271 BU DJHC

SAFETY RELATED ◯ YES ◯ NO

SAFETY RELATED CALCULATIONS
FOR NON-SAFETY RELATED SYSTEM

FORMAL
PIPING STRESS ANALYSIS

COMMONWEALTH EDISON COMPANY
LASALLE - UNIT 2
MAIN STEAM SYSTEM
2MS-56

Rev.: 00 Date: 8-11-82

ACCESSION NO. EMD- 037954

Information on the following
page(s) 14-18, 22

is adequate for the purpose of use.

EMD RECORD CENTER
NOV 24 1982
RECEIVED

Approved by L. D. Killian

SARGENT & LUNDY ENGINEERS CHICAGO

ENGINEERING MECHANICS DIVISION

PROJECT NO.: 4267-00
ACC. NO.: EMD-037954
CALC. NO.: 2MS-56
REV.: 00 DATE: 8-11-82
PAGE 2 OF 22

SIGNATURE PAGE

PREPARED BY: James Thompson J. Thompson DATE: 8-11-82

REVIEWED BY: S. Sharma S. Sharma DATE: 8-11-82

ANALYSIS RESULTS
APPROVED BY: S. D. Killian S. Killian DATE: 8-11-82

STRESS REPORT
APPROVED BY: S. D. Killian S. Killian DATE: 10/29/82

(X) FIRST ISSUE

( ) THIS ANALYSIS SUPERSEDES:

REV.: DATE: ACC. NO.: EMD-

TABLE OF CONTENTS

SUBSYSTEM DOCUMENTATION

System: Main Steam Subsystem: 2MS-56

Piping Classification Group: D Seismic (X) Yes ( ) No

( ) Initial (X) Formal ( ) Certified Analysis

REFERENCES

1. Certified System Design Spec.: No.: _____ Rev.: _____ Date: _____
2. Anal. Drawing: No.: M-2000-56 Rev.: A Date: 9-29-82
3. P&ID Drawings: No.: _____ Rev.: _____ Date: _____
4. Equip. Spec.: No.: _____ Rev.: _____ Date: _____

5. Seismic Information:

   LASALLE2*SPECTRA-REV1

6. Other:

ANALYSES PERFORMED

Loadings	Date	Comments	Check-list Item No.	Sec.
BASIC DATA	8-11-82	BASIC DATA INPUT	1.0	C
WEIGHT	8-11-82	REGULAR WEIGHT ANALYSIS	3.0	E
THERMAL	8-11-82	MODE 1 - NORMAL OPER. TEMP.	2.0	D
	8-11-82	MODE 2 - STARTUP OPERATION	2.0	D
DYNAMIC	8-11-82	OBE HALF PERCENT	5.0	F
HYDRO	8-11-82	INCLUDED, BUT UNNECESSARY		

RUN ID: ST19

VALIDATED PROGRAMS USED:
☒ PIPSYS ☐ NOHEAT ☐ SRVA

PROJECT NO.: 4267-00
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DESCRIPTION	CHECKED*	COMMENTS
1.0 Basic Design Data (Output Section C)		
1.1 Have all branch lines met the criteria $I_R/I_B \leq 7.0$?	✓	N.A
1.2 Are all material types coded correctly?	✓	
1.3 Are all pipe/fitting thicknesses and uniform weights coded correctly?	✓	
1.4 Are all motor or pneumatic-operated valves modeled using lumped masses and cg's?	✓	
1.5 Is the system modeled correctly (length ratios, etc.)?	✓	
1.6 Are all hangers/restraints modeled correctly?	✓	
1.7 Are there any special modeling techniques used in the analyses (equipment flexibility, special restraint configurations, etc.)?	X	
1.8 Are all node types coded correctly?	✓	
1.9 Is the internal pressure (max. op. pressure) coded in psig?	✓	

* In this column on this Form, a check mark (✓) indicates an affirmative answer (yes).

Form MAS-EMD-2.2 Approved by R. J. Bryan Dept. Mgr.
Rev. Orig. (7-31-80)

SAFETY-RELATED
MECHANICAL DEPARTMENT STANDARD
CHECKLIST FOR
PIPING SYSTEM STRESS ANALYSIS

FOR OFFICE USE ONLY - NOT TO BE SENT OUTSIDE OF SARGENT & LUNDY

SARGENT & LUNDY ENGINEERS

DESCRIPTION	
2.0 Thermal Analysis (Output Section D)	
2.1 Are all specified thermal modes analyzed correctly?	✓
2.2 Is the anchor movements input correct?	✓
2.3 Are all the deflections reasonable? (If over 1.5" specify)	✓
3.0 Weight Analysis (Output Section E)	
3.1 Is the overall support system balanced?	✓
3.2 Are all pipe deflections within 0.2 inches?	✓
4.0 Equivalent Static Load Analyses (Output Section D)	
The following analyses are performed using the PIPSYS static analysis routine:	
a-	
b-	
c-	
d-	
e-	
f-	
g-	
h-	
4.1 Are all design parameters in agreement with the stress analysis?	
4.2 Are the forces input correctly in the PIPSYS with respect to magnitude, direction and point of action?	
4.3 Has the effect of seismic differential anchor movements been considered and have the data sources been documented?	

a	b	c	d	e	f	g	h

N.A.

Form MAS-EMD-2.2
Rev. Orig. (7-31-80)

DESCRIPTION	a	b	c	d	e	f	g	h	
5.0 Dynamic Analyses (Output Section F)									
5.1 The following analyses are performed using response spectra method (Seismic in PIPSYS Output):									
a-Seismic OBEHALFPERCENT	✓								
b-									
c-									
d-									
e-									
f-									
g-									
h-									
5.1.1 Are the latest revisions of response spectra used for the analysis?	✓								
5.1.2 Are the length ratios acceptable?	✓								
5.1.3 Does cutoff frequency cover the peak acceleration value?	✓								
5.1.4 Is the square root of the double sum method used to combine the modal responses?	✓								
5.1.5 Are all the deflections reasonable? (If over 1.0" OBE, specify)	✓								
5.1.6 Has the effect of seismic differential anchor movements been considered?	X								
5.2 The following analyses are performed using the forcing function method (Transient in PIPSYS Output):									N.A.
a-									
b-									
c-									
d-									
e-									
f-									
g-									
h-									

Form MAS-EMD-2.2
Rev. Orig. (7-31-80)

DESCRIPTION	a	b	c	d	e	f	g	h
5.2.1 Is the force calculation design basis listed or referenced?								
5.2.2 If force calculations are not attached to this analysis, are they referenced?								
5.2.3 Are all necessary design parameters specified in this analysis (opening/closing times, flow rates, etc.)?								
5.2.4 If a safety/relief valve analysis is performed:								
a. Does the steam stagnation pressure and density reflect the S/RV set point?								
b. Are the pipe ID and segment lengths input correctly in the SRVA program?								
c. Is the pipe submerged length correctly calculated and input?								
d. Is the correct density used in the calculation?								
5.2.5 Are the forces input correctly in the PIPSYS with respect to magnitude, direction and point of action?								
5.2.6 Are the equipment reactions included with the correct load set?								
6.0 Thermal Transient Analysis (ASME Class 1 Piping Only)								
6.1 Are the results of transient analysis attached to this report?								

N.A.

Form MAS-EMD-2.2
Rev. Orig. (7-31-80)

DESCRIPTION	GM	
6.2 Are all transient stresses identified and are the NOHEAT RUNS properly documented?		N.A.
6.3 Are thermal transient conditions and cycles correct?		
6.4 Are all discontinuities considered?		
6.5 Are the film coefficients, densities and material thermal conductivity correct?		
6.6 Are correct time steps used in performing the transient analysis?		
7.0 Hand Calculations		
7.1 If hand calculations are not attached to this analysis, are they properly referenced?		
7.2 Are the calculations reviewed in accordance with GQ-3.08?		
☐ A detailed review of original calculation.		
☐ A review by an alternate, simplified or approximate method of calculation.		
☐ A review of a representative sample of repetitive calculations.		
☐ A review of the calculation against a similar calculation previously performed.		
8.0 Combined Stresses (Output Section A)		
8.1 Are the stresses within the allowables?	✓	
8.2 Are the allowable stresses for the materials used in the analysis in agreement with the Code?	✓	
8.3 Is the design pressure correct?	✓	

Form MAS-EMD-2.2
Rev. Orig. (7-31-80)

CALC. NO.:	REV.:	DATE:
PROJECT NUMBER:		EMD FILE NO.:

PROJECT NO.: 4257-00
ACC. NO.: EMD-037954
CALC. NO.: 2MS-56
REV.: 00 DATE: 8-11-82

DESCRIPTION	C.	
8.4 Are all thermal load combinations specified in accordance with the design specification?	✓	
8.5 Are all mechanical loads listed, per the design specification, as service level B, C or D?	✓	
8.6 Are the number of earthquake cycles calculated per the design specification or per SRP-3.7.3?	N.A.	
8.7 Are all high-stress/usage factor (over 0.1) points run with the detailed output?	N.A.	
9.0 Combined Reactions (Output Section B)		
9.1 Are all applicable forces and moments considered for both service levels B and C?	✓	
9.2 Are all the equipment nozzles identified correctly?	✓	
9.3 Are equipment loads and valve accelerations acceptable? Have they been forwarded to the EMD/CAS?	✓	
9.4 Are the vendor supplied component supports able to carry the imposed loads?	✓	
9.5 Are all Type 3 restraints reviewed to determine if they can be replaced by rigid restraints?	✓	
9.6 Method used to combine the loads: ☐ Absolute Sum ☒ SRSS	✓	

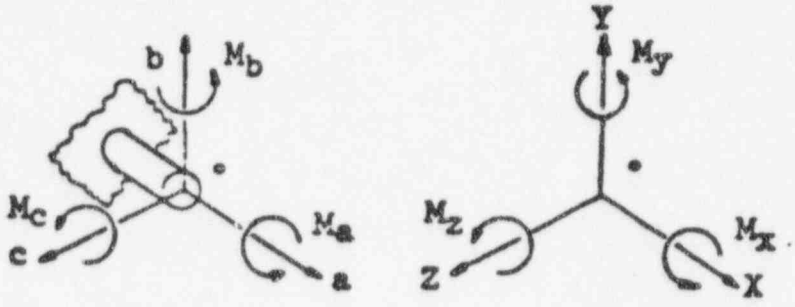
Form MAS-EMD-2.2
Rev. Orig. (7-31-80)

GENERAL NOTES

I. The analysis is based on the following Code and S&L Programs:

- (X) ASME Code, Sec. III - Class 3 of 1977 issue.
- ( ) ANSI B31.1 of issue.
- (X) "PIPSYS" (Prog. No. 09.5.065-5.3) of June 1, 1982 issue.
- ( ) "SRVA" (Prog. No.) of issue.
- ( ) "NOHEAT" (Prog. No. 09.5.075.) of issue.

II. Coordinate Systems:



LOCAL GLOBAL

III. Conclusions & Design Requirement.

1. Maximum stresses are within the code allowables if the recommended restraint changes are made.
2. All valve accelerations, forces and moments are within the manufacturer's allowables, and similarly for the main condenser.
3. Analysis is based on as-built isometric received from EMD field dated 7-14-82

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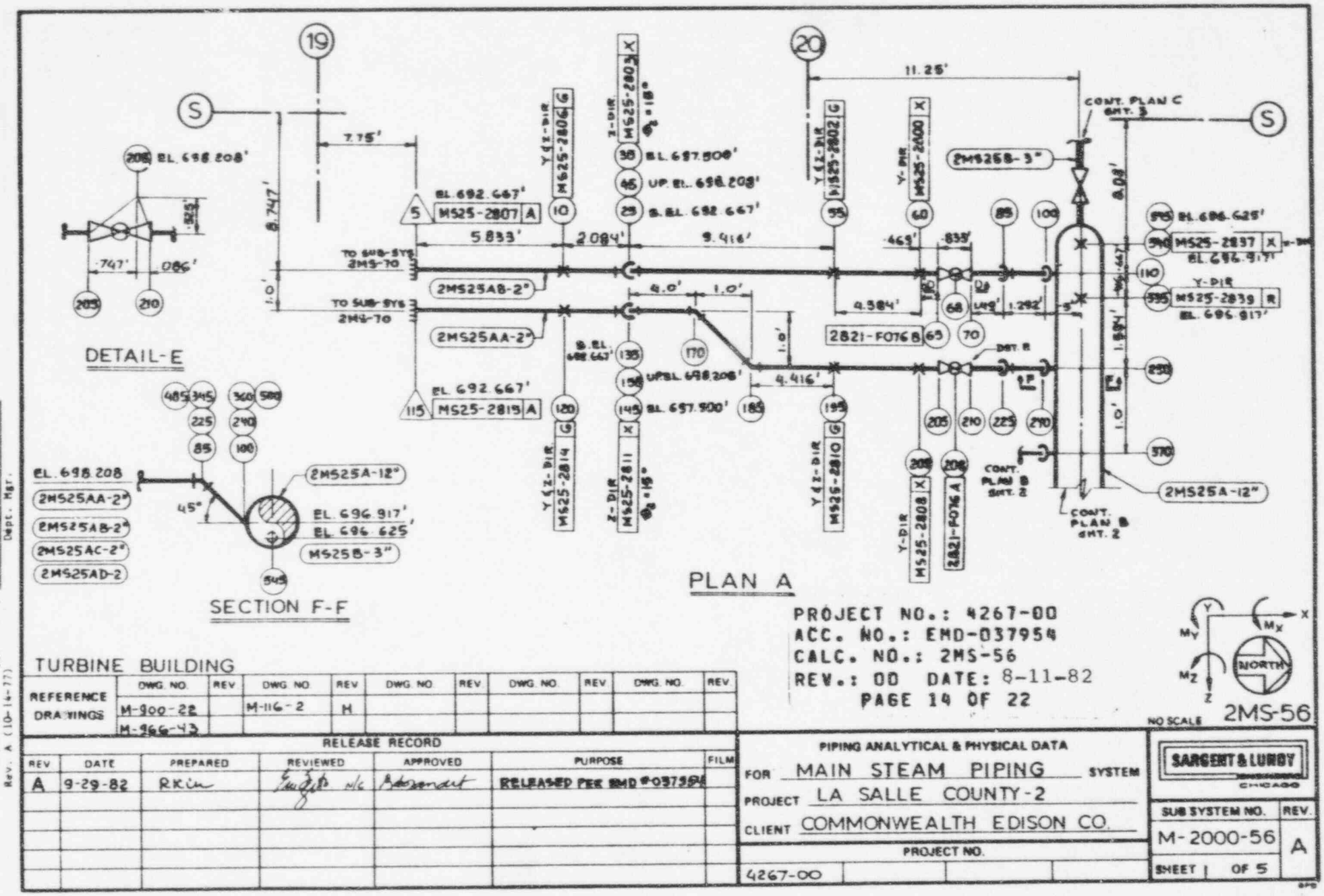

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NO SCALE 2MS-56

TURBINE BUILDING

REFERENCE DRAWINGS	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV
	M-900-22		M-116-2	H						
	M-966-43									

RELEASE RECORD

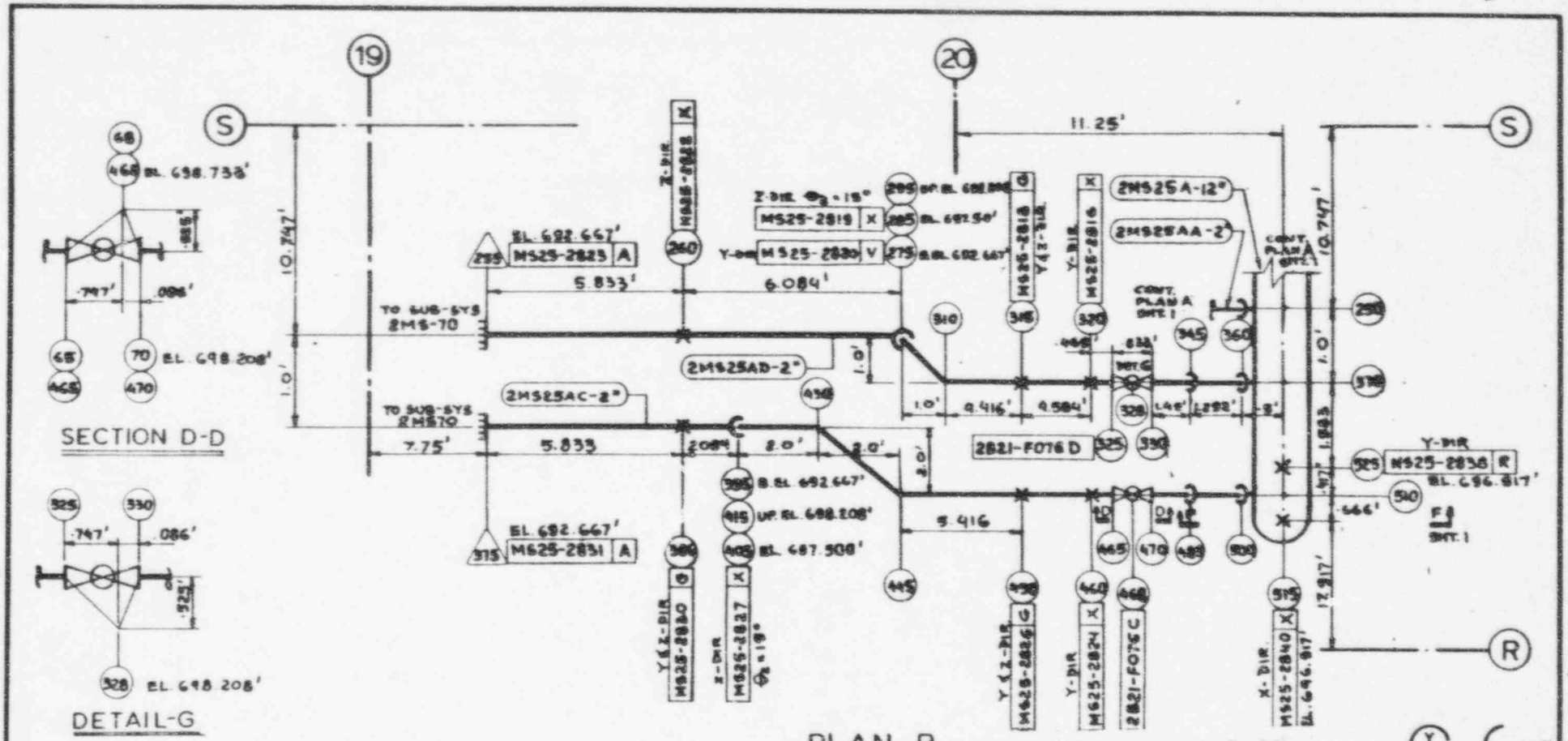
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE	FILM
A	9-29-82	RKin	[illegible]	[illegible]	RELEASED PER EMD #037954	

PIPING ANALYTICAL & PHYSICAL DATA
FOR MAIN STEAM PIPING SYSTEM
PROJECT LA SALLE COUNTY-2
CLIENT COMMONWEALTH EDISON CO.
PROJECT NO. 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

SUB SYSTEM NO.	REV.
M-2000-56	A
SHEET 1 OF 5	

Form KES-6.4-1 Rev. A (10-14-77) Approved by [signature] Dept. Mgr.



SECTION D-D

DETAIL-G

PLAN B

TURBINE BUILDING

REFERENCE DRAWINGS	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV
	M-900-22		M-116-7	H						
	M-966-43									

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NO SCALE 2MS-56

RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE	FILM
A	9-28-82	RKin	[illegible]	[illegible]	RELEASED PER EMD #037954	

PIPING ANALYTICAL & PHYSICAL DATA

FOR MAIN STEAM PIPING SYSTEM

PROJECT LA SALLE COUNTY-2

CLIENT COMMONWEALTH EDISON CO.

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4267-00

SARGENT & LUNDY CHICAGO

SUB SYSTEM NO.	REV.
M-2000-56	A
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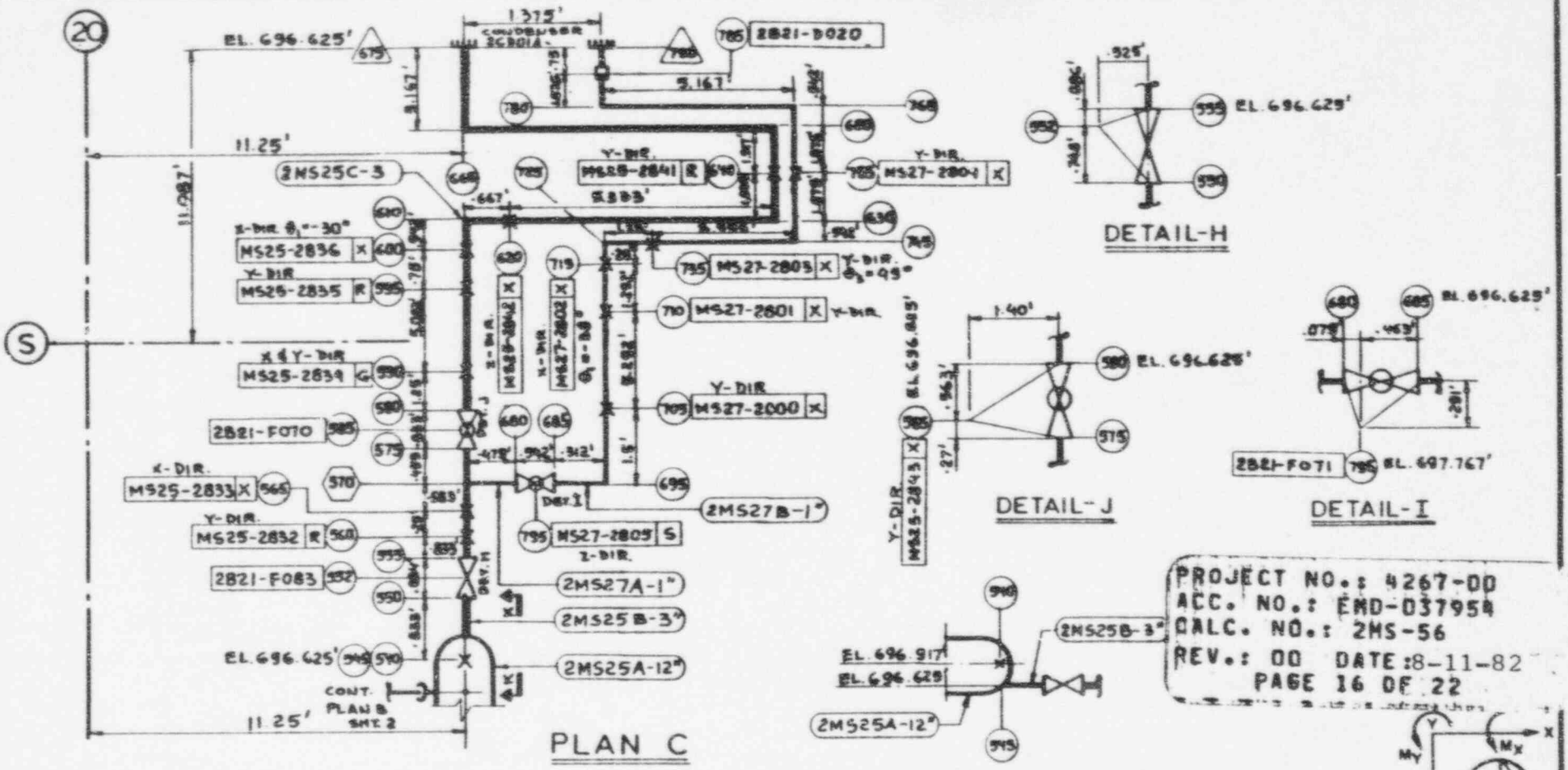
Form NES 6.4.1 Approved by [signature] Dept. Mgr.
Rev. A (10-14-77)



TURBINE BUILDING

REFERENCE DRAWINGS	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
	M-900-22		M-116-2	H						
	M-966-43									

RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE	FILM
A	9-29-82	RCin	[illegible]	[illegible]	RELEASED PER EMD-037954	

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PIPING ANALYTICAL & PHYSICAL DATA
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SARGENT & LUNDY CHICAGO

SUB SYSTEM NO.	REV.
M-2000-56	A
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NO SCALE 2MS-56

Form NES 6.4.1 Approved by [signature] Dept. Mgr.
Rev. A (10-14-77)

PIPE DATA

REV	NODE POINTS FROM	NODE POINTS TO	LINE NUMBER	CLASS PIPE	CLASS SEIS	PIPING DESIGN TABLE	MATERIAL SPEC.	MATERIAL GR.	DESIGN PRESS.	MAX. OPER. PRESS.	MAX. OPER. TEMP.	O.D.	SCHED.	WALL THICK	INSUL. THICK	1. PIPE	2. OPER. FLUID	3. INSUL.	OPER. TOTAL 1+2+3	4. WATER	HYDRO 1+4
	5	100	2MS25AB-2"	D	B	+930LS	ASTM A-335	P5	1250	1025	550°	2.375	80	.218	2.5	5.02	0.020	3.65	8.69	1.28	6.30
	115	240	2MS25AA-2"	D	B	+930LS	↓	↓	↓	↓	↓	2.375	↓	.218	2.5	5.02	0.020	3.65	8.69	1.28	6.30
	255	360	2MS25AD-2"	D	B	+930LS						2.375		.218	2.5	5.02	0.020	3.65	8.69	1.28	6.30
	375	500	2MS25AC-2"	D	B	+930LS						2.375		.218	2.5	5.02	0.020	3.65	8.69	1.28	6.30
	515	545	2MS25A-12"	D	B	+930LS						12.75		.687	3.0	88.50	1.673	13.10	103.27	44.0	132.5
	545	580	2MS25B-3"	D	B	+930LS						3.50		.300	2.5	10.25	0.050	4.45	14.75	2.86	13.11
	580	675	2MS25C-3"	D	N	930LS						3.50		.300	2.5	10.25	0.050	4.45	14.75	2.86	13.11
	570	685	2MS27A-1"	D	B	+930LS						1.315		.179	2.0	2.17	0.012	2.10	4.28	0.31	2.48
	685	790	2MS27B-1"	D	N	930LS	↓	↓	↓	↓	↓	1.315	↓	.179	2.0	2.17	0.012	2.10	4.28	0.31	2.48

TDK 10-14-77

VALVE & SPECIAL FITTINGS DATA

REV	NODE POINTS FROM	NODE POINTS TO	TYPE	PRESSURE RATING	VAL. STROKING TIME (SEC.) OPEN	VAL. STROKING TIME (SEC.) CLOSE	VAL./FIT WT LBS. PRELIM.	VAL./FIT WT LBS. ACTUAL	OPERATOR WT LBS. PRELIM.	OPERATOR WT LBS. ACTUAL	FLEXIBILITY INFO O.D.	FLEXIBILITY INFO THICK	VENDOR	DRAWING NO.	REV	REMARKS
	65	70	2" "Y" GLOBE VA.	900#			85				2.375	.654	ANDERSON J-2950-01	03-6400-510		2B21-F076B
	205	210	↓	900#			85				2.375	.654	↓	03-6400-510		2B21-F076A
	325	330		900#			85				2.375	.654		03-6400-510		2B21-F076D
	465	470		900#			85				2.375	.654		03-6400-510		2B21-F076C
	550	555	3" "Y" GLOBE VA.	900#			85				3.50	.900		04-4010-510		2B21-F083
	575	580	3" VA. AS. MTR. OPR.	900#			95	1.5	115		3.50	.900		03-6497-550		2B21-F070
	680	685	1" VA. AS. MTR. OPR.	900#			20		142		1.313	.537	↓	03-6498-500		2B21-F071
	785		ORIFICE				.875						DRAGON VALVE INC.	12250 J-2956		2B21-D020

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2MS-56

RELEASE RECORD						
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A	9-29-82	RKim	EuZeta n/c	Abogonant	RELEASED PER EMD#037954	

PIPING ANALYTICAL & PHYSICAL DATA

FOR MAIN STEAM PIPING SYSTEM

PROJECT LA SALLE COUNTY-2

CLIENT COMMONWEALTH EDISON CO

PROJECT NO. 4267-00

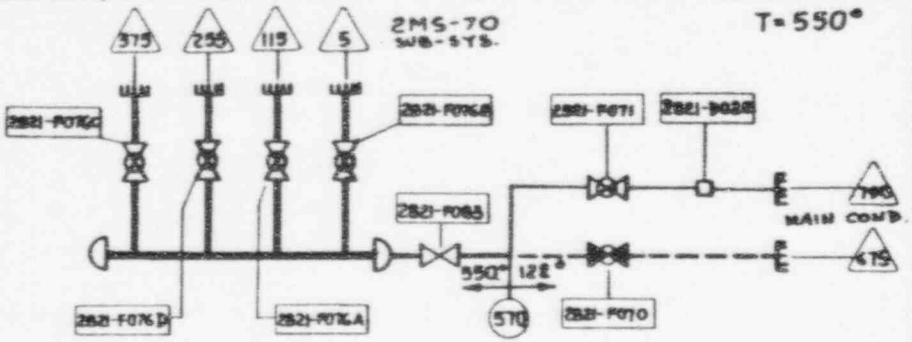
SARGENT & LUNDY CHICAGO

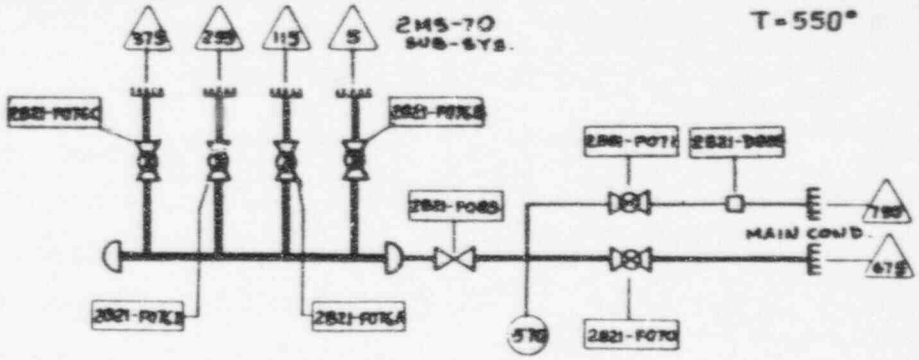
SUB SYSTEM NO. M-2000-56 REV. A

SHEET 4 OF 5

SCHEMATIC OF MODES TO BE ANALYZED — TOTAL NO. OF MODES REQUIRED _____

MODE NO.	MODE DESCRIPTION
1	NORMAL OPERATION CONDITION
2	START-UP/SHUTDOWN OPERATION CONDITION





NOTE: ——— DELINEATES FLOW PATH

PROJECT NO.: 4267-00
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CALC. NO.: 2MS-56
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CMR	MODE NO. 1							EQUIPMENT INFORMATION					REV	MODE NO. 2						
	NODE POINT	TEMP.	TERMINAL MOVEMENTS ΔX	ΔY	ΔZ	CALC BY VDR	S&L	EQUIPMENT NUMBER	EQUIPMENT TITLE	VENDOR	DRAWING NO.	REV.	REMARKS		NODE POINT	TEMP.	TERMINAL MOVEMENTS ΔX	ΔY	ΔZ	CALC. BY VDR	S&L
	5	550°	0	0	0				ANCHOR		M325-2807A				5	550°	0	0	0		
	115	↓	0	0	0				↓		M325-2815A				115	↓	0	0	0		
	255	↓	0	0	0				↓		M325-2823A				255	↓	0	0	0		
	375	↓	0	0	0				↓		M325-2831A				375	↓	0	0	0		
	675	122°	.1703	.0456	.2293			2CD01A	CONDENSER	WECO	J-2819 731J321				675	↓	.1703	.0456	.2293		
	790	550°	.1608	.0456	.2293			↓	↓	↓	↓				790	↓	.1608	.0456	.2293		

RELEASE RECORD

REV	DATE	PREPARED	CHECKED	ENG'R APP'L.	REV. DESCRIPTION	FILM
A	9-29-82	RKin	[signature]	[signature]	RELEASED PER EMD#037954	

PIPING ANALYTICAL & PHYSICAL DATA
FOR MAIN STEAM PIPING SYSTEM
PROJECT LA SALLE COUNTY CO
CLIENT COMMONWEALTH EDISON CO
PROJECT NO. 4267-00

SARGENT & LUNDY
SUB SYSTEM NO. M-2000-56 REV. A
SHEET 5 OF 5

FORM NES-6.4.3 Approved by [signature] (Lead Engr.)
Rev. A (10-14-77)

SARGENT & LUNDY ENGINEERS CHICAGO

Calcs. For 2MS-56

User coded stress intensification factor

X Safety-Related | Non-Safety-Related

PROJECT NO.: 4267-00
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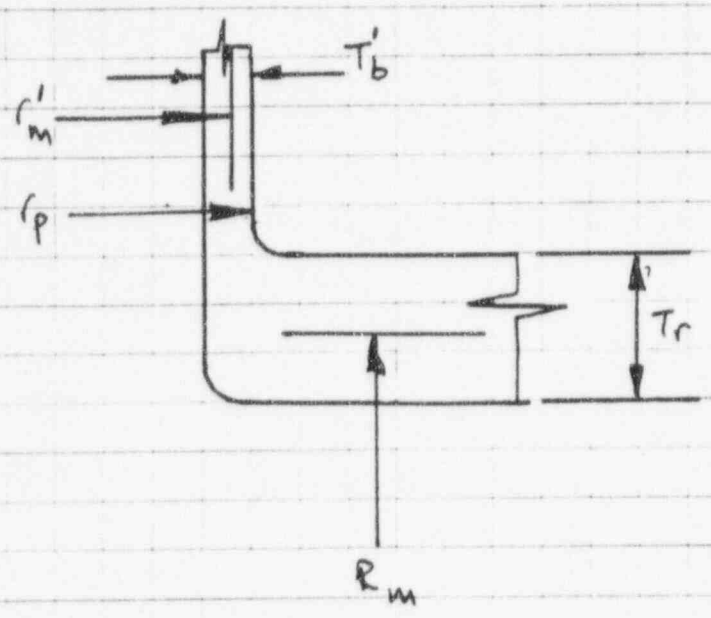
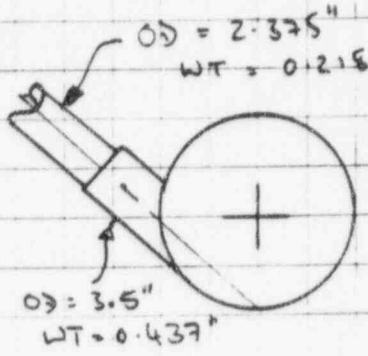
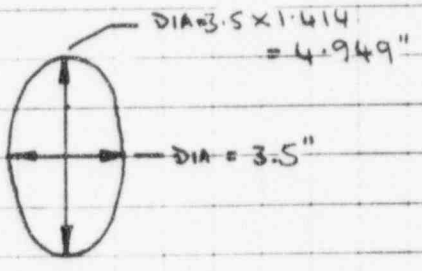
Client	CECO	Prepared by	Date 8.6.82
Project	LASALLE	Reviewed by	Date
Proj. No.	4267 Equip. No.	Approved by	Date

FOR NODES 110, 250, 370, 510







ASSUMPTION: FOR CALC USE LARGER DIA of ELLIPSE AS SHOWN

REFERENCE:

FROM PIPSYS PAGE 12-2-10

STRESS INTENSIFICATION FACTOR, I, FOR BRANCH:

$$I = 1.5 \left(\frac{R_m}{T_r}\right)^{2/3} \left(\frac{r_m'}{R_m}\right)^{1/2} \left(\frac{T_b'}{T_t}\right) \left(\frac{r_m'}{r_p}\right)$$

Where

R_m = mean radius of run pipe = $\frac{12.75 - 0.687}{2}$ = 6.032"

T_r = nominal thickness of run pipe: 0.687"

r_m' = mean radius of branch pipe = $\frac{4.949 - 0.618}{2}$ = 2.166"

$T_t = T_b'$ = nominal thickness of branch pipe = 0.437 x 1.414 = 0.618"

r_p = outside radius of branch pipe = $\frac{3.5 \times 1.414}{2}$ = 2.475"

Form GO-3.08.1 Rev 2

Client CECO		Prepared by Jim Thompson	Date 8.6.82
Project LASALLE		Reviewed by	Date
Proj. No. 4267	Equip. No.	Approved by	Date

$$\therefore \quad I_1 = 1.5 \left(\frac{6.032}{0.687}\right)^{2/3} \left(\frac{2.166}{6.032}\right)^{1/2} \left(\frac{0.618}{0.618}\right) \left(\frac{2.166}{2.475}\right)$$

$$= 1.5\,(4.256)\,(0.599)\,(1.000)\,(0.875)$$

$$= 3.346$$

for inclination, use factor of 2

$$I_1' = 2I_1 = 2(3.346) = \underline{\underline{6.692}}$$

FOR NODE 545

$R_m = 6.032"$

$T_r = 0.687"$

$r_m' = \frac{3.5 - 0.3}{2} = 1.60"$

$T'b = 0.30" = T_t$

$r_p = 3.50"$

$$I_2 = 1.5 \left(\frac{R_m}{T_r}\right)^{2/3} \left(\frac{r'_m}{R_m}\right)^{1/2} \left(\frac{T'b}{T_t}\right) \left(\frac{r'_m}{r_p}\right)$$

$$= 1.5\,(4.256)\,(0.515)\,(1.000)\,(0.457)$$

$$= 1.50$$

SARGENT & LUNDY ENGINEERS CHICAGO

Calcs. For 2MS-56

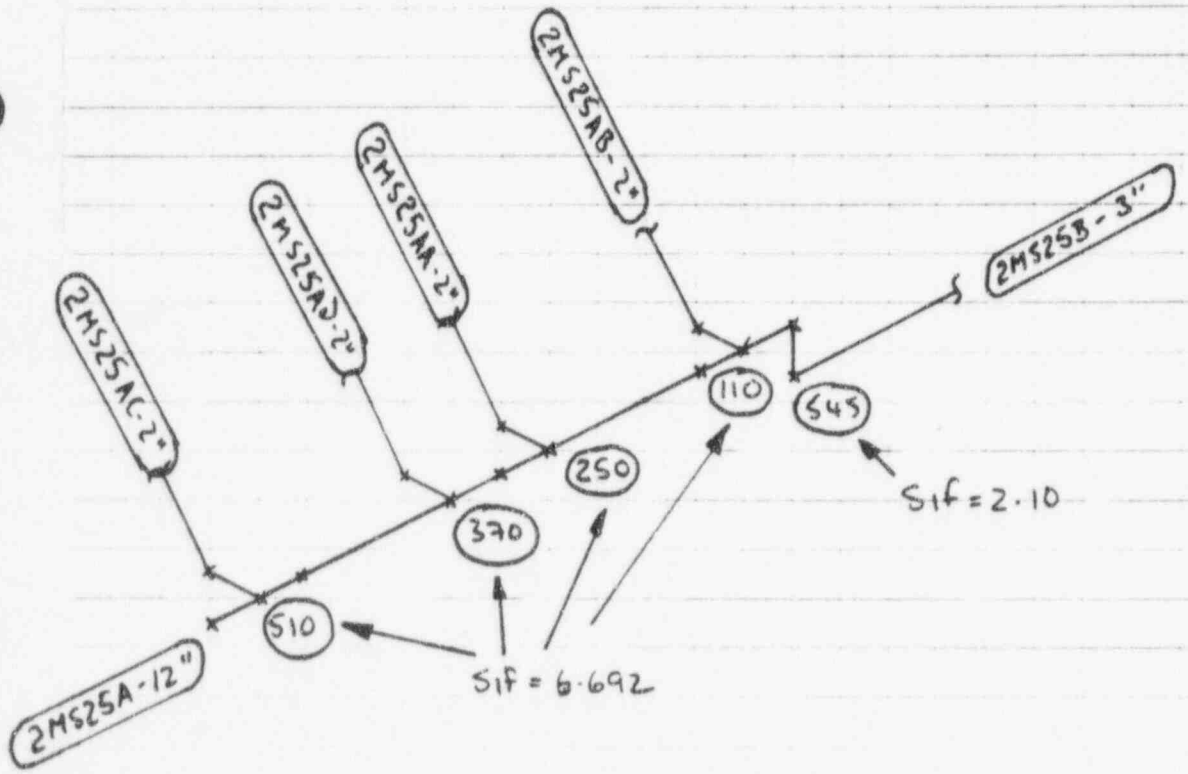
User coded stress intensification factor

Safety-Related | Non-Safety-Related

PROJECT NO.: 4267-00
ACC. NO.: EMD-037954
CALC. NO.: 2MS-56
REV.: 00 DATE: 8-11-82
PAGE 21 OF 22

Client	CECO	Prepared by Jim Thompson	Date 6-82
Project	LASALLE	Reviewed by	Date
Proj. No.	4267 Equip. No.	Approved by	Date

→ Use $I_2' = 2.10$ to be conservative



Form GO 3.08.1 Rev 2

SARGENT & LUNDY
CHICAGO

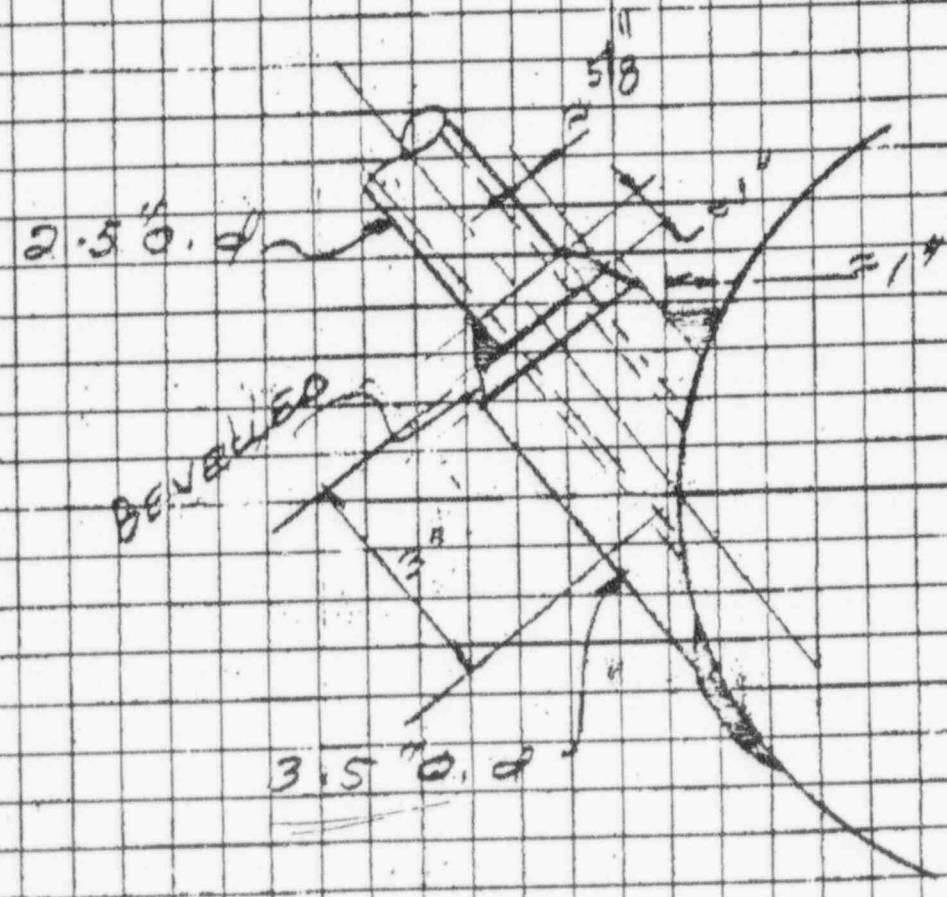
Calcs. For Header Connection

Safety-Related | Non-Safety-Related

PROJECT NO.: 4267-00
ACC. NO.: EMD-037954
CALC. NO.: 2MS-56
REV.: 00 DATE: 8-11-82
PAGE 22 OF 22

Client
Project
Proj. No. Equip. No.

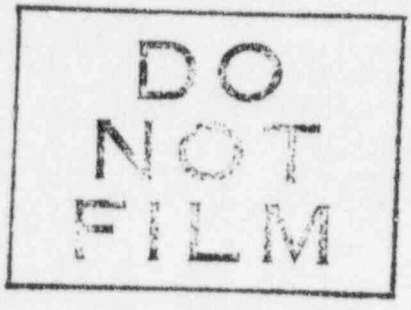
Prepared by
Reviewed by Date
Approved by Date



Ref- MS-56 & 57

A. M. CHAUDHARY
2/F/3

Form GQ-3.08.1 Rev. 2


DO
NOT
FILM

SARGENT & LUNDY

INTER-OFFICE MEMORANDUM

From Jim Thompson Date 12 AUGUST, 1982

Dept./Div. Mechanical/EMD Project No. 4267-00

Spec. No.

File No.

Page No. 1 of 2

Client CECo Stn. LaSalle Unit 2

Subject Request to Change or Add Restraints

To: J. C. Szydlik - 21

CC: G. H. DeBoo - 21
S. D. Killian - 21
J. M. Nosko - 21
B. R. Parduhn - 21
W. Thiel - Field

FEASIBILITY of CHANGES DISCUSSED AND AGREED TO BETWEEN A. CHAUDHARY AND S. MURTHY / D.S. DHILLON (EMD) IN FIELD

The following restraint request information for Subsystem _____ is to be examined by MDD and SDD. Required support location and angularity are given on the attached sketches.

Node Point	Support Design Basis Loads SLA	SLB	SLC	SLD	Required Structure Support Must Attach To	Required Action
260 -28224	38 9	192 -145	-	327 -279		RESTRAINT IS BUILT AS GUIDE TO RESTRAIN Y AND Z (GLOBAL) MOVEMENT. RELEASE Y RESTRAINT SEE DRAWING ATTACHED CHANGE RESTRAINT ID TO MS25-2822X

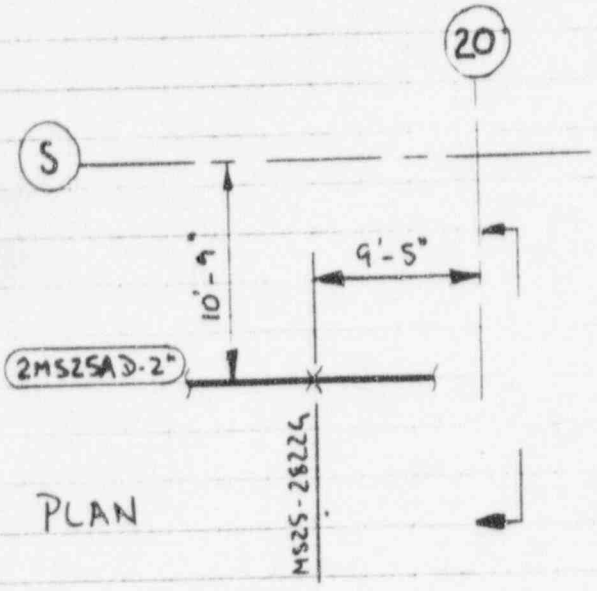
EMD's scope of work for this subsystem will be on hold awaiting your approval.

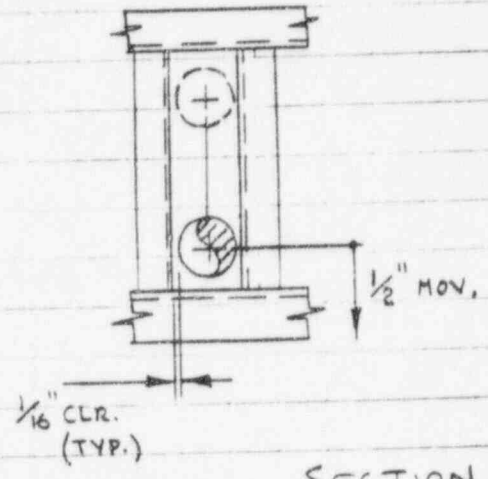
FEASIBILITY of CHANGES

SARGENT & LUNDY ENGINEERS CHICAGO

Calcs. For MS25-28224 ON 2MS56		Calc. No.	
		Rev.	Date
✓ Safety-Related	Non-Safety-Related	Page 2 of 2	

Client LECO	Prepared by Jim Thompson	Date 8.12.82	
Project LASALLE	Reviewed by	Date	
Proj. No. 4267 Equip. No.	Approved by	Date	





NOTE: 1. THE SUPPORTS ON THE 3 ADJACENT LINES, MS25-28064, MS25-28144, AND MS25-28304 ARE UNAFFECTED AND REMAIN Y AND Z GLOBAL RESTRAINTS

2. THE MODIFIED SUPPORT, MS25-28224, MUST ACCOMODATE A MOVEMENT OF AT LEAST 0.38" IN THE NEGATIVE Y DIRECTION TO ALLOW FOR THERMAL EXPANSION

Form GQ 3.08.1 Rev 2

SARGENT & LUNDY

INTER-OFFICE MEMORANDUM

From Jim Thompson — Date 6 AUGUST, 1982

Dept./Div. Mechanical/EMD — Project No. 4267-00

Spec. No.

File No.

Page No. 1 of 2

Client CECo — Stn. LaSalle — Unit 2

Subject Request to Change or Add Restraints

To: J. C. Szydlik - 21

CC: G. H. DeBoo - 21
S. D. Killian - 21
J. M. Nosko - 21
B. R. Parduhn - 21
W. Thiel - Field

The following restraint request information for Subsystem 2MS-56 is to be examined by MDD and SDD. Required support location and angularity are given on the attached sketches.

Node Point	RESTRAINT I.D.		Required Structure Support Must Attach To	Required Action
15	MS25-28055	SEE FIG. 1		ALL (11) TO BE DELETED
20	MS25-28047	" "		
75	MS25-28015	" "		
125	MS25-28127	SEE FIG. 2		
130	MS25-28135	" "		
215	MS25-28095	" "		
265	MS25-28215	SEE FIG. 3		
*				
335	MS25-28175	" "		
385	MS25-28287	SEE FIG. 4		
390	MS25-28295	" "		
425	MS25-28255	" "		

EMD's scope of work for this subsystem will be on hold awaiting your approval.

* NOTE: VARIABLE HANGER, MS25-2820V, AT NODE 275 IS NOT AFFECTED BY THIS CHANGE AND MUST REMAIN AS BUILT.

SARGENT LUNDY ENGINEERS CHICAGO

Calcs. For	2MS-56
	LOCATION OF RESTRAINTS TO BE DELETED
X	Safety-Related
	Non-Safety-Related

Calc. No.	
Rev.	Date
Page	2 of 2

Client	CECO	Prepared by	Jim Thompson — Date 8-9-82
Project	LASALLE	Reviewed by	Date
Proj. No.	4267 Equip. No.	Approved by	Date

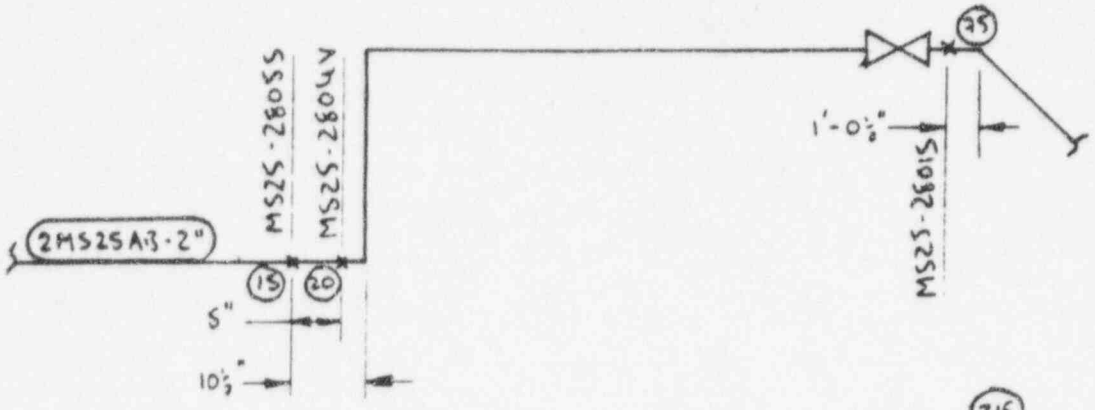


FIG. 1

1. MS25-28015
2. MS25-28044V
3. MS25-28055

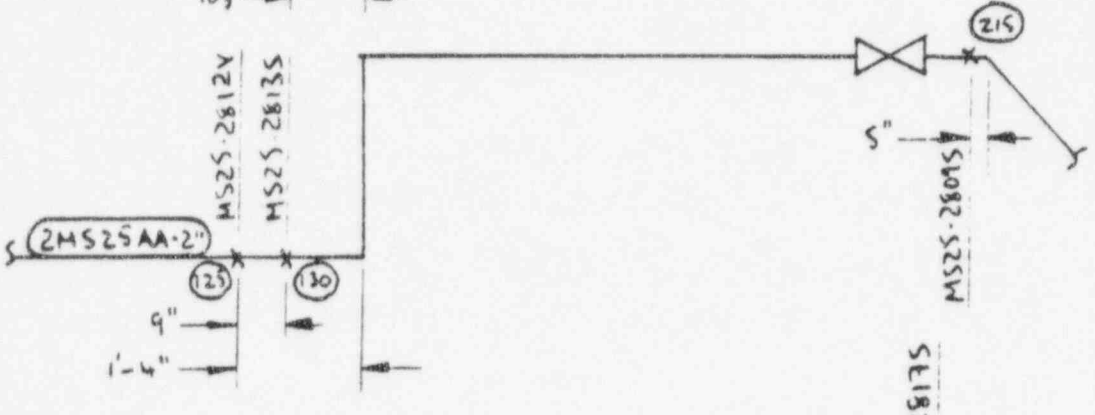


FIG. 2

1. MS25-28045
2. MS25-28135
3. MS25-28125

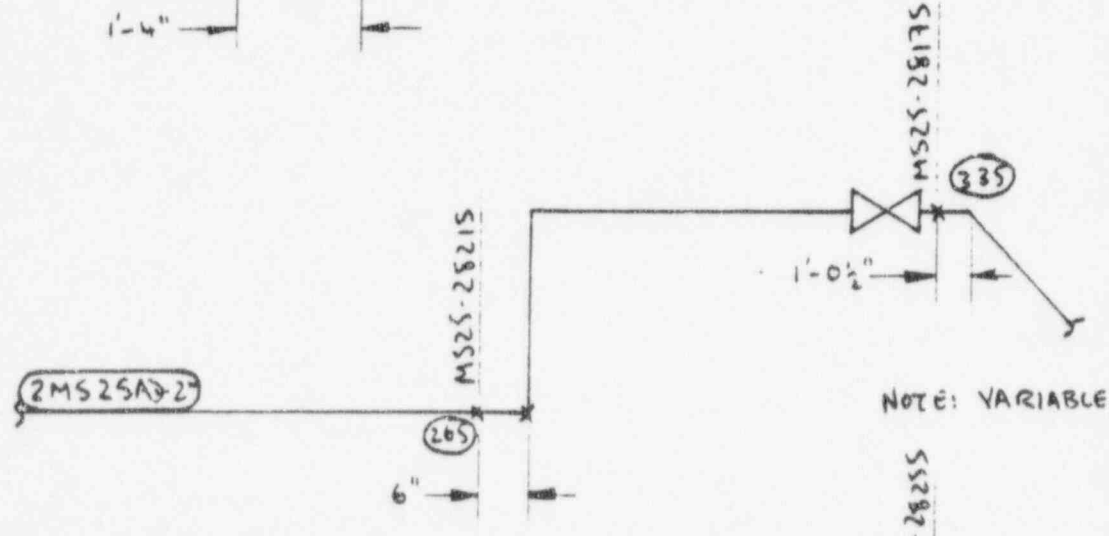


FIG. 3

1. MS25-28175
2. MS25-282

NOTE: VARIABLE HANGER IS NOT AFFECTED

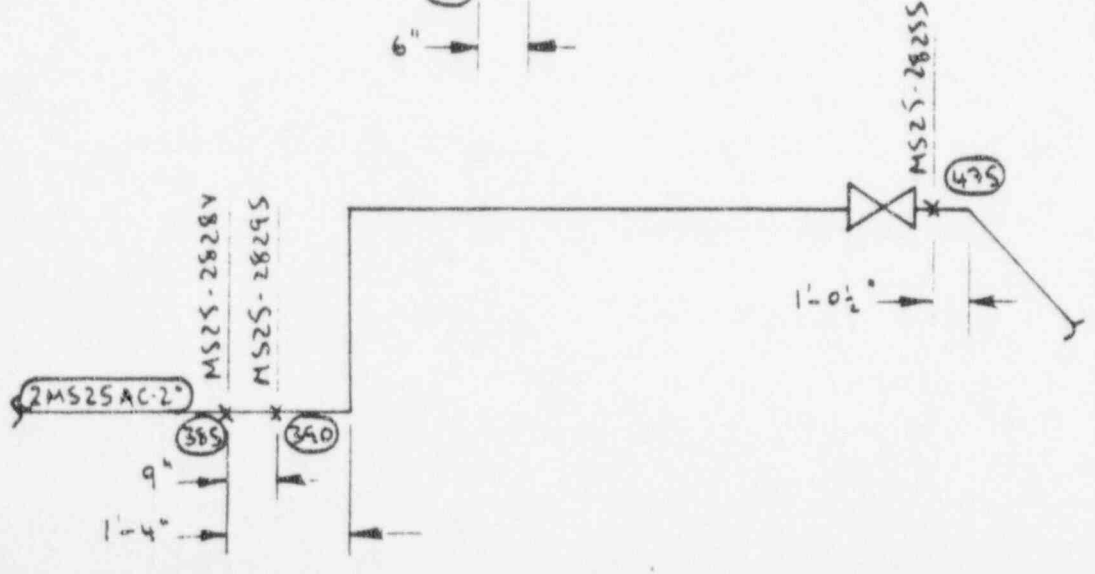


FIG. 4

1. MS25-28255
2. MS25-28295
3. MS25-28285V

Form GO 3081 Rev 2

SARGENT & LUNDY

INTER-OFFICE MEMORANDUM

From L. K. Lee — 30 — X6156 Date August 24, 1982

Dept./Div. Mechanical/Component Qualification Project No. 4267-00

Spec. No. 2515

File No. CQD-003523

Page No. 1 of 1

Client CECo Stn. LaSalle County Unit 2

Subject Nozzle Loads on 2CD01A from Subsystem 2MS-56

(Non-Safety-Related)

To A. M. Chaudhary — 21

CC: B. R. Parduhn - 21
M. C. Haan - 21
G. DeBoo - 21
F. Panzica - 21
M. M. Hassaballa - 30
B. Gogineni - 30
J. Wu - 30
AEM/APD/LKL - 30
CQD File - 30

Reference: 1) Memo from A. M. Chaudhary, dated 8-13-82 and Attached Nozzle Loads

Per your request, CQD reviewed the reference loads of nozzle lines 2MS25C and 2MS27B on the wall of condenser 2CD01A from the analysis of subsystem 2MS-56 and found them acceptable.

Please call if you have any questions.

Cyfamle

LKL/eg

SARGENT & LUNDY
ENGINEERS
55 EAST MONROE STREET
CHICAGO, ILLINOIS 60603
TELEPHONE 312-269-2000

EBB/ ~~RGE~~ /PJP
30
2MS-56

February 2, 1981
Project Nos. 4266/67-10

Commonwealth Edison Company
LaSalle County Station - Units 1&2

Sargent and Lundy Specification J-2952

Mr. A. Morshedi
Project Manager
Nuclear Services Corporation
1700 Dell Avenue
Campbell, California 95008

References: Nuclear Services Corporation letter NSC-PM-SAR-6-016

Dear Mr. Morshedi:

The referenced letter requested allowable loading information for Subsystem 2MS-56.

Condenser (2CD01A)
3" line - F_r = 940 lbs. as per Westinghouse Drawing 731J390
1" line - loadings should be kept as low as possible.

Valve No.	F_r	M_r	Acceleration (H_1=H_2=Y)
2B21-F076A-D	1802	891	4
2B21-F083	3308	2412	4
2B21-F071	1028	282	5
2B21-F070	3308	2412	5
2B21-F302A-D	1028	282	5
2B21-F303A-D	1028	282	5

Forces in lbs., Moments in ft-lbs.,
Accelerations in "g"s.

Yours very truly,

Philip J. Peterson

PJP:RGE
Copies:
D. C. Haan
R. H. Pollock
bcc:
M. M. Hassaballa
J. Sinnappan
EBB/AEM/PJP

J-2054
J-2515

COPY

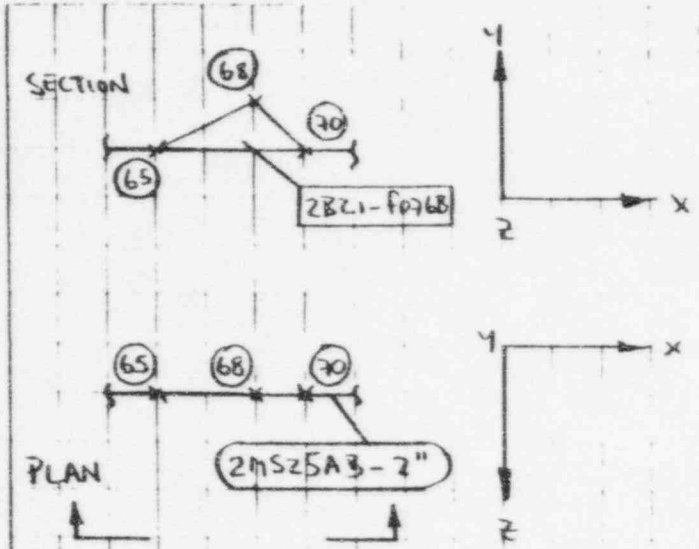
SARGENT & LUNDY ENGINEERS CHICAGO

Calc. No. | Rev. | Page of | Date

Calcs. For | Safety-Related | Non-Safety-Related

Prepared by | Date
Reviewed by | Date
Approved by | Date

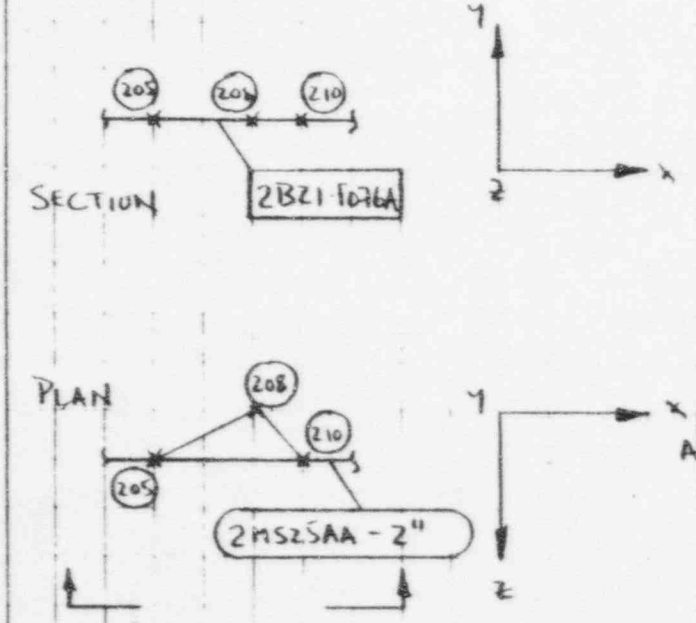
Client | Project | Proj. No. | Equip. No.



NODE	UPSET X	UPSET Y	UPSET Z	EMERGENCY X	EMERGENCY Y	EMERGENCY Z
65	0.202	0.168	0.296	0.379	0.315	0.555
68	0.173	0.275	0.359	0.324	0.512	0.673
70	0.202	0.286	0.255	0.379	0.536	0.478

f_r = 1802 lb
M_r = 891 ft-lb } ALLOWABLE

Fig. 1



NODE	UPSET X	UPSET Y	UPSET Z	EMERGENCY X	EMERGENCY Y	EMERGENCY Z
205	0.284	0.193	0.400	0.533	0.362	0.750
208	0.319	0.394	0.372	0.598	0.739	0.698
210	0.283	0.468	0.294	0.531	0.878	0.551

ALLOWABLE:
f_r = 1802 lb
M_r = 891 ft-lb

Fig. 2

SARGENT & LUNDY ENGINEERS CHICAGO

Calc. No. | Rev. | Page of | Date

Calcs. For

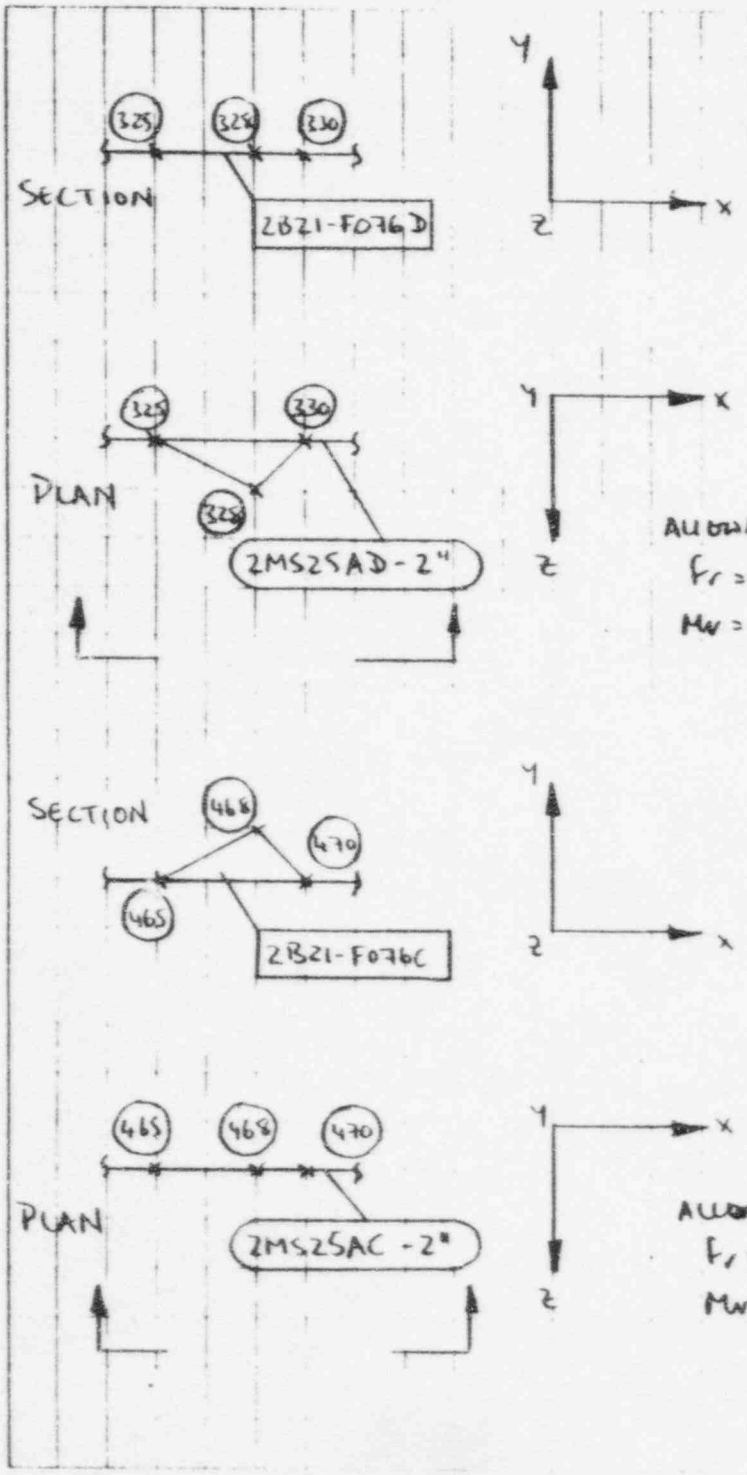
Safety-Related | Non-Safety-Related

Client | Project | Proj. No. | Equip. No.

Prepared by | Date

Reviewed by | Date

Approved by | Date



NODE	UPSET X	UPSET Y	UPSET Z	EMERGENCY X	EMERGENCY Y	EMERGENCY Z
325	0.274	0.186	0.331	0.523	0.349	0.621
328	0.307	0.369	0.304	0.576	0.729	0.570
330	0.274	0.323	0.302	0.523	0.606	0.566

ALLOWABLE:
$F_r = 1802 lb$
$M_r = 891 ft\cdot lb$

Fig 3

NODE	UPSET X	UPSET Y	UPSET Z	EMERGENCY X	EMERGENCY Y	EMERGENCY Z
465	0.222	0.172	0.496	0.416	0.323	0.930
468	0.167	0.279	0.619	0.351	0.523	1.161
470	0.222	0.292	0.450	0.416	0.548	0.844

ALLOWABLE:
$F_r = 1802 lb$
$M_r = 891 ft\cdot lb$

Fig 4

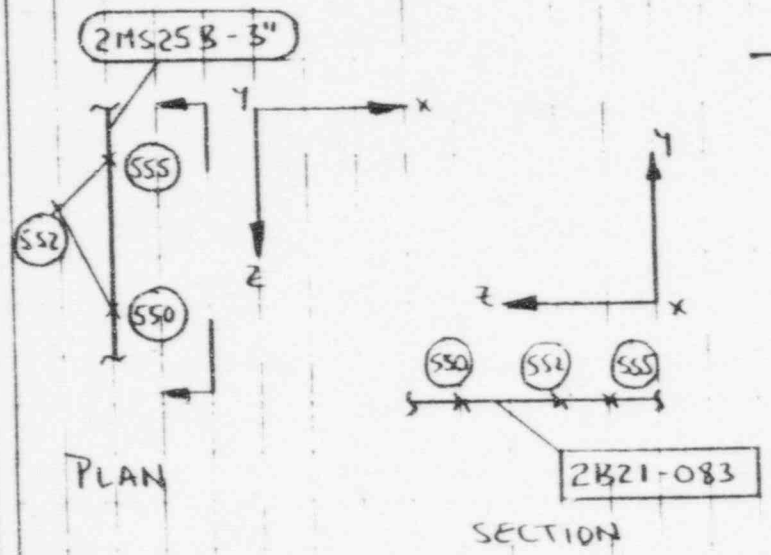
SARGENT & LUNDY ENGINEERS CHICAGO

Calc. No. | Rev. | Page of | Date

Calcs. For | Safety-Related | Non-Safety-Related

Prepared by | Date
Reviewed by | Date
Approved by | Date

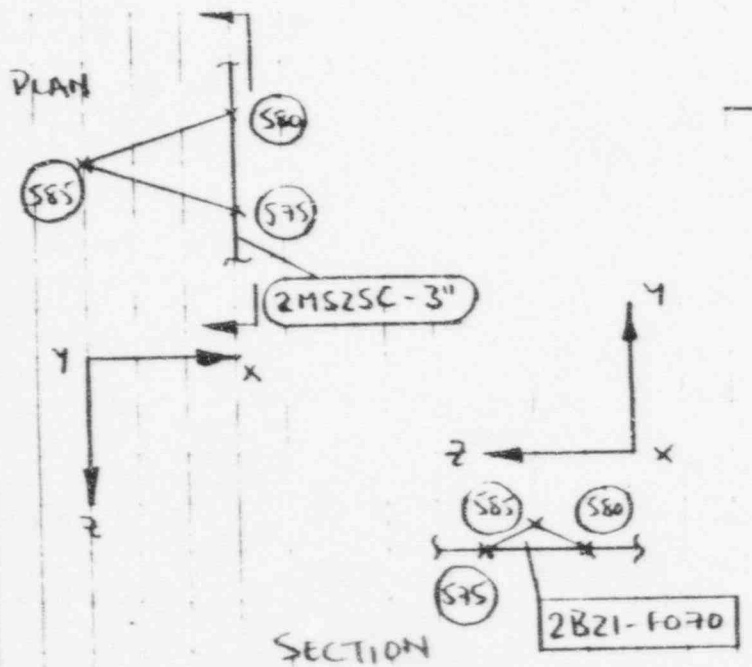
Client | Project | Proj. No. | Equip. No.



NODE	UPSET X	UPSET Y	UPSET Z	EMERGENCY X	EMERGENCY Y	EMERGENCY Z
SS0	0.221	0.126	0.126	0.414	0.236	0.236
SS2	0.204	0.175	0.126	0.363	0.328	0.240
SSS	0.202	0.126	0.126	0.379	0.236	0.236

FIG. 5

f_r = 3308 lb
M_r = 24124 ft-lb
} ALLOWABLE



NODE	UPSET X	UPSET Y	UPSET Z	EMERGENCY X	EMERGENCY Y	EMERGENCY Z
S75	0.178	0.133	0.128	0.334	0.249	0.240
S80	0.182	0.133	0.128	0.341	0.249	0.240
S85	0.178	0.125	0.123	0.334	0.234	0.230

ALLOWABLE:
f_r = 3308 lb
M_r = 24124 ft-lb

FIG. 6

SARGENT & LUNDY ENGINEERS CHICAGO

Calc. No. | Rev. | Date | Page of

Calcs. For

Safety-Related | Non-Safety-Related

Prepared by | Date

Reviewed by | Date

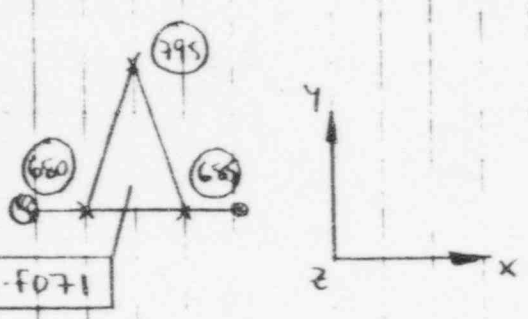
Approved by | Date

Client

Project

Proj. No. | Equip. No.

SECTION



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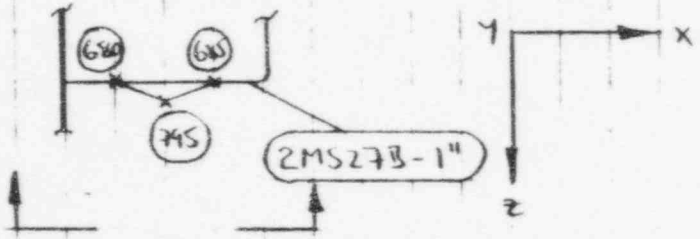


NODE	UPSET x	UPSET y	UPSET z	EMERGENCY x	EMERGENCY y	EMERGENCY z
680	0.178	0.160	0.146	0.334	0.336	0.292
685	0.178	0.336	0.279	0.334	0.630	0.523
795	0.304	0.205	0.160	0.570	0.384	0.338

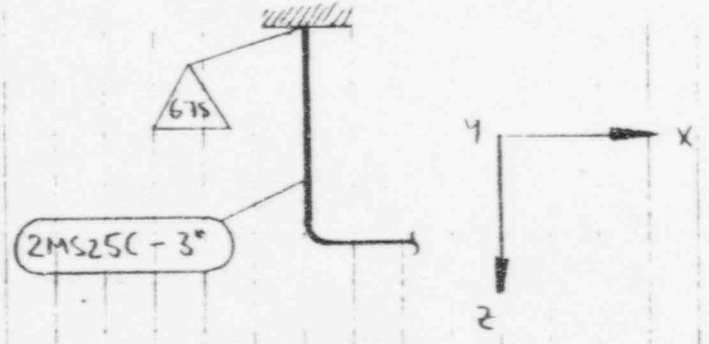
Allowable:

$F_r = 10281b$

$M_W = 2824.16$

fig. 7

MAIN CONDENSER 2CS01A



Allowable:

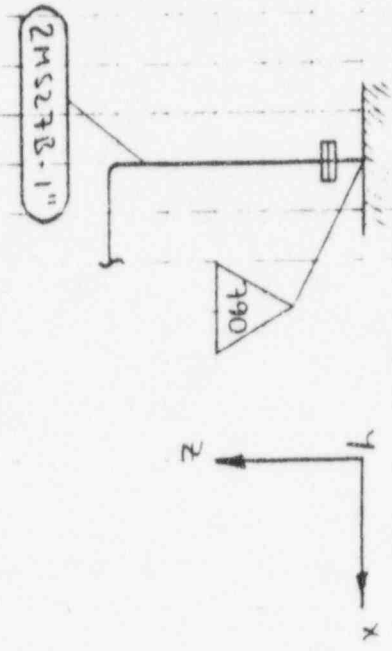
$F_r = 9401bs$

fig. 8

SARGENT & LUNDY ENGINEERS CHICAGO

Calcs. For	Calc. No.
	Rev. / Date
Safety–Related / Non–Safety–Related	Page of

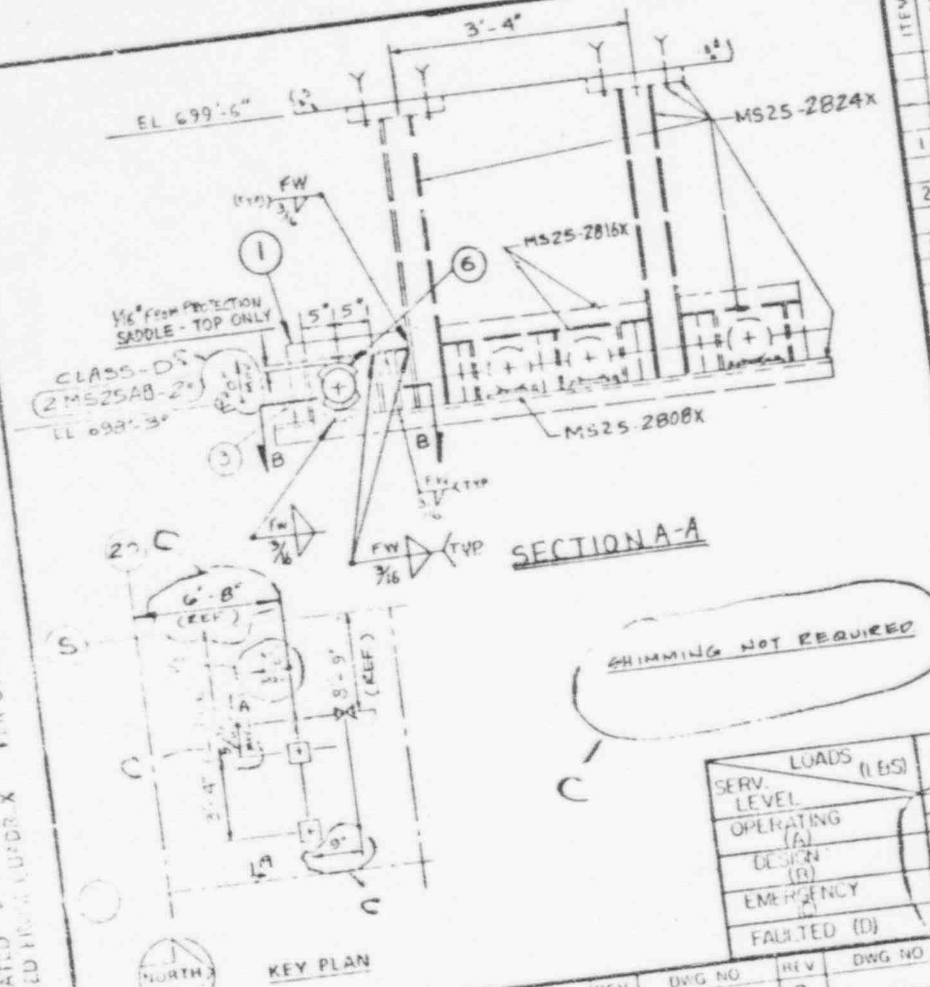
Client	Prepared by / Date
Project	Reviewed by / Date
Proj. No. / Equip. No.	Approved by / Date



Allowable loadings should be kept as low as possible

fig. 9

Form GO 3.08 1 Rev 2



BILL OF MATERIAL

ITEM	QUAN	FIG NO OR PART NO	DESCRIPTION	WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
			L 1½ x 1½ x ¼ x 1'-5" LG	3.3
1	1		½" x 4" x 4" LUBRITE PLATE ALLOY 237 W/AZ-7 LUBRICANT.	2.0
2	1		L¼ x 1½ x 1½ x 8 ¼" LG (CUT TO SUIT)	3.2
3	2		½ x 6" x 6" CS PLATE	5.1
4	1		¼" x ¼" x 3" CS LUG	.0.2
5	4			6.4
6	2	162	2" PROTECTION SADDLE	
	1		BUNDLE & TAG FC-49	
				20.2

SERV. LEVEL	LOADS (LBS) F_Y
	111
OPERATING (A)	88
DESIGN	159
(B)	40
EMERGENCY (C)	-
	201
FAULTED (D)	-1

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)				
DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
SEE LOAD TABLE				

REVISED AS NOTED

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M966-43	E	M-1418 (SH 2)	E	1E-2-3335	B		
	M-584	C	S-940	M				

DRAWING RELEASE RECORD OUTPUT

2MS-56NP (60 Y)

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	EMD REVIEW
A	3-25-81	E. Radeiftes	M. Chang	V. Penacerrada	Rajesh Gupta
B	8-27-81	K. McCarthy		V. Penacerrada	
C	9-15-82		N.S.	J.H. Hobs	

EMD037954 8-11-82

PURPOSE FOR RECORD & FILE REVISED PER REANALYSIS DATED: 8-11-82 (REV C)

FOR D SPECS (J-2530)

SUPPORT CLASS D

VICTORY G. PENACERRADA 062 034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SY

SARGENT & LUNDY ENGINEERS

PROJECT NO 4267 00

799A

DRAWING NO. MS25

EDISON COMPANY
CHICAGO ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267 00

SARGENT & LUNDY ENGINEERS

DRAWING NO. M09-MS25-2800X REV.

REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

PIPE CLASS D

RECORD & FILE REVISED PER REANALYSIS DATED 8-11-82 (REV C)

SPECS (J-2530)

CED 6026

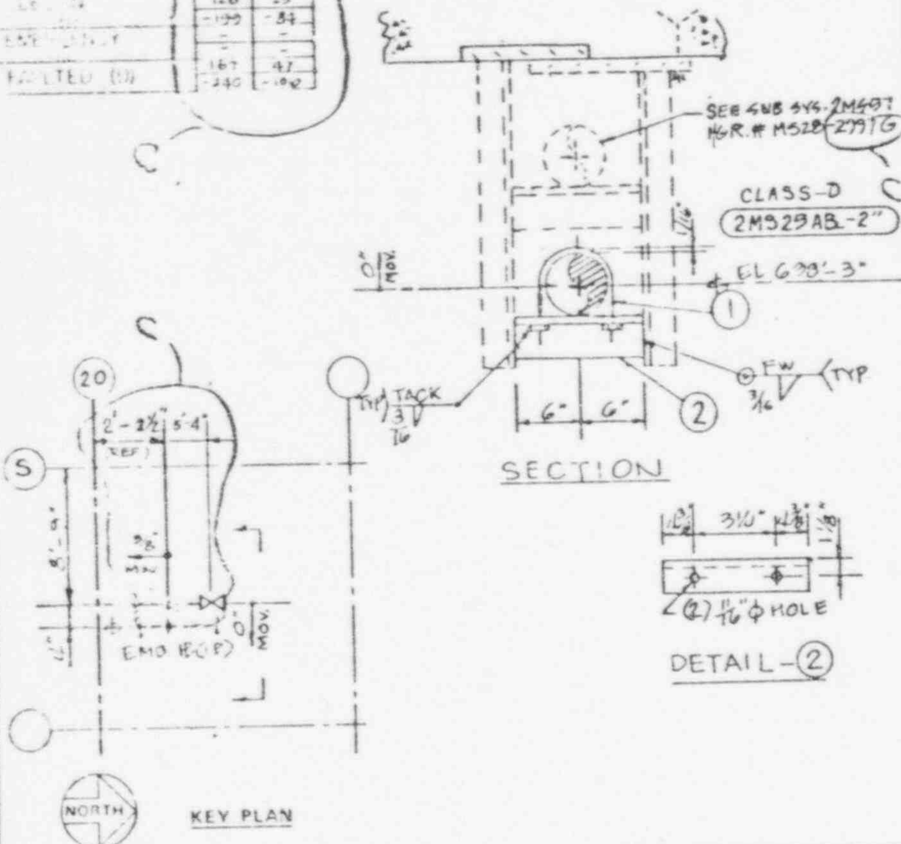
AS RECEIVED FROM CUADREX

SUBSYS 2MS-56 PER 81-SAR-8-022

REV. DATED 8-27-81 AS RECEIVED FROM CUADREX

REFE DRAW 2MS-56

LOADS (LBS) / LEVEL	F_Y	F_Z
OPERATING	79	0
	-151	-59
[illegible]	126	25
	-199	-34
EMERGENCY	-	-
	-	-
FAULTED (D)	167	47
	-240	-102



BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)	REMARKS
	ONE		COMPONENT SUPPORT ASSY CONSISTING OF		
1	1	–	5/8" × 2" U-BOLT, D=5 13/16" DL = 1'-4 3/8" W/ NUTS (HEAVY DUTY)	1.5	
2	1	–	L 2" × 2" × 3/8", 1'-0" LG. (SEE DETAIL 2)	4.7	
	1		BUNDLE & TAG FC-49		
				6.2	TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

Nuclear Services Corporation B

JOHN M. NOSKO 062-38082 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE LOAD	TABLE		

REFERENCE DRAWINGS	DWG NO	REV	DWG NO.	REV	DWG NO	REV	DWG NO.	REV
	M-966-43	E	M-1410-2	E	1E-2-3335	B		
	M-584	Q	S-940					

2MS 56, NF 55 (Y, Z) DRAWING RELEASE RECORD EMD-037954, 8-11-82 C

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM	EMD REVIEW
A	3-25-81	J Geiger/Liebetrau	HNBanerjee/M Chans	Peñacerrada		
B	8 27 81	J Geiger/Liebetrau	[illegible] / Beton	Peñacerrada		
C	9-15-82	[illegible]	N.S. Cader P.C.	J.M. Nosko	✓	RGu 3/5

PURPOSE FOR RECORD & FILE.
REVISED FOR REANALYSIS DATED 8-11-82 (REV. C.)

CED- 6026 FOR D SPEC (J-2590)

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-0034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

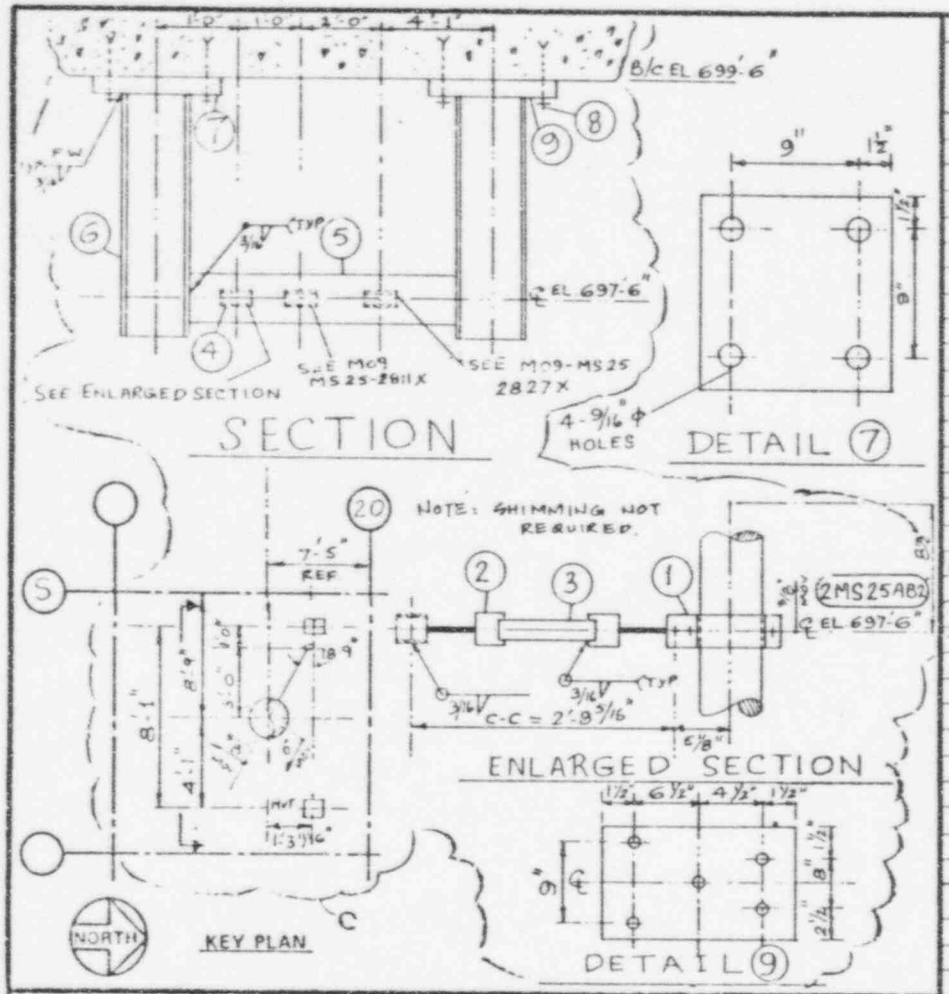
P E SEAL

LA SALLE COUNTY
UNIT-2
COMMONWEALTH EDISON CO.
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE		DRAWING NO.	REV
PROJECT NO. 4267-00	SARGENT & LUNDY ENGINEERS CHICAGO	M05- MS25-2802G	C
	801A	SHEET 1 OF 1	

AS RECEIVED FROM QUADREX PER 81-57



BILL OF MATERIAL

ITEM	QUAN.	FIG. NO. OR PART NO.	DESCRIPTION	P&S	QSS	PATM	SEEC	ATPC	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY						
			CONSISTING OF						
1	1	CH 1015	2" ϕ PIPE CLAMP						26
2	2	1801312-01	FORWARD ADAPTER PSA-1/4 *						17
3	1	—	3/4" ϕ SCH XXS EXT. PIPE x 2'-4" LG						57
4	1	1801558-01	REAR BRACKET PSA 1/4 *						0.4
5	1	—	M 4 x 13 - 7'-11" LG C						102.9 C
6	2	—	M 4 x 13, 2'-3" LG C						6.3
7	1	C	1/2" x 12" x 12" C S PL (PER DETAIL ⑦) C						10.2 C
8	8		1/2" ϕ x 7" HILTI-KWIK BOLTS						3.2 C
9	1		5/8" x 12" x 1'-2" LG C S PLATE (SEE DETAIL ⑨)						29.75
			* SUPPLIED BY BULK ORDER						
	1		BUNDLE & TAG EC-49						C
									254.2 TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)

DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
21/-33 C	3/-15 C			97/-491 C

REFERENCE DRAWINGS	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
	M-966 SH 43	E	M-1418 SH 2	E	IE-2-335	B		
	M-584	C	S 940	M				

2MS-36 NP 35 (Z) SKEW DRAWING RELEASE RECORD EMD-037954 CUTPUT: 8-11-82

REV.	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
C	9-15-82	A Gorz	C Keating 9/16/82	John M. Nosko	✓

PURPOSE: REVISED PER SP-T1307-01, REV. C REDRAWN

CEG 654 FOR "D" SPECS (J. 2530) & PER REVISION DATED 8-11-82

EMD REVIEW Ralph 9-21-82

PIPE CLASS D

JOHN M. NOSKO 62 38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

PE SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267.00

SARGENT & LUNDY ENGINEERS CHICAGO

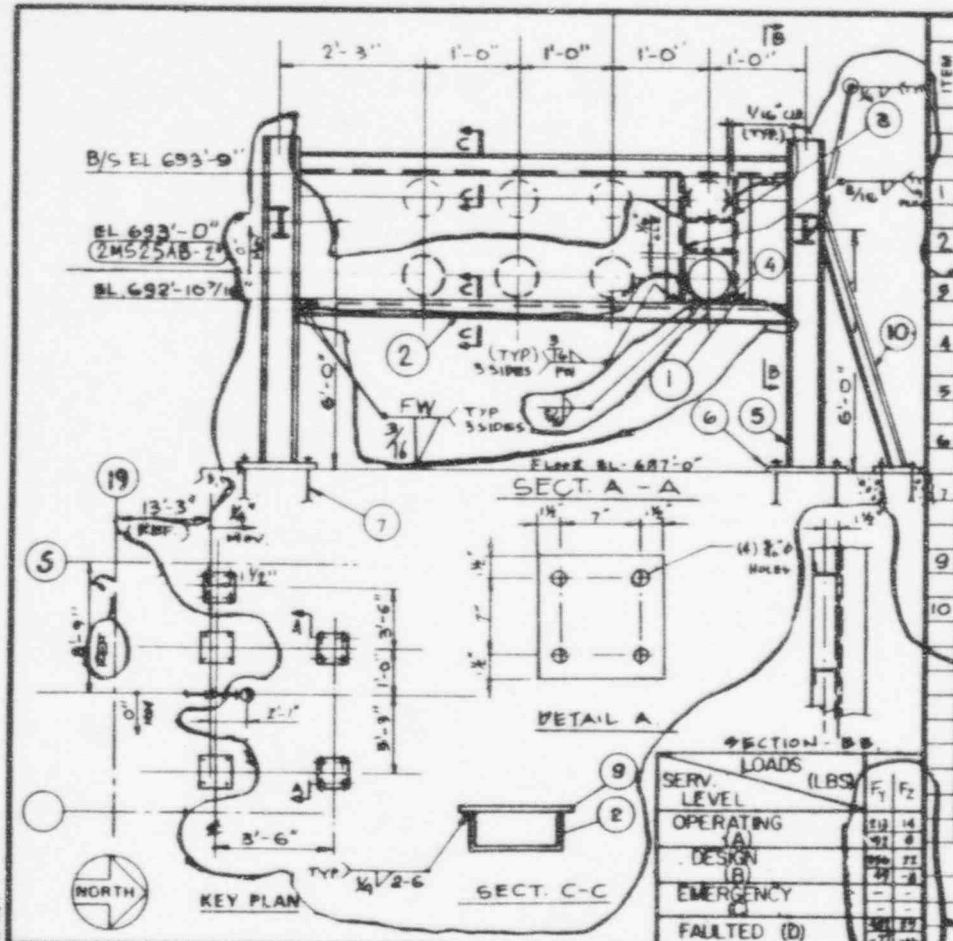
802 A

SUPPORT NO. M09-MS25-2803X REV. C

SHEET 1 OF 1

REV B DATED 8-27-81
AS RECEIVED FROM QUADREX

SUBSYS 2MS-56
PER 81-SAR-B-022



BILL OF MATERIAL

ITEM	QUAN	FIG NO OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LBS)	REMARKS
	ONE		COMPONENT SUPPORT ASSY. CONSISTING OF		
1	2		C3 x 4.1 x 0'-10 5/16" LG	7.32	
2	2		C3 x 4.1 x 5'-9" LG	47.2	
3	1		T 6 x 8 x 1/4 x 1/4 x 1/4 0'-2 1/2" LG	1.48	
4	1		8 1/2" x 2 3/8" x 9 1/4" C.P. PLATE	6.88	
5	2		W6 x 25, 7'-4" LG	367.0	
6	5		1/2" x 10" x 10" C.P. PLATE	71.0	
7	20		1/2" x 7" HILTI BOLT	90	
9	2		PL 3/4" x 4" x 5'-9" LG	118.0	
10	4		W6 x 25 x 7'-0 LG (CUT TO SUIT)	700.0	
	1		BUNDLE & TAG FC-49		
				1277.0	TOTAL WT

REVISED AS NOTED/REV. B

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
		SEE TABLE		

SERV. LEVEL	LOADS (LBS) F_Y	F_Z
OPERATING (A)	213	14
	97	0
DESIGN (B)	226	72
	97	8
EMERGENCY (C)	-	-
	-	-
FAULTED (D)	581	89
	771	98

REFERENCE DRAWINGS

DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
M-966 (SH 1)	E	M-1418-(SH 2)	E	152-3285	B		
M-589	C	S-529	M				

2MS-56 NP (10) (Y,Z) DRAWING RELEASE RECORD EMD-087784 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	E. Prudhomme/R. Robertson	Horn/Rudy/Wanwatz	Penacerrada	
B	8-27-81	R. Markley/Wardt	Rudy/Lutton	Penacerrada	
C	10-8-82	Engleto	D S Taylor DC	H. M. Lutton	X

PURPOSE REVISED PER ENGINEERING (REV. C)

SEE CSD 6086 FOR C&P. SPEC (J-2530)

EMD REVIEW

Rajesh Gupta

SUPPORT CLASS P

VICTORY G. PENACERRADA
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
P.E. SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

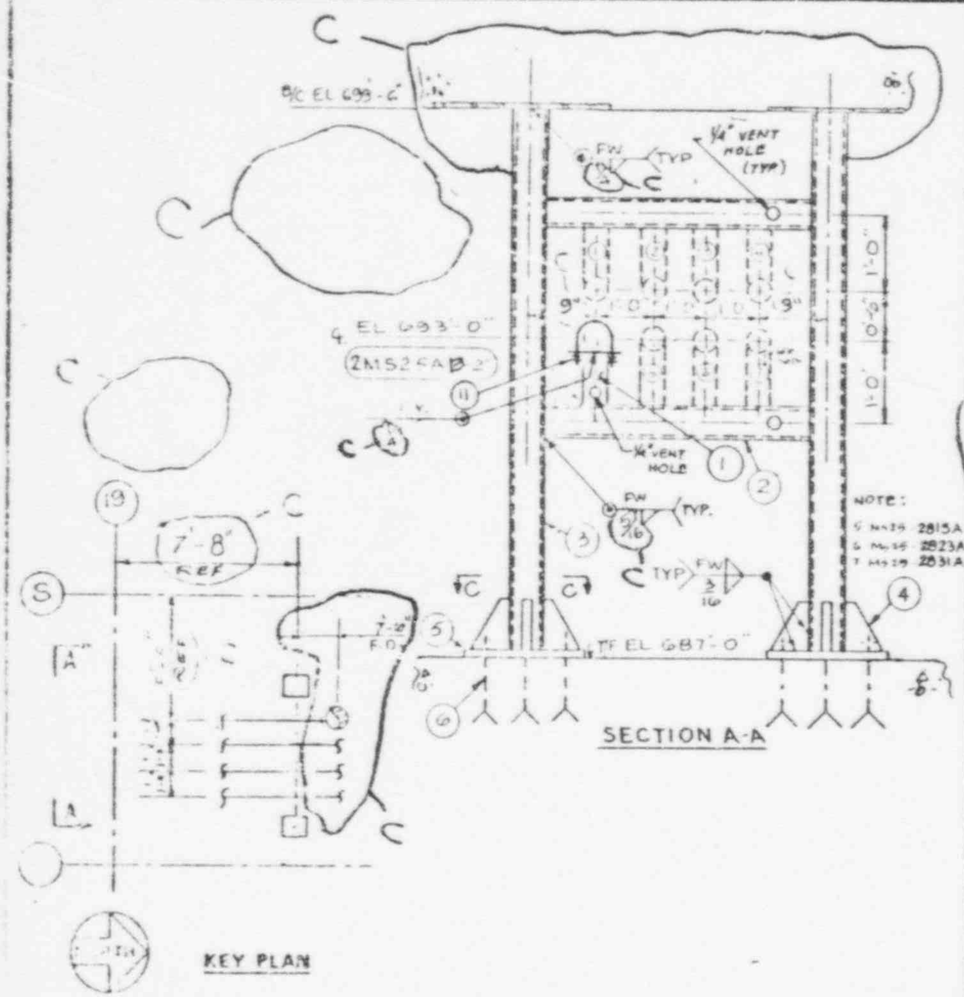
MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO. 4267-00

SARGENT & LUNDY
CHICAGO
805A

DRAWING NO. M09-MS25-2806G REV C
SHEET 1 OF 1

DEPT WDR REV 1
WDR 19 1 3 110 771 FORM APPROVED



BILL OF MATERIAL

ITEM	QUAN	FIG NO OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LB)	REMARKS
	1		COMPONENT SUPPORT ASSEMBLY		
			CONSISTING OF		
1	1		4"φ SCH. XXS STANCHION PIPE, 0'-8" LG	18.36	
2	2		T.S. 5 x 5 x 3/8 4'-0" LG.	178.96	
3	2		TS 6 x 6 x 1/2 12'-5 3/8 LG	877.33	
4	8		3/8" PLATE PER DETAIL 4)	13.4	
5	2		3/8" x 21" x 21" C.S. PL (PER DETAIL-5)	156.0	
6	16		3/4" x 10" HILTI KWIK BOLT	21.6	
7			DELETED		
8			DELETED		
9			DELETED		
10			DELETED		
11			ANCHOR TYPE-B, SEE DETAIL M-1100 SH. 33	18.7	
	1		BUNDLE & TAG FC-49		
				1284.35	TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

Q.... C

REVISED AS NOTED, REV. B

LOADS (LBS.)

DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE	LOAD	TABLE (SH.2)	

REFERENCE DRAWINGS	REV	DWG. NO	REV	DWG. NO	REV	DWG. NO	REV
M-966 (SH.43)	E	S-969	Y	IE-2-3335	F		
S-1016	B	S-975	M				

2MS-56 NP. 15 — C

DRAWING RELEASE RECORD OUTPUT EMD-037954, 8-11-82.

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	[illegible]	[illegible]	[illegible]	
B	8-27-81	[illegible]	[illegible]	[illegible]	
C	9-15-82	[illegible]	[illegible] N.C.	[illegible]	

EMD REVIEW C — Rajesh Gupta

FOR USE REVISED PER SP-T1329, -T1359 & PER REANALYSIS, DATED, 8-11-82. (REV C)

FOR D SPECS (J-2530)

CJ 6126

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-003132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

P.E. SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM.

NO SCALE
PROJECT NO. 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

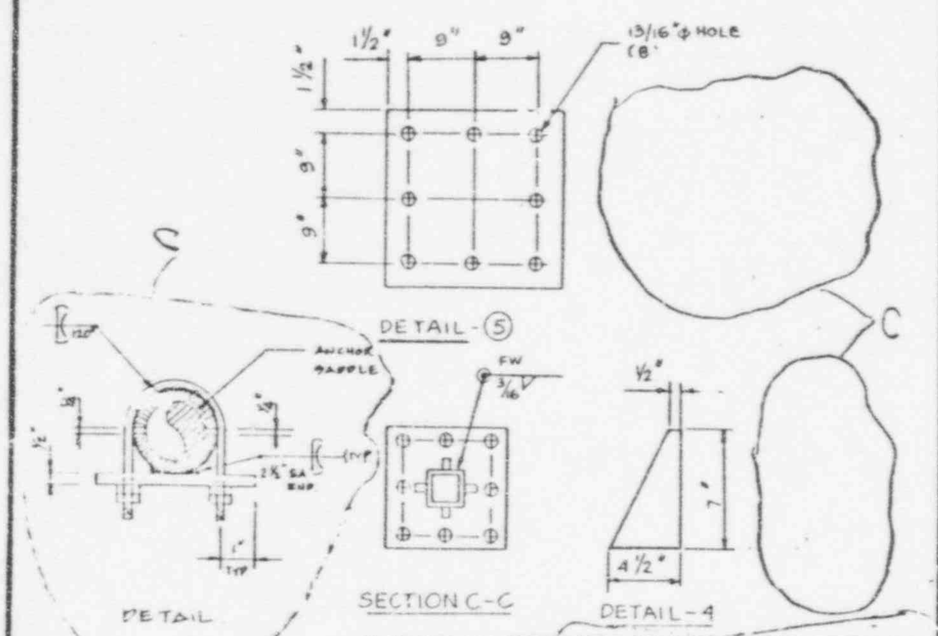
806A

DRAWING NO. M09-MS25-2807A

REV C

SHEET 1 OF 2.

REV. B DATED 8-27-81
AS RECEIVED FROM ...
SUBSYS. 2MS-56
PER 81-SAR-B-022



LOADS / LEVEL	F_x	F_y	F_z	M_x	M_y	M_z
	FORCES (LBS)			MOMENT (ft-LB)		
OPERATING (A)	318 / 34	118 / 1	0 / -3	41 / 0	6 / 0	201 / -25
DESIGN (B)	854 / 8	155 / -35	4 / -7	42 / -1	14 / -8	270 / -94
EMERGENCY	-	-	-	-	-	-
FAULTED (D)	376 / -15	187 / -67	8 / -11	44 / -2	21 / -14	330 / -154

NORTH

REFERENCE DRAWINGS	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
	M-966(SH43)	E	S-969	Y	IE-2-3335	F		
	S-1016	B	S-975	M				

2MS-56NP(5) - C

DRAWING RELEASE RECORD EMD-037954 OUTPUT: 8-11-82

REV.	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	[illegible]	[illegible]	[illegible]	
B	8-27-81	[illegible]	[illegible]	[illegible]	
C	9-15-82	[illegible]	[illegible] N.C.	[illegible]	

PURPOSE: REVISED PER 3P-T1329, T1359 & PER [illegible] DATED 8-11-82 (REV. C)

FOR D SPECS G1-2530

BILL OF MATERIAL

ITEM	QUAN.	FIG. NO. OR PART NO.	DESCRIPTION	PAS	CSS	PAINT	SEC	AISC	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY						
			CONSISTING OF						
			BILL OF MATERIAL						
			SEE SH. 1						

TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

Nuclear Services Corporation ... C

REVISED AS NOTED / REV. B

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE	LOAD	TABLE	

EMD REVIEW

Rajesh Gupta

PIPE CLASS D

VICTORY G. PENACERRADA 062-014132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

JOHN M. NO... ILLINOIS

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

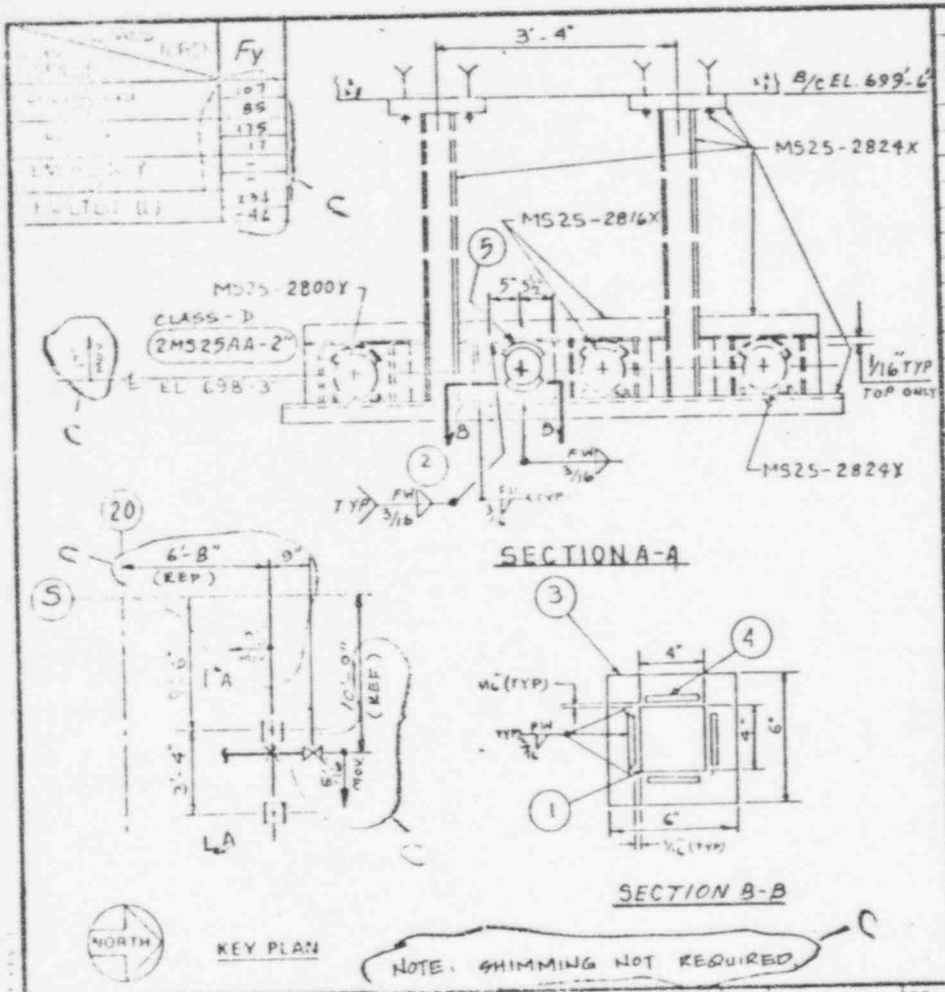
NO SCALE
PROJECT NO. 4267 00

SARGENT & LUNDY ENGINEERS CHICAGO

DRAWING NO. M09-MS25-2807A

REV. C

SHEET 2 OF 2



BILL OF MATERIAL

ITEM	QUAN	FIG NO OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY	
			CONSISTING OF	
1	1		1/2" x 4" x 4" LUBRITE PLATE (20-375)	2.0
2	1		L 1 1/2 x 1 1/2 x 1/4 x 8 1/4" LG	1.6
3	1		1/2" x 6 x 6" CS PLATE	5.1
4	4		1/4" x 1/4" x 3" CS LUG	.2
5	2	162	2" PROTECTION SADDLE	6.4
	1		BUNDLE & TAG FC-49	15.3

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
		SEE LOAD	TABLE	

JOHN M. NOSEK
062-038004
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Nuclear Services Corporation — Date: 8.

REVISED AS NOTED / REV. B

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	IE-2-3335	B						
	M-966-43	E						

2M9-56 NP (200) (Y) DRAWING RELEASE RECORD OUTPUT EMD-087954, 8-11-82

REV	DATE RELD	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	J Geiger	M CHANG / T.K. Munsee	V Penacerrada	
B	8-27-81	J Geiger	[illegible]	V Penacerrada	
C	9-15-82	Rev Ltr.	N.S.	V Penacerrada	2

PURPOSE FOR RECORD & FILE.
REVISED FOR REANALYSIS DATED: 8-11-82 (REV C)

CED 6026 FOR D SPECS (J-2530)

EMD REVIEW

Rajesh Gupta

SUPPORT CLASS D

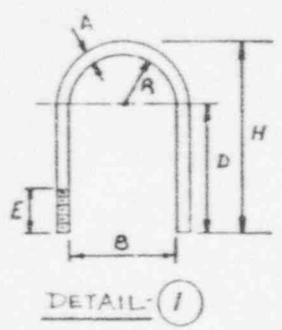
VICTORY G. PENACERRADA
062-038112
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
PE SEAL

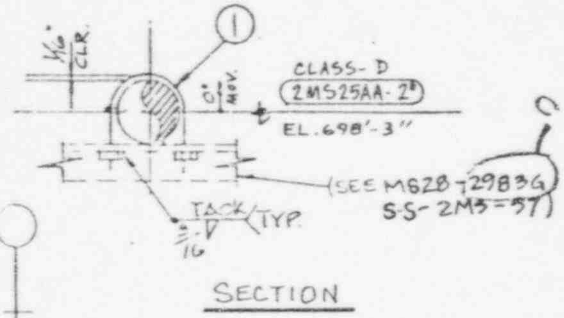
LA SALLE COUNTY STATION
UNIT- 2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

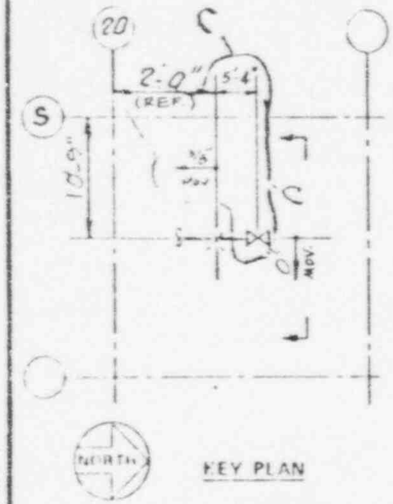
MAIN STEAM PIPING SYSTEM

NO SCALE	DRAWING NO.	REV
PROJECT NO. 4267-00	MO3 MS25-2808X	C
SARGENT & LUNDY ENGINEERS CHICAGO 807A	SHEET 1 OF 1	

AS REQUIRED FROM CONSTRUCTION PER 81-SAR-8-G2







LOADS (LBS) / SERV. LEVEL	F_Y	F_Z
OPERATING (A)	86	-5
	-137	-118
DESIGN (B)	147	26
	-198	-147
EMERGENCY (C)	—	—
	—	—
FAULTED (D)	200	53
	-251	-176

BILL OF MATERIAL

ITEM	QUAN	FIG NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)
	ON?		COMPONENT SUPPORT ASSY. CONSISTING OF:	
1	1	—	5/8" x 2" U-BOLT A = 5/8", B = 1 3/16", D = 4 1/2" E = 3 1/2", H = 6 5/16", R = 1 3/16" DL = 12 3/4" WITH 2 HEX NUTS PER DETAIL ①	1.4
	1		BUNDLE & TAG FC-49	
			TOTAL WEIGHT	1.4

JOHN M. NOSKO 62-38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Nuclear Services Corporation Quality B

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE LOAD TABLE			

REFERENCE DRAWINGS	DWG NO.	REV	DWG NO.	REV	DWG NO	REV	DWG NO	REV
	M-926-43	E	M-1418-2	E	1E-2-3335	B		
	M-584	C	S-940	M				

2MS-56 NP (95) (Y82) DRAWING RELEASE RECORD EMD-037934. 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	PTLM
A	3-25-81	J Geiger/Liebetrau	N.M. Adoiton/ M. Ghaus	Peñacerrada	
B	8 27 81	J. Geiger/Liebetrau	N. Ramzi/ A. Beckman	Peñacerrada	
C	9-15-82	[illegible]	N-S Cailor D.C	M. Nosko	Y

PURPOSE FOR RECORD & FILE.
REVISED PER REANALYSIS. DATED: 8-11-82. (REV.

CED-6026 FOR D SPECS (J-2530)

EMD REVIEW
Rajesh Gupta

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-0034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

PE SEAL

LA SALLE COUNTY
UNIT-2
COMMONWEALTH EDISON CO.
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM.

NO SCALE
PROJECT NO 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

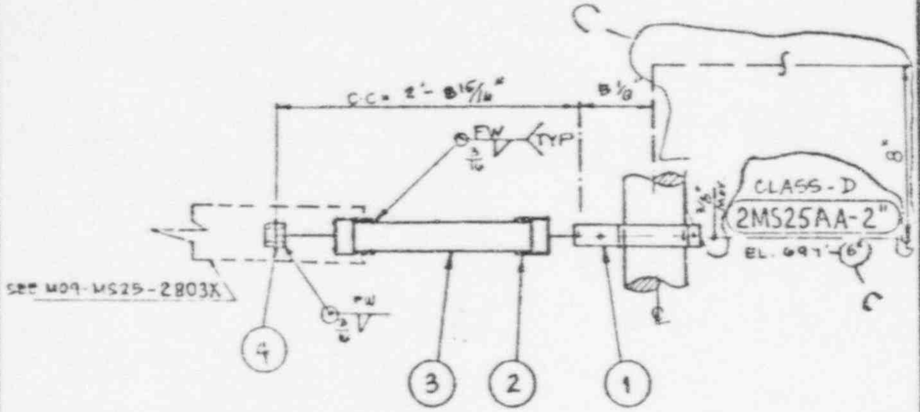
809A

DRAWING NO. M09 MS25-2810G

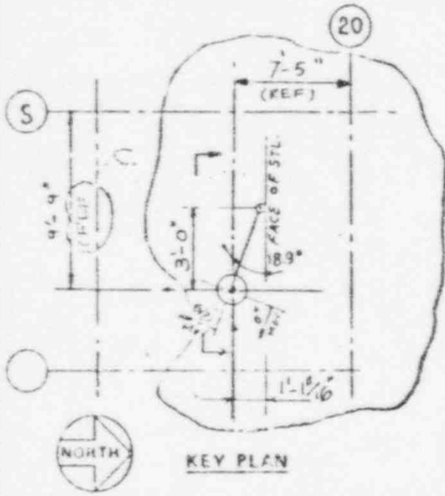
REV C

SHEET 1 OF 1

REV. B DATED 8-27-81 SUBSTITUTE ... AS RECEIVED FROM ... PER EI-CORR-8-022



VIEW



KEY PLAN

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)	REMARKS
	ONE		COMPONENT SUPPORT ASSY. CONSISTING OF:		
1	1	CH1016	2" PIPE CLAMP	2.6	
2	2	1801312-01	ADAPTER ASSY PER PSA-1/4 *	1.7	
3	1		3/4 Φ SCH XXS EXT. PIPE, 2'-(4") LG	5.7	C
4	1	1801508-01	REAR BRACKET PER PSA-1/4 *	0.4	
			* SUPPLIED BY BULK ORDER		
	1		BUNDLE & TAG FC-49		
				10.4	TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

Nuclear Services Corporation ... B

REVISED AS NOTED/REV. B

JOHN M. NOSKO · 62 38009 · REGISTERED PROFESSIONAL ENGINEER OF · ILLINOIS

REFERENCE DRAWINGS	DWG NO.	REV	DWG NO.	REV	DWG NO.	REV	DWG NO.	REV
	M-966-43	E	M-1418-2	E	1E-2-333	B	C	
	M-584	C	S-940	H				

ESTIMATED LOADS (LBS)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
53/-13	36/6			72/-30

2MS-56 N.P. 145 (Z) SKEW DRAWING RELEASE RECORD EMD-037954, 8-11-82

REV	DATE REC'D	PREPARED	REVIEWED	APPROVED	FILM	EMD REVIEW
A	3-25-81	G. Lamb / Liebetrau	M. Chang / T.K. [illegible]	[signature]		
B	8-27-81	[signature]	[signature]	[signature]		
C	9-15-82	[signature]	[signature]	[signature]		Rajesh Gupta

PURPOSE: REVISED PER SR-T1307-4 (REV. C) & PER REANALYSIS DATED: 8-11-82

SEE CFD-6026 FOR "D" SPEC. (J-2530)

SUPPORT CLASS D

VICTORY G. PENACERRADA · 062 003432 · REGISTERED PROFESSIONAL ENGINEER OF · ILLINOIS

P.E. SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYS.

NO SCALE

PROJECT NO. 4267-00

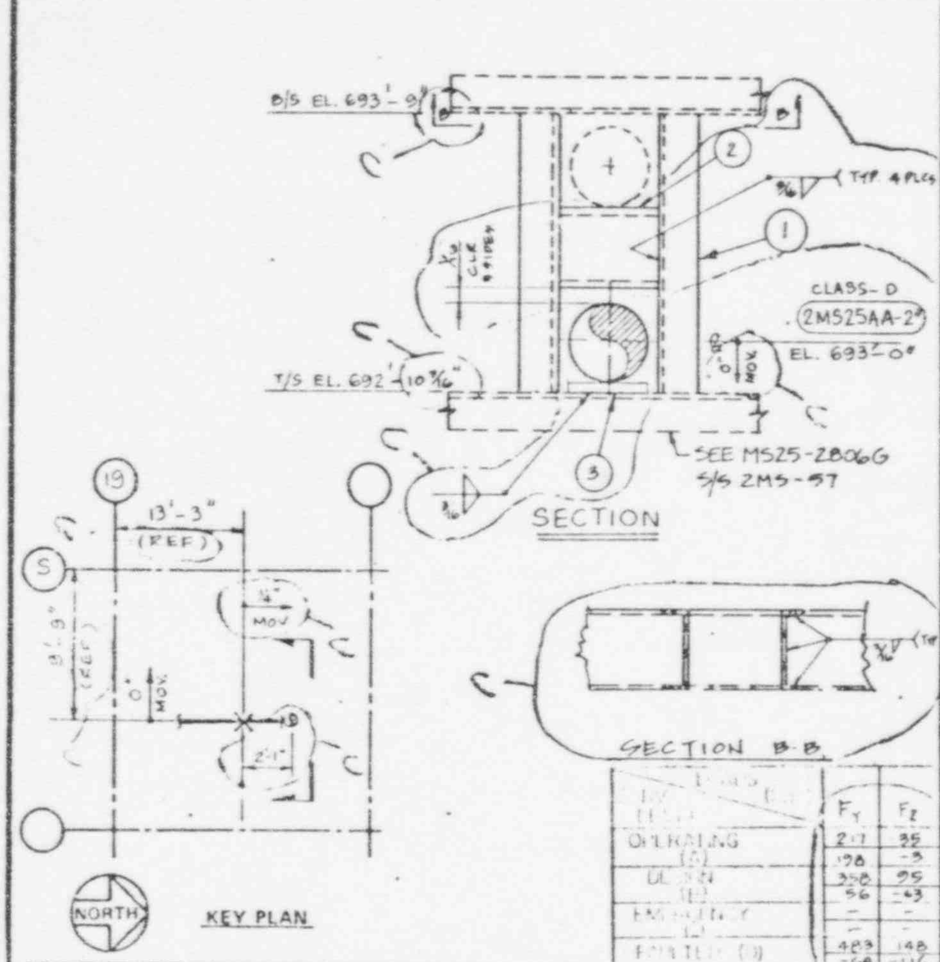
SARGENT & LUNDY ENGINEERS CHICAGO

810A

DRAWING NO. M09 MS25-2811X REV C

SHEET 1 OF 1

REV. B DATED 8-27-81 AS RECEIVED FROM [illegible]
SUBSYS. 2MS-56
PER SI-SAR-8-022



LOADS	F_Y	F_Z
OPERATING	217 / 198	35 / -3
DESIGN	358 / 56	95 / -63
EMERGENCY	-	-
FAULTED	483 / -68	148 / -116

BILL OF MATERIAL

ITEM	QUAN.	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
1	2		C 3 x 4.1 x 0'-10 3/16" LG.	7.22
2	1		TS 2½ x 2½ x ¼, 0'-2½" LG	1.48
3	1		3/8" x 2 3/8" x 3½" C.S. PLATE.	0.88
	1		BUNDLE & TAG FC-49	
			TOTAL WEIGHT	9.58

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

REVISED AS NOTED / REV. B

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE	LOAD	TABLE	

REFERENCE DRAWINGS	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
	M-966-43	E	M-1418-2	E	IE-2-3335	B
	M-584	C	S-940	M		

2MS-56NP-120 (Y.Z.)

DRAWING RELEASE RECORD EMD 037954 OUTPUT: 8-11-82

REV.	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	M. Truong / Piebetini	HNB / [illegible]	Penacerrada	
B	8-27-81	K. Nat[illegible] / [illegible]	[illegible]	Penacerrada	
C	9-15-82	[illegible]	U. G. [illegible]	[illegible]	

PURPOSE REVISED PER REANALYSIS. (REV. C)

CFD 6026 FOR E&F SPECS (J-2530)

EMD REVIEW: Rajesh Gupta

PIPE CLASS D

VICTORY G. PENACERRADA 062-034122 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

PE SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

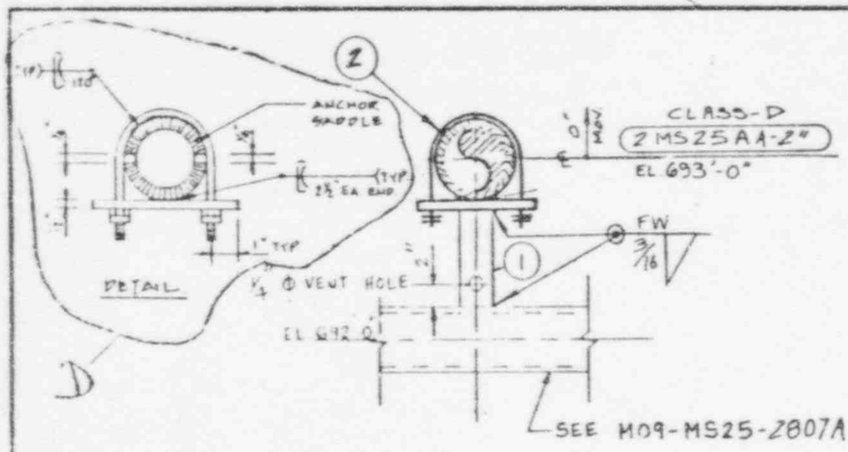
NO SCALE
PROJECT NO. 4267-00

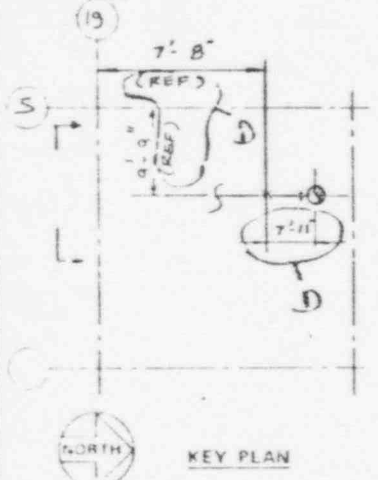
SARGENT & LUNDY ENGINEERS CHICAGO 813A

DRAWING NO. M09-MS25-2814G

REV. C

SHEET 1 OF 1





KEY PLAN

LOADS / SERV. LEVEL	FORCES (LBS) F_x	F_y	F_z	MOMENTS (ft-LBS) M_x	M_y	M_z
OPERATING (A)	321	115	1	40	27	195
	37	0	-14	0	-1	-28
DESIGN (B)	952	149	27	43	74	260
	6	-34	-40	-3	-49	-93
EMERGENCY (C)	–	–	–	–	–	–
	–	–	–	–	–	–
FAULTED (D)	580	180	49	45	116	317
	-21	-44	-62	-6	-80	-150

D

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
1	1		4"Ø SCH XXS, 0'-8" LG STANCHION PIPE	18.36
2	1		ANCHOR TYPE "B" SEE DETAIL M-1100 SH. 33	18.6
	1		BUNDLE & TAG FC-49	
			TOTAL WEIGHT	36.96

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)				
DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE	LOAD	TABLE	

Nuclear Services Corporation Q.A. B

REVISED AS NOTED/REV. B

JOHN M. NOSKO 62-38009 REGISTERED PROFESSIONAL ENGINEER OF ★ ILLINOIS

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-966 SH 43	E	S-969	Y				
	S-1016	B	S-975	M	1E-2-3335	F		

2MS56 NP (115) DRAWING RELEASE RECORD OUTPUT (EMD 037994, 8-11-82)

REV	DATE REC'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	[illegible]	[illegible]	[illegible]	
B	8-27-81	K. Nokleby	[illegible]	[illegible]	
C	6-22-82	[illegible]	[illegible]	[illegible]	X
D	9-15-82	[illegible]	[illegible]	[illegible]	V

EMD REVIEW D Rajesh Gupta

PURPOSE REVISED PER GP-T135B AND PER RBANALY414. (REV C).

CED-6026 FOR "D" SPECS (J-2530)

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-0034132 REGISTERED PROFESSIONAL ENGINEER OF ★ ILLINOIS

P.E. SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM.

NO SCALE
PROJECT NO. 4267-30

SARGENT & LUNDY ENGINEERS CHICAGO

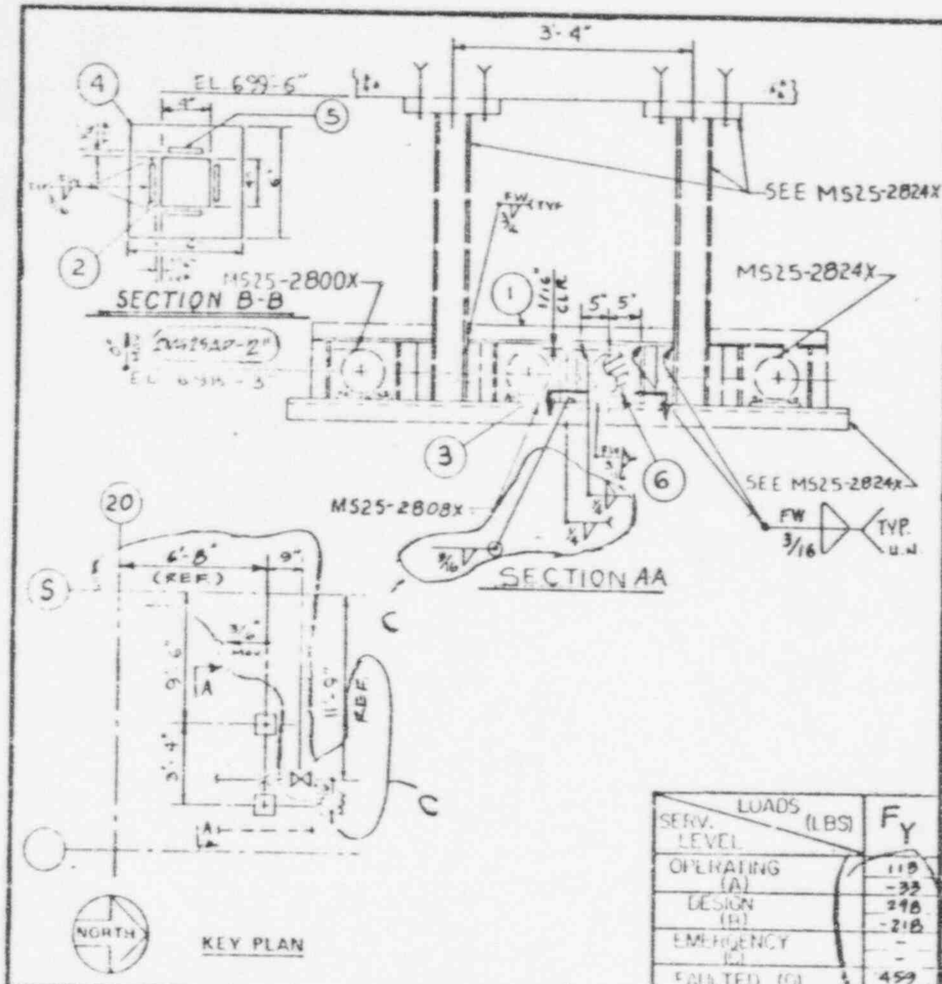
814A

DRAWING NO. M09-MS25-2815A REV D

SHEET 1 OF 1

REV. B DATED 8-27-81 AS RECEIVED FROM QUADREX
SUBSYS. 2MS-59 PER 81-SAR-2 CHG

REV. B DATED 8-27-81 AS RECEIVED FROM QUADREX
SUBSYS 2MS-56 PER 81-SAR-8-022



BILL OF MATERIAL					COMPONENT WEIGHT (LB)
ITEM	QUAN	FIG NO. OR PART NO.	DESCRIPTION		
			COMPONENT SUPPORT ASSEMBLY		
			CONSISTING OF		
1	1		∠ 1½ x 1½ x ¼ x 3'-1" LG		7.2
2	1		½" x 4" x 4" LUBRITE PLATE ALLOY 237 W/AE-7 LUBRICANT.		2.0
3	2		∠ 1½ x 1½ x ¼ x 8¼" LG (CUT TO SUIT)		3.3
4	1		½" x 6" x 6" CS PLATE		5.1
5	4		¼" x ¼" x 3" CS LUG		0.2
6	2	162	2" PROTECTION SADDLE		6.4
	1		BUNDLE & TAG FC-49		
				TOTAL WEIGHT	24.2

JOHN M. NOSKO 62 38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LOADS (LBS) SERV. LEVEL	F_Y
OPERATING (A)	118 / -33
DESIGN (B)	218 / -218
EMERGENCY (C)	- / -
FAULTED (D)	459 / -380

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

Nuclear Services Corporation Quadrex B
REVISED AS NOTED / REV. B

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
SEE LOAD TABLE				

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
C	M966-43	E	M1418-2	E	1E-2-3335	B		
	M525	C	S-940	M				

2MS-56 NR 320 (Y)

DRAWING RELEASE RECORD EMD-037984, 8-11-82.

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM	EMD REVIEW
A	3-25-81	G Cavcado / Liebetrau	M Chang / T.R. Magill	V. Penacerrada		
B	8-27-81	K. Nyblaby / E.H.	M. Morantz / K.A. Eaton	V. Penacerrada		
C	9-15-82	E.W. E.G.	N.S. Carter / P.C.	J.M. Nosko		Rajesh Gupta

VICTORY Q. PENACERRADA 062 034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

PURPOSE FOR RECORD & FILE PER REANALYSIS.

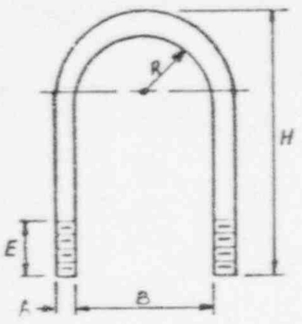
CFD 6026 FOR-O SPEC J-2530

SUPPORT CLASS D

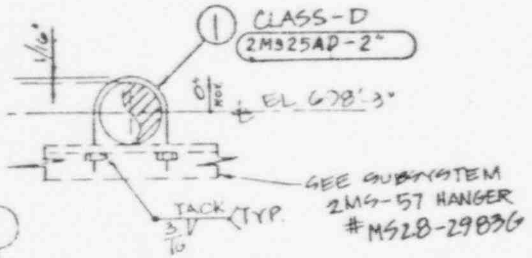
LA SALLE COUNTY STATION
UNIT 2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM.

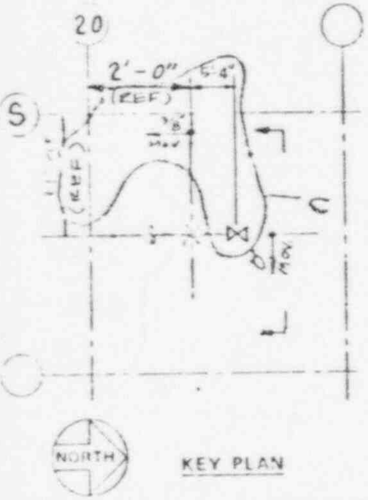
NO SCALE
PROJECT NO. 4267 00
SARGENT & LUNDY ENGINEERS CHICAGO
DRAWING NO. M09 MS25-2816 X
REV C
SHEET 1 OF 1



DETAIL (1)



SECTION



KEY PLAN

LOADS (LBS) SERV. LEVEL	F_y	F_z
OPERATING (A)	55	5
	-20	-167
DESIGN (B)	366	31
	-391	-185
EMERGENCY (C)	–	–
	–	–
FAULTED (D)	639	340
	-664	-201

C

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)	REMARKS
	ONE		COMPONENT SUPPORT ASSY CONSISTING OF:		
1	1	—	5/8" × 2" U-BOLT, A = 5/8", B = 3 1/8", D = 4 1/2", E = 3 1/2", H = 6 3/4", R = 1 7/16", DL = 1'-2 11/16" W/2 HEX NUTS, PER DETAIL (1)	1.4	
	1		BUNDLE & TAG FC-47		
				1.4	TOTAL WEIGHT

JOHN M. NOSKO EZ 38022 ILLINOIS

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE LOAD TABLE			

REFERENCE DRAWINGS	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV
	M-966-43	E	M-1418-2	E	1E-2-3335	B		
	M-584	C	S-940	M				

2MS-56 NP 315 (Y52) DRAWING RELEASE RECORD EMD-037954, 8-11-82

REV	DATE FILED	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	J.Geiger/[illegible]	[illegible]	V.Peñacerrada	
B	8-27-[illegible]	J.Geiger/[illegible]	[illegible]	V.Peñacerrada	
C	9-15-82	[illegible]	N.S. [illegible]	[illegible]	✓

EMD REVIEW
Rajesh Gupta

PURPOSE FOR RECORD & FILE PER REANALYSIS. (REV. C.)
FOR D SPECS (J-2530)

CLP-6026

SUPPORT CLASS D

VICTORY G. PENACERRADA 062 003432 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY
UNIT-2
COMMONWEALTH EDISON CO.
CHICAGO, ILLINOIS

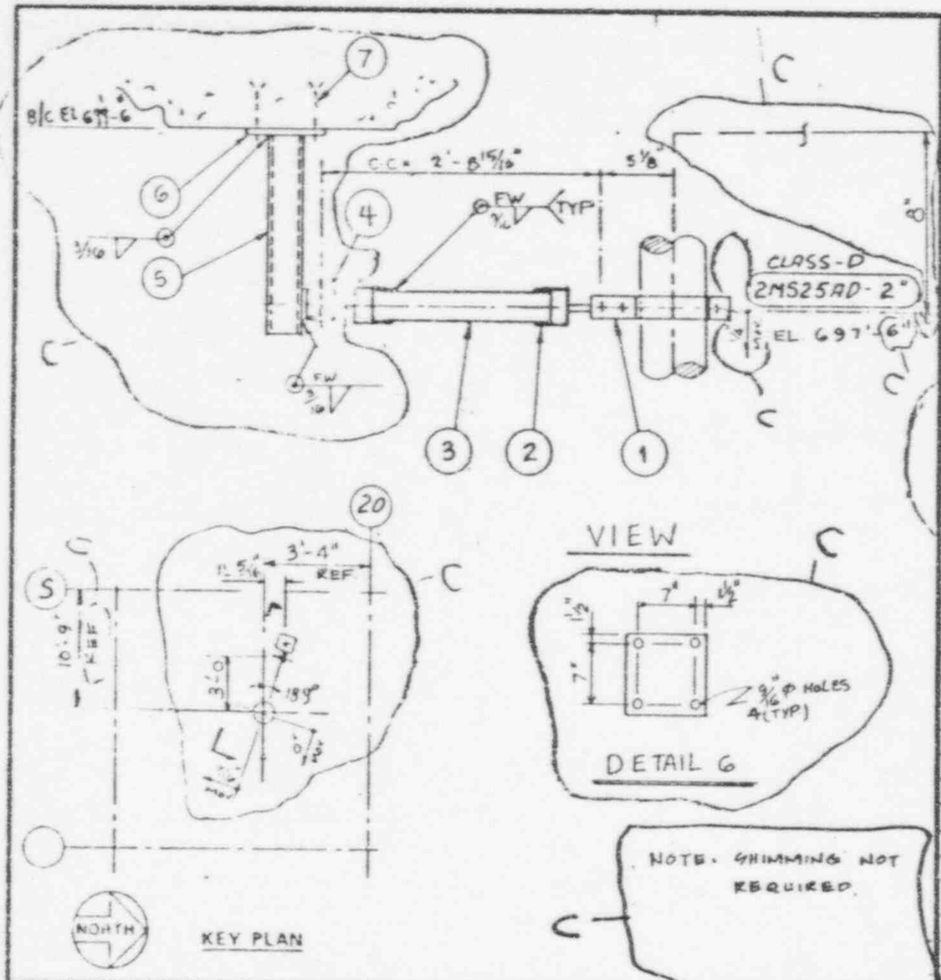
MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

817A

DRAWING NO. M09 MS25-2818G
REV C
SHEET 1 OF 1



ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)	REMARKS
	ONE	—	COMPONENT SUPPORT ASSY. CONSISTING OF:		
1	1	CH1015	2 3/8 O.D. PIPE CLAMP.	2.6	
2	2	1801312-01	ADAPTER ASSY. PER PSA-1/4 *	1.7	
3	1	—	3/4" Φ SCH XXS EXT. PIPE, 2'-4" LG	5.7	
4	1	1801598-01	REAR BRACKET PSA 1/4 *	0.4	
5	1		TS 4 x 4 x 1/4" 2'-3" LG	27.5	
6	1		1/2" x 10" CS PL 0'-10" LG (PER DETAIL 6)	14.2	
7	4		1/2" Φ x 7" LG HILTI KWIK BOLTS (SEE DETAIL 6)	1.76	
			* SUPPLIED BY BULK ORDER		
	1		BUNDLE & TAG FC-49		
				53.86 TOTAL WEIGHT	

Nuclear Services Corporation — C

REVISED AS NOTED/REV. B

JOHN M. NOSKO — 062-35003 — REGISTERED PROFESSIONAL ENGINEER — ILLINOIS

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

REFERENCE DRAWINGS

DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
M-96, SH 43	E	M-141B-SH2	E	1E-2-3335	B		
M-584	C	S-940	M				

LOADS (LBS.)

DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
85/-19	74/-7			95/-29

2MS-56 NP 285 (Z SKEW) DRAWING RELEASE RECORD EMO-037554 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	G. Oashal / Liebetrau	HNBanerjee / R. Munce	V. Penacerrada	
B	8-27-81	K. Nobleby		V. Penacerrada	
C	9-15-82		DG	J. M. Nosko	✓

EMD REVIEW

PURPOSE REVISED PER SP-T1307 (REV. C) & PER REANALYSIS

SEE CED-6026 FOR D SPECS (J-2530)

SUPPORT CLASS D

VICTORY Q. PENACERRADA — 062-034132 — REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS — P.E. SEAL

LA SALLE COUNTY STATION
UNIT - 2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE

PROJECT NO. 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

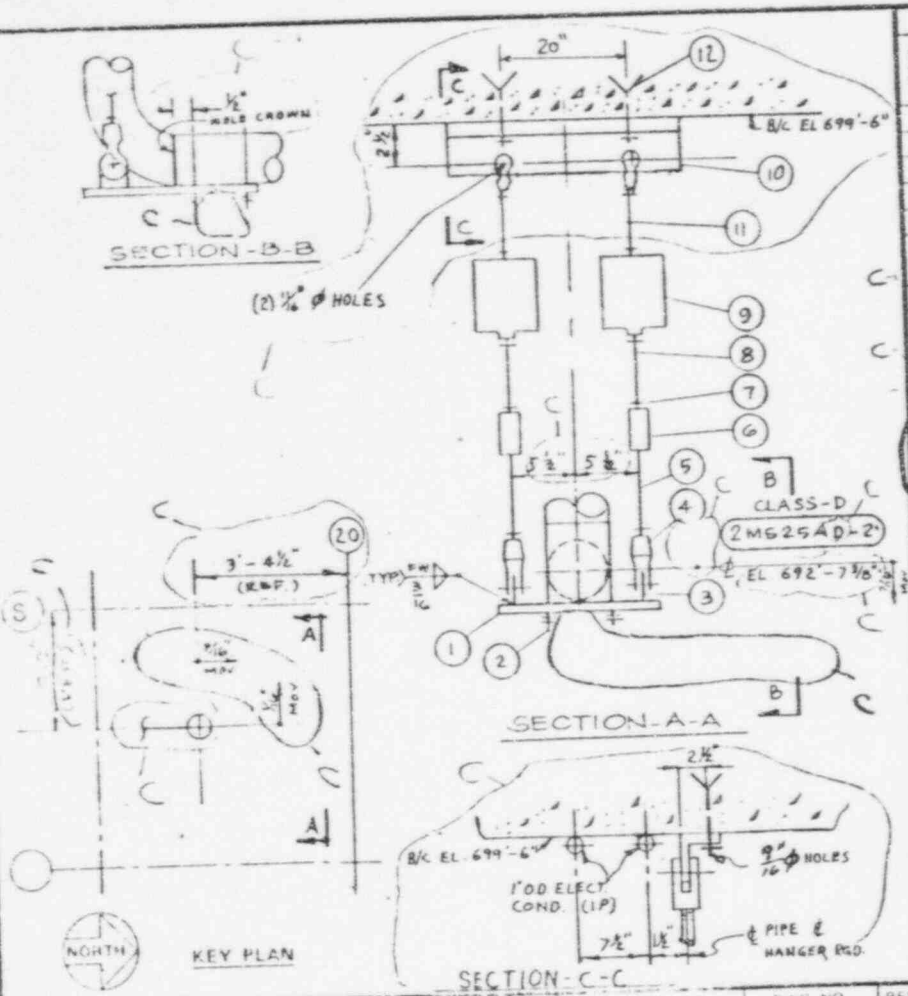
818A

DRAWING NO. M09 MS25-2819X

REV C

SHEET 1 OF 1

REV B DATED 8-27-81 AS RECEIVED FROM QUADREX
SUBSYS. 2MS-56 PER 81-SAR-8-042



BILL OF MATERIAL

ITEM	QUAN	FIG NO OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LB.)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF:	
1	1	-	½" x 12" x 12" C S PLATE PER DETAIL-1	20.4
2	2	137	⅜" x 2" U-BOLT D= 3½" W/NEX NUTS	0.7
3	2	55	WELDING LUG (SHORT) ½" ROD	1.0
4	4	299	½" CLEVIS W/PIN & COTTER	7.64
5	2	253	½" Ø ROD x 1'-6" LG W/6" TBE	1.59
6	2	230	½" TURNBUCKLE	1.45
7	10	-	½" Ø HEX NUT	0.70
8	2	140	½" x 10" - 8" LG W/ TPL	14.0
9	2	B-208	"O TYPE A HL = 88 "C.L = 81 " ⅞ DRILL	25.60
10	1	-	L 4" x 4" x ½" x 2'-0" LG	1.72
11	2	140	½" Ø ROD x 3'-1½" LG. W/6" TBE	0.88
12	2	-	1/2" Ø x 7" LG HILTI KWIK BOLT	
	1		BUNDLE & TAG FC-49	
				76.10 TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE LOAD TABLE		(SH.2)	

REFERENCE DRAWINGS

DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
M-966-43	C	M-148-2	E	IE-2-3335	B		
M-584	C	S-940	M				

2 MS-5G NP-1275 (Y) DRAWING RELEASE RECORD EMD-037954 8-11-82

REV	DATE REV'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81				
B	8-21-81				✓
C	9-15-82				

PURPOSE REVISED PER SP # R-05826 & T-1378 & PER REVISED P&ID. (REV. C)

FOR 'D' SPECS (J-2930)

EMD REVIEW

SUPPORT CLASS D

VICTOR G. PENACERRADA 062 0023132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYS.

NO SCALE
PROJECT NO. 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO 819A

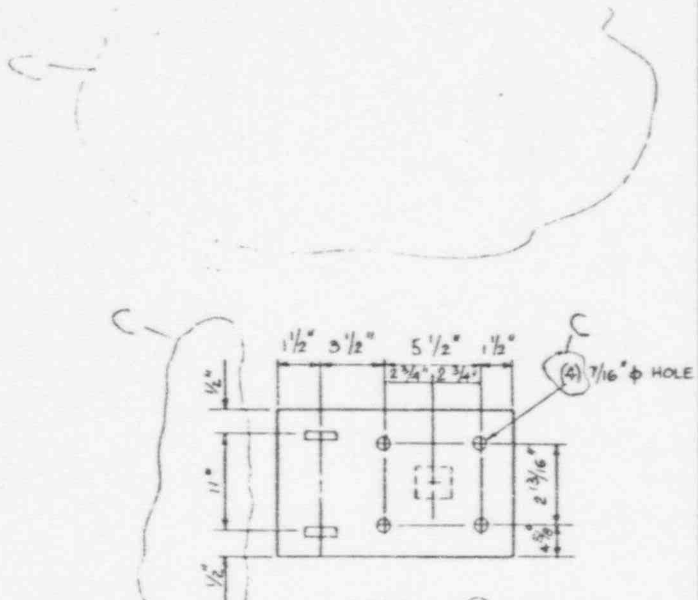
DRAWING NO. M09-MS25-2820V REV C

SHEET 1 OF 2

REV. B DATED 8-27-81
AS RECEIVED FROM QUADRA

SUBSYS 2MS-56
MSR 81-SAR-3-022

REV. B DATED: 8-27-81 SUBSYS 2MS-056
AS RECEIVED FROM ... PER 81-SAR-B-022



DETAIL (1)

LOADS (LBS) / SERV. LEVEL	F_Y
OPERATING (A)	147
DESIGN (B)	147
EMERGENCY (C)	147
FAULTED (D)	147

NORTH

BILL OF MATERIAL

ITEM	QUAN.	FIG. NO. OR PART NO.	DESCRIPTION	P&S	L	CSS	PRIM	SEC	AISC	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY							
			CONSISTING OF							
			BILL OF MATERIAL							
			SEE SH. 1							

TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE	LOAD TABLE	(SH 2)	

REFERENCE DRAWINGS	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
	M-566-43	C	M-1418-2	E	1E-2-3335	B		
	M-584	C	S-940	M				

2MS-56 NP 275 (Y) DRAWING RELEASE RECORD EMO-037954 OUTPUT: 8-11-82

REV.	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	M. Truong / [illegible]	[illegible] / T.K. Mewell	V. Peñacerrada	
B	8-27-81	J. Geigel / [illegible]	[illegible] / [illegible]	V. Peñacerrada	
C	9-15-82	[illegible]	[illegible]	[illegible]	V

PURPOSE REVISED PER SPD R-0582 & T-1378 (REV. C)

CED 6026 FOR D SPECS (J-2530)

EMD REVIEW

PIPE CLASS D

VICTORY G. PENACERRADA REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

P.E. SEAL

JOHN M. NO... REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

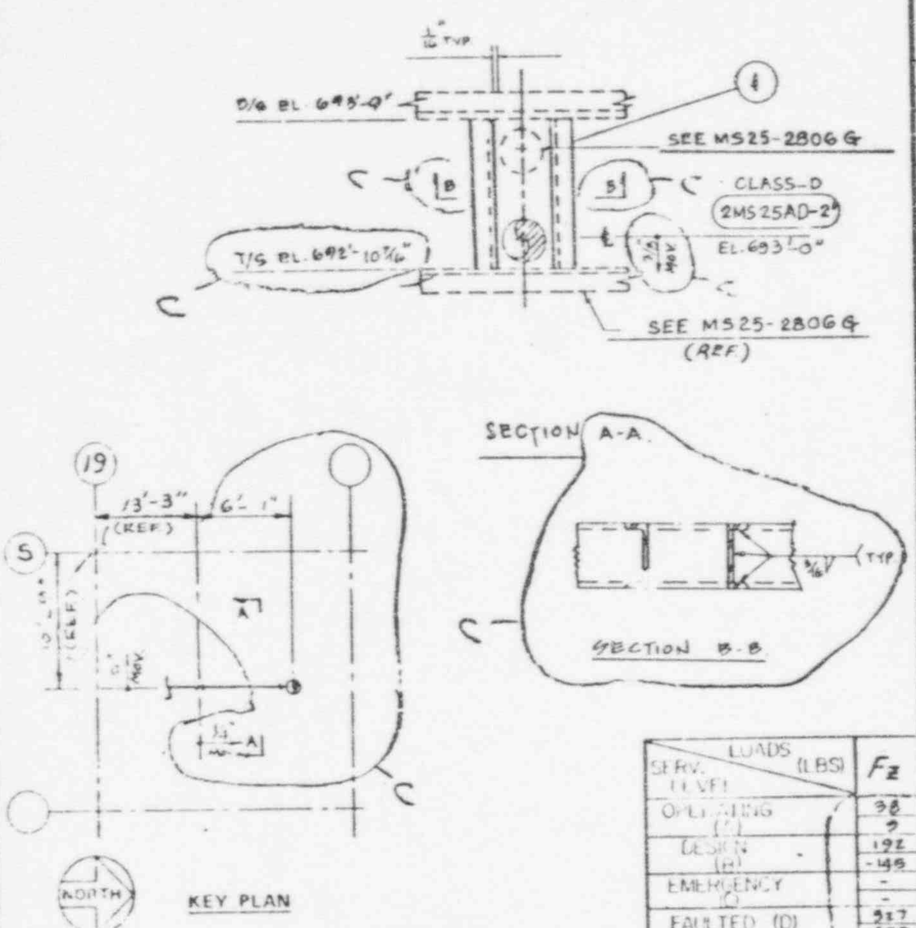
MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267 00

SARGENT & LUNDY ENGINEERS CHICAGO
819A

DRAWING NO. M09-MS25-2820V REV C

SHEET 2 OF 2



LOADS (LBS) SERV. LEVEL	F_z
OPERATING (A)	38 / 9
DESIGN (B)	192 / -148
EMERGENCY (C)	- / -
FAULTED (D)	317 / -272

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)
	DWG		COMPONENT SUPPORT ASSY CONSISTING OF:	
1	2		C3 x 4.1 x 0'-10 3/16" LG.	7.22
	1		BUNDLE & TAG FC-49	
				TOTAL WEIGHT 7.22

REVISED AS NOTED/REV. B

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
SEE LOAD TABLE.				

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-966-43	E	M-1418-2	E	1E-2-3335	B		
	M-584	C	S-940	M				

2MS-50 NP-260 (2) DRAWING RELEASE RECORD EMD-037954, 8-11-82

REV.	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	J. Geiger / Liebethan	HNBanicke / M. Chang	F. Peñacerrada	
B	8-27-81	J. Geiger / E. Ali	[illegible]	F. Peñacerrada	
C	9-15-82	[illegible]	[illegible]	John H. Nosko	X

PURPOSE FOR RECORD & FILE. REVISED PER RE-ANALYSIS (REV C)

CED-6026 FOR D SPECS (J-2530)

C EMD REVIEW Rajesh Gupta

SUPPORT CLASS D

VICTORY G. PENACERRADA — REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS (PE SEAL)

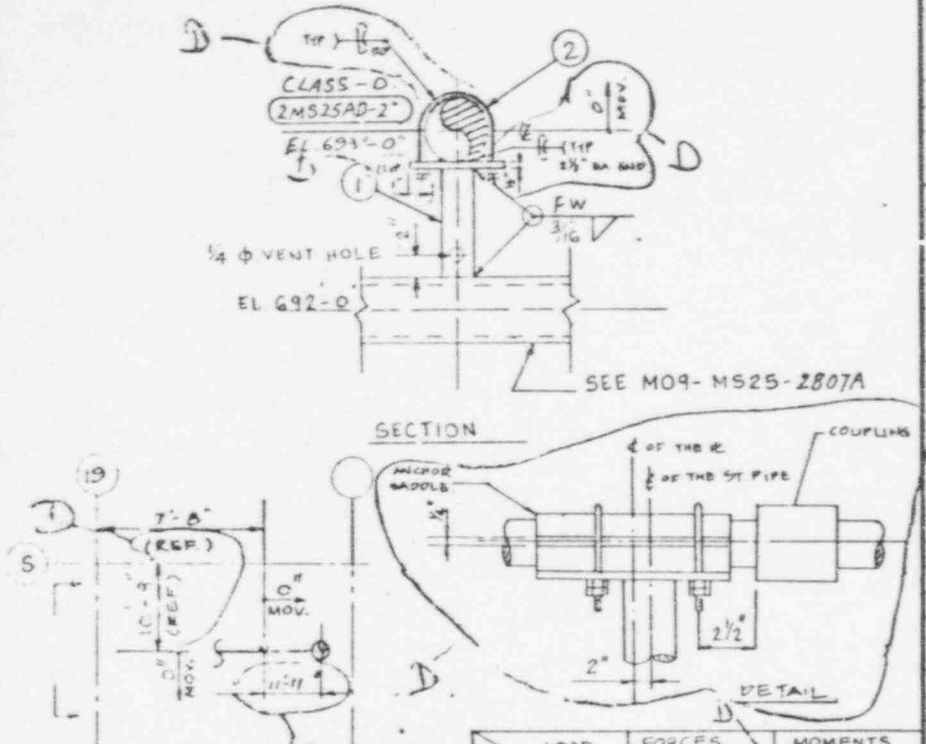
JOHN M. [illegible] — ILLINOIS

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267-00
SARGENT & LUNDY ENGINEERS CHICAGO
821A
DRAWING NO. MS25-2822X REV C
SHEET 1 OF 1

REV. D. DATED ... AS RECEIVED FROM CG&D ... PER 81-SAR-8-022



LOAD (LBS) / SERVICE LEVEL	FORCES LBS F_x	F_y	F_z	MOMENTS FT-LBS M_x	M_y	M_z
OPERATING (A)	243	175	-5	10	34	662
	-14	65	-18	-3	10	142
DESIGN (B)	300	228	76	76	190	951
	-71	12	-99	-69	-146	-147
EMERGENCY (C)	-	-	-	-	-	-
	-	-	-	-	-	-
FAULTED (D)	350	275	147	134	327	1203
	-120	-35	-169	-127	-283	-400

D

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
1	1		4" ϕ SCH XXS STANCHION PIPE, 0'-8" LG.	18.36
2	1		ANCHOR TYPE "B" SEE DETAIL. M-1100 SHT. 33	18.6
	1		BUNDLE & TAG FC-49	
				36.96

NOTE: SHIFT ANCHOR ASSEMBLY 2" NORTH TO MISS COUPLING, STANCHON WILL REMAIN ON ℄ OF SUPPORT LOCATION.

D

JOHN M. NOSKO 62-38039 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Nuclear Services Corporation B

REVISED AS NOTED/ REV. B

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE	TABLE		

REFERENCE DRAWINGS D	DWG NO.	REV	DWG NO.	REV	DWG NO.	REV
	M 906 S143	E	S-969	Y		
	S-1016	B	S-975	M	1E-2-3335	F

2MS-56 NT 255 (N.P. 330 MS-70) DRAWING RELEASE RECORD OUTPUT / EMD-037954, 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	B. KAO / Liebetrau	Moravetz / T.K. Muux	V. Peñacerrada	
B	8-27-81	[illegible] / Liebetrau	[illegible] / Bettum	V. Peñacerrada	
C	6-22-82	[illegible]	[illegible]	H. M. Nosko	X
D	9-15-82	[illegible]	N.S. [illegible] P.C.	H. M. Nosko	✓

PURPOSE REVISED PER GP-T1344, T1357 AND REANALYSIS (REV. D)

CEB-6026 FOR-D SPEC. J-2530

D EMD REVIEW Rajesh Gupta

SUPPORT CLASS D

VICTORY Q. PENACERRADA 062-031132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

P.E. SEAL

LA SALLE COUNTY STATION
UNIT - 2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE

PROJECT NO. 4267 00

SARGENT & LUNDY ENGINEERS CHICAGO

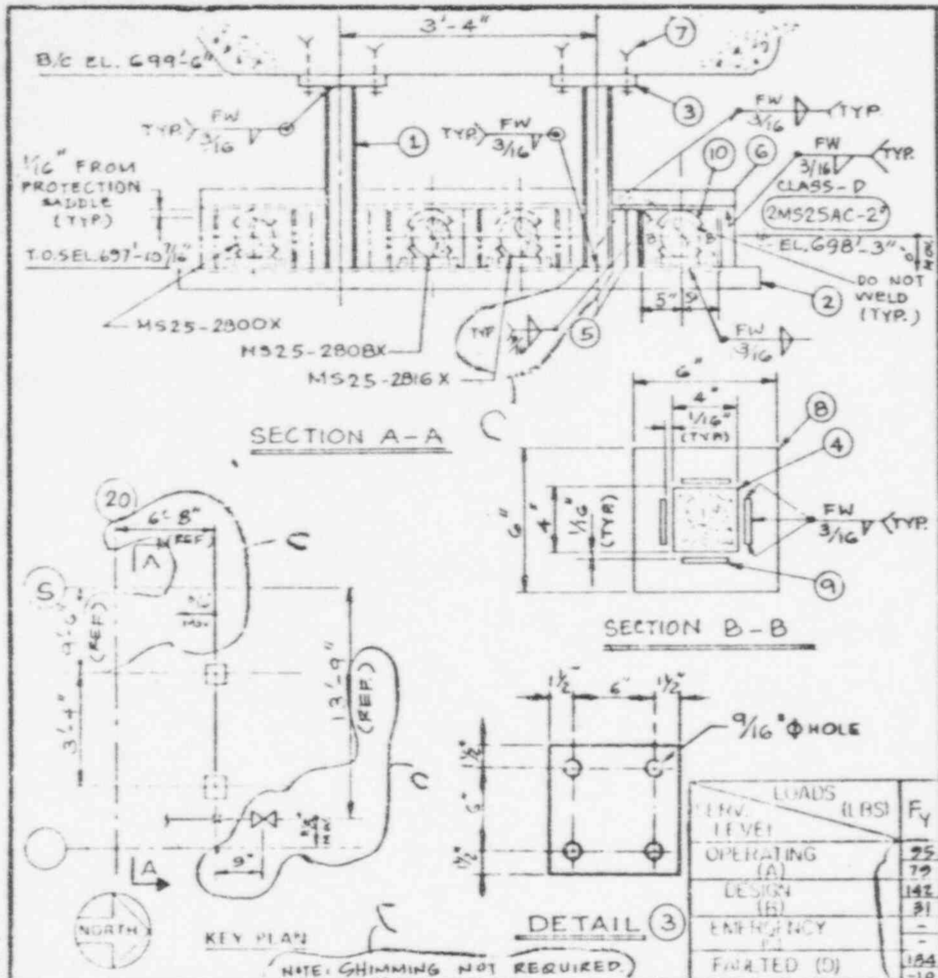
822A

DRAWING NO. M09-MS25-2823A

REV D

SHEET 1 OF 1

AS RECEIVED FROM CO ONLY PER 81-SAR-0-022



LOADS (LBS) / SERV. LEVEL	F_Y
OPERATING (A)	95 / 79
DESIGN (B)	142 / 31
EMERGENCY (C)	- / -
FAULTED (D)	184 / -10

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
1	2		C3 x 4.1 x 1'-7" LG. LG	13.0
2	1		C3 x 4.1 x 6'-5" LG	26.3
3	2		1/2" x 9" CS PL, 0'-9 LG. (SEE DETAIL - 3)	23.0
4	1		1/2" x 4" x 4" LUBRITE PLATE (20-375)	2.0
5	2		L 1 1/2 x 1 1/2 x 1/4 x 0'-9 1/4 LG.	3.2
6	1		L 1 1/2 x 1 1/2 x 1/4 x 1'-5" LG.	3.3
7	8		1/2" x 5 1/2" HILTI KWIK-BOLTS (8D MIN. EMBEDMENT)	3.2
8	1		1/2" x 6" x 6" C.S. PLATE	5.0
9	4		1/4" x 1/4" x 3" C.S. LUG	0.2
10	2	162	2" PROTECTION SADDLE	6.4
	1		BUNDLE & TAG FC-49	
			TOTAL WEIGHT	85.7

Stamp: JOHN M. NOSKO 62 38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Nuclear Services Corporation — B
REVISED AS NOTED/REV. B

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE	TABLE		

REFERENCE DRAWINGS

DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
M-966-43	E	M-1418-2	E	1E-2-3335	B		
M-525	C	S-940	M				

2MS-56 NP 460 (Y) DRAWING RELEASE RECORD OUTPUT EMD-037954 8-11-82

REV	DATE REC'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	[signature]	T.K. Munce / C. Chang	V. Penacerrada	
B	8-27-81	[signature]	[signature]	V. Penacerrada	
C	9-15-82	[signature]	[signature]	[signature]	✓

EMD REVIEW: Rajesh Gupta

PURPOSE: FOR RECORD & FILE PER REANALYSIS (REV-C)
FOR D SPECS (J-2530)

CED-6026

SUPPORT CLASS D

Stamp: VICTORY G. PENACERRADA 062-034172 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS — P.E. SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

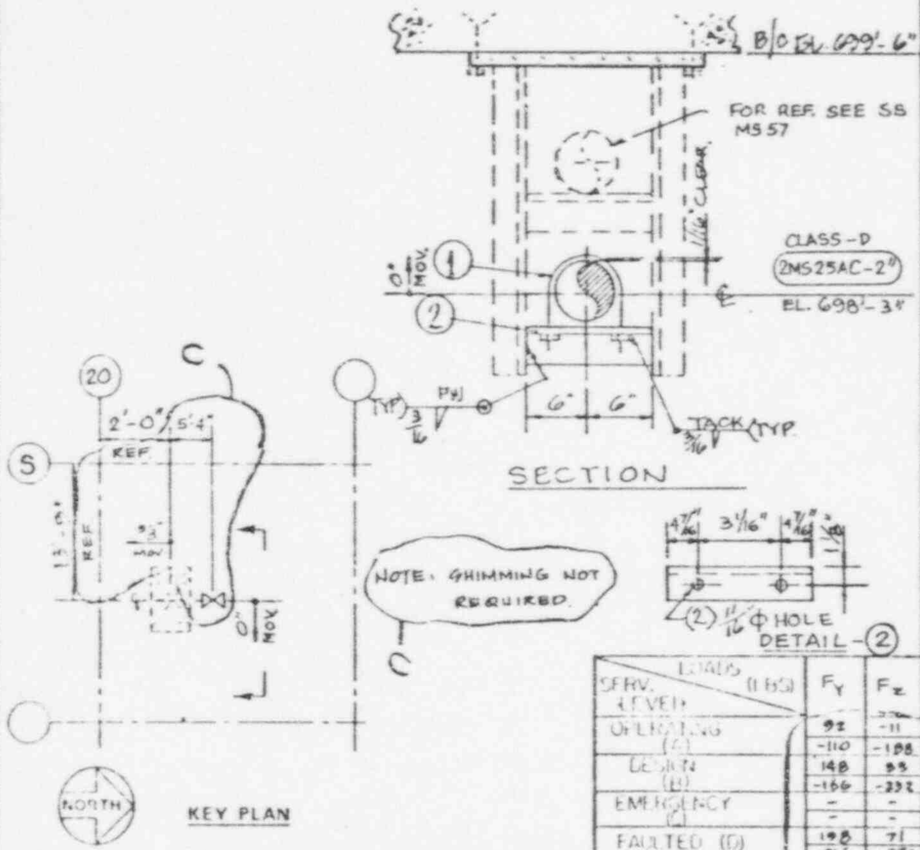
MAIN STEAM PIPING SYSTEM.

NO SCALE
PROJECT NO. 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO
823A

DRAWING NO. M09 MS25-2824X REV C
SHEET 1 OF 1

REV _B_ DATED 8-27-81
AS RECEIVED FROM QUADREX
SUBSYS 2MS-56
PER 81-SAR-_B_-_022_



SERV. LEVEL \ LOADS (LBS)	F_Y	F_Z
OPERATING (A)	92	-11
	-110	-188
DESIGN (B)	148	93
	-166	-232
EMERGENCY (C)	–	–
	–	–
FAULTED (D)	198	71
	-216	-270

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)	REMARKS
	ONE		COMPONENT SUPPORT ASSY CONSISTING OF:		
1	1	–	5/8" x 2" U-BOLT, TL = 2 1/2" B = 3 1/4 DL = 0'-10 7/8" W/ NUTS (HEAVY DUTY)	1.0	
2	1	–	L2" x 2" x 3/8", 1'-0" LG (SEE DETAIL 2)	4.7	
	1		BUNDLE & TAG FC-49		
				5.7	TOTAL WEIGHT

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

Nuclear Services Corporation B
REVISED AS NOTED/REV. B

JOHN M. NOSKO 62 38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

REFERENCE DRAWINGS C	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-966-43	E	M-1119-2	E	16-2-3335	B		
	M-584	C	9-940	M				

LOADS (LBS.)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE	TABLE		

2MS-56 NH-455 (Y&Z) DRAWING RELEASE RECORD EMD-037554, 8-11-82

REV	DATE REL'D.	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	M.Truong / Liebetrau	A.Habis / T.R.Munce	F.Penacerrada	
B	8-27-81	V.Hoff / Liebetrau	M.Marconi / Beeton	F.Penacerrada	
C	9-15-82		D.S. Carlos N.C.	John M. Nosko	V

C EMD REVIEW Rajesh Gupta

PURPOSE FOR RECORD & FILE PER REANALYSIS (REV-C)
FOR "D" SPECS (J-2530)

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-031132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
P.E. SEAL

LASALLE COUNTY
UNIT-2
COMMONWEALTH EDISON CO.
CHICAGO, ILLINOIS

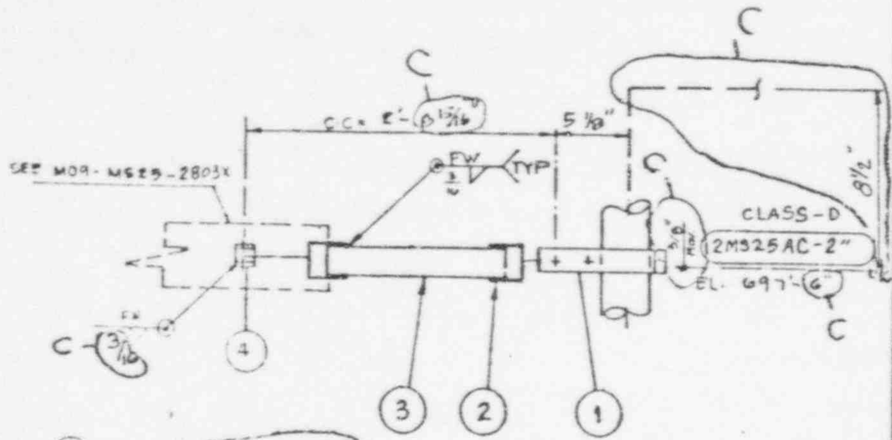
MAIN STEAM PIPING SYSTEM.

NO SCALE
PROJECT NO. 4267-00

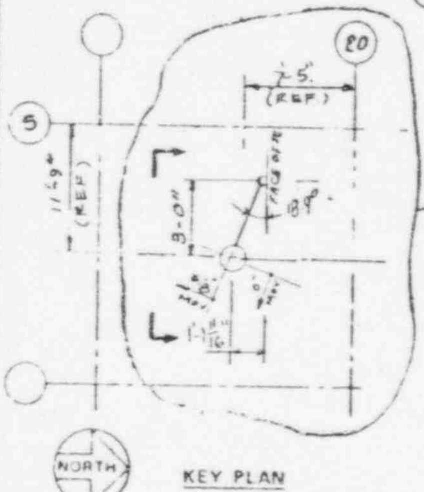
SARGENT & LUNDY ENGINEERS CHICAGO
825A

DRAWING NO. M-39 MS25-2826G REV C
SHEET 1 OF 1

C D-6026



SECTION



KEY PLAN

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)	REMARKS
	ONE	-	COMPONENT SUPPORT ASSY. CONSISTING OF:		
1	1	BH-1407	2" ϕ PIPE CLAMP	2.6	
2	2	1801812-01	ADAPTER ASSY PER PSA-1/4 *	1.7	
3	1		3/4" SCH XXS EXT. PIPE, 2'-4" LG	5.7	
4	1	1001538-01	REAR BRACKET PER PSA-1/4 *	0.4	
			* SUPPLIED BY BULK ORDER		
	1		BUNDLE & TAG FC-49		
				10.4	TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

REVISED AS NOTED/REV. B

LOADS (LBS.)

DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
77/-16	56/4			95/-34

REFERENCE DRAWINGS

DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
M-866-43		M-1418-2	E	1E-2-3335	B		
M-584	C	S-940	M				

2MS-56 NP (405 (2 SKEW) DRAWING RELEASE RECORD EMD-037954, 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	J.Geiger / Liebetrau	H.Parekh / H.Nguyen	V. Penacerrada	
B	8-27-82	J. Geiger / E.[illegible]	[illegible] / [illegible]	V. Penacerrada	
C	9-15-82	[illegible]	[illegible]	John M. Nosko	X

EMD REVIEW: Rajesh Gupta

PURPOSE REVISED PER SP-T1307-03 (REV. C) { PER KBANALY414.

SEE CED-6026 FOR D SPECS (J-2530)

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-031132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

JOHN M. NOSKO 062-38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO. 4267-00

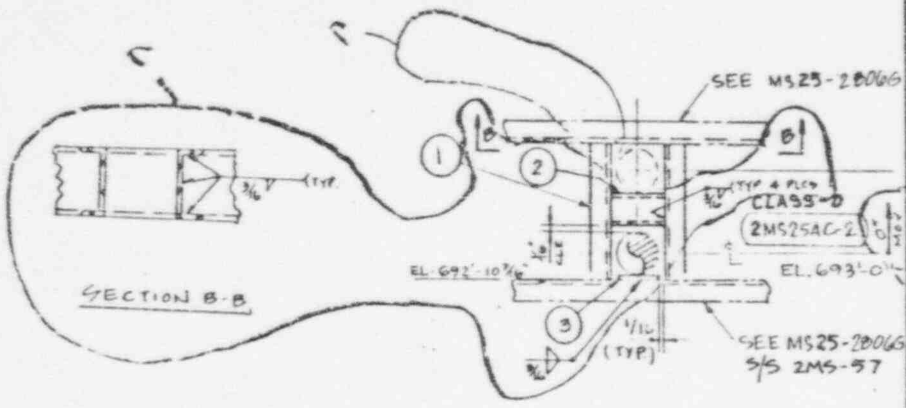
SARGENT & LUNDY ENGINEERS CHICAGO

826A

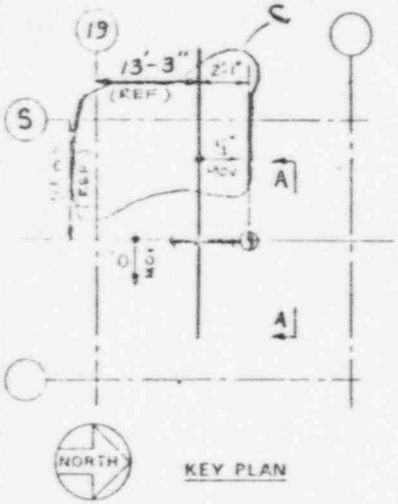
DRAWING NO. M09 MS25-2827X REV C

SHEET 1 OF 1

REV. C DATED ...
AS RECEIVED FROM QUADREX
SUBSYS 2MS-56
PER 81-SAR-B-022



SECTION A-A



KEY PLAN

LOADS (LBS) / SERV. LEVEL	F_Y	F_Z
OPERATING (A)	298 / 201	63 / 6
DESIGN (B)	298 / 111	82 / -14
EMERGENCY (C)	—	—
FAULTED (D)	376 / 33	99 / -21

BILL OF MATERIAL

ITEM	QUAN.	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)
	ONE		COMPONENT SUPPORT ASSEMBLY CONSISTING OF:	
1	2		C3 × 4.1 × 0'-10 3/16" LG.	7.22
2	1		T.S. 2 1/2 × 2 1/2 × 1/4 . 0'-2 1/2" LG	1.48
3	1		3/8" × 2 3/8" × 3 1/2" C.S. PLATE	0.88
	1		BUNDLE & TAG FC-49	
				TOTAL WT. 9.58

REVISED AS NOTED / REV. B

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE LOAD TABLE			

REFERENCE DRAWINGS	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV
	M-906-63	E	M-141B-2	E	IE-2-3335	B		
	M-584	C	S-940	M				

2MS-56, NR 380 (Y.Z.) DRAWING RELEASE RECORD EMD-037954 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	J. Geiger / [illegible]	H.N. Banerjee / [illegible]	[signature]	
B	3-27-81	J. Geiger / [illegible]	[signature]	[signature]	
C	9-15-82	[signature]	N.S. Carlos D.C.	H. M. Hosko	D.

PURPOSE REVISED PER REANALYSIS (REV. C)

CED-6026 FOR B&F. SPECS (J-2530)

EMD REVIEW: Rajesh Gupta

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

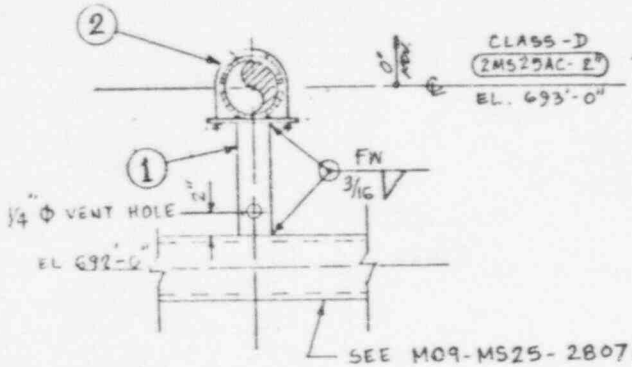
P.E. SEAL

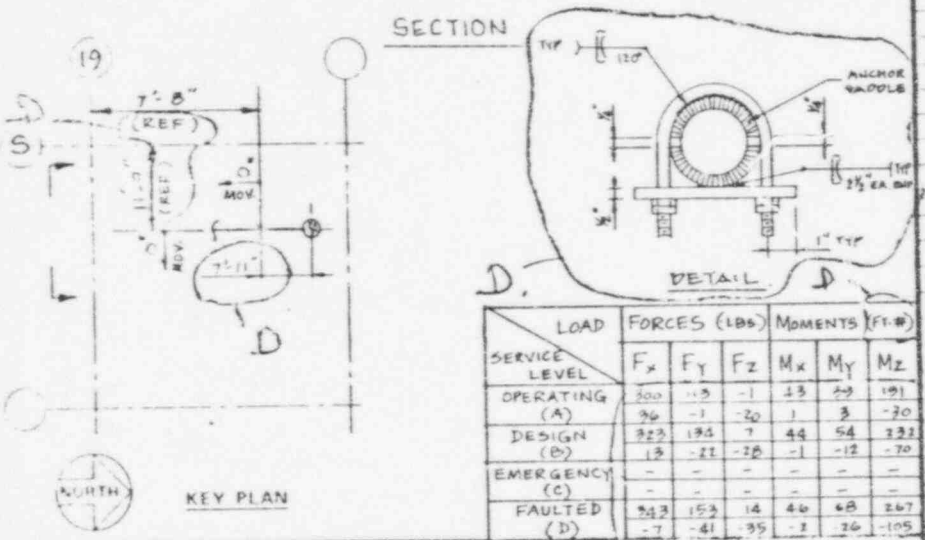
JOHN M. HOSKO 062-037009 REGISTERED PROFESSIONAL ENGINEER ILLINOIS

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO. 4267-00
829A
SARGENT & LUNDY ENGINEERS CHICAGO
DRAWING NO. M09-MS25-2830G
REV C
SHEET 1 OF 1





LOAD / SERVICE LEVEL	FORCES (LBS) F_x	F_Y	F_Z	MOMENTS (FT-#) M_x	M_Y	M_Z
OPERATING (A)	300	-43	-1	43	29	191
	36	-1	-20	1	3	-70
DESIGN (B)	323	134	7	44	54	232
	13	-22	-28	-1	-12	-70
EMERGENCY (C)	-	-	-	-	-	-
	-	-	-	-	-	-
FAULTED (D)	343	153	14	46	68	267
	-7	-41	-35	-2	26	-105

BILL OF MATERIAL

ITEM	QUAN	FIG NO OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LB)	REMARKS
	1		COMPONENT SUPPORT ASSEMBLY		
			CONSISTING OF		
1	1		4" Φ, SCH XXS, 0'-8" LG. STANCHION PIPE	18.36	
2	1		ANCHOR TYPE "B", SEE DETAIL - M-1100, SHEET 33.	18.6	
	1		BUNDLE & TAG FC-49		
				36.96	

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE	LOAD TABLE		

JOHN M. NOSKO 62-38003 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

REVISED AS NOTED / REV B

REFERENCE DRAWINGS

DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
M-909 SH 43	E	S-969	Y				
S-1016	B	S-975	M	IE-2-3335	F		

2MS5G NP1375)

DRAWING RELEASE RECORD OUTPUT EMD 037954, 8-11-82

REV	DATE RELD	PREPARED	REVISED	APPROVED	FILM
A	3-25-81	S K Saha / Gebethaw	Morentz / T. Kilmurray	Penacerrada	
B	8 27 81	J. Geiger / Gebethaw	Rao / Burton	Penacerrada	X
C	6-22-82	[illegible]	[illegible]	M. Nosko	
D	9-15-82	Ew Sato	Ew Sato N.S Seller D.C	M. Nosko	

PURPOSE: REVISED PER GP-T-1956 & PER REANALYSIS (REV. D).

CEE-6026 FOR D SPEC3(J-2530)

EMD REVIEW

Rajesh Gupta

SUPPORT CLASS D

VICTORY G. PENACERRADA 062 0074112 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

P.E. SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

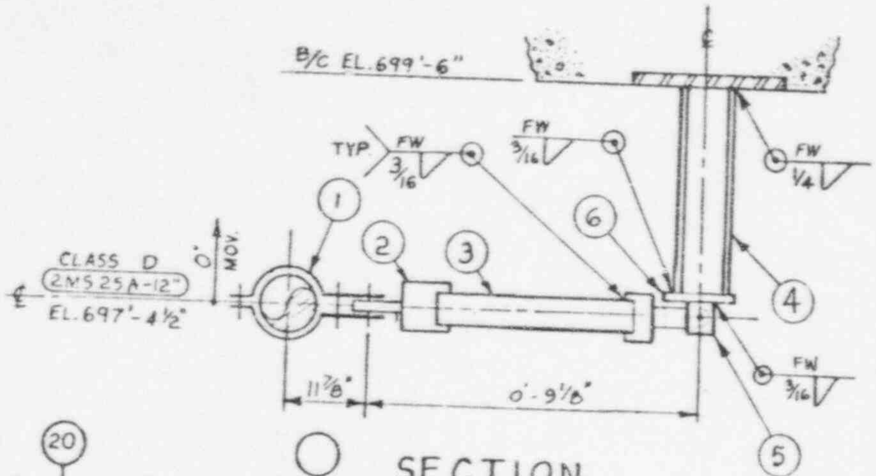
NO SCALE
PROJECT NO 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO 830A

DRAWING NO. M09 MS25-2831A REV D

SHEET 1 OF 1

AS RECEIVED FROM CO. - PER 81-SAH-2-0[illegible]



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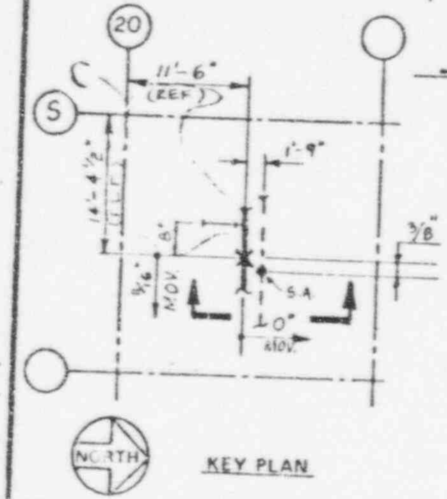


KEY PLAN

NOTE. SHIMMING NOT REQUIRED

BILL OF MATERIAL

ITEM	QUAN.	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
1	1	BH-1271	12" PIPE CLAMP	26.5
2	2	1801313-02	ADAPTER ASSY. FOR PSA-1 *	2
3	1	—	1"Ø EXT. PIPE, SCH.XXS, 0'-5" LG.	1.5
4	1	—	M 4 x 13, 1'-11¼" LG.	25.2
5	1	1801558-03	REAR BRACKET FOR PSA-1 *	1.1
6	1		½" x 4½" C.S. PL, 0'-4½" LG.	2.9
			TOTAL WEIGHT	59.2

* SUPPLIED BY BULK ORDER

BUNDLE & TAG FC-49

SERV. LEVEL / LOADS (LBS)	F_X
OPERATING (A)	-49 / -444
DESIGN (B)	60 / -553
EMERGENCY (C)	— / —
FAULTED (D)	155 / -642

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

Nuclear Services Corporation — Q.C. B

REVISED AS NOTED/REV. B

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
		SEE TABLE		

REFERENCE DRAWINGS DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
M-900, SH22	K	M-141B, SH. 2	E	1E-2-3335	B		
M-584	C	S-940	M				

2MS-56NP515 (X)

DRAWING RELEASE RECORD EMO-037954 OUTPUT: 8-11-82

REV.	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	[signature]	[signature]	[signature]	
B	8-27-81	[signature]	[signature]	[signature]	
C	9-15-82	[signature]	[signature]	[signature]	

EMD REVIEW Rajesh Gupta

PURPOSE FOR RECORD & FILE PER REANALYSIS (REV. C). FOR D SPECS (J-2530)

CED 6026

PIPE CLASS D

P.E. SEAL

VICTORY G. PENACERRADA 062-034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

JOHN M. NOSEK 62-38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYS.

NO SCALE

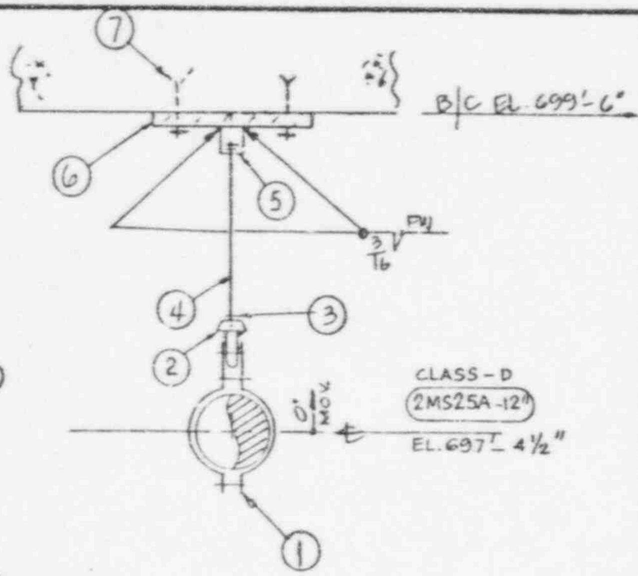
PROJECT NO. 4267 00

SARGENT & LUNDY ENGINEERS CHICAGO

DRAWING NO. M09-MS25-2840X REV. C

REV. B DATED 8-27-81 AS RECEIVED FROM QUAD. 4

SUBSYS 2MS-56 PER 81-SAR-3.022



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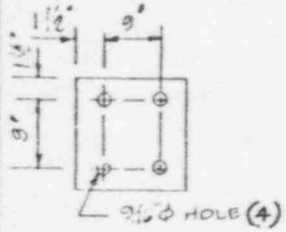
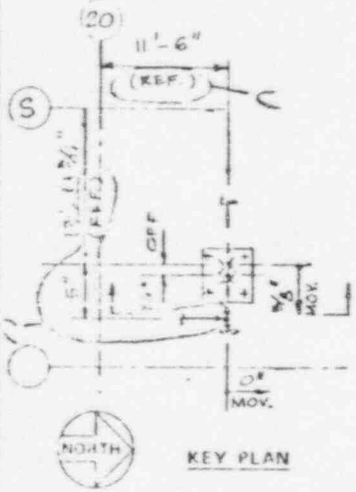


DETAIL-6



KEY PLAN

NOTE: SHIMMING NOT REQUIRED.

LOADS (LBS) / SERV. LEVEL	F_Y
OPERATING (A)	871 / 570
DESIGN (B)	933 / 519
EMERGENCY (C)	-
FAULTED (D)	967 / 474

BILL OF MATERIAL

ITEM	QUAN	FIG NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)
	ONE		COMPONENT SUPPORT ASSY CONSISTING OF:	
1	1	295	12"⌀ DOUBLE BOLT PIPE CLAMP	22.3
2	1	290	1/2" WELDLESS EYE NUT	.6
3	3	-	1/2" HEX NUTS	.2
4	1	140	1/2" x 0'-10 1/2" ROD W/ T.F.L.	.6
5	1	66	1/2" WELDED BEAM ATTACHMENT	1.0
6	1	-	1/2"x12" CSR; 1'-0" LG. (SEE DETAIL-6)	21.0
7	4	-	1/2" x 5 1/2" HILTI KWIK-BOLT	1.6
	1		BUNDLE & TAG FC-49	
				47.3 TOTAL WEIGHT

JOHN M. NOSKO 62 38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

Nuclear Services Corporation Q.A. B

REVISED AS NOTED/REV. B

LOADS (LBS)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE	TABLE		

REFERENCE DRAWINGS

DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
M-900-22	K	M-1418-2	E	1E-2-3335	B		
M-584	C	S-940	M				

2MS-56 NF 525 (Y) DRAWING RELEASE RECORD EMD-037954, 8-11-82

REV	DATE REC'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	[signatures]	[signatures]	[signature]	
B	8-27-81	[signatures]	[signatures]	[signature]	
C	9-15-82	[signature]	N.S. Carlos D.C.	[signature]	

EMD REVIEW ✓ [signature]

PURPOSE FOR RECORD & FILE PER REANALYSIS (REV. C)

CED-6026 FOR. D, SPEC. J-2530

SUPPORT CLASS D

VICTORY G. PENACERRADA 062 034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYS.

NO SCALE
PROJECT NO. 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

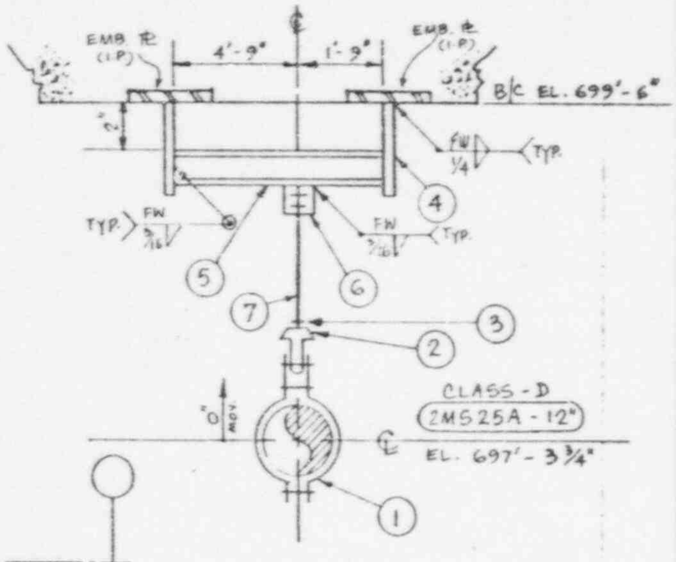
837A

DRAWING NO. M-25-2838 R REV C

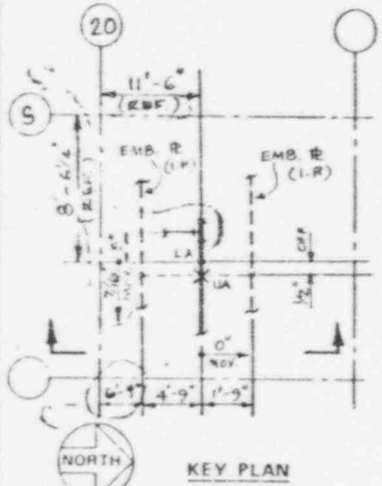
SHEET 1 OF 1

REV. 3 DATED 8-27-81 SUBSYS. 2MS-56
AS RECEIVED FROM QUADREX PER 81-SAR-B-022

REV. C DATED 8-?-81 AS RECEIVED FROM QUADREX
SUBSYS 2MS-56 PER 61-SAR-8-022



SECTION



KEY PLAN

LOADS (LBS) / SERV. LEVEL	Fy
OPERATING (A)	669 / 420
DESIGN (B)	721 / 368
EMERGENCY (C)	— / —
FAULTED (D)	767 / 322
HYDRO-TEST (T)	—

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF :	
1	1	295	12" φ DOUBLE BOLT PIPE CLAMP	22.3
2	1	290	1/2" WELDLESS EYE NUT	.6
3	3		1/2" HEX NUT	.2
4	2		3/4" x 5" C.S. PL, 0'-7" LG.	14.9
5	1		W4 x 13, 6'-5 1/4" LG.	83.7
6	1	66	1/2" WELDED BEAM ATTACHMENT	1.3
7	1	140	1/2" x 8" ROD W/ TFL	.4
	1		BUNDLE & TAG FC-49	
			TOTAL WEIGHT	123.4

JOHN M. NOSKO 62 38004 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Nuclear Services Corporation B

REVISED AS NOTED/REV. B

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)

DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
(SEE LOAD TABLE)				

REFERENCE DRAWINGS	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV	DWG. NO.	REV
C	M-900-22	K	M-1418-2	E	IE-2-3335	B		
	M-584	C	S-940	M				

2MS-56 N.P. 535 (Y) DRAWING RELEASE RECORD (SMO-#37954, 8-11-82)

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	S K Saha / [illegible]	N.M. APOSTOL / [illegible]	[illegible]	
B	8-27-81	[illegible]	[illegible]	[illegible]	
C	9-15-82	[illegible]	D.S. [illegible]	[illegible]	X

PURPOSE: FOR RECORD & FILE PER REANALYSIS. (REV. C)

EMD REVIEW
Rajesh [illegible]

VICTORY G. PENACERRADA 062 0034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT - 2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

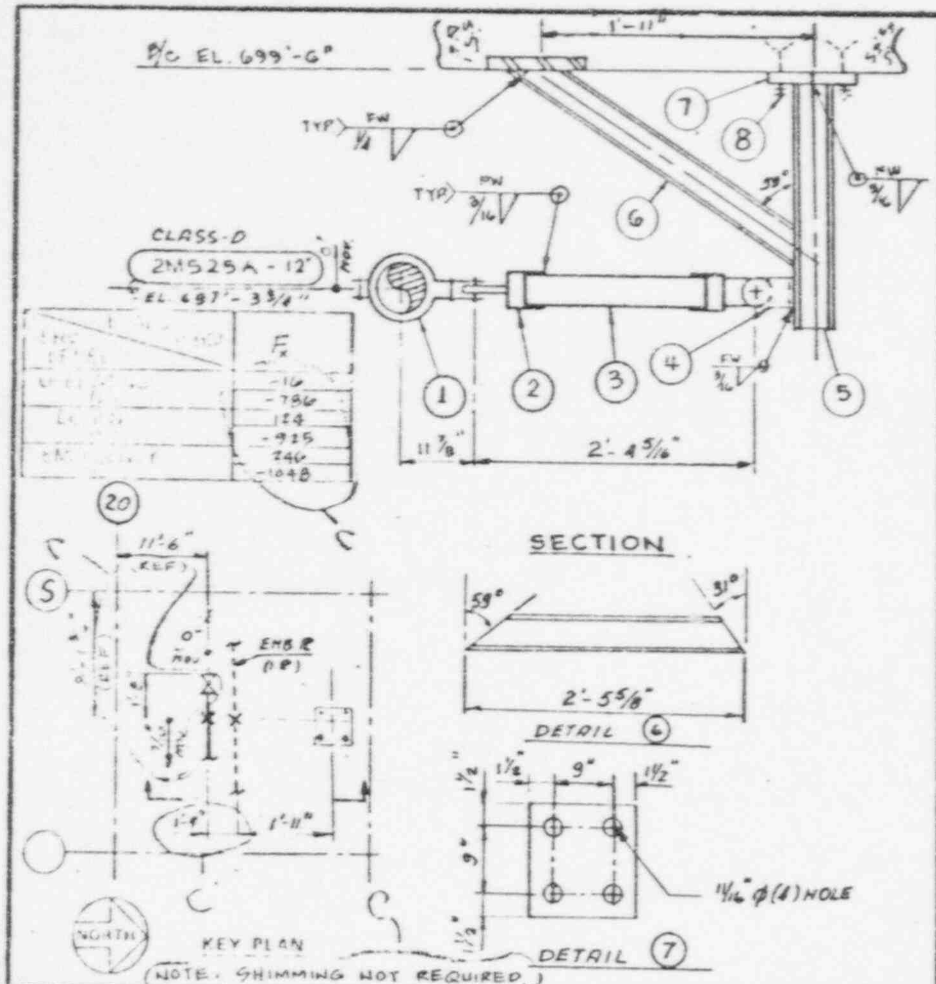
MAIN STEAM PIPING SYS.

NO SCALE
PROJECT NO. 4667-00

SARGENT & LUNDY ENGINEERS CHICAGO

DRAWING NO. M09 MS25-2839 R
REV C

SUPPORT CLASS D



BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LBS)
	ONE		COMPONENT SUPPORT ASSY. CONSISTING OF:	
1	1	BH-1271	12 3/4 O.D. PIPE CLAMP	26.5
2	2	1801313-02	ADAPTER ASSY PER PSA-1 *	2.0
3	1	—	1" ϕ SCH 80 EXT. PIPE, 2'-0" LG	4.3
4	1	1801558-03	REAR BRACKET PER PSA-1 *	1.1
5	1	—	W4 x 13, 2'-3 1/2" LG.	29.8
6	1	—	W4 x 13, 2'-5 5/8" LG (PER DETAIL-6)	32.1
7	1	—	1/2" x 12" C.S. PL, 1'-0" LG (PER DETAIL-7)	20.4
8	4	—	5/8" x 8 1/2" HILTI KWIK BOLT	3.5
			* SUPPLIED BY BULK ORDER	
	1		BUNDLE & TAG FC-49	
			TOTAL WEIGHT	119.7

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

REVISED AS NOTED/REV. B

JOHN M. NOSKO 62-38003 REGISTERED PROFESSIONAL ENGINEER ILLINOIS

LOADS (LBS.)

DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE	TABLE		

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG. NO.	REV
	M-902 SH 22		M-141B SH 2	E	1E-2-3335	B		
	M-58A	C	S-940	M				

2MS-56 NP(540)(X) DRAWING RELEASE RECORD EMD-037954, 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	[signatures]	[signatures]	[signature]	
B	5-27-81	[signatures]	[signatures]	[signature]	
C	9-15-82	[signature] 9/23	N.S. Carlo D.C.	[signature]	✓

EMD REVIEW: Rajesh Gupta

PURPOSE: FOR RECORD & FILE PER REANALYSIS (REV. C)

SEE CED-6026 FOR D. SPEC-J-2530

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-004132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

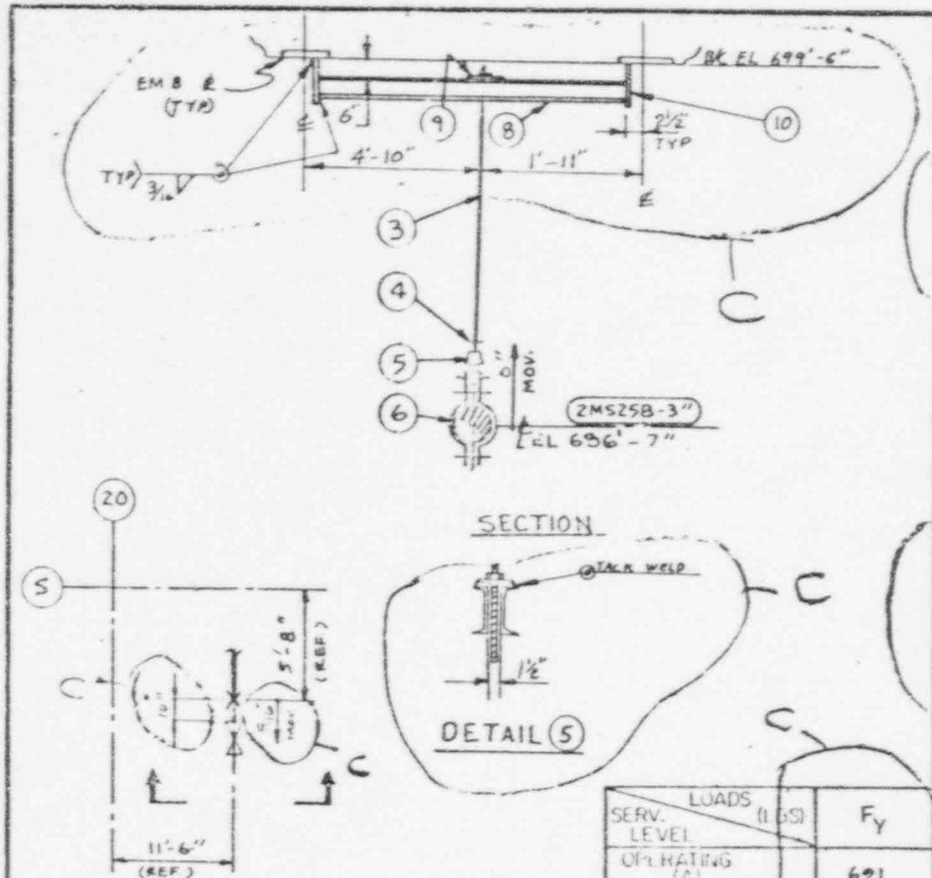
P.E. SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYS.

NO SCALE
PROJECT NO. 4267-00
836R
SARGENT & LUNDY ENGINEERS CHICAGO
DRAWING NO. M09 MS25-2837X
REV C
SHEET 1 OF 1

REV B (?) AS RECEIVED FROM QUADREX
SUBSYS 2MS-56 PER EI-SAR-B-022



KEY PLAN

SERV. LEVEL / LOADS (LBS)	F_Y
OPERATING (A)	691
DESIGN (B)	721
EMERGENCY (C)	-
FAULTED (D)	748

BILL OF MATERIAL

ITEM	QUAN	FIG NO. OR PART NO.	DESCRIPTION	COMPONENT WT LBS
	ONE		RIGID HANGER ASSY. CONSISTING	
1			DELETED	
2			DELETED	
3	1	140	(1) ½" x 2'-2⅞ W/6" TBE	1.5
4	3		½" HEX NUT	0.20
5	1	290	½" WELDLESS EYE NUT	0.6
6	1	295	3" Φ DOUBLE BOLT PIPE CLAMP	3.0
7			DELETED	
8	2		C4 x 5.4, 6'-4" LG	68.4
9	1	60	2" Φ WASHER ℞	1.1
10	2		½" x 6" CS. ℞ 1'-0" LG	20.4
	1		BUNDLE & TAG FC-49	
			TOTAL WT	93.2

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

REVISED AS NOTED / REV. B

JOHN M. NOSKO 62 38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE LOAD	TABLE		

REFERENCE DRAWINGS	DWG NO.	REV	DWG NO.	REV	DWG NO.	REV	DWG NO.	REV
	M-900-22	K	M-1418-2	E	1E-2-3335	B		
	M-584	C	S-940	M				

2MS-56 NP(560)(Y) DRAWING RELEASE RECORD EMD-037954. 8-11-82.

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	S. Callaway / Hopelman	D. Fr... / T.W. Mease	Penacerrada	
B	8-27-81	J. Gargov / E. Orr	...	Penacerrada	
C	9-15-82	J. Singel	W. S. Carlson D.C.	John M. Nosko	

EMD REVIEW: Rajesh Gupta

PURPOSE REVISED PER SP #-T-1312 (REV C) & PER REANALYSIS.

SEE CED-6026 FOR D SPECS (J-2530)

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-0034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

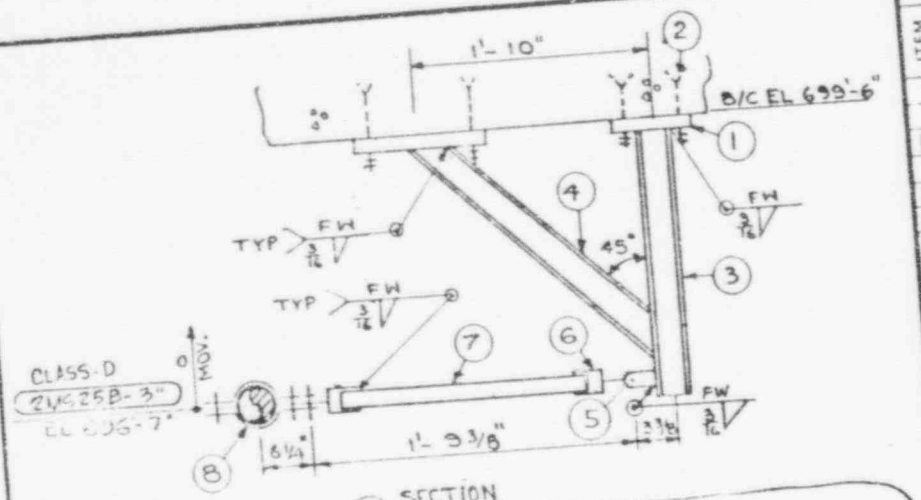
P.E. SEAL

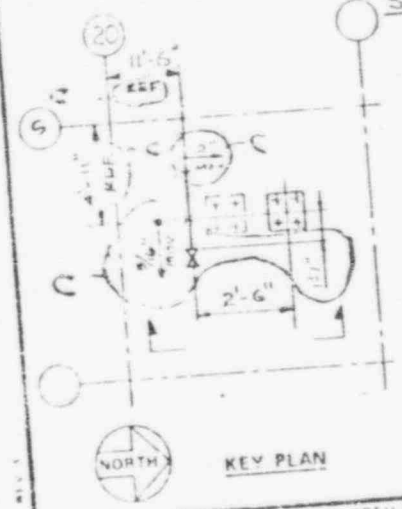
LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYS.

NO SCALE
PROJECT NO. 4267-00
SARGENT & LUNDY ENGINEERS CHICAGO
831A
M09
MS25-2832R
REV C
SHEET 1 OF 1

REV. B DATED 8-27-81 AS RECEIVED FROM QUAD
SUBSYS. 2MS-56 PER 81-SAR-B-022





LOADS (LBS) / SERV. LEVEL	F_x	F_y	F_z
OPERATING (A)	-81 -185		
DESIGN (H)	25 241		
EMERGENCY (E)	-		
FAULTED (D)	74 292		
HYDRO-TEST (T)			

BILL OF MATERIAL

ITEM	QUAN	FIG NO OR PART NO	DESCRIPTION	COMPONENT WT LBS
	DNS		RIGID STRUT ASSY CONSISTING	
1	2		1/2" x 12" C.S. PL 1'-0" LG. (PER DET 1, SH. 2)	20.4
2	8		1/2" x 5 1/2" HILTI KWIK-BOLTS	3.2
3	1		W 4 x 13 x 3'-2" LG	41.1
4	1		W 4 x 13 x 2'-7 1/2" LG (PER DET. 4, SH. 2)	35
5	1	1801558-01	PSA-1/4 REAR BRACKET *	0.4
6	2	1601312-01	PSA-1/4 ADAPTER ASSY *	1.7
7	1		3/4" ϕ SCH-XXS EXTENSION PIPE 1'-5" LG	3.5
8	1	BH-1407	3 1/2" ϕ O.D. PIPE CLAMP	3.0
			* SUPPLIED BY BULK ORDER	
	1		BUNDLE & TAG FC-49	

108.3 TOTAL WT

Nuclear Services Corporation — Quality B

JOHN M. NOSEK — 62 38009 — REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

REVISED AS NOTED/R

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
SEE LOAD TABLE				

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-300-22	K	M-1418-2	E	IE-2-3335	B		
	M-584	C	M-940	M				

2MS-56. NP-1565(X) DRAWING RELEASE RECORD EMD-037994, 8-11-82

REV	DATE HELD	PREPARED	REVIEWED	APPROVED	FILM
A	3 25 81	A READY / Robertson			
B	8 27 81	Robertson			
C	9-15-82				

PURPOSE FOR RECORD & FILE & PER REANALYSIS DATED 8-11-82 (REV C)

SEE CED-6026 FOR D SPEC (J-2530)

EMD REVIEW

Rajesh Gupta

SUPPORT CLASS D

VICTORY G. PENACERRADA — 062 003432 — REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS — PE SEAL

LA SALLE COUNTY STATION UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYS7

NO SCALE | PROJECT NO 4267-00 | SARGENT & LUNDY | DRAWING M09 M525-28 | SHEET 1 0

832A

CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE | PROJECT NO 4267 00 | SARGENT & LUNDY | DRAWING NO. M09-M525-2833x | REV

PROFESSIONAL ENGINEER OF ILLINOIS

SUBSYS 2MS-56 PER 81-SAR-3-022

AS RECEIVED FROM QUA... SUBSYS 2MS-56 PER 81-SAR-3-022

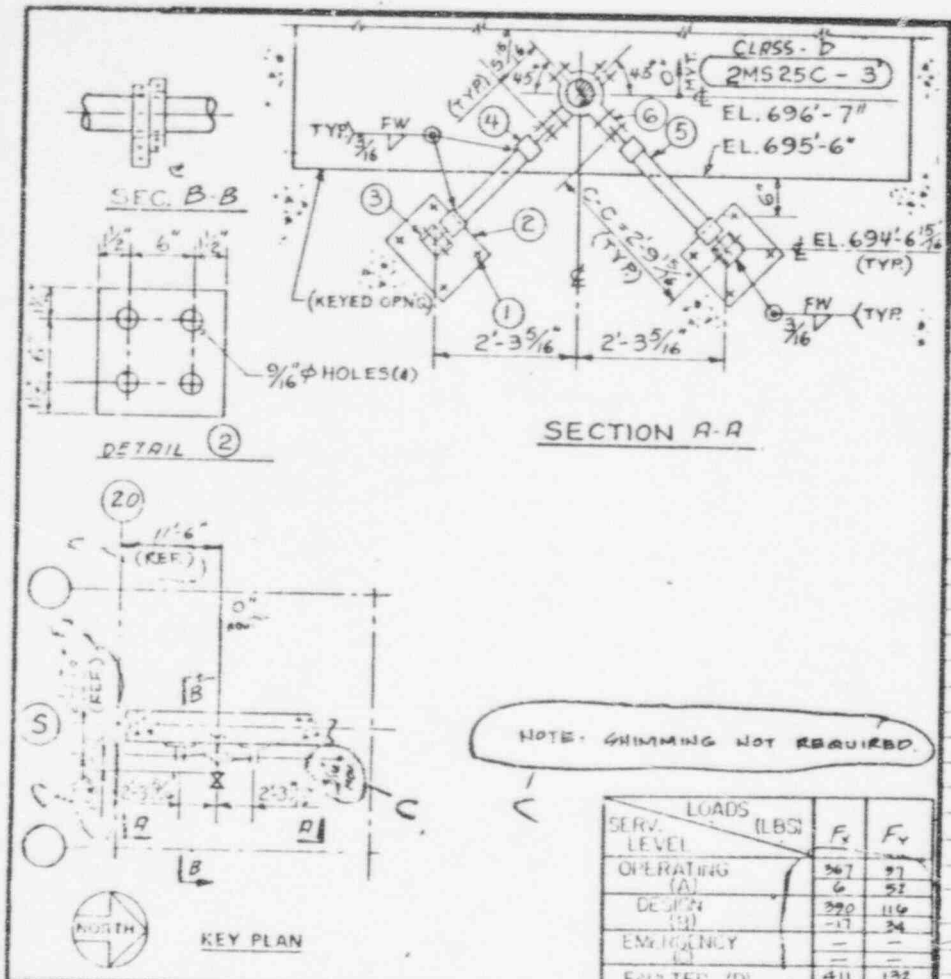
REV ... DATED 8-27-81 AS RECEIVED FROM ...

RE DR 2MS REV A B C

CED ...

...NEW & FILE PER REANALYSIS (REV C) ...-2530)

PIPE CLASS D



NOTE: SHIMMING NOT REQUIRED.

LOADS (LBS) / SERV. LEVEL	F_x	F_y
OPERATING (A)	367	97
	6	52
DESIGN (B)	390	116
	-17	34
EMERGENCY (C)	—	—
	—	—
FAULTED (D)	411	132
	-37	18

BILL OF MATERIAL

ITEM	QUAN.	FIG NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB)
	1	—	COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
1	8	—	½" x 1' HILTI KWIK-BOLT	3.9
2	2	—	½" : 9" x 9" C.S. PLATE, (PER DET. 2)	23.0
3	2	1801558-01	REAR BRACKET PER PSA - ½	0.8
4	4	1801312-01	ADAPTER ASSY. PER PSA - ½	3.3
5	2	—	3¼" SCH. XXS-PIPE EXTENSION, 2'-6" LG.	12.2
6	2	BH-1107	3½" O.D. PIPE CLAMP	6.1
			# SUPPLIED BY BULK ORDER	
	1	—	BUNDLE & TAG FC-49	
				190 TOTAL WEIGHT

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	(SEE TABLE)			

JOHN M. NOSKO
82 38009
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

REVISED PER STRESS ANALYSIS/REV-B

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-900 SH-22	K	M-1418 SH-2	E	M-584	C	S-40	M
	1E-2-3335	B						

2MS-56 NP 990 (X&Y) DRAWING RELEASE RECORD OUTPUT EMD-037954, B-11-82 PLOT

REV	DATE RELD	PREPARED	REVIEWED	APPROVED
A	3-25-81	G. Ouchata/Liebtrau	N.M. Approval/M.C. Haug	V. Penacerrada
B	7-31-81	G. Ouchata/Abatti	M. Rosta/R. Burton	V. Penacerrada
C	9-15-82	Eng'g B.	D.G. Dailey D.C.	V. Penacerrada

PURPOSE FOR RECORD & FILE FOR REANALYSIS (REV. C)

EMD REVIEW

Rajesh Gupta

SUPPORT CLASS D

VICTORY G. PENACERRADA
062-0034132
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
PE SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO
833A

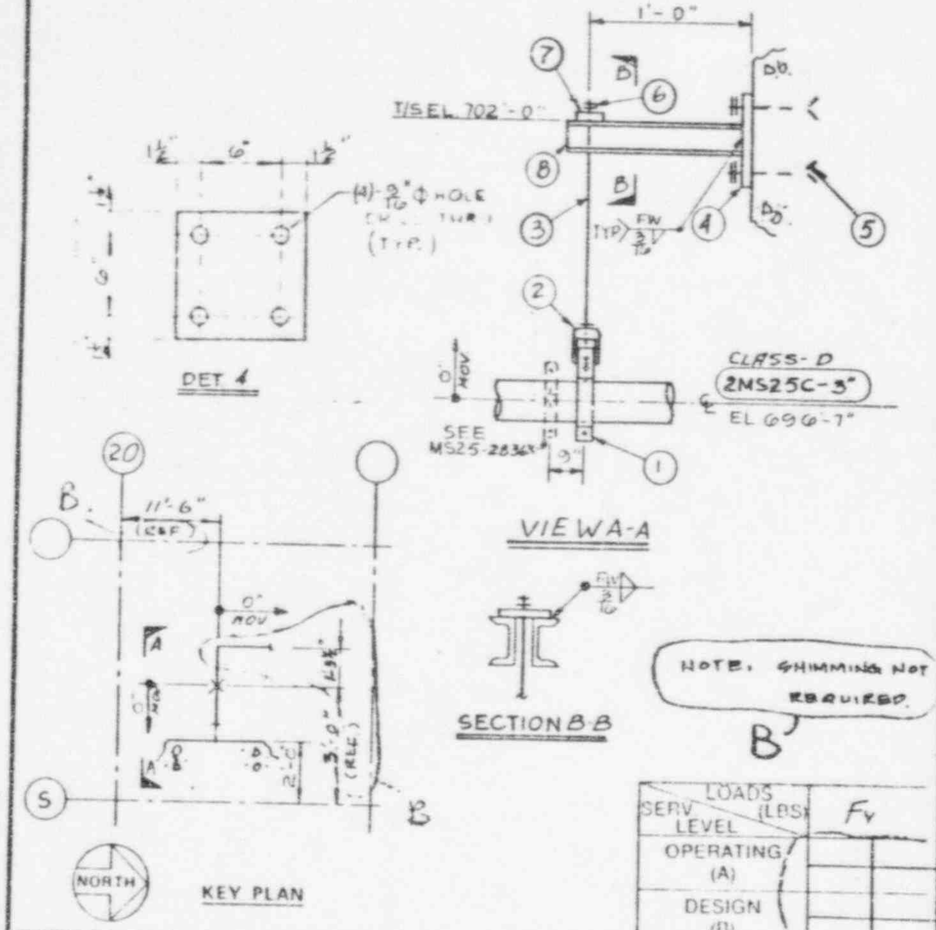
DRAWING NO M-MS25-2834G REV. C

SHEET 1 OF 1

RLV. B DATED 7-31-81 AS RECEIVED FROM QUADREX

SUBSYS 2MS-56 PER 81-SAR-8-022

REV. A DATED 8-18-81 AS RECEIVED FROM QUAD...
SUBSYS. 2MS-56 PLR 81-SAR-B-022



SERV LEVEL / LOADS (LBS)	Fy	
OPERATING (A)		
DESIGN (B)		

BILL OF MATERIAL

ITEM	QUAN	FIG NO OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF:	
1	1	295	3"φ DOUBLE BOLT PIPE CLAMP	4.0
2	1	290	1/2"φ WELDLESS EYE NUT	1.0
3	1	140	1/2"φ 5'-0" LG. W/6" TBE	4.0
4	1		1"x9" C.S.R 0'-9" LG. (PER DET 4)	23.0
5	4		1/2"φ x 5 1/2" HILTI KWIK-BOLT	2.0
6	3		1/2 HEX NUT	1.0
7	1	60	1/2" STEEL WASHER R	1.0
8	2		C3x4.1, 1'-0 3/4" LG. B-B = 1 1/2"	9.0
	1		BUNDLE & TAG FC-49	
			TOTAL WEIGHT	45.0

JOHN M. NOSKO 62-38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

Q-Class A

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
167/-114	141/-89			189/-136

REFERENCE DRAWINGS DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
M-900 SH 22	J	S-940	M	IE-2-3335			

2MS-56 NP 595 (Y-DB) DRAWING RELEASE RECORD OUTPUT BMD-037954, 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	8-18-81	G. Quirk / Ahst	P Hallamoru / J MEI	F Penacerrada	
B	9-15-82	[signature]	N. S. Clarker P.E.	John M. Nosko	

EMD REVIEW: X Rajesh Gupta

VICTORY G PENACERRADA 062-033422 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

662 I

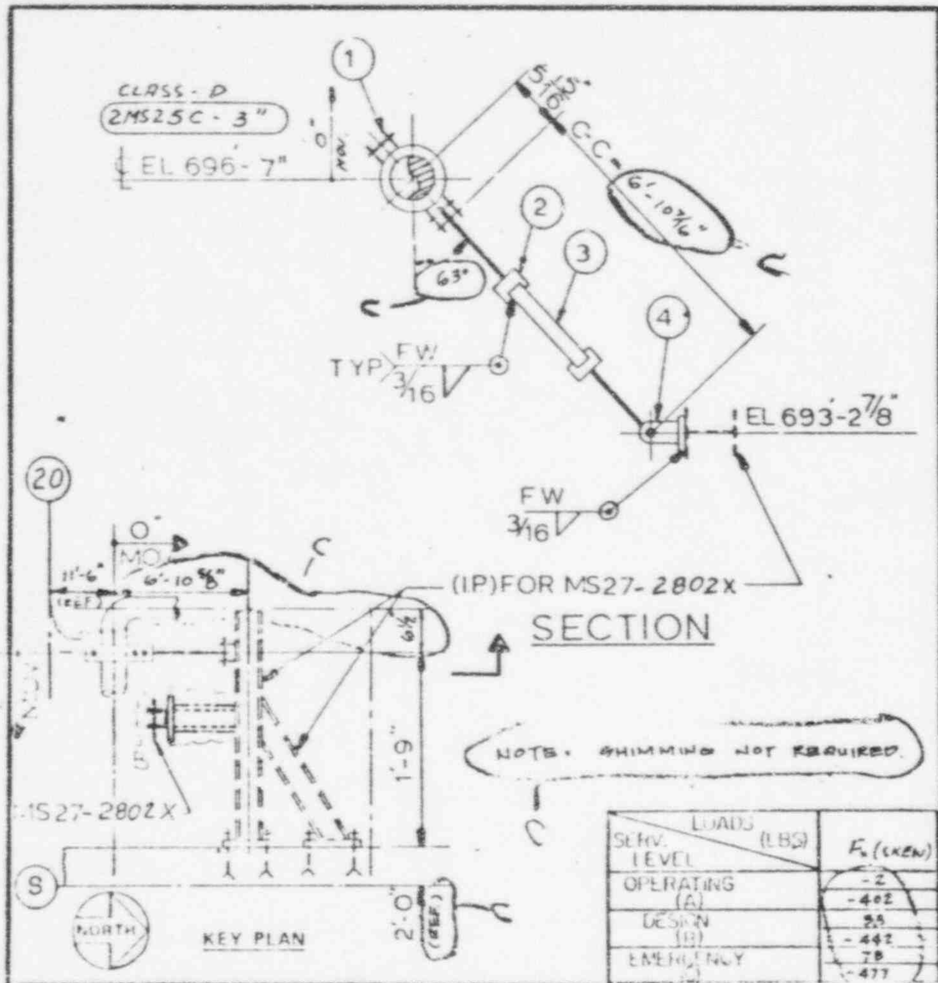
DRAWING NO. M09-MS25-2835R REV B

SHEET 1 OF 1

PURPOSE: FOR RECORD & FILE PER REANALYSIS (REV. C)

CED 6026 FOR-D SPECS (J-2530)

SUPPORT CLASS D



LOADS (LBS) / SERV. LEVEL	F_x (SKEW)
OPERATING (A)	-2 / -402
DESIGN (B)	29 / -442
EMERGENCY	78 / -477

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
1	1	SA-913-1	3½" OD PIPE CLAMP	6.1
2	2	1801318-02	ADAPTER ASSY PER PSA (1) *	2.0
3	1	—	1" SCH 40 EXT PIPE 6'-6" LG	6.2
4	1	1801558-03	REAR BRACKET PER PSA (1) *	10.91 / 1.13
			* SUPPLIED BY BULK ORDER	
	1	—	BUNDLE AND TAG FC-49	26.34

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

REVISED PER STRESS ANALYSIS / REV-B

JOHN M. NOSKO 62-38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LOADS (LBS)		
OPERATING		FAULTED
	SEE LOAD TABLE	

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-900SH22	K	M1418 SH.2	E	E-2-3335	B	M-854	C
	S-940	M						

2MS-56 N.P. (600) (X - SKEW) DRAWING RELEASE RECORD OUTPUT EMD-037954, 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	J. Geiger / [illegible]	N. M. Aprong / M. Chang	V. Penacerrada	
B	7-31-81	[illegible]	[illegible]	V. Penacerrada	
C	9-15-82	[illegible]	D. S. [illegible]	W. H. Nosko	X

PURPOSE REVISED PER REANALYSIS (REV. C)

SED-6026 FOR E&F SPEC J-2530

REVIEW: Rajesh Gupta

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-0034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

P.E. SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

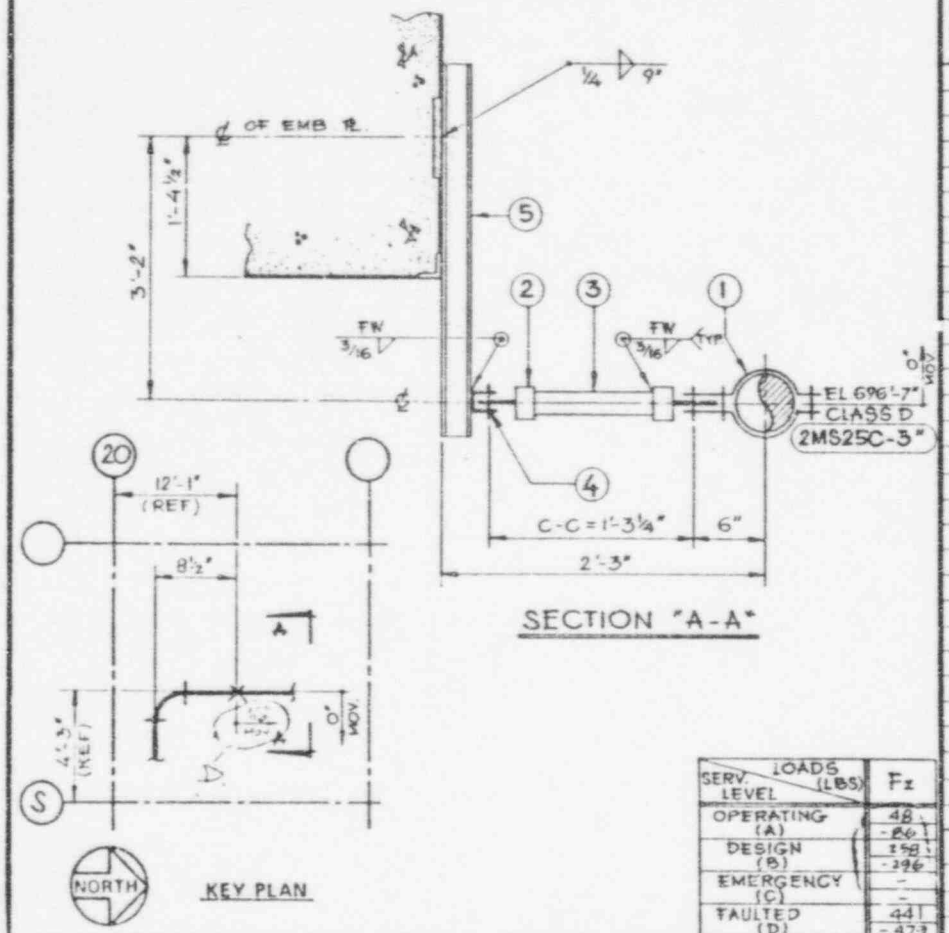
835A

DRAWING NO M09-MS25-2836X REV C

SHEET 1 OF 1

SUPDS 2MS-56 PER 81-SAR-8-022

REV B DATED / AS RECEIVED FROM QU



SECTION "A-A"

KEY PLAN

SERV. LEVEL \ LOADS (LBS)	Fz
OPERATING (A)	48 -86
DESIGN (B)	158 -296
EMERGENCY (C)	-
FAULTED (D)	441 -472

BILL OF MATERIAL

ITEM	QUAN.	FIG. NO. OR PART NO.	DESCRIPTION	P&S	CSS	PRIM	SEC	ATOC	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY						
			CONSISTING OF						
1	1	Bit-1407	3½" O.D. PIPE CLAMP						30
2	2	1801342-01	ADAPTER ASSY PER PSA-1/4 *						17
3	1	—	3/4" SCH XXS EXT. PIPE, 1'-0" LG.						30
4	1	1801558-01	REAR BRACKET PER PSA-1/4 *						04
5	1	—	M4x13, 4'-2" LG.						54.2
6	1		DELETED						
7	2		DELETED						
8	8		DELETED						
	1	—	* SUPPLIED BY BULK ORDER BUNDLE & TAG FC-49						
									62.3 TOTAL WEIGHT

JOHN M. NOSKO 62 38009 PROFESSIONAL ENGINEER OF ILLINOIS

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE
D.		

REV C PER SP-T 1226 AND REDRAWN.

LOADS (LBS.)

DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
SEE LOAD TABLE				

REFERENCE DRAWINGS D.

DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
M-900 Sh 22	K	M-1418 Sh 2	E	IE-2-3335	B		
S-940		M-584	C				

2MS-56NP-(620)-(2) DRAWING RELEASE RECORD EMD-037954 OUTPUT: B-11-82

REV.	DATE RELD	PREPARED	REVIEWED	APPROVED	FILM
C	4-14-82	[illegible]	[illegible] NC	John M. Nosko	X
D	9-15-82	[illegible]	[illegible] NC	John M. Nosko	X

PURPOSE: FOR RECORD & FILE & PER REDRAWN (REV D)

FOR "D"

EMD D REVIEW

Rajesh Gupta

PIPE CLASS D

JOHN M. NOSKO 62 38009 PROFESSIONAL ENGINEER OF ILLINOIS

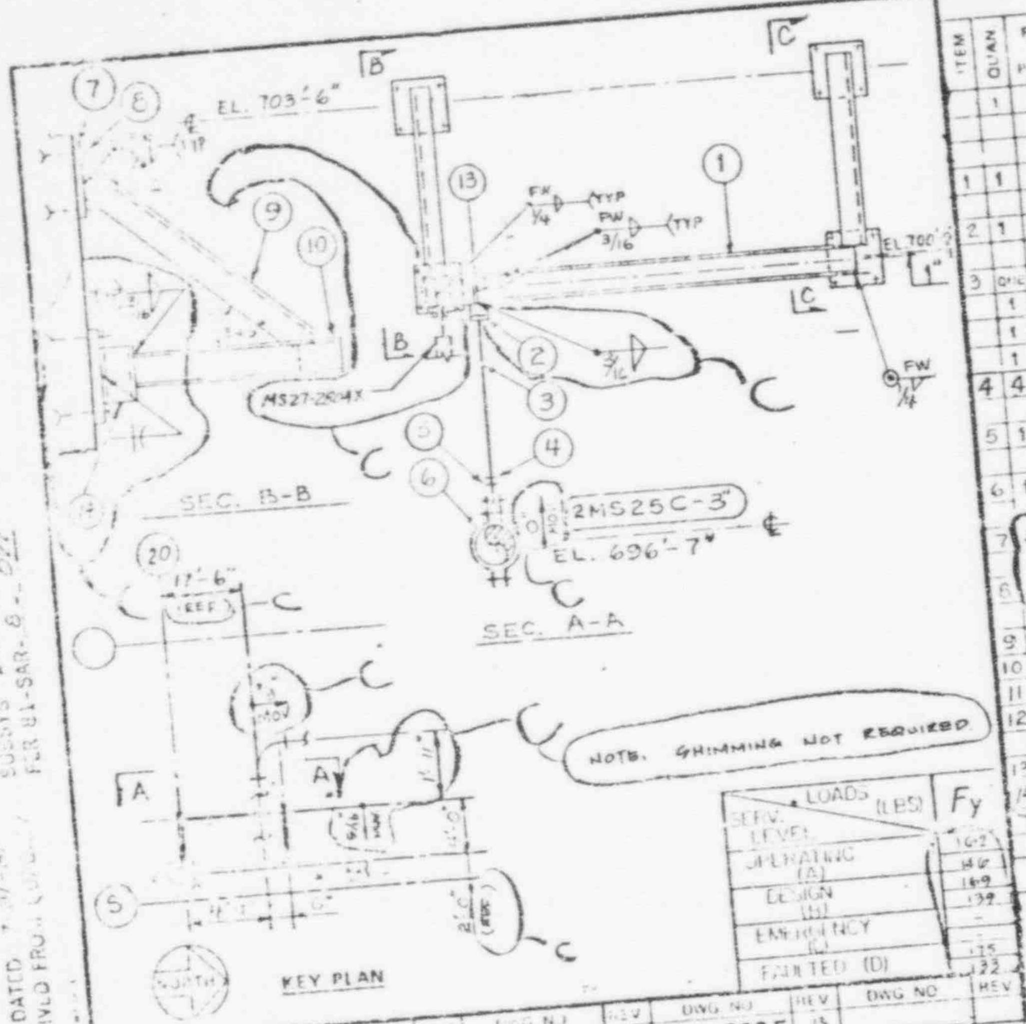
LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267 00

SARGENT & LUNDY ENGINEERS CHICAGO

SUPPORT NO.	REV.
M09-MS25-2842X	D



BILL OF MATERIAL

ITEM	QUAN	FIG NO OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	59.0
1	1		W4 X 13, 4'-6½" LG.	1.0
2	1	66	½" WELDED BEAM ATTACHMENT	
3	1		ROD ASSY. CONSISTING OF:	1.3
	1	140	½" x 2'-0" W/ TFL	.8
	1	140	½" x 1'-3" W/ TFL	.2
	1	135	½" STEEL ROD COUPLING	.2
			½" HEX NUT	
4	4			.6
5	1	290	½" WELDLESS EYE NUT	3.0
6	1	295	3" DOUBLE BOLT PIPE CLAMP	91.7
7	4		¾" x 12" x 12" C.S. PLATE, SEE DET. 7	17.4
8	16		¾" x 10" HILTI KWIK BOLT	31.9
9	2		L 2" x 2" x ¼", 5'-0" LG.	52.0
10			W4 X 13, 4'-0" LG. DELETED	55.3
11			W4 X 13, 4-3 LG.	
12	1			8
13	2		¼" x 1¾" x 3¼" C.S. PLATE	2.40
14	1		TS ¼" x 3" x 3" x 0'-6" LONG	
	1		BUNDLE & TAG FC-49	319.60

REVISED PER STRESS REV-B

SERV. LEVEL	LOADS (LBS) Fy
OPERATING (A)	162 / 146
DESIGN (B)	169 / 139
EMERGENCY (C)	
FAULTED (D)	175 / 133

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS) DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
	SEE LOAD TABLE			

DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
M-900-22	K	M-1418-2	E	1E-2-3335	13		
M-584	C	S-929	M				

DRAWING RELEASE RECORD OUTPUT EMD-037954 8-11-82

2MS-56 N.P.-1410 (Y)

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM	EMD REVIEW
A	3-25-81	J.Gauger / MARANA	A.Rohrer / H. Nguyen	V. Penacerrada		
B	7-31-81	G.Cushman / Ab	W. Strausbaugh / Beton	V. Penacerrada	K	Rajesh Gupta
C	9-15-82	P. FRASER	C. Gattlung N.C.	J. M. Hader		

PURPOSE: REVISED PER SP# T1354 (REV.C) & PER REANALYSIS

6026 FOR "D" SPEC J-2530

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-032132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

JOHN M. NO... 62-33003 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION UNIT 2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYS

PROJECT NO 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

972A

DRAWING NO M09-MS25-

SHEET 1

MAIN STEAM PIPING SYSTEM

NO SCALE

PROJECT NO 4267-00

SARGENT & LUNDY

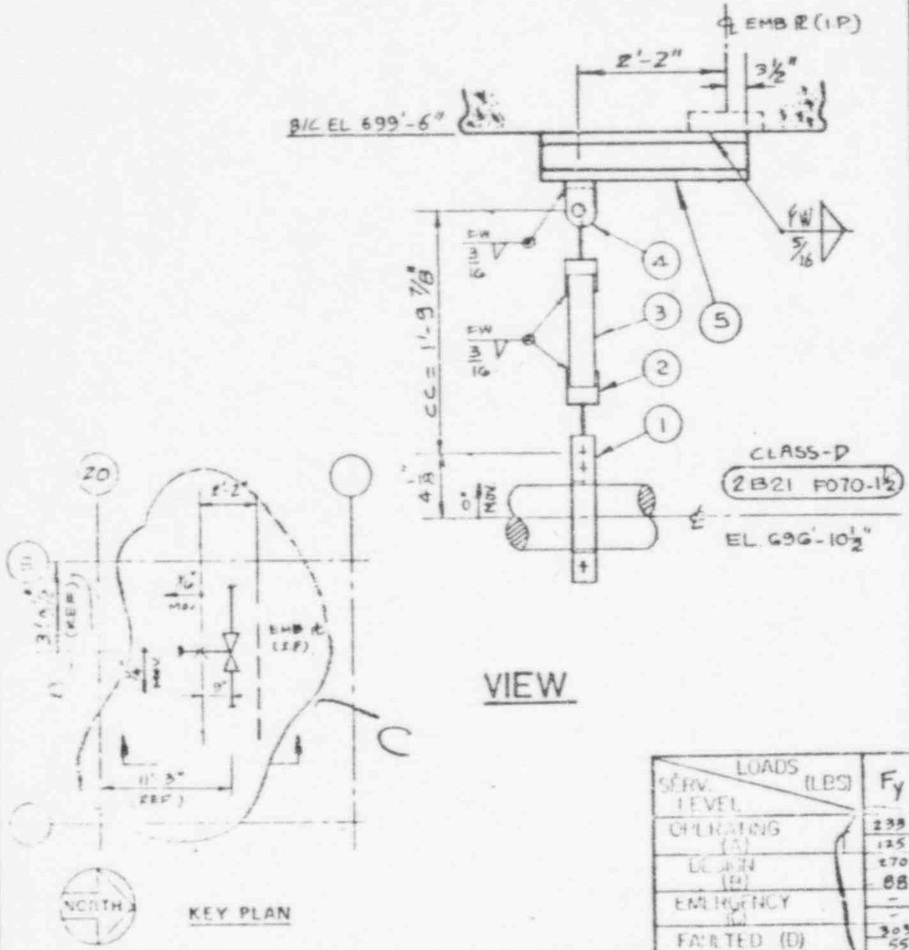
DRAWING NO M09-MS25-

REV C

SUBSYS 2MS-56 PER 81-SAR-8-022

REV - DATED AS RECEIVED FROM QUADREX

CED:6



SERV. LEVEL / LOADS (LBS)		Fy
OPERATING (A)		233 / 125
DESIGN (B)		270 / 88
EMERGENCY (C)		-
FAULTED (D)		303 / 55

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-900 (SH 23)	K	M-141B-1	E	1E-2-3335	B		
	1-575	C	S-940	L	S-1017	D		

2VS. 56 NP. (585 (Y)) DRAWING RELEASE RECORD EMD-037954 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FIEW
A	3-25-81	E Badellino / Liebetrau	P. Smith / T.K. Muell	Penacerrada	X
B	8 27 81	J. Geiger / S.A.	[illegible] / K.S. Burton	Penacerrada	X
C	9-15-82	Ew Zito	N.S. Chiles D.O.	John H. Honko	X

PURPOSE FOR RECORD & FILE PER REANALYSIS (REV. C)

CED-6026 FOR D SPECS (J-2530)

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB.)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF:	
1	1	CH1015	1½" ⌀ PIPE CLAMP	2.3
2	2	1801312.01	PSA. ¼ ADAPTER ASSEMBLY *	1.7
3	1	—	¾" SCH XXS EXT. PIPE 1'-5" LG	3.5
4	1	1801958.01	PSA - ¼ REAR BRACKET *	0.4
5	1		W4X13, 2'-8" LG.	33.0
	1		* SUPPLIED BY BULK ORDER BUNDLE & TAG FC-40	
			TOTAL WEIGHT	40.9

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)				
DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
		SEE TABLE		

Nuclear Services Corporation Q [illegible] B

REVISED AS NOTED/REV. B

JOHN M. NOSKO 62 33509 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

EMD REVIEW C

Rajesh Gupta

VICTORY G. PENACERRADA 062 0034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

PE SEAL

SUPPORT CLASS D

LA SALLE COUNTY STATION
UNIT - 2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

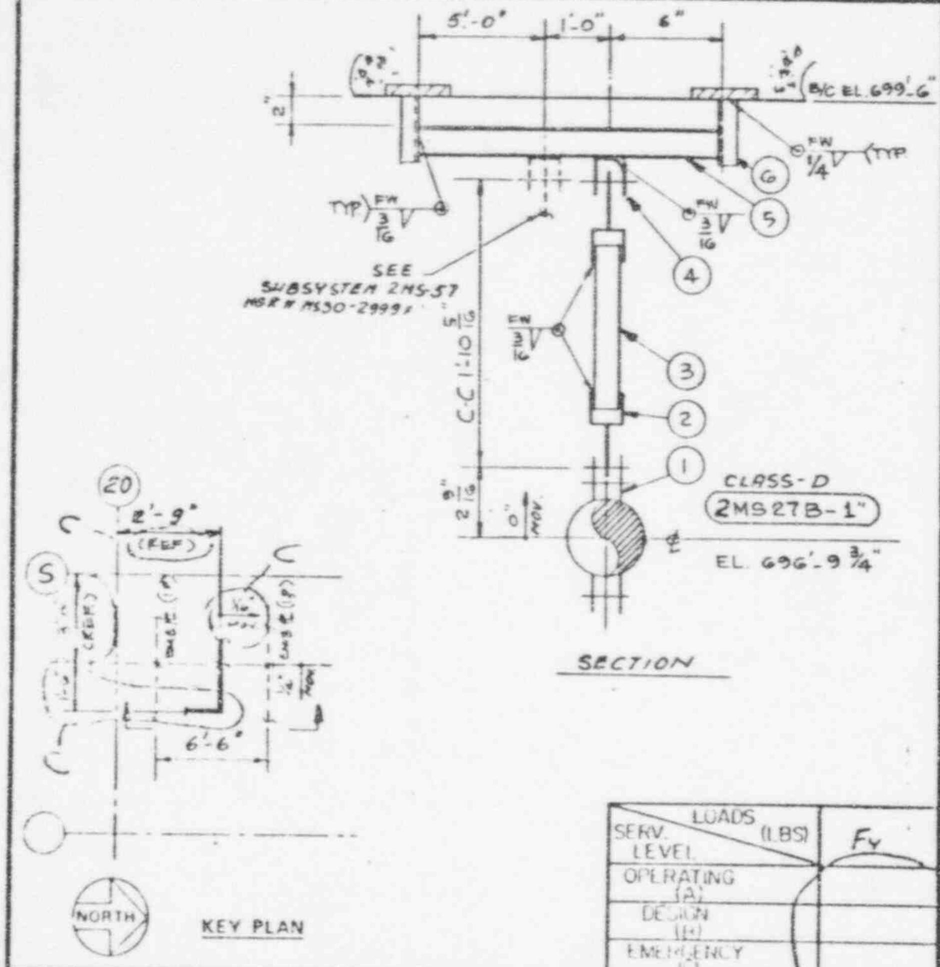
MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO
179E

DRAWING NO M09- MS25-2B43X REV C
SHEET 1 OF 1

REV. B DATED [illegible] SUBSTS. 2MS-56
AS RECEIVED FROM QUADREX PLR 81-SAR-B-022



SERV. LEVEL \ LOADS (LBS)	Fy
OPERATING (A)	
DESIGN (B)	
EMERGENCY (C)	

BILL OF MATERIAL

ITEM	QUAN	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB.)	REMARKS
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF:		
1	1	BH1292	1" φ PIPE CLAMP	.8	
2	2	1801312.01	PSA-1/4 ADAPTER ASSEMBLY *	1.7	
3	1	-	3/4" SCH. XXS EXT. PIPE, 1'-6" LG.	3.7	
4	1	1801558.01	PSA-1/4 REAR BRACKET *	.4	
5	1	-	M4 x 13.0, 6'-6" LG.	84.5	
6	2	-	C4 x 5.4 x 6 1/2" LG.	5.9	
			* SUPPLIED BY BULK ORDER		
	1		BUNDLE & TAG FC-49		
				97	TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

REVISED PER STRESS ANALYSIS / REV-B

LOADS (LBS.)

DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
697-B	46/14			891-28

REFERENCE DRAWINGS

DWG NO.	REV	DWG NO.	REV	DWG NO.	REV	DWG NO.	REV
M-963 SH.43	E	M-1418 SH.2	E	1E-2-3335	B		
-4-584	C	S-940	M				

2MS-56 NP-(705) (Y) DRAWING RELEASE RECORD EMD-037954, 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	G. Ouchats / [illegible]	[illegible] / T. [illegible]	V. Peñacerrada	
B	7-31-81	G. Ouchats / [illegible]	[illegible] / [illegible]	V. Peñacerrada	
C	9-15-82	[illegible]	N.S. Carlos D.C.	John M. Nosko	

EMD REVIEW: Rajesh Gupta

PURPOSE: FOR RECORD & FILE PER REANALYSIS (REV. C)

CED-6026 FOR "D" SPEC J-2530

SUPPORT CLASS D

P.E. SEAL: VICTORY G. PENACERRADA 062-0034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

JOHN M. NOSKO 62-[illegible] REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT - 2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE

PROJECT NO. 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

839A

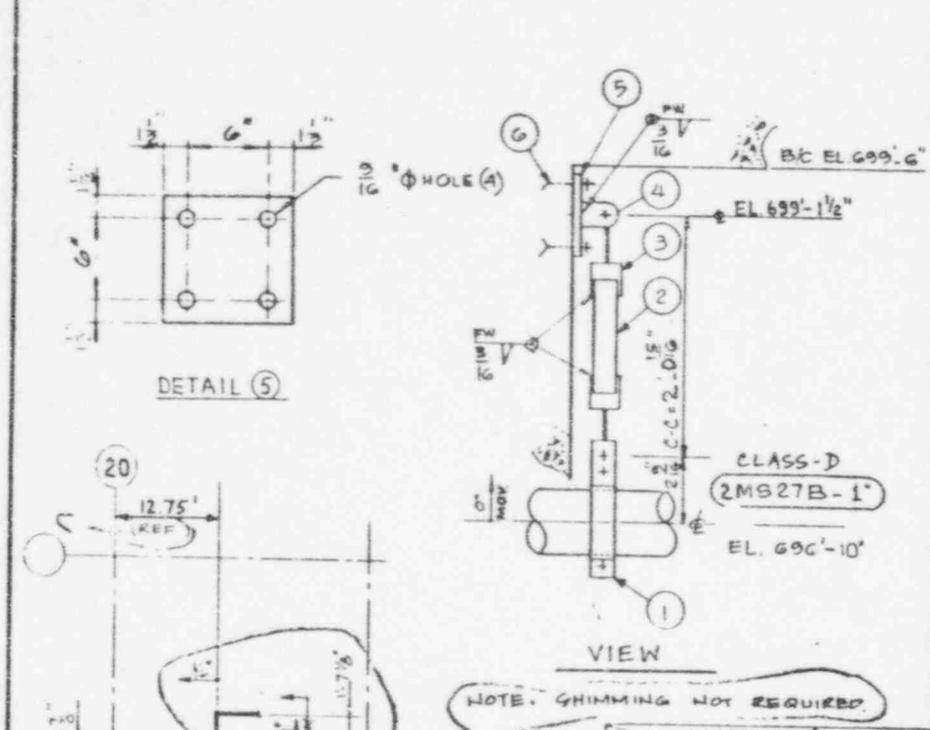
DRAWING NO. M09-MS27-2800X REV C

SHEET 1 OF 1

PER 81-SAR-B-022

REV B DATED ______ AS RECEIVED FROM QUADREX

SUBSYS 2MS-56 PER 81-SAR-8-022



LOADS (LBS) / SERV. LEVEL	FY
OPERATING (A)	38 / -39
DESIGN (B)	72 / -73
EMERGENCY (C)	-
FAULTED (D)	102 / -104
HYDRO-TEST (T)	-

BILL OF MATERIAL

ITEM	QUAN	FIG NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB.)	REMARKS
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF:		
1	1	BH1407	1" Φ PIPE CLAMP	0.8	
2	1	-	¾" SCH XXS EXT. PIPE 1'-5"	4.3	
3	2	1801312-01	PSA. ¼ ADAPTER ASSEMBLY *	1.7	
4	1	1801558-01	PSA. ¼ REAR BRACKET *	0.4	
5	1	-	½" × 9" C.S. PL, 0'-9" LG. (PER DETAIL -5)	9.1	
6	4	-	½" × 5½" HILTI KWIK-BOLT	1.6	
			* SUPPLIED BY BULK ORDER		
	1		BUNDLE & TAG FC-49		
				17.9	TOTAL WEIGHT

JOHN M. NOSKO 62-35103 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

Nuclear Services Corporation Q B

REVISED AS NOTED / REV. B

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-966 (SH 43)	E	M-141B (SH-2)	E	M-584	C	S-940	M
	IE-2-3335							

LOADS (LBS.)					
DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED	
	SEE LOAD	TABLE			

2MS-56 NP-710 (Y) DRAWING RELEASE RECORD EMD-037954, 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	G Lewis / Liebetrau	H Parekh / M. CHANG	F. Penacerrada	
B	8-27-81	J Geiger / Liebetrau	H Parekh / M. CHANG	F. Penacerrada	
C	9-15-82	En Zeb.	D. S. Carter p.c.	John M. Nosko	V

EMD REVIEW Rajesh Gupta

PURPOSE FOR RECORD & FILE PER REANALYSIS (REV. C)

CED-6026 FOR D SPECS (J-2530)

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

P.E. SEAL

LA SALLE COUNTY STATION UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS,

MAIN STEAM PIPING SYSTEM

NO SCALE

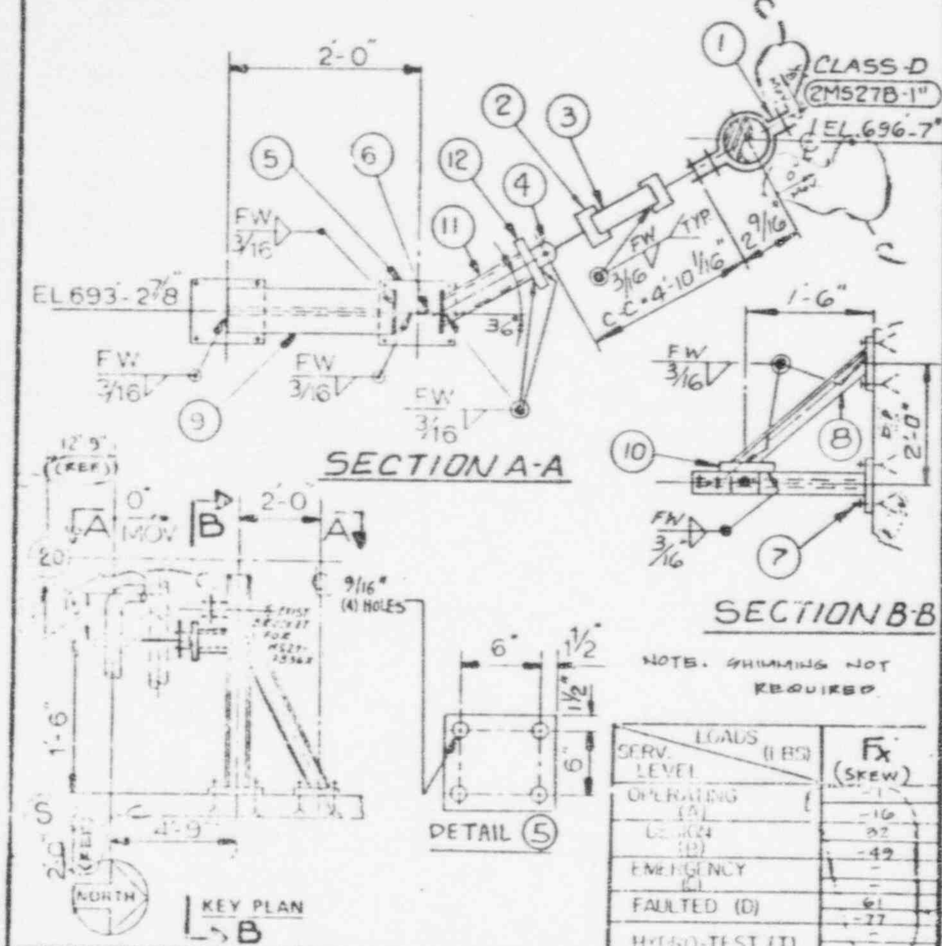
PROJECT NO 4267-00

SARGENT & LUNDY ENGINEERS CHICAGO

840A

DRAWING NO. MCD- MS27-2801X REV C

SHEET 1 OF 1



LOADS (LBS) SERV. LEVEL	Fx (SKEW)
OPERATING (A)	-16
DESIGN (B)	82 / -49
EMERGENCY (C)	
FAULTED (D)	61 / -77
HYDRO-TEST (T)	

BILL OF MATERIAL

ITEM	QUAN	FIG NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
1	1	BH 1407	1 3/8" OD PIPE CLAMP	.8
2	2	18031201	ADAPTER ASSY PER PSA-1/4 *	1.7
3	1	—	3/4" SCH. 160 EXT PIPE 4'-5" LG.	8.6
4	1	18015801	REAR BRACKET PER PSA-1/4" *	0.4
5	3	—	1/2" x 9" x 9" CS PLATE (PER DET. 5)	34.4
6	1	—	W4 x 13 x 2'-2" LG	28.0
7	12	—	1/2" x 7" HILTI KWIK BOLT	5.5
8	1	—	2" x 2" x 3/8" ANGLE 2'-5" LG.	11.4
9	1	—	W4 x 13 x 2'-6" LG	32.5
10	1	—	3/8 x 5" x 5" CS PLATE	2.7
11	1		T.S. 2x2x1/4 1'-0" FIELD CUT TO SUIT	5.4
12	1	—	1/2" x 3" x 3" C.S. PLATE	1.3
			* SUPPLIED BY BULK ORDER	
			BUNDLE AND TAG FC-49	
			TOTAL WEIGHT	132.7

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

Nuclear Services Corporation QA B

REVISED PER STRESS ANALYSIS / REV-B

JOHN M. NOSKO 62-38032 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LOADS (LBS) DESIGN	OPERATING	HYDRO TEST	EMERGENCY	FAULTED
SEE LOAD	TABLE			

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	4-SP-1CH45	E	M-1418 SH2	E	M-584	C	S-940	M
	1E-2-3335	B						

2MS56NP (7.5) (X) (SKEW) DRAWING RELEASE RECORD OUTPUT EMO-037994 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	R. Wilde / Liebetrau	A. Rohin / H. Nguyen	V. Penacerrada	
B	7-31-81	G. Duchak / Abott	M. Loock / C. Buten	V. Penacerrada	
C	9-15-82	Geo Gits	D. S. Cul... D.C.	John M. Nosko	X

PURPOSE FOR RECORD & FILE PER REANALYSIS (REV C)

LEO-6026 FOR "D" SPEC J-2530

EMD REVIEW Rajesh Gupta

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-0031132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

PE SEAL

LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267-00

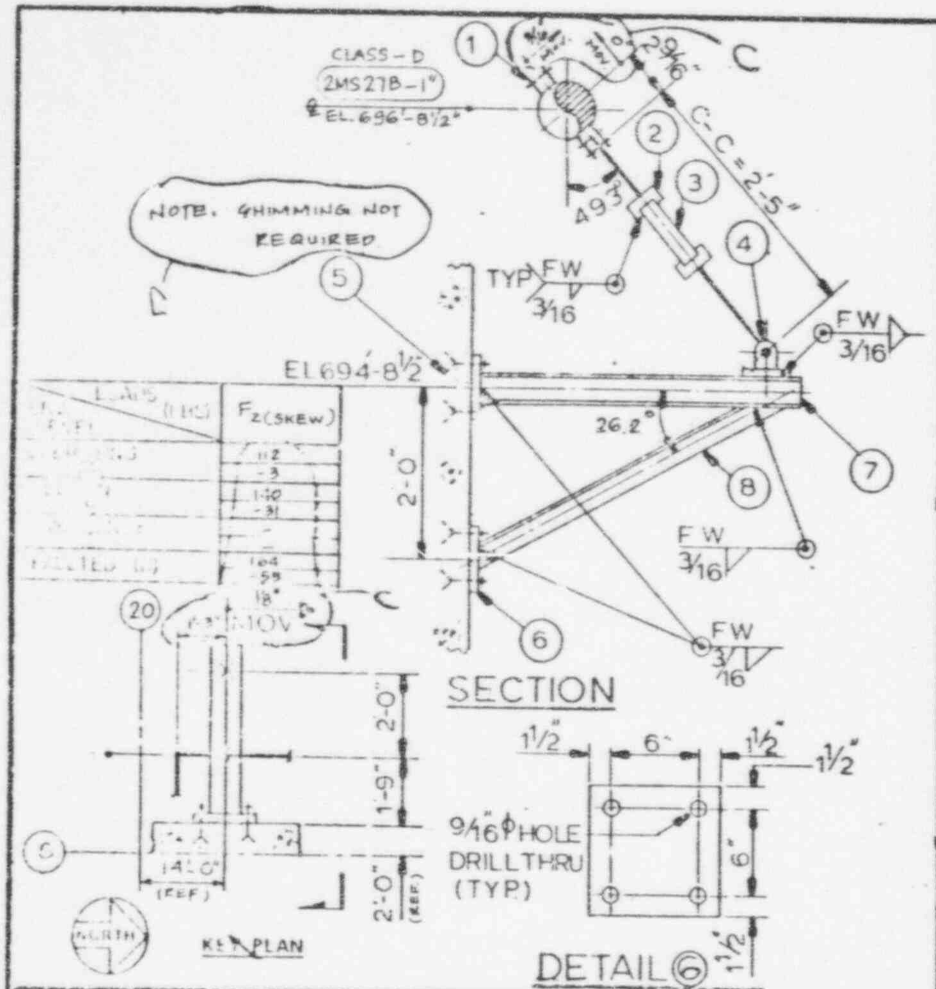
SARGENT & LUNDY ENGINEERS CHICAGO

841A

DRAWING NO. M09-MS27-2802X REV C

SHEET 1 OF 1

REV B DATED 7-31-81 AS RECEIVED FROM QUADREX
SUBSYS 2MS-56 PER 01-SAR-B-022



ITEM	QUAN	FIG. NO. OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF:	
1	1	BH-1252	1 3/8 OD PIPE CLAMP	1.0
2	2	18013120	1 ADAPTER ASSY. PER PSA-1/4 *	2.0
3	1	—	3/4" SCH XXS EXT PIPE 2'-0" LG.	5.0
4	1	18015580	1 REAR BRACKET PER PSA-1/4 *	0.5
5	8	—	1/2" x 7" HILTI-KWIK BOLTS	4.0
6	2	—	1/2" x 9" x 9" C.S. PLATE PER DET 6	23.0
7	1	—	W4 x 13 x 4'-0" LG	52.0
8	1	—	3 x 3 x 3/8 ANGLE 4'-6" LG	33.0
			* SUPPLIED BY BULK ORDER	
	1		BUNDLE AND TAG FC-49	
				120.5 TOTAL WEIGHT

WELD NO	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)

DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE	LOAD TABLE.		

REFERENCE DRAWINGS	DWG NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-96 SH43	C	M 1418 SH2	E	M-584	C	S-940	M
	E-2-3335	B						

2MS56NP 735 (Y-SKEW) DRAWING RELEASE RECORD OUTPUT EMD-051994, 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	M Truong / Liebetrau	T.K. Ruwell	V. Penacerrada	
B	8-27-81	J Geiger / Liebetrau	M Chang / T.K. Ruwell	V. Penacerrada	
C	9-15-82	Ev Gib	N. S. Carlev D.C.	J. M. Nosko	X

C EMD REVIEW Rajesh Gupta

PURPOSE: FOR RECORD & FILE PER REANALYSIS. (REV. C)

CLD-6026 FOR D SPECS (J-2530)

SUPPORT CLASS D

REV B ISSUED 8-27-81 AS RECEIVED FROM QUADREX

CURSTS 2MS-56 PER 81-SAR-8-022

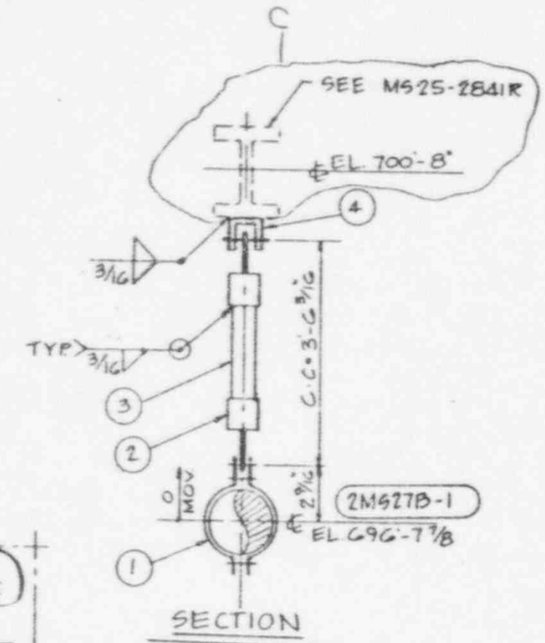
VICTORY G. PENACERRADA 062-0034132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

JOHN M. NOSKO

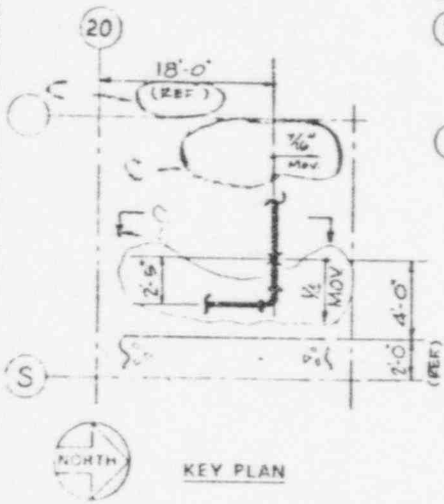
LA SALLE COUNTY STATION
UNIT-2
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

MAIN STEAM PIPING SYSTEM

NO SCALE
PROJECT NO 4267 00
SARGENT & LUNDY ENGINEERS CHICAGO
DRAWING NO. M09-MS27-2803X
REV C
842A SHEET 1 OF 1



SECTION



KEY PLAN

LOADS (LBS) / SERV. LEVEL	FY
OPERATING (A)	49 / 31
DESIGN (B)	70 / 10
EMERGENCY (C)	–
FAULTED (D)	88 / 8

BILL OF MATERIAL

ITEM	QUAN	FIG NO. OR PART NO	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY CONSISTING OF	
1	1	BH1252	1 5/16 O.D. PIPE CLAMP	0.8
2	2	1801312-01	ADAPTER ASSY. PER PSA-1/4 *	1.7
3	1		3/4" Ø SCH XXS EXT PIPE, 3'-1" LG	5.9
4	1	1801558-01	REAR BRACKET PER PSA-1/4 *	0.4
			* SUPPLIED BY BULK ORDER	
	1		BUNDLE & TAG FC-49	
			TOTAL WEIGHT	8.8

JOHN M. NOSKO 62 38102 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
SEE LOAD TABLE				

REFERENCE DRAWINGS	DWG. NO	REV	DWG NO	REV	DWG NO	REV	DWG NO	REV
	M-956-43	E	M-1418-2	E	1E-2-3335	B		
	M-584	C	S-929					

2MS-56 NP (755) (Y) DRAWING RELEASE RECORD OUTPUT (EMD-037984, 8-11-82)

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
A	3-25-81	Kristor / Liebethau	A. Elfotouh / T.K. Munce	V. Penacerrada	
B	8-27-81	J. Geiger / Liebethau	A. ELFOTOUH / T.K. Munce	V. Penacerrada	
C	9-15-82	A.F. Laya	N.S. Calor N.C.	[illegible]	

PURPOSE REV. PER SP-T0140 (REV C) & PER REANALYSIS. (REV. C)

6026 FOR "D" SPEC. J2530

EMD REVIEW: Rajesh Gupta

SUPPORT CLASS D

VICTORY G. PENACERRADA 062-031132 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT- 2
COMMONWEALTH EDISON COMPANY
CHICAGO ILLINOIS

MAIN STEAM PIPING SYSTEM.

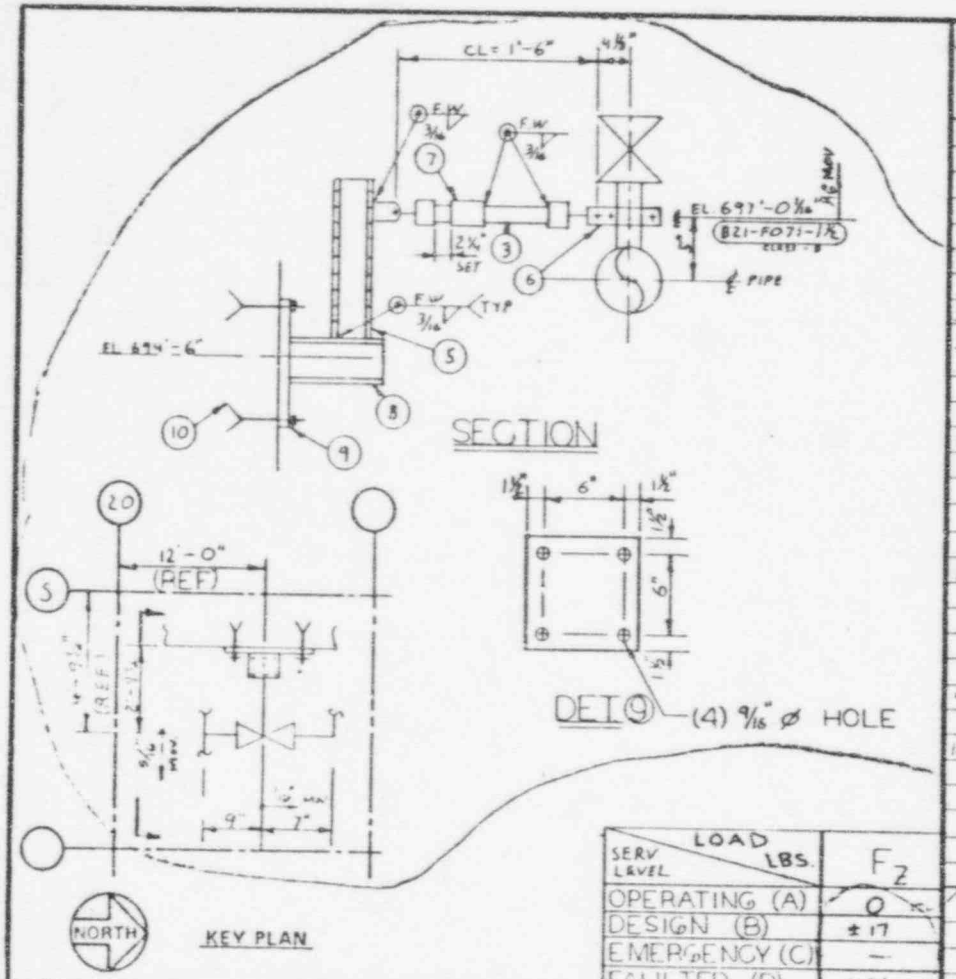
NO SCALE
PROJECT NO. 4267-00
SARGENT & LUNDY ENGINEERS CHICAGO
843 A

DRAWING NO. M03 M527-2804X REV C
SHEET 1 OF 1

Nuclear Service Corporation

REV. B DATED 8-27-81 AS RECEIVED FROM QUADREX

SUBSYS 2MS-56 PER 91-SAR-2-022



SERV LEVEL \ LOAD LBS.	F_Z
OPERATING (A)	0
DESIGN (B)	± 17
EMERGENCY (C)	—
FAULTED (D)	± 31

BILL OF MATERIAL

ITEM	QUAN.	FIG. NO. OR PART NO.	DESCRIPTION	COMPONENT WEIGHT (LB)
	1		COMPONENT SUPPORT ASSEMBLY	
			CONSISTING OF:	
3	1	—	3/4" SCH XXS EXT. PIPE, 0'-4 1/8" LG	0.86
5	1	—	W4 x 13, 2'-6" LG	32.5
6	1	BH-1407	2 3/8" O.D. PIPE CLAMP	2.72
7	1	1301104-05	MODEL PSA-1/4, MECH. SHOCK *	3.60
			ARRESTOR W/	
		1801579-05	TRANSITION TUBE KIT *	1.44
		1801553-01	REAR BRACKET *	0.42
8	1		W4 x 13, 0'-10" LG	10.84
			* SUPPLIED BY BULK ORDER	
	1		BUNDLE & TAG	
			FC-49	
9	1		1/2" x 9" C.S.P. 0'-9" LG	11.48
			PER DET. 9.	
10	4		1/2" x 7" LG HILTI-KWIK BOLT	1.78
				65.64 TOTAL WEIGHT

WELD NO.	WELD PROCEDURE	EXAMINATION PROCEDURE

LOADS (LBS.)				
DESIGN	OPERATING	HYDRO. TEST	EMERGENCY	FAULTED
	SEE TABLE			

REFERENCE DRAWINGS	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.	DWG. NO.	REV.
	M-966-43	E	M-1418-1	E	1E-2-3335	B		
	M-535	C	S-940	L	S-1017	D		

2MS-56 NP-795 (2) DRAWING RELEASE RECORD EMD-057954 OUTPUT: 8-11-82

REV	DATE REL'D	PREPARED	REVIEWED	APPROVED	FILM
C	9-15-82	J. Lyell	C.F. Battey for V.C.	John M. Nosko	✓

PURPOSE REDRAWN & REVISED PER SP #J-1216 (REV C)

CEO-6026 FOR "D" SPEC J-2530 & PER RSANAL 7414

EMD REVIEW Rajesh Gupta

PIPE CLASS D

JOHN M. NOSKO 62 38009 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LA SALLE COUNTY STATION
UNIT-
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

C

NO SCALE
PROJECT NO. 4267 00

SARGENT & LUNDY ENGINEERS CHICAGO

SUPPORT NO. M09-MS27-2905S1 REV. C

003	OBEHALFPERCENT SEISMIC - Section F (Continued)	B-1 - N-1 B-2 - N-2 B-3 - N-3 B-4 - N-4 B-5 - N-5 B-6 - N-6 B-8 - N-8 B-9 - N-9 B-10 - N-10 B-11 - N-11 B-12 - N-12 B-13 - N-13 B-14 - J-14
	Class 2 - Design Basis Stress	K-14 - N-14 B -15 - H-15
	Combined Reactions Design Basis	I-15 - N-15 B-16 - M-16
004		B-1 - N-1 B-2 - N-2 B-3 - N-3 B-4 - N-6 B-5 - N-5 B-6 - D-6
	Combined Reactions-Design Basis Criteria Section B	E-6 - N-6 B-7 - N-7 B-8 - N-8 B-9 - N-9 B-10 - N-10 B-11 - N-11 B-12 - N-12 B-13 - J-13

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