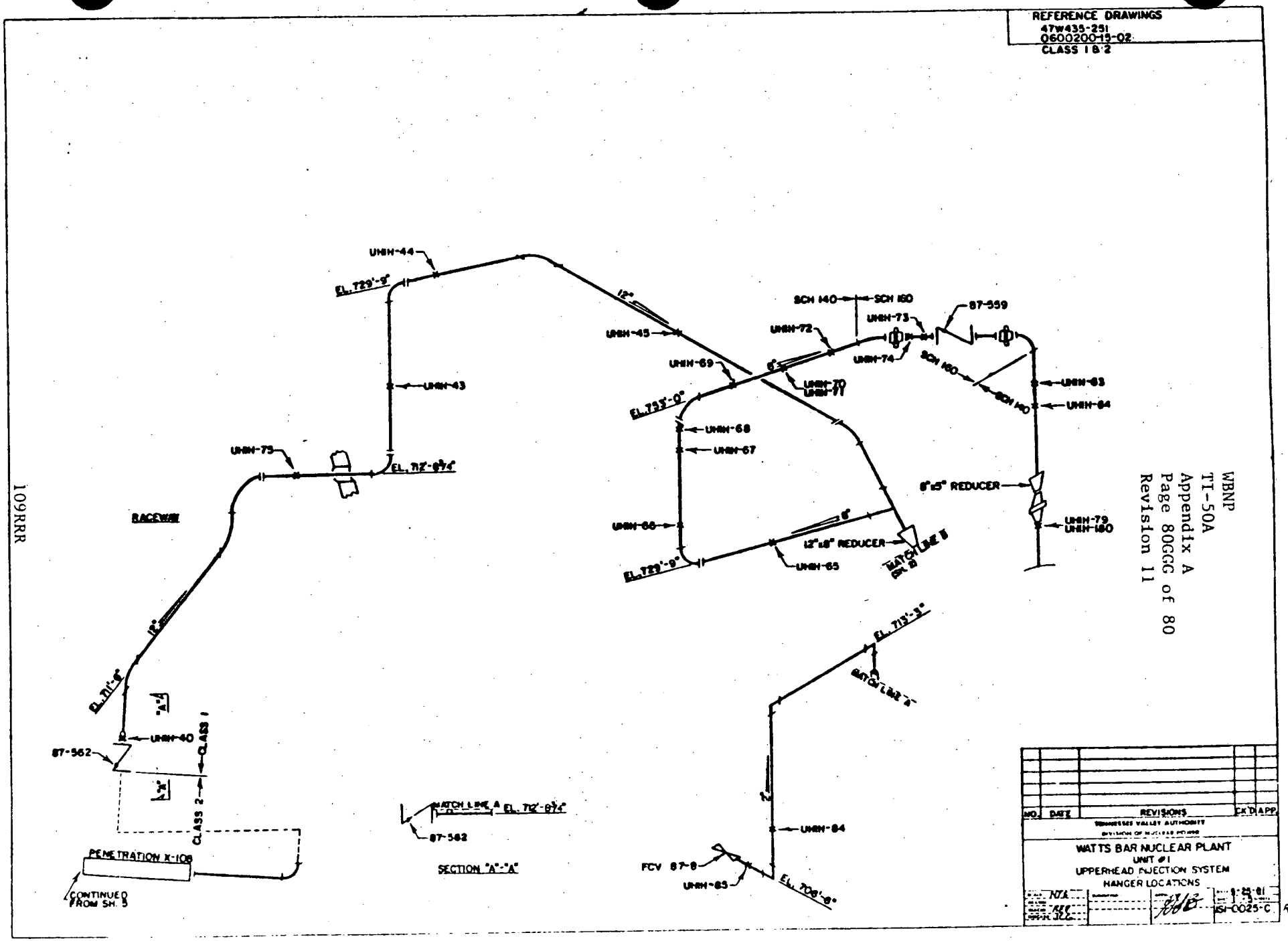
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

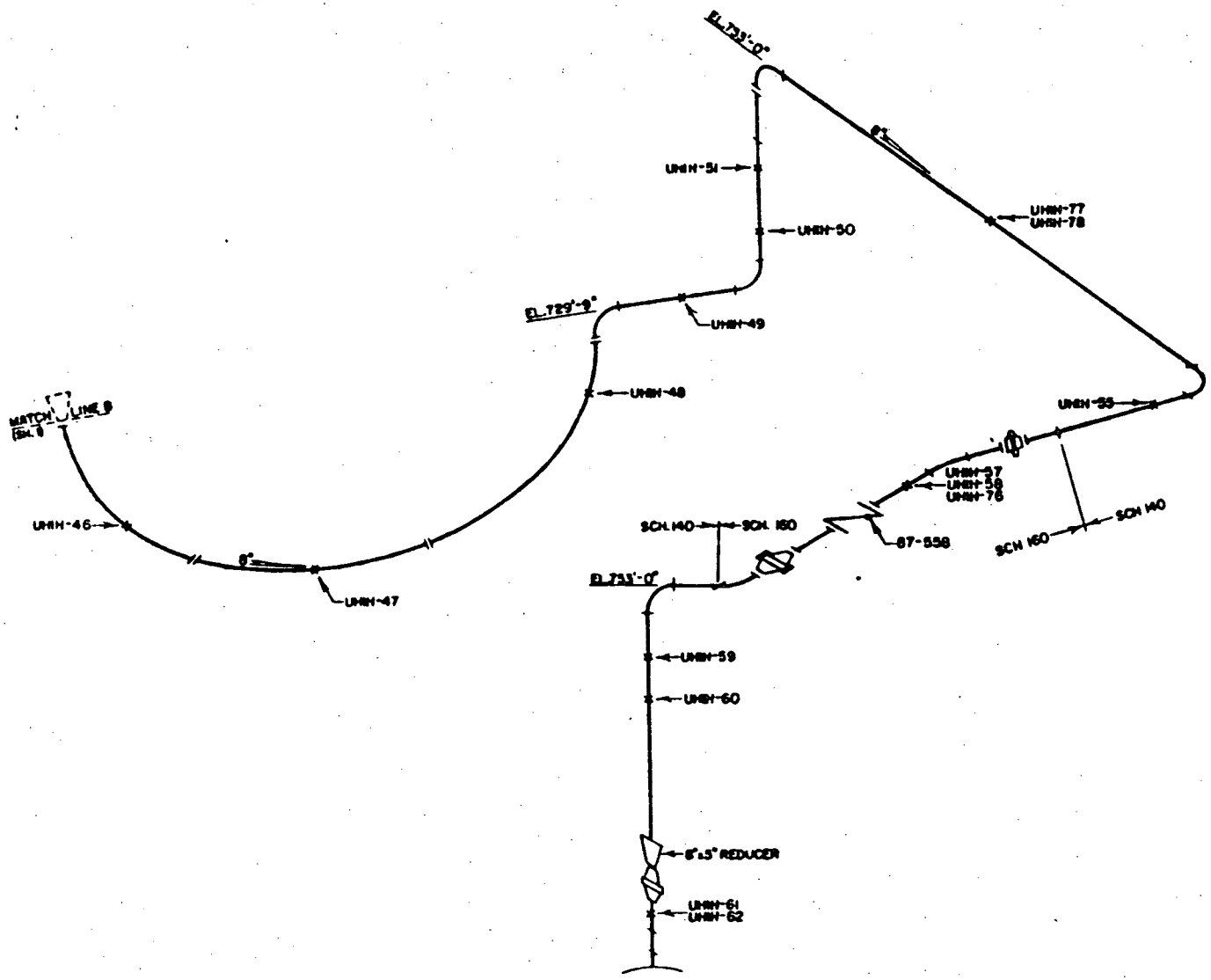
WATTS BAR NUCLEAR PLANT
UNIT #1
FEEDWATER SYSTEM
HANGER LOCATIONS

SCALE NTS
DRAWN
DESIGNED
REVIEWED
CHECKED
DATE 7-6-83
SHEET 8 OF 8
SI-0062-C
R0

109000


REFERENCE DRAWINGS
47W435-251
0600200-15-02
CLASS 1 & 2
UHIH-44
EL. 729'-9"
12"
UHIH-45
UHIH-43
UHIH-75
EL. 712'-8¾"
RACEWAY
EL. 711'-8"
UHIH-40
87-562
CLASS 1
CLASS 2
PENETRATION X-108
CONTINUED FROM SH. 5
MATCH LINE A
EL. 712'-8¾"
87-562
SECTION "A"-"A"
SCH 140
SCH 160
87-559
UHIH-73
UHIH-72
UHIH-74
UHIH-69
UHIH-70
UHIH-71
EL. 753'-0"
UHIH-68
UHIH-67
UHIH-66
EL. 729'-9"
UHIH-65
12"x8" REDUCER
MATCH LINE B
SCH 160
SCH 140
UHIH-63
UHIH-64
8"x5" REDUCER
UHIH-79
UHIH-180
EL. 713'-3"
MATCH LINE A
UHIH-84
FCV 87-8
UHIH-85
EL. 708'-8"
NO. DATE REVISIONS CK'D APP.
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
WATTS BAR NUCLEAR PLANT
UNIT #1
UPPERHEAD INJECTION SYSTEM
HANGER LOCATIONS
ISI-0025-C
R0

REFERENCE DRAWINGS
0600200-15-02
CLASS I



NO.	DATE	REVISIONS	CK'D	APP

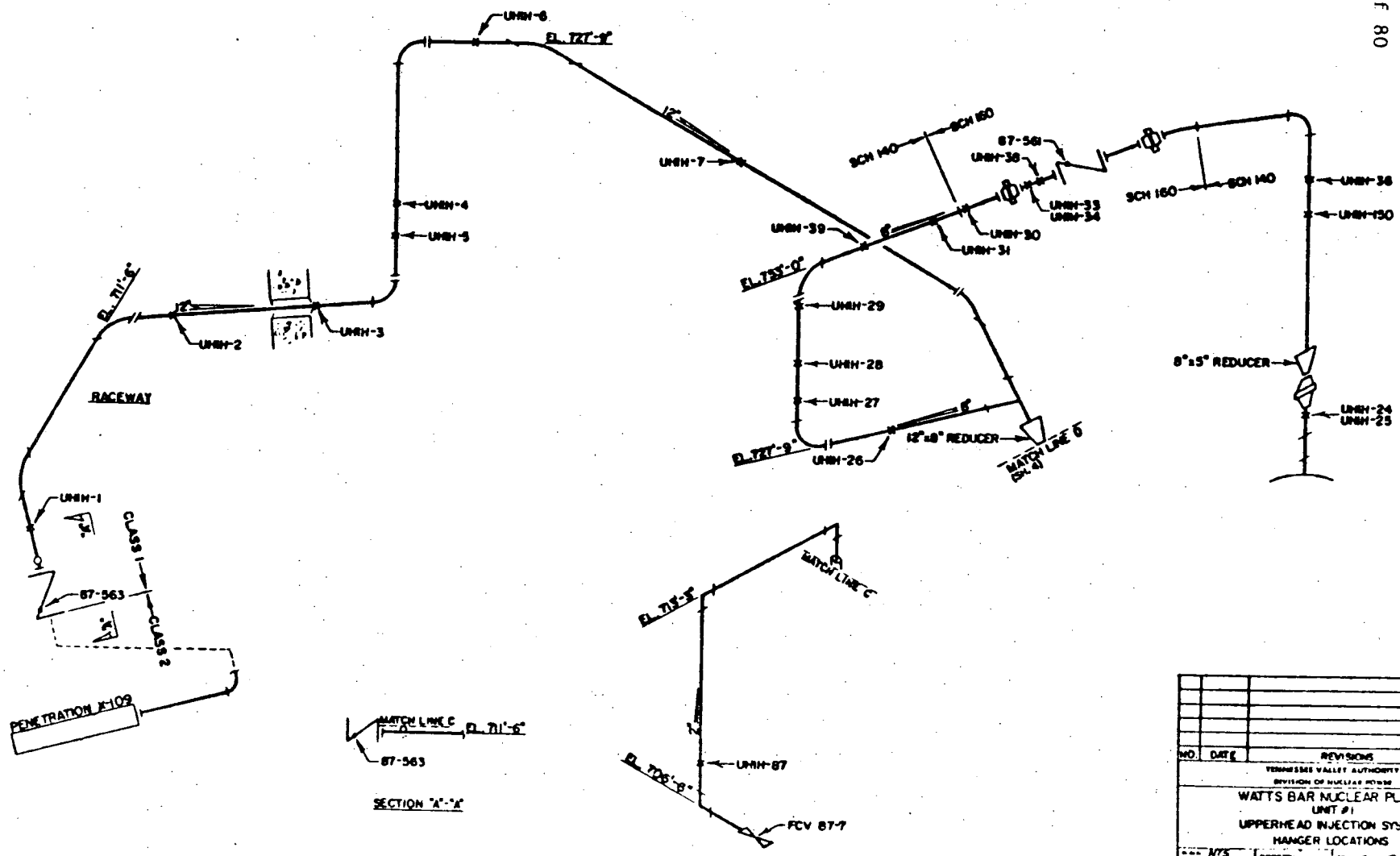
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

8-25-81
2-3
ISI-0025-C
R0

109SSS

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



NO.	DATE	REVISIONS	CK'D	APP.

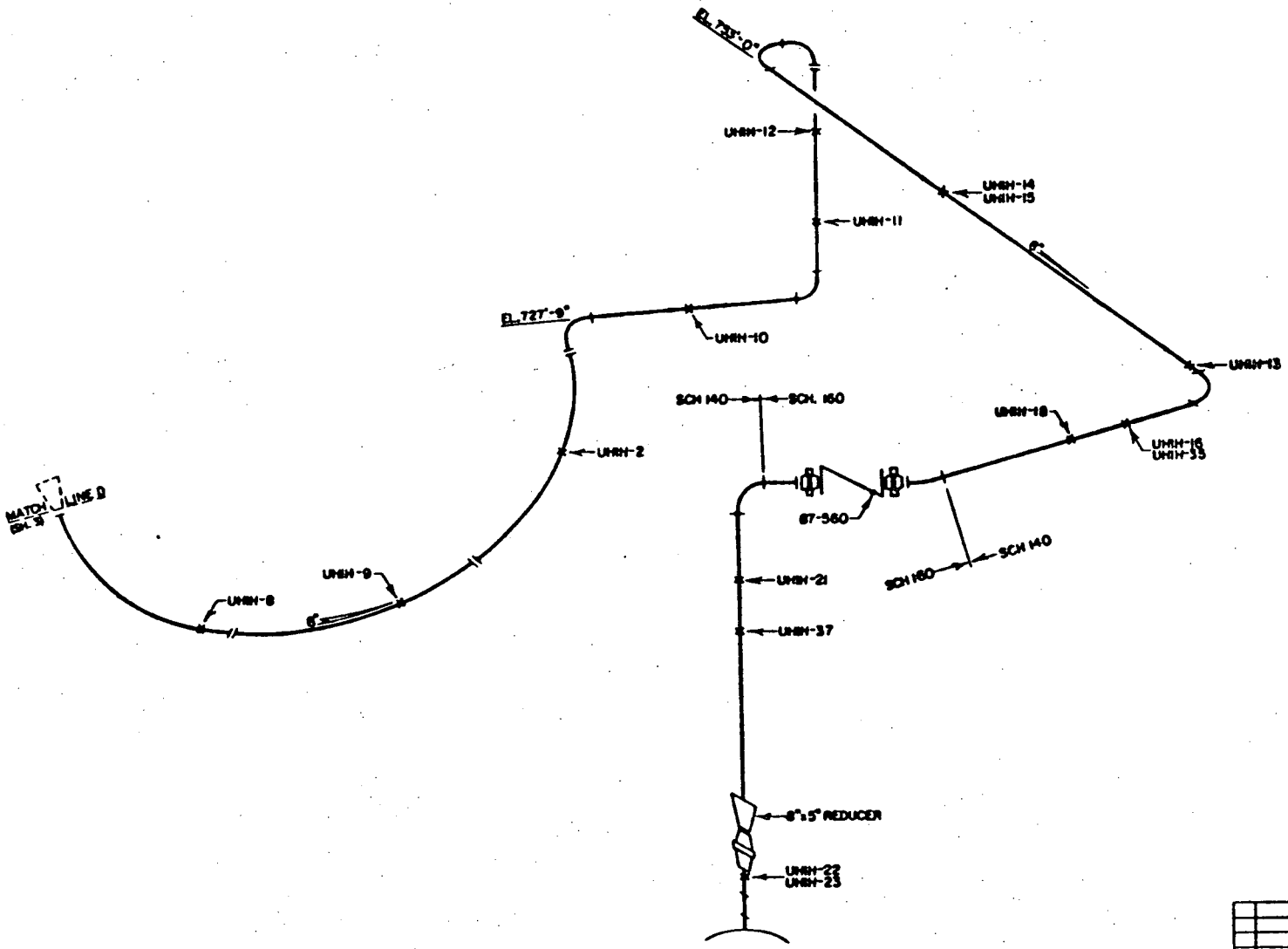
TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

NTS
KEY
8-25-81
3-5
ISI-0025-C

109TTT

REFERENCE DRAWINGS
47W435-252
CLASS 1



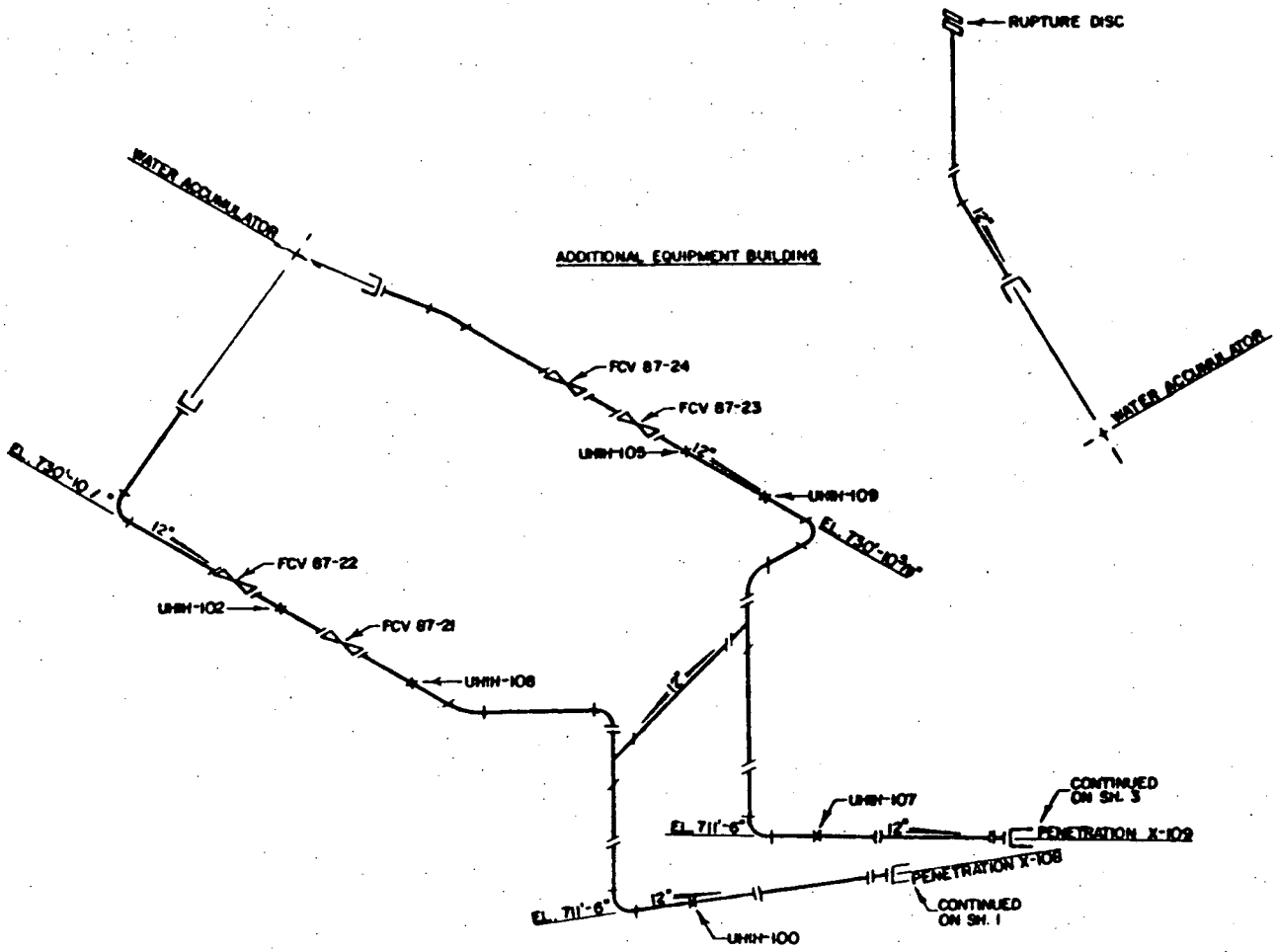
NO.	DATE	REVISIONS	CK'D	APP

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

NTS
KEY
GJB
8-25-81
1SI-0025-C
R0

REFERENCE DRAWINGS
0600200-15-04
0600200-15-05
CLASS 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

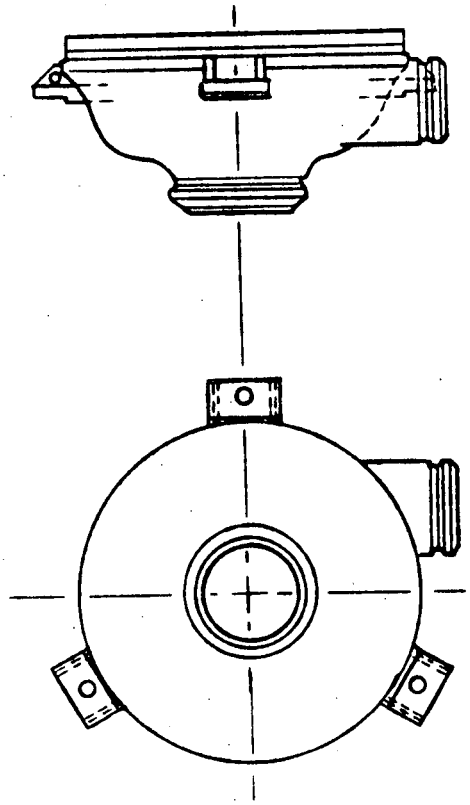
SI-0025-C

109VVV

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

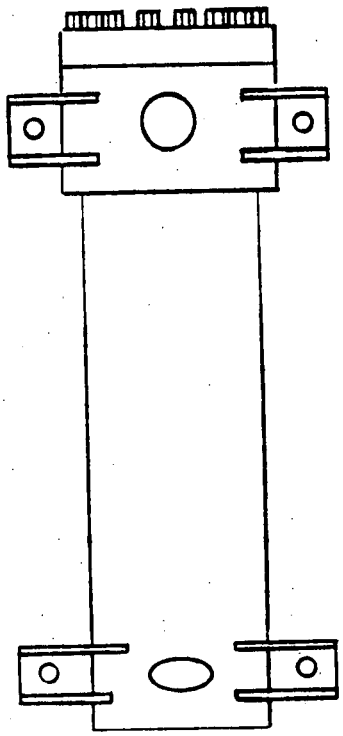
SCALE: NTS	SUBMITTED	APPROVED	DATE 8-31-83
DRAWN			SHEET | OF | SHEETS
TRACED RGV			ISI-0117-A
CHECKED			

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

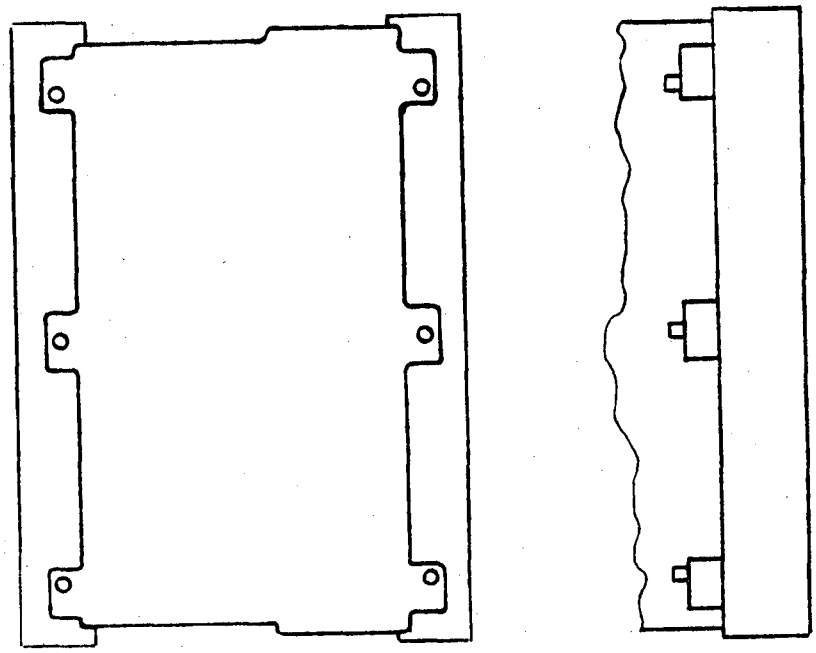
WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
CENTRIFUGAL CHARGING PUMP SUPPORTS

SCALE: NTS	SUBMITTED	APPROVED	DATE 9-2-83
DRAWN KEV			SHEET OF SHEETS
TRACED			1SI-0118-A
CHECKED JCG			

REFERENCE DRAWINGS
OP-EN742865

NOTES

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



TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
RECIPROCATING CHARGING PUMP SUPPORTS
(POSITIVE DISPLACEMENT PUMP)

SCALE: NTS	SUBMITTED	APPROVED	DATE 9-2-83
DRAWN KEV			SHEET OF SHEETS
TRACED			ISI-0119-A
CHECKED CG			

RC

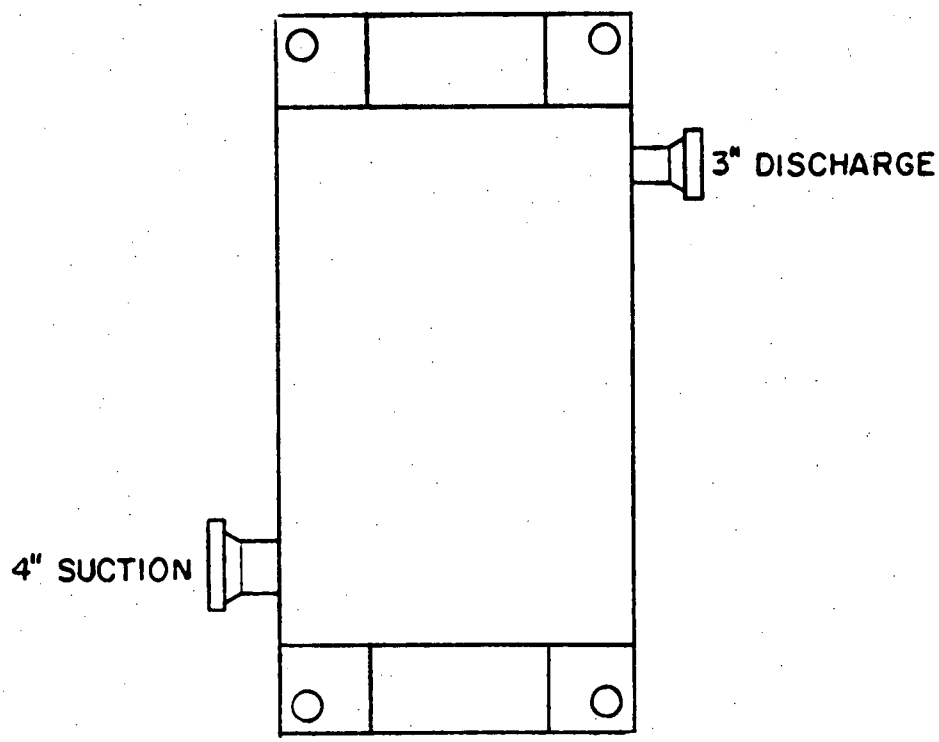
REFERENCE DRAWINGS

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

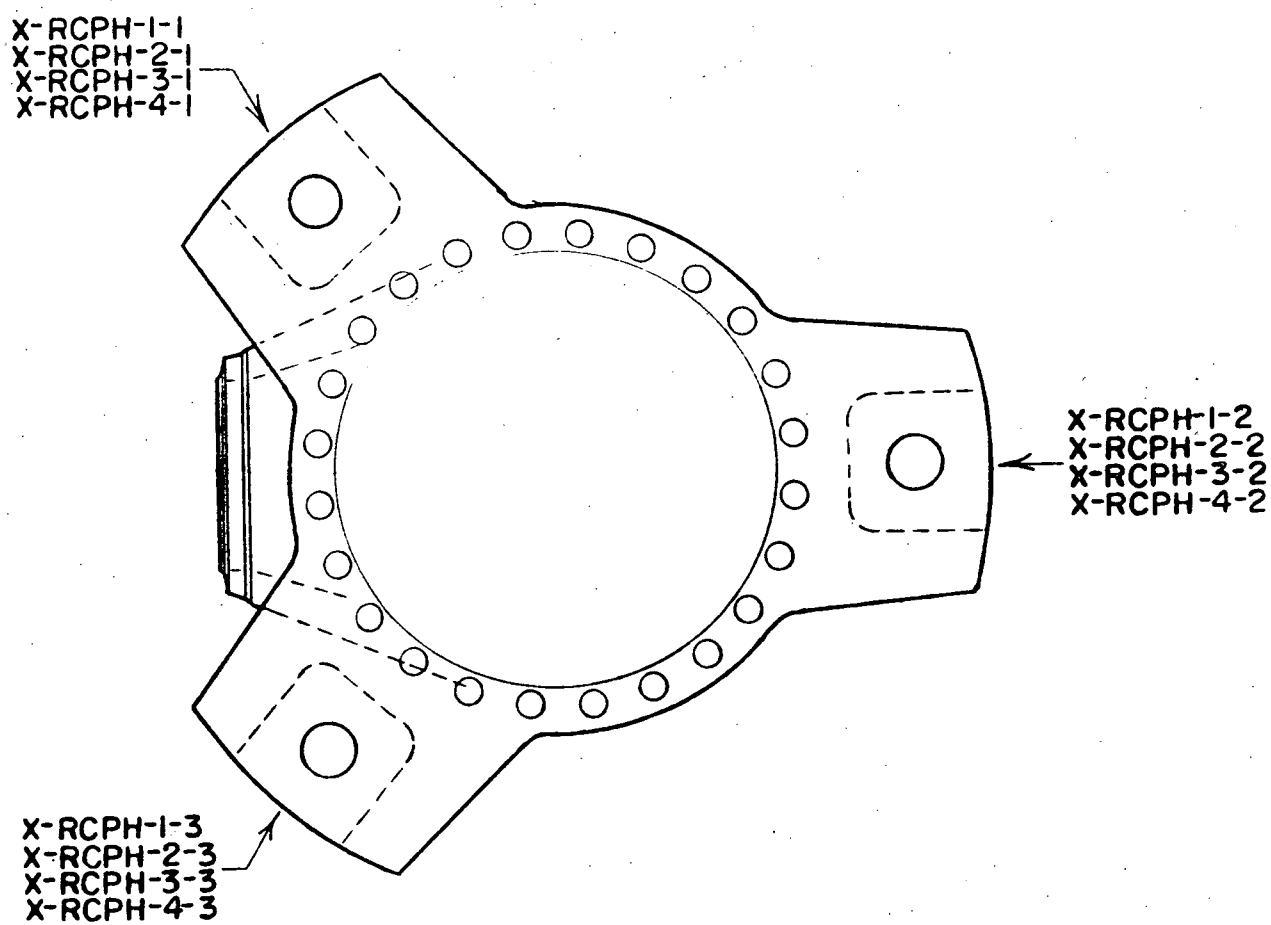


TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

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

NOTES
1. REPLACE X WITH UNIT NUMBER



WBNP
TI-50A
Appendix A
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Revision 11

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

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

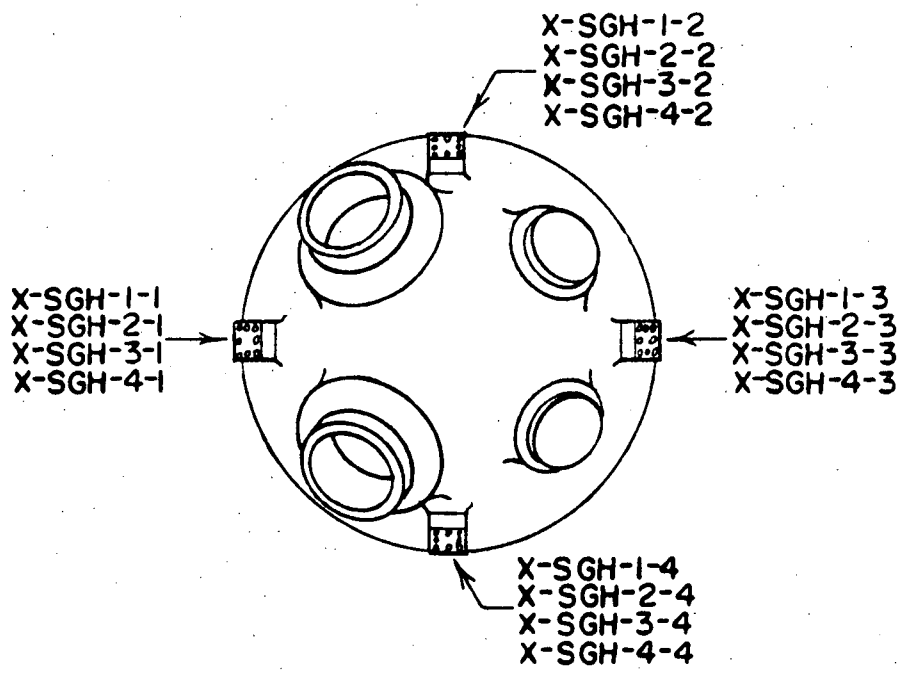
SCALE: NTS	SUBMITTED	APPROVED	DATE 9-6-83
DRAWN REV			SHEET 1 OF 1 SHEETS
TRACED			ISI-0121-A
CHECKED			

R1

109AAAA

REFERENCE DRAWINGS
1100J81

NOTES
1. REPLACE X WITH THE UNIT NUMBER



TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER

WATTS BAR NUCLEAR PLANT
UNITS #1 & #2
STEAM GENERATOR SUPPORTS

SCALE: NTS	SUBMITTED	APPROVED	DATE 9-8-83
DRAWN			SHEET OF SHEETS
TRACED KEV			ISI-0122-A
CHECKED JCG			