

REFSEQNO 3842116730

ST-1-052-705-1, Rev. 0

Page 1 of 8

RSE/BSE:cjf

3843070090

PHILADELPHIA ELECTRIC COMPANY
LIMERICK GENERATING STATION
SURVEILLANCE TEST

QJey
7/31/84

ST-1-052-705-1

SAFEGUARD PIPING FILL SYSTEM
CONTAMINATED PIPING INSPECTION

Test Freq.: 18 Months -OR- Initiating Events: 1. Reason _____
Tech. Spec.: 6.8.4.a 2. MRF NO. _____
FSAR 6.2.8.1
FSAR 6.2.8.3

TEST RESULTS:

A. All Asterisked(*) Steps Completed SATISFACTORILY.

Performed By: (Sign/Date) KJE 9/9/84
Performed By: (Sign/Date) SCW 9/9/84
Informed Test Complete: (ACO or CO) (Sign/Date) KJE 9/9/84 2:30 PM
(Time)
Reviewed By: (SSVN or STA) (Sign/Date) Glen A. Paton 9/9/84

B. One or More Asterisked(*) Steps Test Results UNSATISFACTORY.

Performed By: (Sign/Date) _____
Informed of Test Results: (CO or ACO) (Sign/Date) _____
(Time) _____
Shift Supervision: (Sign/Date) _____
Corrective Action: MRF No.: _____
Initiated By: (Sign/Date) _____

IMMEDIATELY NOTIFY SENIOR PLANT STAFF MEMBER

Person Notified: (Name) _____
Date/Time Notified: (Date/Time) _____
Notified By: (Sign) _____

ADDITIONAL ACTION/TEST COMMENTS:

If any entry is made in Additional Action/Test Comments Section,
person making initial entry sign here

(Sign/Date) KJ Cuna 9/9/84
8410160394 841012
PDR ADOCK 05000352
A PDR

1.0 PURPOSE

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To inspect and measure any leakage of Safeguard Piping Fill System Components that are directly associated with system piping that could carry contaminated water during a serious accident or transient. This inspection shall be implemented while the system is operating at pressure in the test mode.

2.0 REFERENCES

- 2.1 8031-M-52, Core Spray
- 2.2 NUREG - 0737
- 2.3 8031-M-51 Shts 1 & 2, RHR System
- 2.4 8031-M-55, High Pressure Coolant Injection
- 2.5 8031-M-49, Reactor Core Isolation Cooling
- 2.6 8031-M-41, Nuclear Boiler

3.0 TEST EQUIPMENT

- 3.1 Graduated Cylinder(s)
- 3.2 One-Liter Bottle(s)
- 3.3 Assorted Funnels
- 3.4 Stopwatch
- 3.5 Inspection mirror with handle

4.0 PRECAUTIONS & LIMITATIONS

- 4.1 If a procedural step cannot be completed, make a comment in the Additional Action/Test Comments section of the Data Sheet.
- 4.2 Signoff steps marked "SO" in the left-hand margin of the body of the procedure require a signoff on the Data Sheet or Procedure Cover Sheet.
- 4.3 Leakage rates of greater than 5 drops per min (= .25 cc/min) shall be quantified. Use " \leq .25 cc/min" on the Data Sheet Attachment A for components with leakage rates of 5 drops per min or less.

- 4.4 Data Sheet steps marked (*) are specific Tech. Spec. requirements which will fail the test if not completed satisfactorily.
- 4.5 If any component is found to be exhibiting excessive leakage notify SSVN immediately.

5.0 PREREQUISITES

- 5.1 Request RWP & HP Assistance When required.
- 5.2 Inspector is familiar with the Safeguard Piping Fill System location and layout.
- 5.3 Safeguard piping fill pumps must be running for Surveillance Test ST-6-052-233-1 or per operating Procedure S52.1.C for the inspection.
- 5.4 Obtain a copy of the previous inspection's Data Sheet Attachment A.
- 5.5 Coordinate with operator running the system to allow pump run durations to be extended for the inspection.

6.0 PROCEDURE

IT IS THE RESPONSIBILITY OF THE PERSON OR PERSONS PERFORMING THIS TEST TO ENSURE ALL BLANKS AND DATA SHEETS ARE CORRECTLY AND COMPLETELY FILLED IN.

6.1 Preparation

- SO 6.1.1 Verify all prerequisites are satisfied.
- 6.1.2 Record appropriate information for each piece of measurement and test equipment used with a PECO number on the Data Sheet.

6.2 Shift Permission to Test

- SO 6.2.1 Obtain Shift Supervision's (SSVN's) permission to start test.
- SO 6.2.2 Obtain Control Room Operator's permission to start test.

6.3 Safeguard Piping Fill System Contaminated Piping Inspection.

ACTUAL LEAKAGE RATE MEASUREMENT METHODS WILL BE LEFT TO THE DISCRETION OF THE INSPECTOR. THE ONLY GUIDELINES BEING THAT ALL DATA WILL BE A MEASURED QUANTITY OF FLUID OVER TIME USING A STOPWATCH. DROPS PER MINUTE CAN BE USED AS A MEASUREMENT WHERE 20 DROPS = 1cc. ALL RECORDED DATA SHALL BE IN CUBIC CENTIMETERS PER MIN. (cc/min).

6.3.1 For all in line components within the boundaries of Attachment B, which exhibit leakage record on the Data Sheet Attachment A the leakage rate and a description of the location of the leak. Pay particular attention to system components identified as having exhibited measurable leakage in the previous inspection.

6.3.2 From the leakage rate data on Attachment A, calculate the total system leakage rate and document the results on the Data Sheet section 6.3.

6.4 Test Results Evaluation

SO 6.4.1 Compare the leakage limit in 8.1 to the total system leakage rate. If the limit is exceeded prepare a MRF to reduce the system leakage rate so that it is within the limit.

6.4.2 If any component's leakage rate has increased significantly since the last inspection prepare a MRF to repair the component.

6.4.3 If any component's leakage is a major portion of the overall system leakage limit prepare a MRF for its repair.

7.0 RETURN TO NORMAL

SO 7.1 Inform SSVN and ACO inspection is complete

8.0 ACCEPTANCE CRITERIA

8.1 The Safeguard Piping Fill System shall not exhibit a leak rate of greater than (later).

AT TEST COMPLETION, ENSURE COVER SHEET IS CORRECTLY AND COMPLETELY FILLED IN.

SAFEGUARD PIPING FILL SYSTEM
CONTAMINATED PIPING INSPECTION

DATA SHEET (1 of 2)

ACTION REQUIRED

INITIALS

6.0 PROCEDURE

6.1 Preparation

6.1.2 Test Equipment

<u>INSTRUMENT</u>	<u>MFR./MODEL</u>	<u>SER. NO.</u>	<u>CAL. DUE DATE</u>
53-0200 ^{see} stop watch		53-0200 LT8	8/7/85

6.2 Shift Permission to Test

6.2.1 SSVN permission obtained

6.2.2 ACO permission to test

(Signature)
GMS
 ACO

9-9-84/ 8⁰⁰ AM
Date Time

6.3 Safeguard Piping Fill System Contaminated Piping Inspection.

6.3.2 System Leakage Rate

4.05 cc/min

0.00107 gal/min

(1 cc/min = .000 264 gal/min)

SAFEGUARD PIPING FILL SYSTEM
CONTAMINATED PIPING INSPECTION

DATA SHEET (2 of 2)

ACTION REQUIRED

INITIALS

6.4 Test Results Evaluation

6.4.1 The total Safeguard Piping
Fill System Leakage Rate
is within Acceptable Limits.

N/A (*)

7.0 RETURN TO NORMAL

7.1 SSVN and ACO informed of inspection
completion.

gje

IF ANY ENTRY IS MADE IN THIS SECTION, SIGN COVER SHEET IN
APPROPRIATE SPACE.

ADDITIONAL ACTION/TEST COMMENTS _____

Page 6 needs step 6.1.1 Prerequisites satisfied.
Sign off (SO)

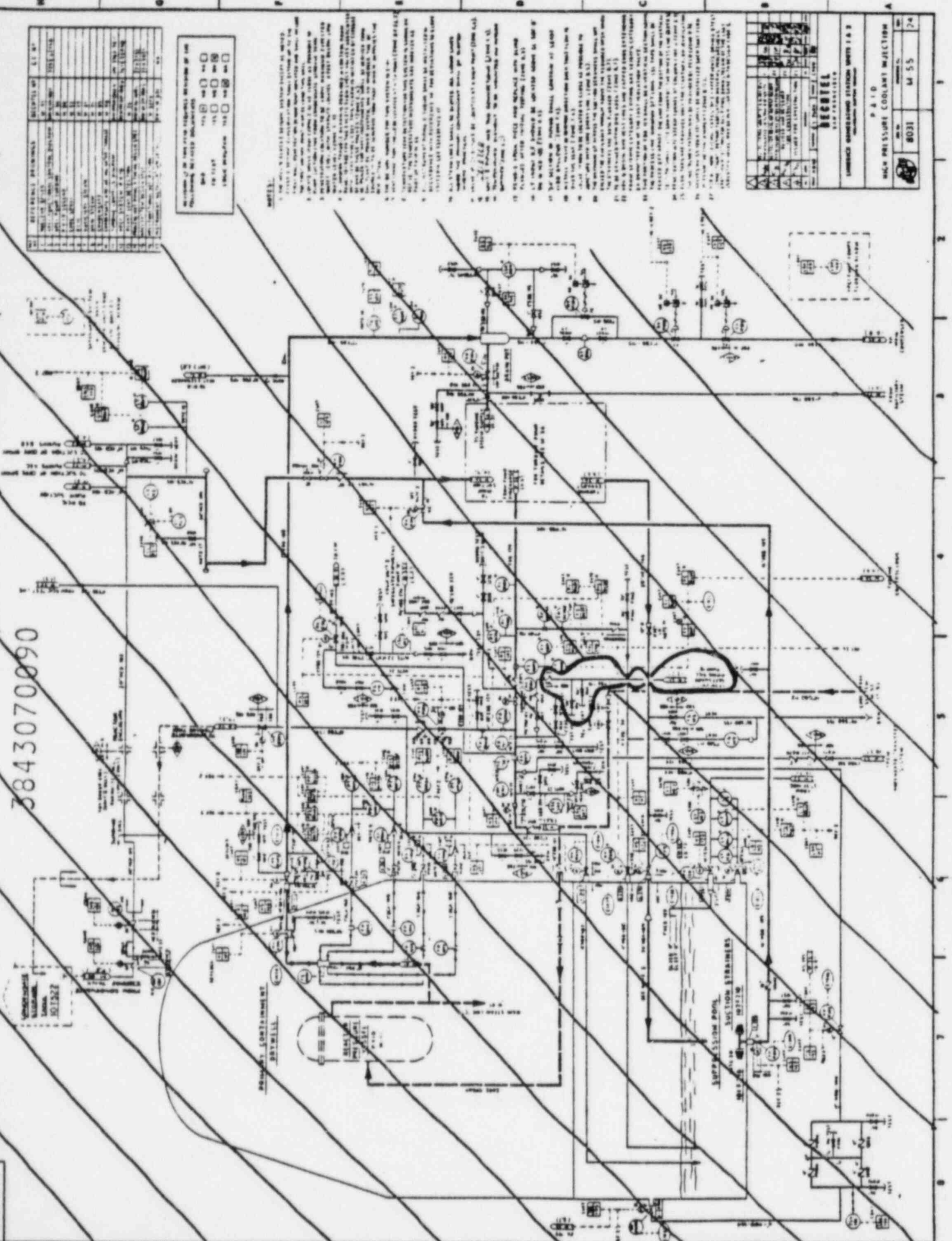
SAFEGUARD PIPING FILL SYSTEM CONTAMINATED PIPING INSPECTION

DATA SHEET (3 of 3)

ATTACHMENT A

Inspector: Ken CenciSystem Mode operating Date: 9/9/89

Component No.	Component Description	Comp. Mode (on/off) (open/shut)	Leak Rate	Corrective Action Date	Remarks
52-1065 B	Feedwater line Safeguard Piping Fill shut off valve to Feedwater	open	11 drops/min = .55 cc/min		
PSV-41-134B	safety valve for B safeguard piping fill line	shut	70 drops/min = 3.5 cc/min		

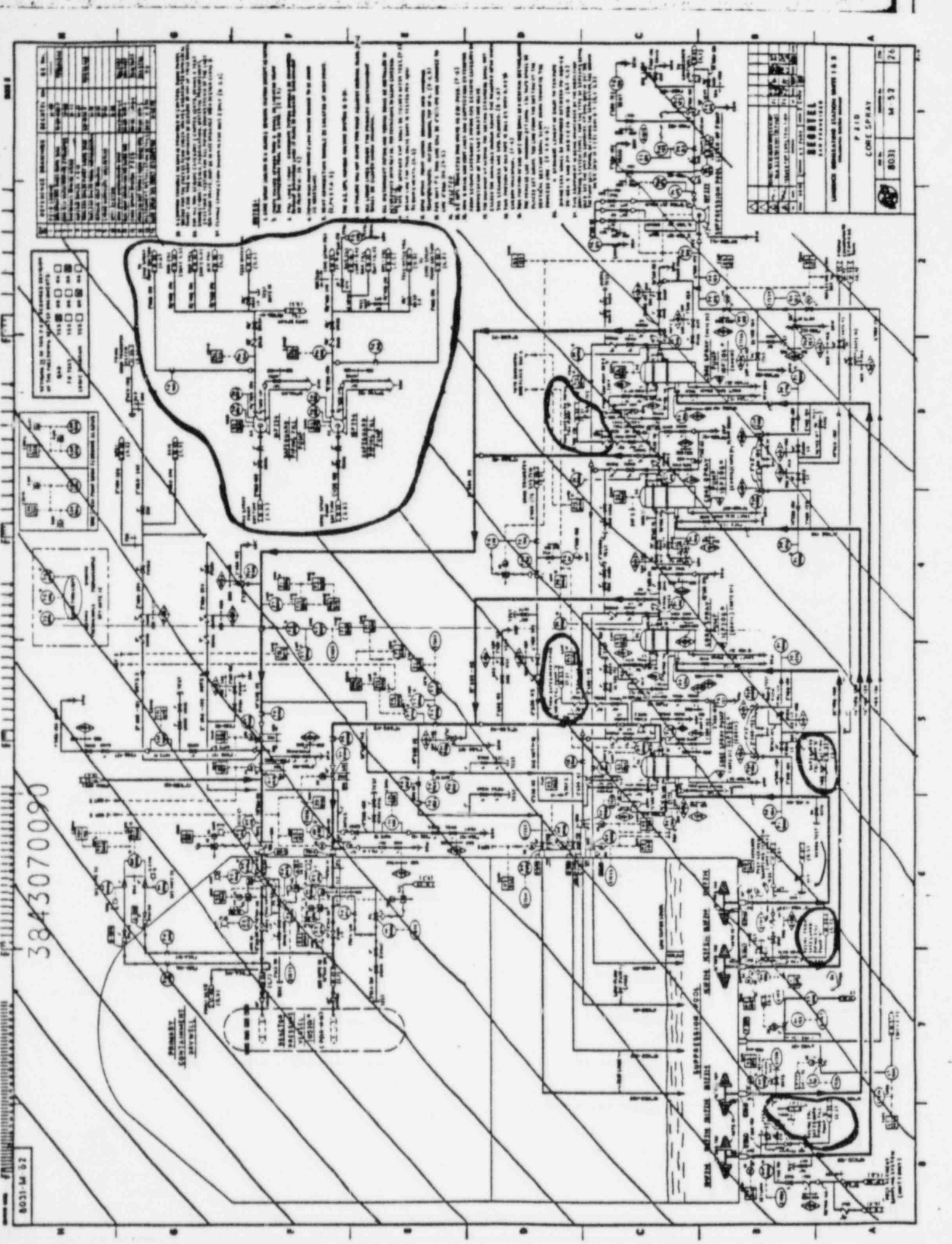


REVISION	DESCRIPTION	DATE	BY
1	ISSUED	11/16/60	W. J. B. / M. J. S.
2	REVISION 1	11/16/60	W. J. B. / M. J. S.
3	REVISION 2	11/16/60	W. J. B. / M. J. S.
4	REVISION 3	11/16/60	W. J. B. / M. J. S.
5	REVISION 4	11/16/60	W. J. B. / M. J. S.

11/16/60
 11/16/60
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 11/16/60
 11/16/60

- 1. THE HIGH PRESSURE COOLANT INJECTION SYSTEM IS DESIGNED TO...
- 2. THE SYSTEM IS CAPABLE OF WITHSTANDING A PRESSURE OF 1000 PSI...
- 3. THE SYSTEM IS DESIGNED TO OPERATE AT A TEMPERATURE OF 300°F...
- 4. THE SYSTEM IS CAPABLE OF WITHSTANDING A PRESSURE OF 1000 PSI...
- 5. THE SYSTEM IS DESIGNED TO OPERATE AT A TEMPERATURE OF 300°F...
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- 23. THE SYSTEM IS DESIGNED TO OPERATE AT A TEMPERATURE OF 300°F...
- 24. THE SYSTEM IS CAPABLE OF WITHSTANDING A PRESSURE OF 1000 PSI...
- 25. THE SYSTEM IS DESIGNED TO OPERATE AT A TEMPERATURE OF 300°F...

PROJECT NO.	8031 M 55
DATE	11/16/60
BY	W. J. B. / M. J. S.
CHECKED	W. J. B. / M. J. S.
APPROVED	W. J. B. / M. J. S.
BENTONITE HIGH PRESSURE COOLANT INJECTION SYSTEM	
P A I D 8031 M 55 24	



REFERENCE	DESCRIPTION	REVISION
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NOTES:

1. THE ALL CAPS, NUMBERED SYMBOLS IN THIS DRAWING ARE TO BE USED ONLY FOR IDENTIFICATION PURPOSES AND DO NOT INDICATE ANY SPECIFIC FUNCTION OR ACTION.
2. THE ALL CAPS, NUMBERED SYMBOLS IN THIS DRAWING ARE TO BE USED ONLY FOR IDENTIFICATION PURPOSES AND DO NOT INDICATE ANY SPECIFIC FUNCTION OR ACTION.
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8. THE ALL CAPS, NUMBERED SYMBOLS IN THIS DRAWING ARE TO BE USED ONLY FOR IDENTIFICATION PURPOSES AND DO NOT INDICATE ANY SPECIFIC FUNCTION OR ACTION.

8031-M 52 CORE SPRAY CONTROL SYSTEM	
DRAWN BY: [Name] CHECKED BY: [Name]	DATE: [Date]
PROJECT NO.: [Number]	SHEET NO.: [Number]

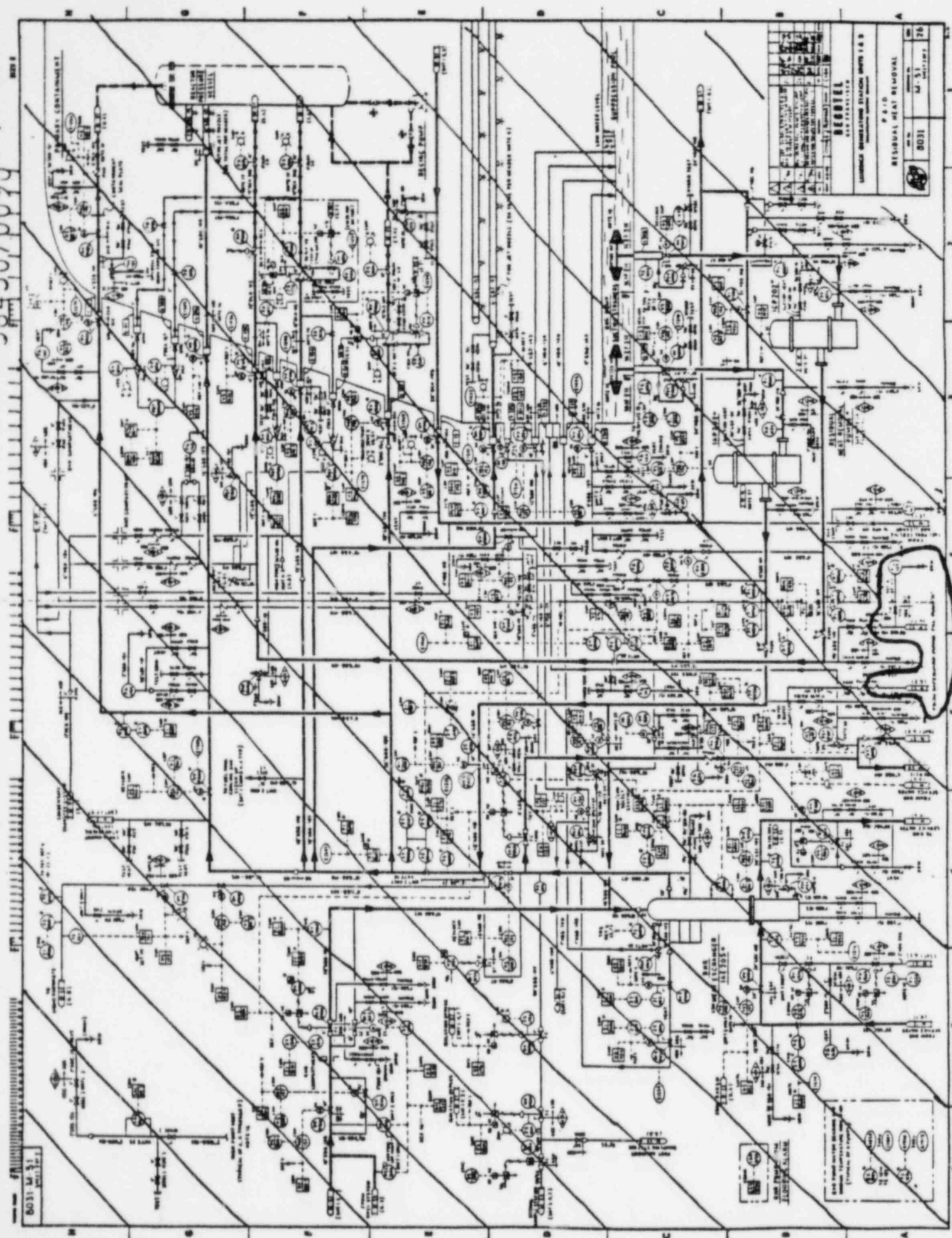
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8031-M 52

8031 M 52

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RESIDUAL HEAT REMOVAL	
STATION NO. 8031	
DATE: 10-31-53	
DRAWN BY: [Signature]	
CHECKED BY: [Signature]	
APPROVED BY: [Signature]	
SCALE: 1/4" = 1'-0"	
SHEET NO. 18	

8031 SA 51

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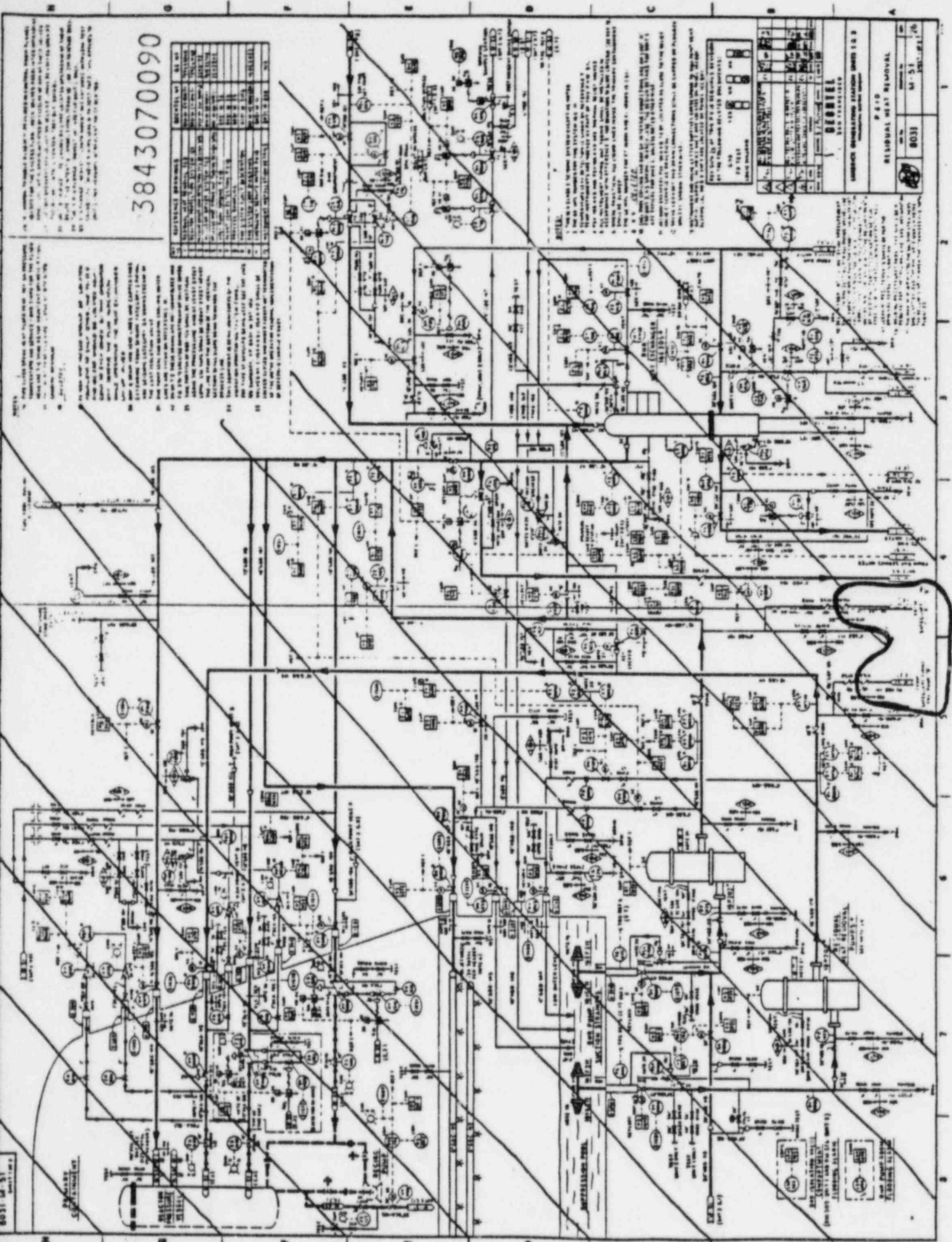
NO.	REVISIONS	DATE	BY	CHKD.
1	ASSEMBLED	11/15/60	J. J. WELLS	L. J. WELLS
2	ASSEMBLED	11/15/60	J. J. WELLS	L. J. WELLS
3	ASSEMBLED	11/15/60	J. J. WELLS	L. J. WELLS
4	ASSEMBLED	11/15/60	J. J. WELLS	L. J. WELLS
5	ASSEMBLED	11/15/60	J. J. WELLS	L. J. WELLS

1. THE CONTROL SYSTEM SHALL BE ASSEMBLED IN ACCORDANCE WITH THE ABOVE DIAGRAMS AND THE FOLLOWING NOTES.
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REMARKS:

1. THE SYSTEM SHALL BE ASSEMBLED IN ACCORDANCE WITH THE ABOVE DIAGRAMS AND THE FOLLOWING NOTES.
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CONTROL SYSTEM AIR FORCE RESERVE CENTER SAN FRANCISCO PROJECT NUMBER: 8031	
P. 8-10 RESIDUAL SET AT REMOVAL 8031 M. 53	DATE: 11/15/60 BY: J. J. WELLS CHKD.: L. J. WELLS



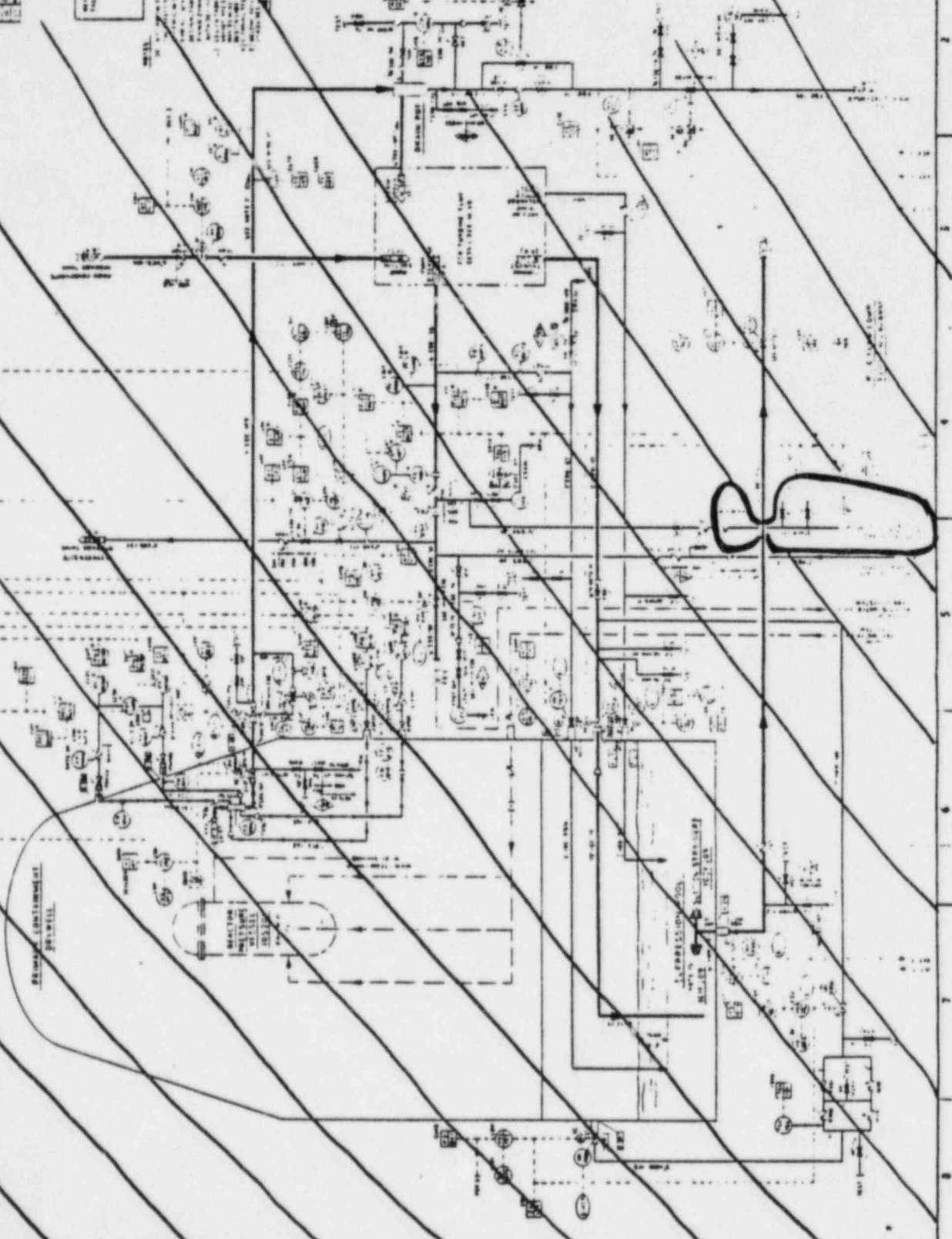
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ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

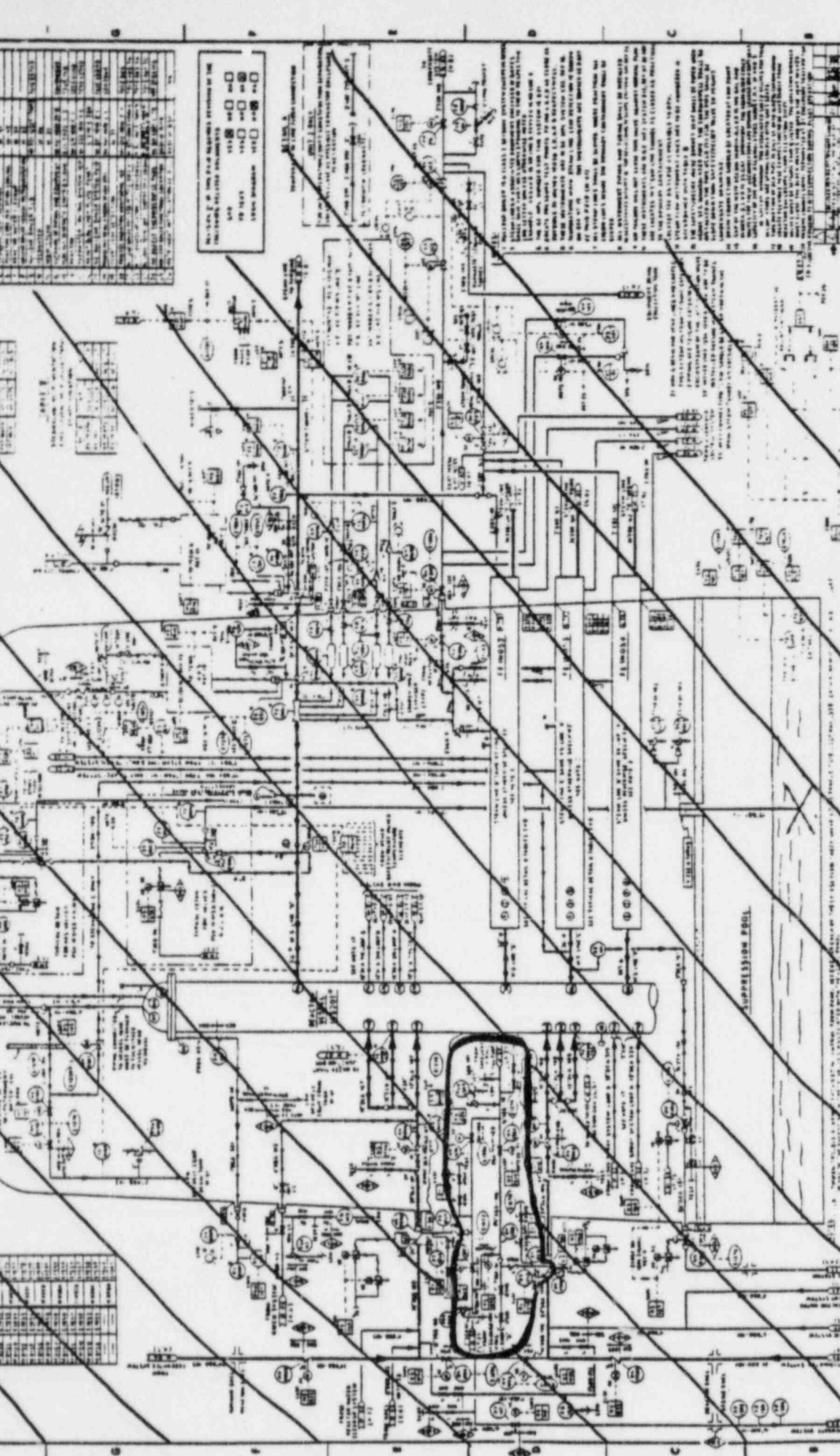
ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.



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8031 M 49

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8031 M 41

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REFERENCE DRAWINGS	
SYMBOL	DESCRIPTION

MATERIALS	
SYMBOL	DESCRIPTION

LEGEND

RESTART

SUPPRESSION POOL

NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE PROJECT.
2. ALL MATERIALS SHALL BE OF THE BEST QUALITY AVAILABLE.
3. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE DRAWING.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SCHEDULE.

PROJECT NO.	8031 M 41
DATE	11/21/71

REVISED

ISSUES OPERATING STATION UNIT 1 & 2

REVISIONS

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PROJECT INFORMATION

PROJECT NO.	8031 M 41
DATE	11/21/71
ISSUES OPERATING STATION UNIT 1 & 2	