

PARSONS POWER

Critical Design Characteristics Overcooling Events

Millstone 2

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Date: 7/24/97

Reviewed By: J.H. Bunden

Date: 7/25/97

Approved By: [Signature]

Date: 25 July 97

Revision 1

— PARSONS POWER —

9707290063 970725
PDR ADOCK 05000336
P PDR

Tier 2 Revision 1
24 July, 1997

CRITICAL DESIGN CHARACTERISTICS
OVERCOOLING EVENTS

MILLSTONE 2

LIST OF EFFECTIVE PAGES

<u>Page No.</u>	<u>Revision No.</u>	<u>Page No.</u>	<u>Revision No.</u>
i	1		
1	0		
2	0		
3	1		
4	0		
5	0		
6	0		
7	0		
8	0		
9	0		
10	0		
11	0		
12	0		
13	0		
14	0		
15	0		
16	0		
17	0		
18	0		
19	0		

1.3 Figure 2 shows the systems involved in the mitigation of each analyzed overcooling event.

Figure 2: Tier-2 AMSR - Systems Involved in Overcooling Events						
SYSTEM	14.1.3 Increase in Steam Flow Mode 1	14.1.3 Increase in Steam Flow Mode 3	14.1.5 MSLB Mode 1	14.1.5 MSLB w/LOOP Mode 1	14.1.5 MSLB Mode 2	14.1.5 MSLB w/LOOP Mode 2
RPS	X	X	X	X	X	X
CEDM	X	X	X	X	X	X
RCS			X	X	X	X
TURB	X	X	X	X		
EHC	X	X	X	X		
MS	X	X	X	X	X	X
MFW			X	X		
AFW			X	X	X	X
CVCS			X	X	X	X
HPSI			X	X	X	X
ELECT DIST	X	X	X	X	X	X
EDG				X		X

1.4 Figure 3 shows the Which Critical Safety Functions have corresponding Critical Design Characteristics for each of the analyzed accidents.

Figure 3: Tier-2 AMSR - Critical Safety Functions with CDCs in Overcooling Events			
Critical Safety Function	14.1.3 Increase in Steam Flow Mode 1	14.1. Increase in Steam Flow Mode 3	14.1.5 MSLB Mode 1 (4 Cases)
Reactivity	X	X	X
Fuel Integrity	X	X	X
RCS Heat Removal	X	X	X
RCS Pressure & Inventory	*	*	X
Containment Integrity & Radiation Control			
Electrical Power	X	X	X
Essential Support Systems			
Environmental Control			

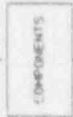
* To be determined from detailed analyses

SYMBOL

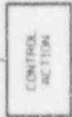
DESCRIPTION



IDENTIFIES ACTIVATION AND CONTROL SIGNALS IMPORTANT TO SYSTEM OPERATION. SIGNALS MUST ACTIVATE ONE OR MORE COMPONENTS TO BE INCLUDED.



IDENTIFIES COMPONENTS SUPPORTING A SAFETY FUNCTION. NON-SAFETY COMPONENTS MAY BE INCLUDED.



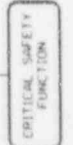
IDENTIFIES CONTROL ACTIONS SUCH AS INITIATE, CONTROL, ISOLATE, ETC.



IDENTIFIES SYSTEM OR SUBSYSTEM REQUIRED TO ACHIEVE THE SAFETY FUNCTION.

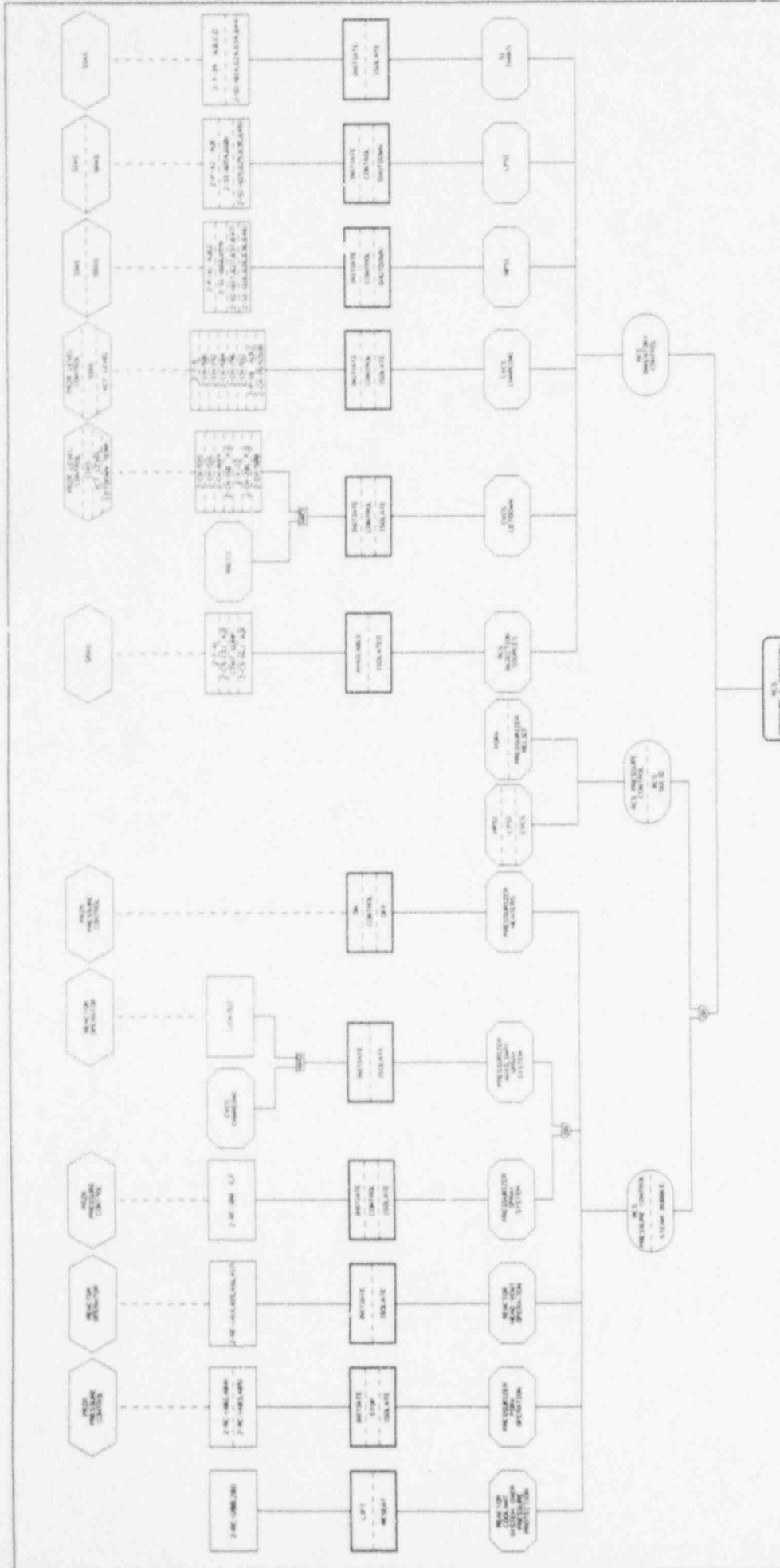


IDENTIFIES PROCESS OR DESIGN FEATURE REQUIRED TO ACHIEVE THE SAFETY FUNCTION.



IDENTIFIES THE CRITICAL SAFETY FUNCTION.

 PARSONS <small>PARSONS BRINCKERHOFF COMPANY</small>	536852-00065	TIER 2	0
	WORK ORDER NO.	FIGURE #M2-12ESFD-S1MB	REV.
CSF DIAGRAM SYMBOLS			
M. J. [Signature] DATE: 7/27/97 N/A	H. [Signature] DATE: 7/27/97 N/A	[Signature] DATE: [Signature] N/A	[Signature] DATE: [Signature] N/A
INTERIM DATE	DATE	INTERIM DATE	DATE



 PARSONS AECOM 10000 North Central Expressway Dallas, TX 75243-2100 Phone: 972.960.8300 Fax: 972.960.8301 Email: info@parsons.com	536852-00085 WORK ORDER NO.	TIER 2 FIGURE #M2-12ESD-RCSF1	REV. 1
	NIS PRESSURE & INVENTORY CONTROL		
Approved By: <i>[Signature]</i> DATE: N/A		Approved Date: N/A	
Issued By: <i>[Signature]</i> DATE: N/A		Issued Date: N/A	

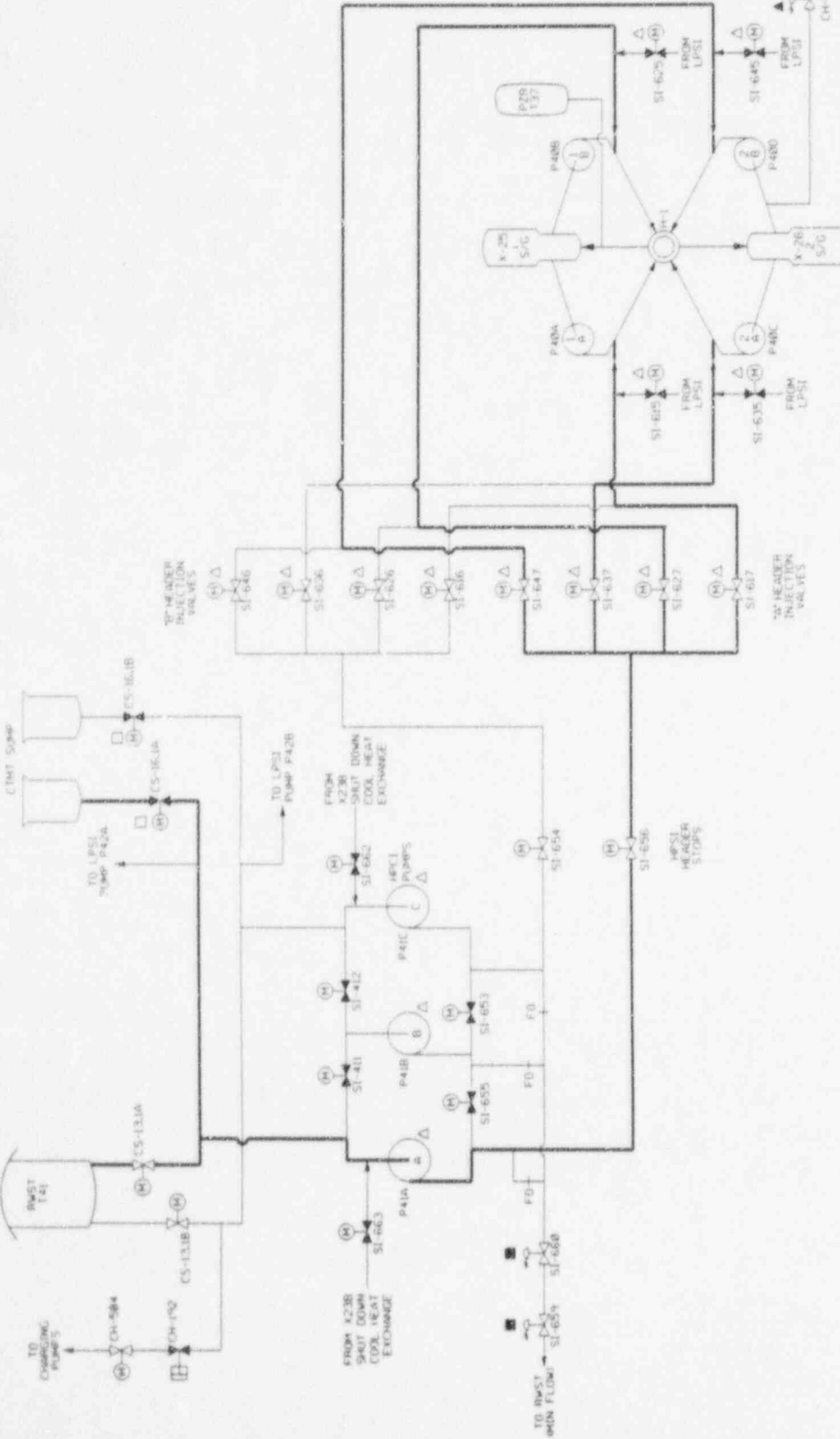


- LEGEND:**
- ▲ SHAS CLOSE/STOP
 - △ SHAS OPEN/START
 - SHAS CLOSE/STOP
 - SHAS OPEN/START
 - - DRAIN "W" OR COMMON FLOW PATH

NOTES:
 1. ALL COMPONENT ID'S PREFERRED BY "2" UNLESS OTHERWISE NOTED.

REFERENCES:

- 25203-26015 S-17 2 REV 10
- 25203-26015 S-17 1 REV 13
- 25203-26017 S-17 3 REV 10
- 25203-26014 S-17 1 REV 17



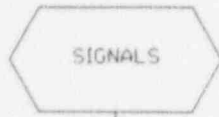
PROJECT: 526852-000005
 DATE: 24-JUL-97 10:35

 PARSONS A DIVISION OF BAKER HUGHES 10000 WEST 16TH AVENUE DENVER, CO 80202-2799	526852-000005 WORK ORDER NO.	TIER 2 FIGURE NO. 7238' HPSII	1 REV.
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1.1
 1.2
 1.3

SYMBOL

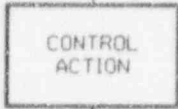
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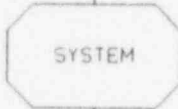
IDENTIFIES ACTUATION AND CONTROL SIGNALS IMPORTANT TO SYSTEM OPERATION. SIGNALS MUST ACTUATE ONE OR MORE COMPONENTS TO BE INCLUDED.



IDENTIFIES COMPONENTS SUPPORTING A SAFETY FUNCTION. NON-SAFETY COMPONENTS MAY BE INCLUDED.



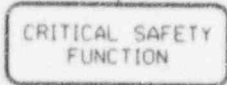
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IDENTIFIES THE CRITICAL SAFETY FUNCTION.

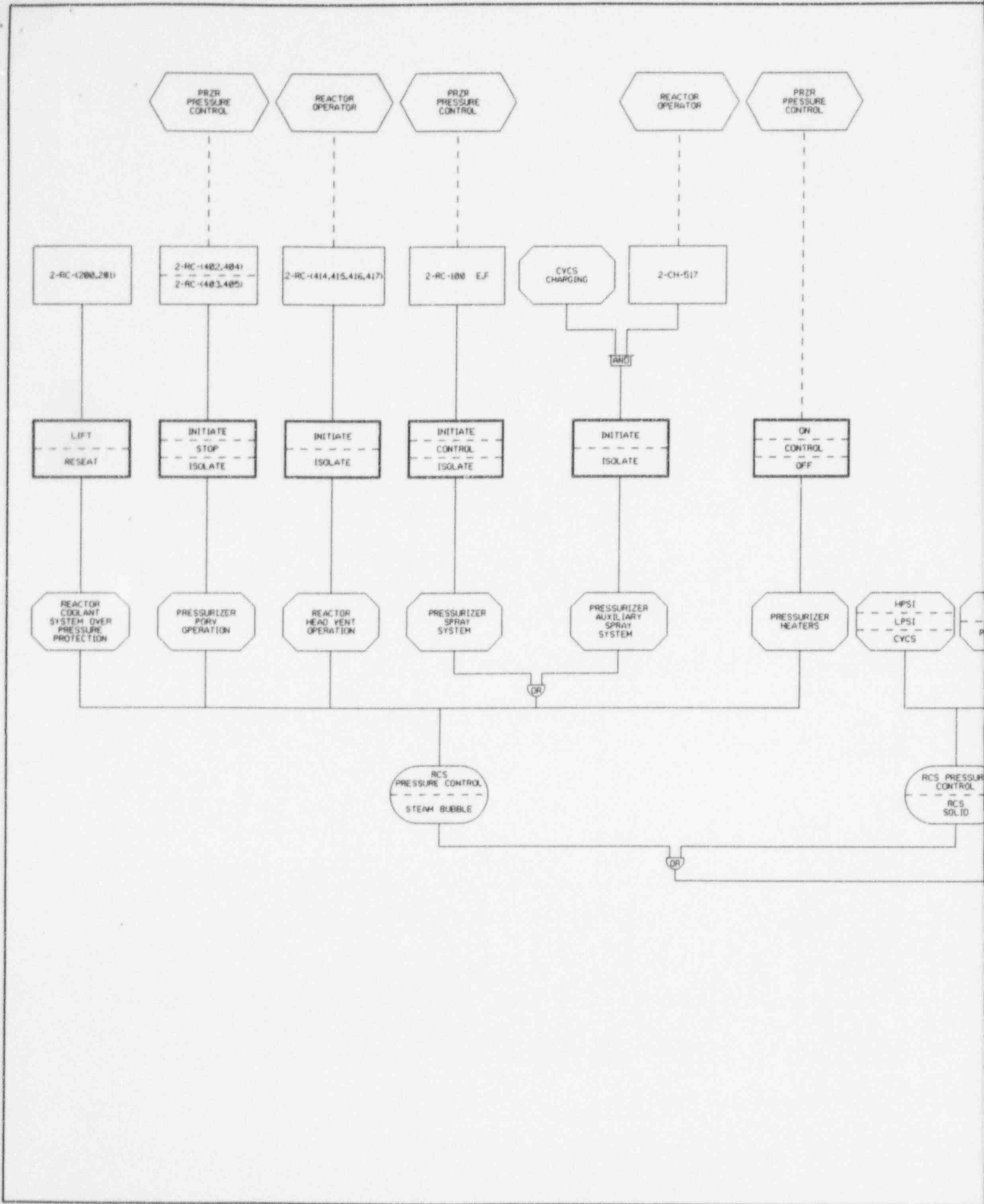
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APERTURE
CARD**

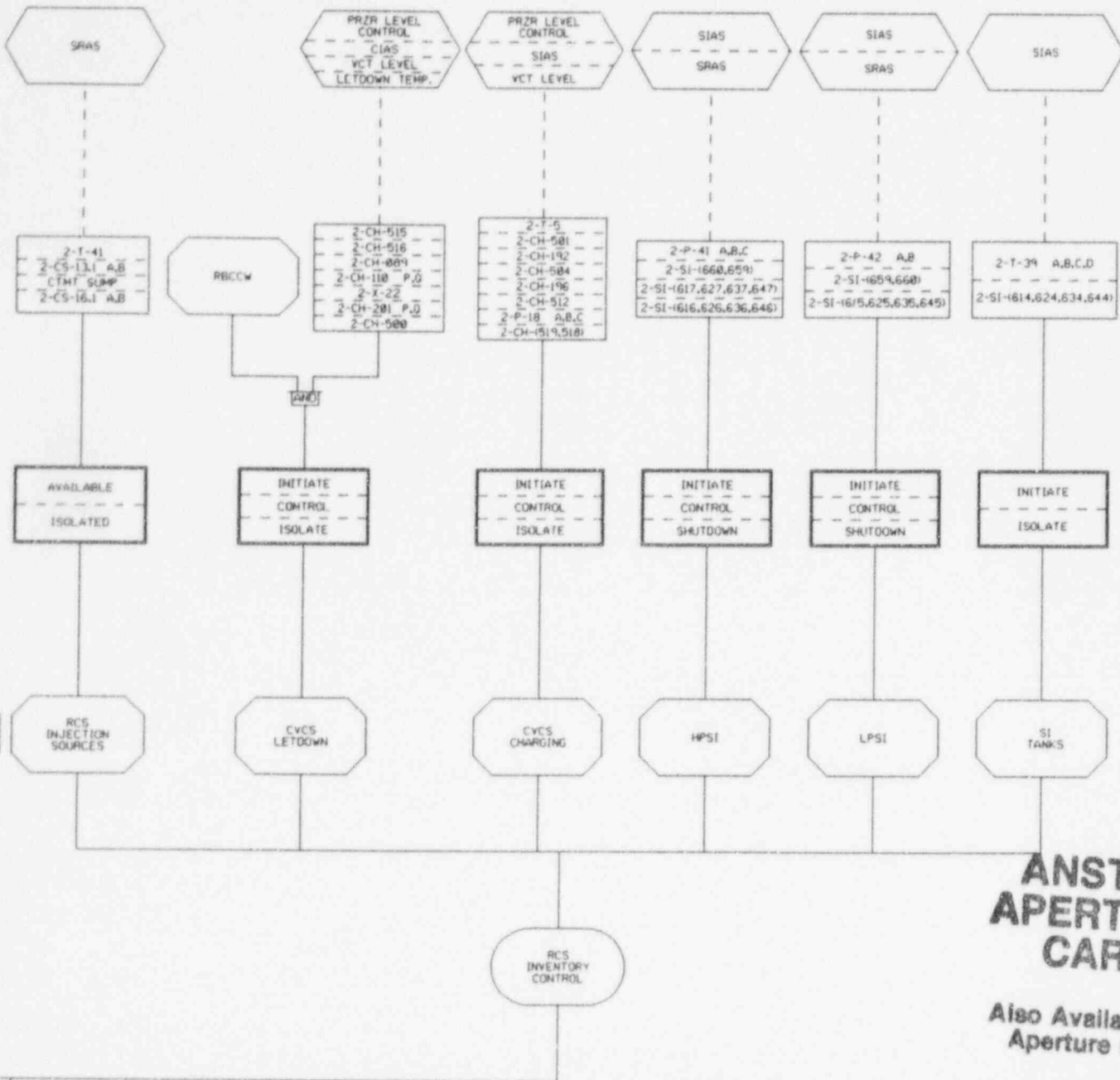
Also Available on
Aperture Card

9707290063-01

 PARSONS <small>PARSONS POWER GROUP INC. MEMPHIS • BOSTON • CHARLOTTE • DALLAS</small>	536852-00085 WORK ORDER NO.	TIER 2 FIGURE #M2-T2CSFD-SYMB	0 REV.
CSF DIAGRAM SYMBOLS			
<i>R.T. Owens</i> 7/24/97 ORIGINATED DATE N/A INTERFACE DATE	<i>J.H. Searles</i> 7/24/97 REVIEWED DATE N/A INTERFACE DATE	<i>M. Ak</i> 24/97 APPROVED DATE N/A INTERFACE DATE	

PPGI-FILE: csfdi05y.dgn
 PPGI-DATE: 24-Jul-97 14:07





ANSTEC APERTURE CARD

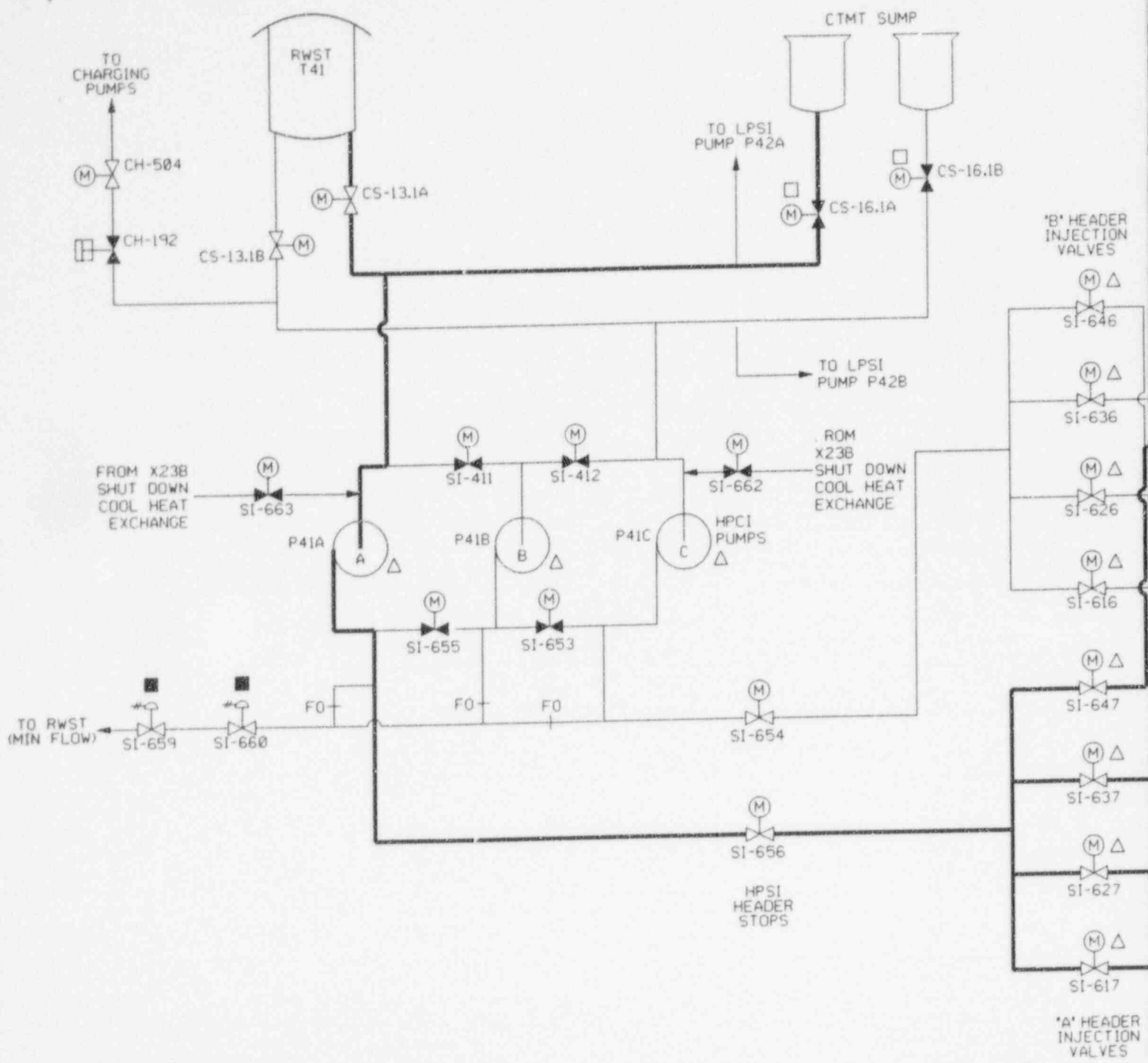
Also Available on Aperture Card

9707290063-02

RCS PRESSURE & INVENTORY CONTROL

PARSONS <small>PARSONS POWER GROUP INC. BIRMINGHAM / ANSTEC / CHARLOTTE / DAYTON/OHIO</small>	536852-00085	TIER 2	1
	WORK ORDER NO.	FIGURE #M2-T2CSFD-RCSPI	REV.
RCS PRESSURE & INVENTORY CONTROL			
<i>R.K. Williams</i> 7/24/97	<i>J.H. Beck</i> 7/24/97	<i>M. J. ...</i> 24/97	
ORIGINATED DATE	REVIEWED DATE	APPROVED DATE	
N/A	N/A	N/A	
INTERFACE DATE	INTERFACE DATE	INTERFACE DATE	

PPGI-FILE: 526005:rcsprinc.dgn PPGI-DATE: 24-Jul-97 11:39



LEGEND:

- ▲ - SIAS CLOSE/STOP
- △ - SIAS OPEN/START
- - CIAS CLOSE/STOP
- - SRAS CLOSE/STOP
- - SRAS OPEN/START
- ▬ - TRAIN 'A' OR COMMON FLOW PATH

NOTES:

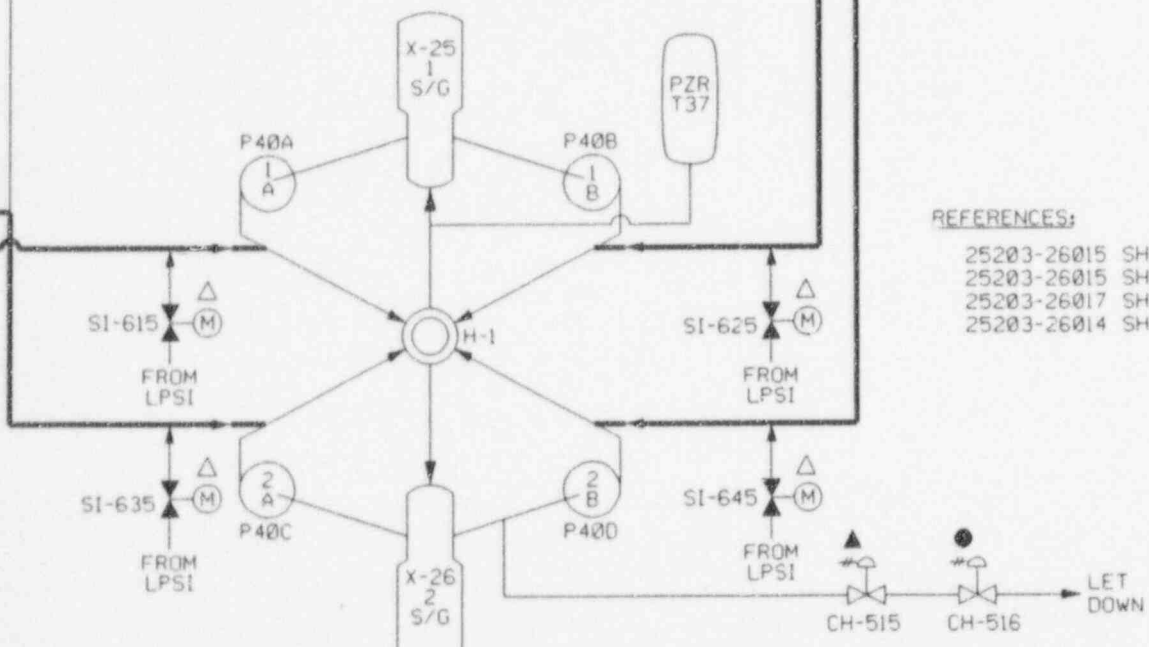
1. ALL COMPONENT ID'S PRECEDED BY '2-' UNLESS OTHERWISE NOTED.

REFERENCES:

- 25203-26015 SHT 2 REV 10
- 25203-26015 SHT 1 REV 13
- 25203-26017 SHT 3 REV 15
- 25203-26014 SHT 1 REV 17

ANSTEC APERTURE CARD

Also Available on Aperture Card



<p>PARSONS PARSONS POWER GROUP INC. SEASIDE / BOSTON / CHARLOTTE / DALLAS</p>	536852-00085	TIER 2	1
	WORK ORDER NO.	FIGURE #M2-T2SBD-HPSI1	REV.
H.P.S.I.			
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