

NOTES:

- 1) WORK THIS DRAWING WITH DRAWINGS 20829 THRU 20831.
- 2) ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX WL, UNLESS NOTED OTHERWISE.
- 3) Δ - INDICATES DWS REVISION LEVEL.

3	12/94	BCL	—	DES	WVS	INCORP DCR 91-32 CA-8
2	5/4/90	NRB	FCB	APL	DWS	ES
1	2/2/87	VDS	TAK	WRD	BCL	VWS
0	1/28/86	JDM	GJS	WES	MJY	WFD
REV	DATE	DSGN	DRWN	CHKD	CDE	SES
						DESCRIPTION
						ISSUED FOR OPERATIONS
						ADDED NOTE 3 AND REVISED PER LATEST SYSTEM DRAWINGS
						INCORP DCR 86-96 CA 8/9
						SOLID WASTE SYS. SPT. RESIN CONC. P & ID
						WL SYSTEM-DEMIN. & TESTING - P & ID
						WL SYSTEM-EVAPORATOR EV-4 - P & ID
						WL SYSTEM-STORAGE & FILTRATION - P & ID
						TITLE
						REV
						REF. DRAWING NO.

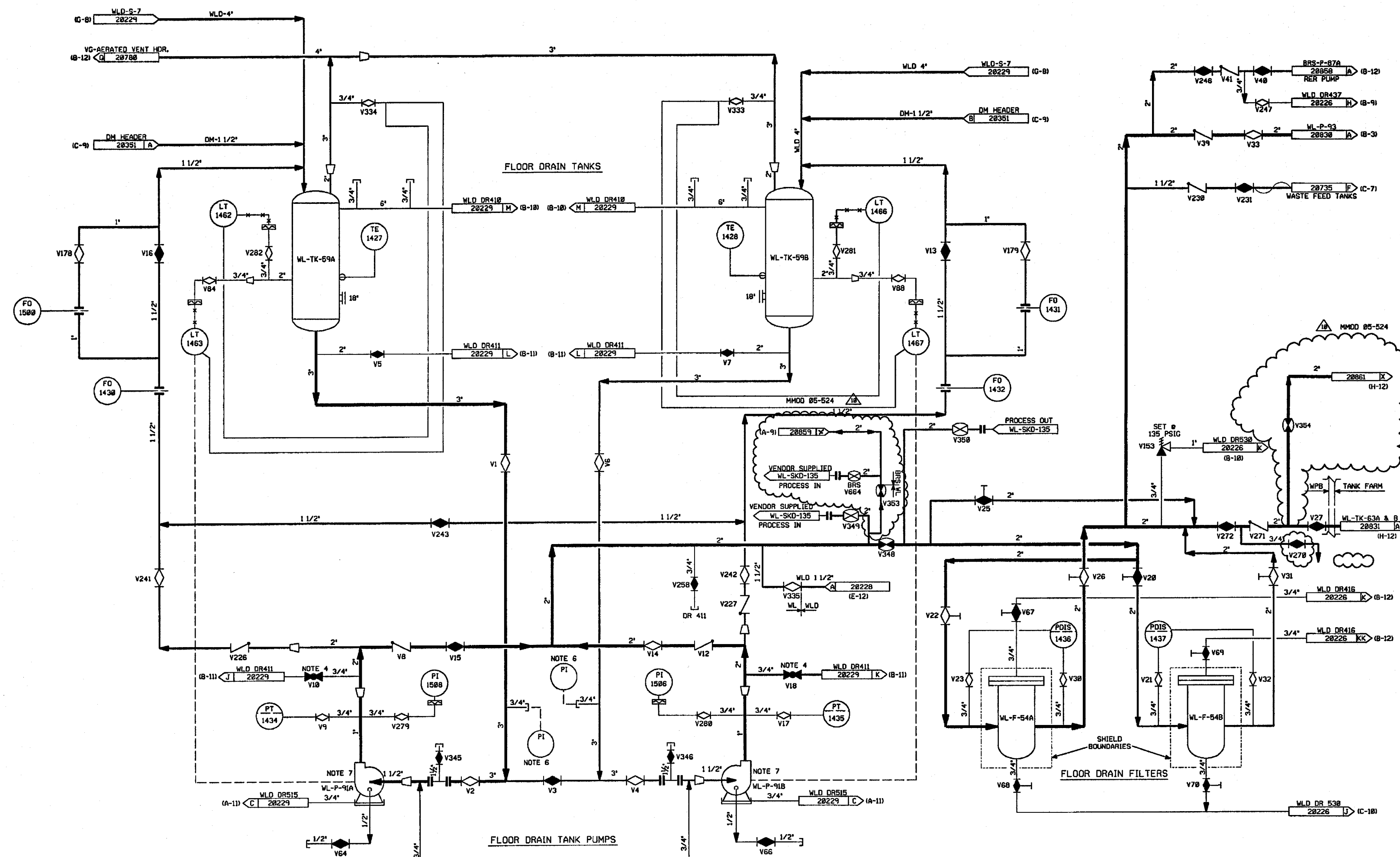
North Atlantic Energy Service Corporation

LIQUID WASTE SYSTEM OVERVIEW

PID- 1-WL-B20828

PID-1-WL-B20829

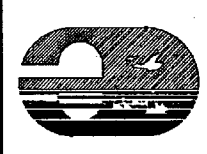
FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS
REFER TO DRAWINGS P&ID - LEGEND 1 AND P&ID - LEGEND 2



- NOTES:
1. WORK THIS DWG WITH DWGS 20820, 20830, & 20831.
 2. ALL LINES, EQUIPMENT, COMPONENTS, & INSTRUMENTS HAVE SYSTEM PREFIX WL UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS, & INSTRUMENTS ARE SAFETY CLASS NMS UNLESS NOTED OTHERWISE.
 4. FLUSH, VENT, AND/OR SAMPLE CONNECTION PIPE TO LOCAL DRAIN FUNNEL.
 5. TELL TALE DRAIN PIPED TO LOCAL DRAIN FUNNEL.
 6. START UP ENGINEERING TO PROVIDE PIPING, VALVES & PITS ALSO STRAINER BLOW OFF PIPING & VALVES FOR INITIAL FLUSHING OPERATION. STRAINER SCREEN TO BE REMOVED AFTER START UP.
 7. SEE P&ID DM-20853 FOR WATER SUPPLY TO PUMP DOUBLE MECHANICAL SEALS.

10	6/18/04	BCS	JM	ZCP	INCORP MMD 05-524 DCH-00, 02
9	6/17/93	MRB	BCL	VWS	INCORP DCR 91-32 CA0
8	4/21/92	MRB	BCL	JEV	INCORP MMD 91-515 CA0
7	12/13/90	MRB	JM	RSG	INCORP MMD 90-610 CA01
6	10/31/90	MRB	JM	RSG	PARTIAL INCORP OF MMD 90-610 CA 00 REVISED NOTE 7 FOR CLARITY
5	5/4/90	MRB	APL	ES	INCORP DCR 86-96 CA 09 AND DCR 86-93 CA
4	11/17/87	MPW	BCL	WFD	INCORP DCR 86-662 CA01, REVISED NOTE 3
3	6/28/87	JDM	PAL	RRC	INCORP DCR 86-673
2	11/26/86	CSB	WFO	RRC	ADDED P&ID REF DWG NOTE, DWG CONT CORRECTS SEALS TO P-1000 & 1500 PER ASSULT COND. FLANGES & FITTINGS PER ASSULT COND. REVISED L.T. TAG NO. TO CORRECT DRAFTING ERRORS, REV'D 2 LINE TO WL-F-54A & B PER ASSULT.
1	6/13/86	DWS	DWS	RRC	ADDED WS, WLD & VG CONTINUATIONS
0	1/28/86	JDM	WES	WFD	ISSUED FOR OPERATIONS
REV	DATE	DSGN	CHKD	CE	DESCRIPTION

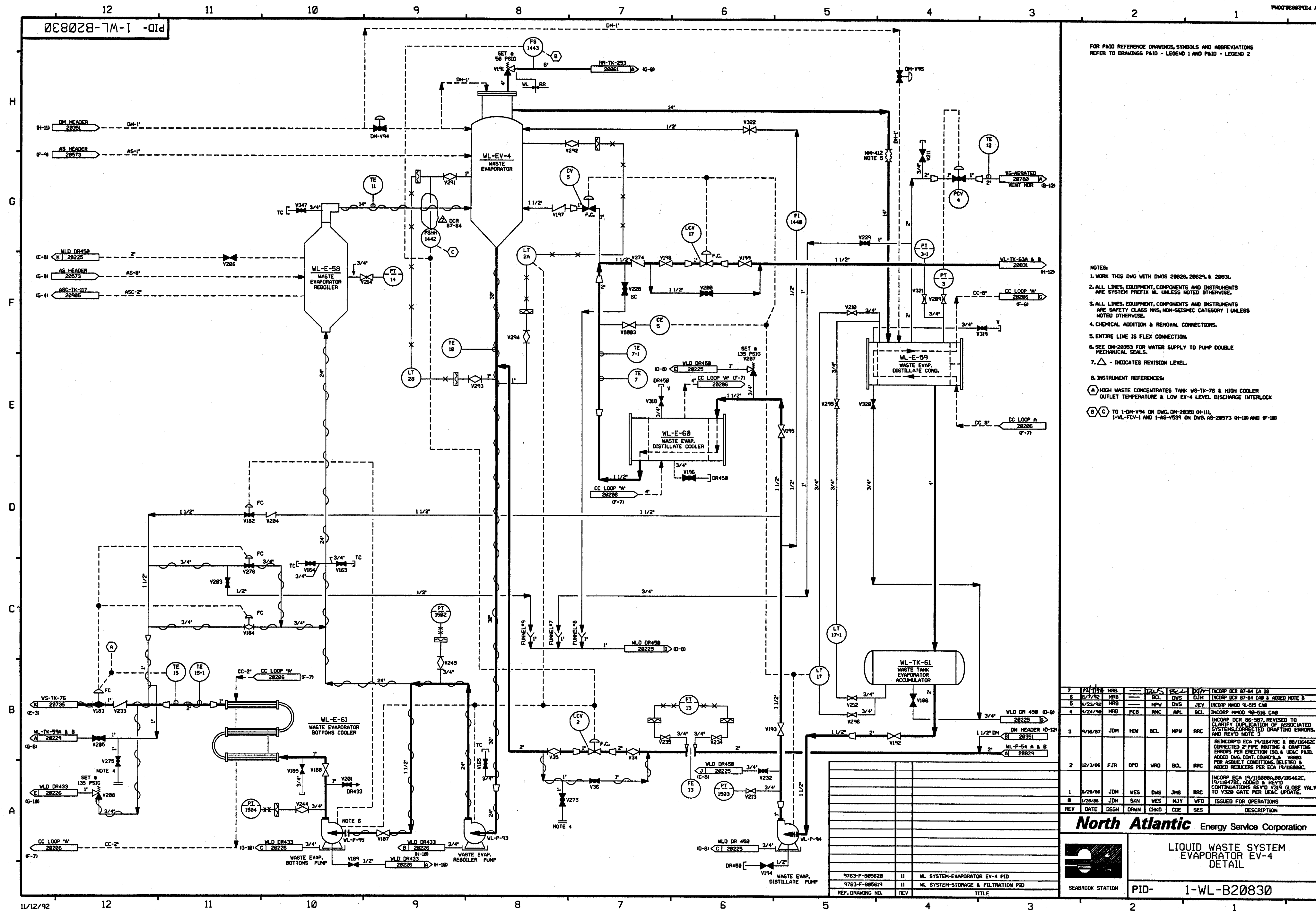
FPL ENERGY Seabrook Station



LIQUID WASTE SYSTEM
STORAGE & FILTRATION
DETAIL

PID- 1-WL-B20829

9763-F-885631	10	SOLID WASTE SYS. SPT. RESIN CONC. P & ID
9763-F-885619	11	WL SYSTEM - STORAGE & FILTRATION - PID
REF. DRAWING NO.	REV	TITLE



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS:
REFER TO DRAWINGS P&ID - LEGEND 1 AND P&ID - LEGEND 2

NOTES:

1. WORK THIS DWG WITH DWGS 28628, 28629, & 28631.
2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SYSTEM PREFIX ML UNLESS NOTED OTHERWISE.
3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS INS. NON-SEISMIC CATEGORY I UNLESS NOTED OTHERWISE.
4. CHEMICAL ADDITION & REMOVAL CONNECTIONS.
5. ENTIRE LINE IS FLEX CONNECTION.
6. SEE DD-28953 FOR WATER SUPPLY TO PUMP DOUBLE MECHANICAL SEALS.
7. Δ - INDICATES REVISION LEVEL.

8. INSTRUMENT REFERENCES:

(A) HIGH WASTE CONCENTRATES TANK WS-TK-76 & HIGH COOLER
OUTLET TEMPERATURE & LOW EV-4 LEVEL DISCHARGE INTERLOCK

(B) (C) TO I-HD-V94 ON DWG. DD-28363 04-111,
I-ML-FCV-1 AND I-AS-V939 ON DWG. AS-28573 04-180 AND 04-180

7	1/17/78	MRB	BCL	DMS	DJM	INCRP DCR 87-84 CA 28
8	1/17/78	MRB	BCL	DMS	DJM	INCRP DCR 87-84 CAG & ADDED NOTE 8
9	4/23/78	MRB	MFV	APL	BCL	INCRP MPOD 88-016 CAG
10	8/24/78	MRB	FCB	RMC	APL	INCRP MPOD 88-016 CAG
11	9/17/78	JDM	HW	BCL	MFV	INCRP DCR 88-587, REVISED TO CLARIFY DUPLICATION OF ASSOCIATED SYSTEMS CONTAINED DRAFTING ERRORS, AND REV'D NOTE 5
12	3/12/79	JDM	HW	BCL	MFV	REINCRPOD ECA 19/18478C & 88/16452C CORRECTED 2 PIPS ROUTING & DRAFTING ERRORS PER ELECTION ISA & USAC PAID. ADDED DNG, DCM, COORDS., & V8803 PER ASBULT CONDITIONS. DELETED & ADDED REDUCERS PER ECA 19/18478C.
13	12/3/96	FJR	OPD	WRD	BCL	INCRP ECA 19/18880A.88/16452C, 19/18478C, ADDED & REV'D CONTINUATIONS REV'D V87 FISCAL VAL. TO V320 CAGE PER USAC CLOSE.
14	6/26/86	JDM	WES	DMS	JWS	ISSUED FOR OPERATIONS
15	1/28/86	JDM	SKN	WES	MJY	ISSUED FOR OPERATIONS
REV	DATE	DSGN	DRWN	CHKD	CDO	DESCRIPTION

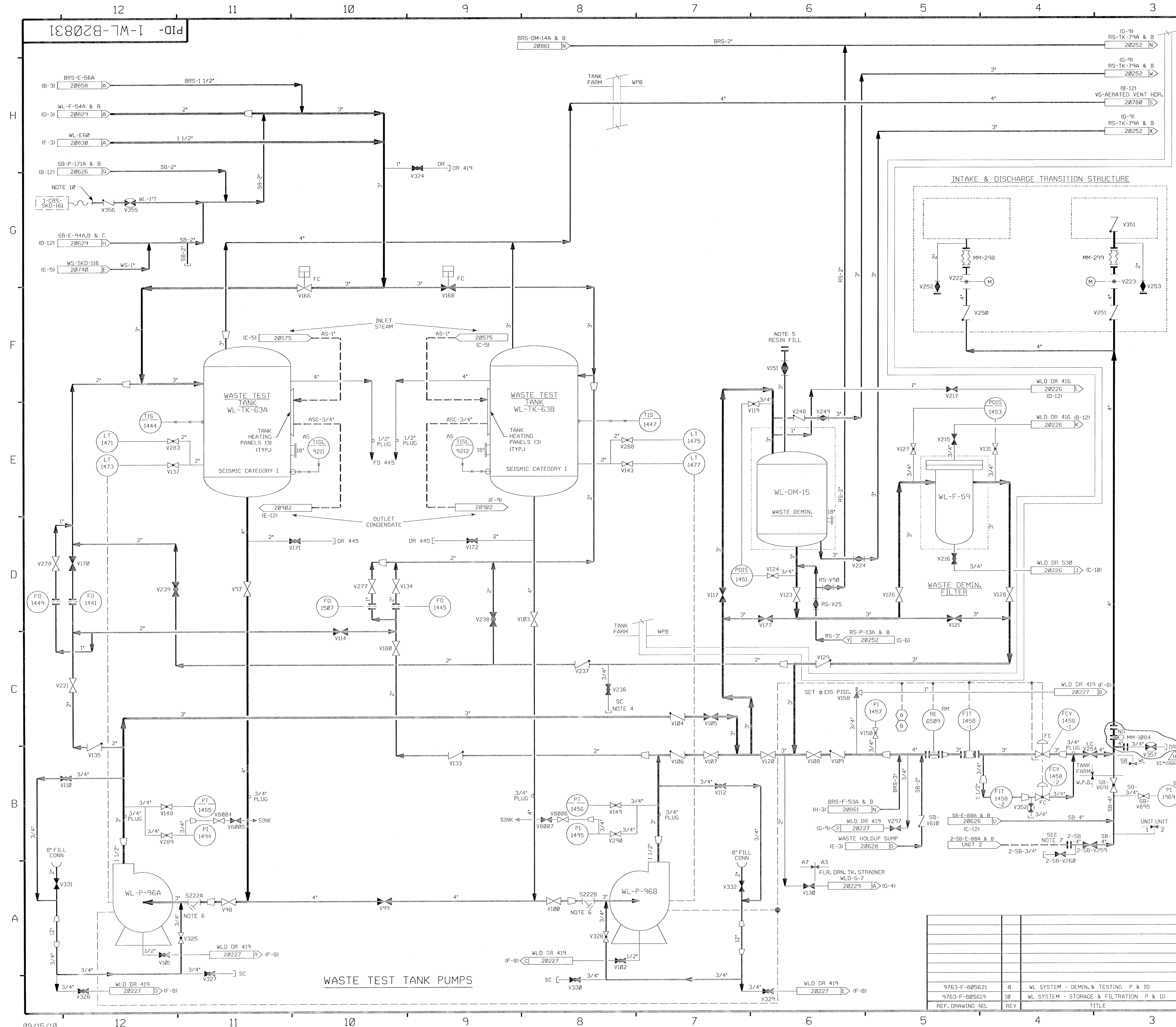
KEY	DATE	DOOR	DOWN	CHRG	CODE	SEC	DESCRIPTION
North Atlantic Energy Service Corporation							



LIQUID WASTE SYSTEM
EVAPORATOR EV-4
DETAIL

SEABROOK STATION

PID- 1-WL-B20830



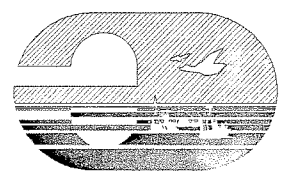
FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS
REFER TO DRAWINGS P&ID - LEGEND 1 AND P&ID - LEGEND 2

NOTES:

- 1.) WORK THIS DRAWING WITH DRAWINGS 20828, 20829 & 20830.
- 2.) ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX WL, UNLESS NOTED OTHERWISE.
- 3.) ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS NNS UNLESS NOTED OTHERWISE.
- 4.) FLUSH AND SAMPLE CONNECTION: USE FLEXIBLE HOSE TO A LOCAL DRAIN FUNNEL, TO FLUSH THE LINE, USE POLYETHYLENE COLLECTION BOTTLES TO COLLECT SAMPLES.
- 5.) RESIN FILL TANK (TYP.) AS SHOWN ON DWG. BRS-20861.
- 6.) START-UP ENGINEERING TO PROVIDE PIPING, VALVE AND P & ID'S; ALSO STRAINER BLOWOFF PIPING & VALVES FOR INITIAL FLUSHING OPERATION. STRAINER SCREEN TO BE REMOVED AFTER START-UP.
- 7.) LINE BLIND FLANGED TO ISOLATE UNIT 1 FROM UNIT 2
- 8.) Δ INDICATES REVISION LEVEL.
- 9.) INSTRUMENT REFERENCES
(A) FROM SB-P-292 DRAWING SB-20628
(B) FROM BRS-P-90A&B DRAWING BRS-20861
- 10.) CAP IS INSTALLED WHEN HOSE IS NOT CONNECTED.

18	9/15/10	JM	BCS	DJM	INCORPORATED EC*156673
17	7/27/09	JM	BCS	TAS	INCORPORATED AR*6779
16	3/17/09	JM	BCS	DJM	INCORPORATED EC* 12627
15	2/26/09	JM	BCS	DJM	PARTIAL INCORP EC* 12627 (06MMOD539 DCN 00)
14	7/13/07	BCS	JM	RRB	INCORP DCR 06-010 DCN-00
13	5-12-04	JM	BCS	RRB	INCORP CR 03-01971 REV 00
12	1/13/99	BCS	MPW	VWS	INCORP MMOD 98-686 DCN-00
11	4-29-98	DRL	BCS	JCM	INCORP MMOD 97-632 DCN-00
10	3-7-97	BCS	DWS	ARR	INCORP DCR 96-22 DCN-00
9	6/17/93	MRB	BCL	VWS	INCORP DCR 91-32 CA0
8	4/21/92	MRB	BCL	JEV	INCORP DCR 90-39 CA3 & MMOD 91-515 CA0
7	10/29/90	MRB	JM	BCL	INCORP MMOD 90-681 CA00
6	3/28/89	MRB	PAL	MJY	INCORP DCR 86-185 CA 3
5	11/1/88	MRB	GPM	MJY	INCORP DCR 88-51 CA 01 & ECA 99/1128568 REVISED; NOTE 3, PIPING TO CLARIFY DUPLICATION OF ASSOCIATED SYSTEMS AND INTERFACES ADDED: CONTINUATION TAG & LOCATION COORDINATE OFF V297 DELETED: INCOMPLETE ITEM, DUPLICATED VALVE SB-V259 ON DWG SB-20626
4	12/22/86	JDM	WRD	RRR	ADDED NOTE 8, SAMPLE SINK SUPPLY LINES, CONT. REF. DWGS, P&ID REF. DWG, NOTE, & VLVS, V8004, 5, 6, 7, INCORP. ECA 19/109976A
3	10/28/86	JDM	WRD	RRR	INCORP ECA 19/11538C
2	9/2/86	JDM	MAP	RRR	INCORP ECA 99/1170628
1	6/19/86	JDM	DWS	RRR	ADDED INCOMP. ITEM, ADDED & REV'D CON. INCORP ECA 19/10629A & ECA 99/08094A INCORP LATEST REF. DWG REV'S
0	1/28/86	JDM	WES	WFO	ISSUED FOR OPERATIONS
REV	DATE	DCSN	CHKD	CE	DESCRIPTION

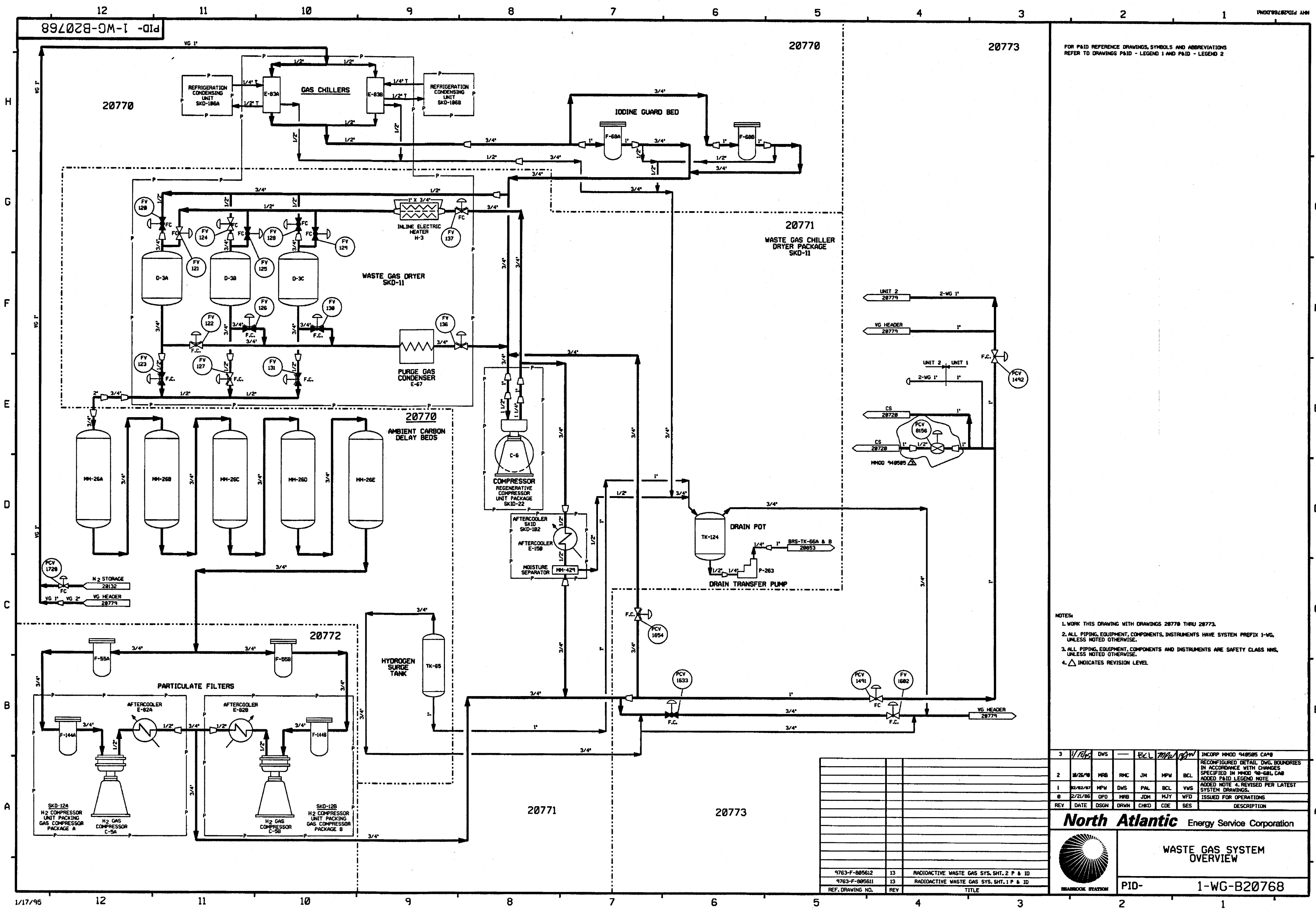
NEXTERA ENERGY
SEABROOK



LIQUID WASTE SYSTEM
DEMINERALIZATION & TESTING
DETAIL

PID- 1-WL-B20831

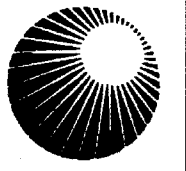
9763-F-805621	8	WL SYSTEM - DEMIN. & TESTING P & ID
9763-F-805619	10	WL SYSTEM - STORAGE & FILTRATION P & ID
REF. DRAWING NO.	REV	TITLE



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS
REFER TO DRAWINGS P&ID - LEGEND 1 AND P&ID - LEGEND 2

- NOTES:
- 1. WORK THIS DRAWING WITH DRAWINGS 20770 THRU 20773.
 - 2. ALL PIPING, EQUIPMENT, COMPONENTS, INSTRUMENTS HAVE SYSTEM PREFIX 1-WG, UNLESS NOTED OTHERWISE.
 - 3. ALL PIPING, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS NMS, UNLESS NOTED OTHERWISE.
 - 4. Δ INDICATES REVISION LEVEL.

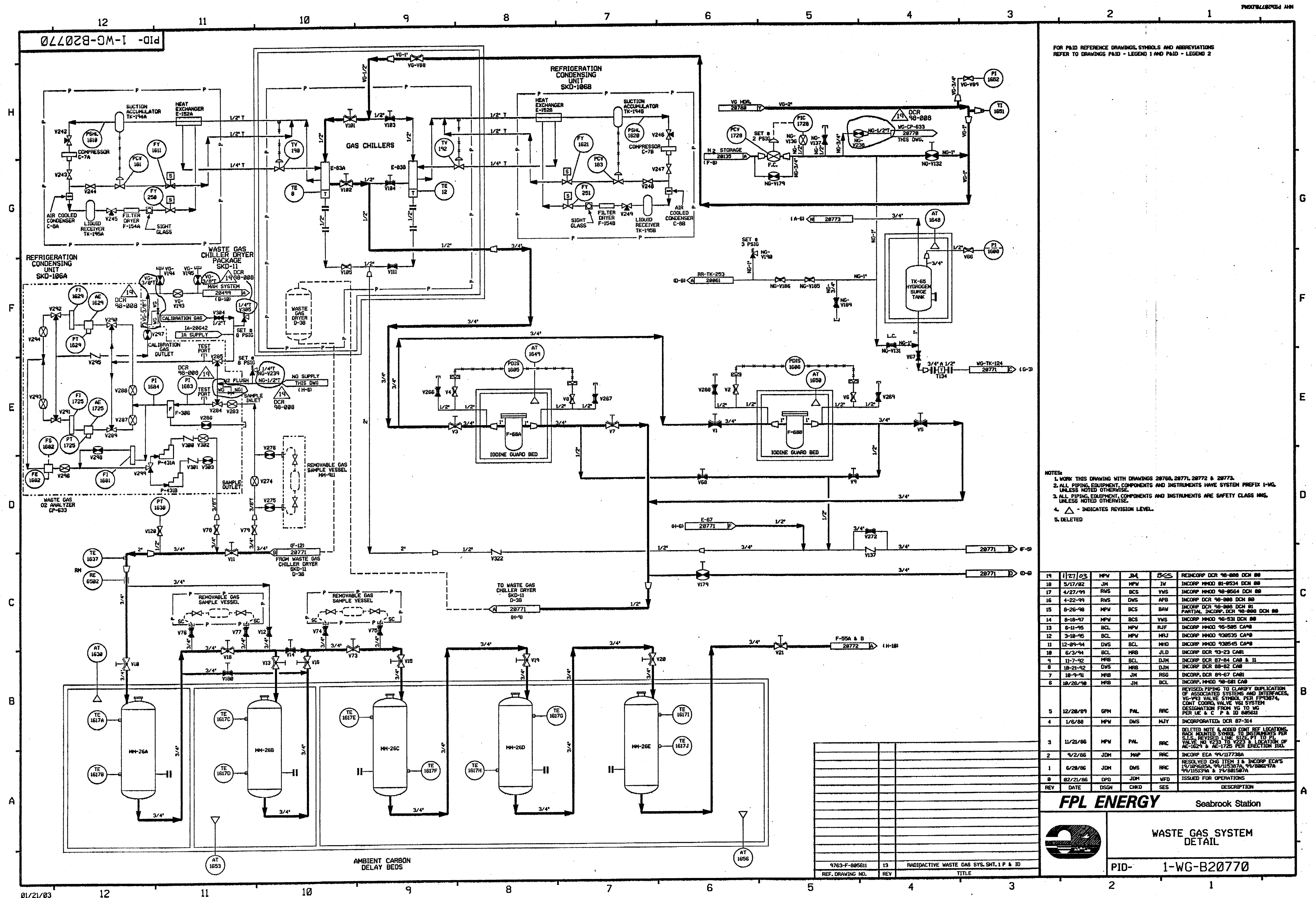
3	11/18/95	DWS	—	ECL	MPW	BCL	INCORP MH00 940505 CA#0
2	10/26/90	MRB	RMC	JM	MPW	BCL	RECONFIGURED DETAIL DWG. BOUNDARIES IN ACCORDANCE WITH CHANGES SPECIFIED IN MH00 94-0801, CA#0
1	02/02/87	MPW	DWS	PAL	BCL	YMS	ADDED P&ID LEGEND NOTE
0	2/21/86	OPD	MRB	JDM	MJY	WFD	ADDED NOTE 4, REVISED PER LATEST SYSTEM DRAWINGS.
REV	DATE	DSGN	DRWN	CHKD	CDE	SES	DESCRIPTION

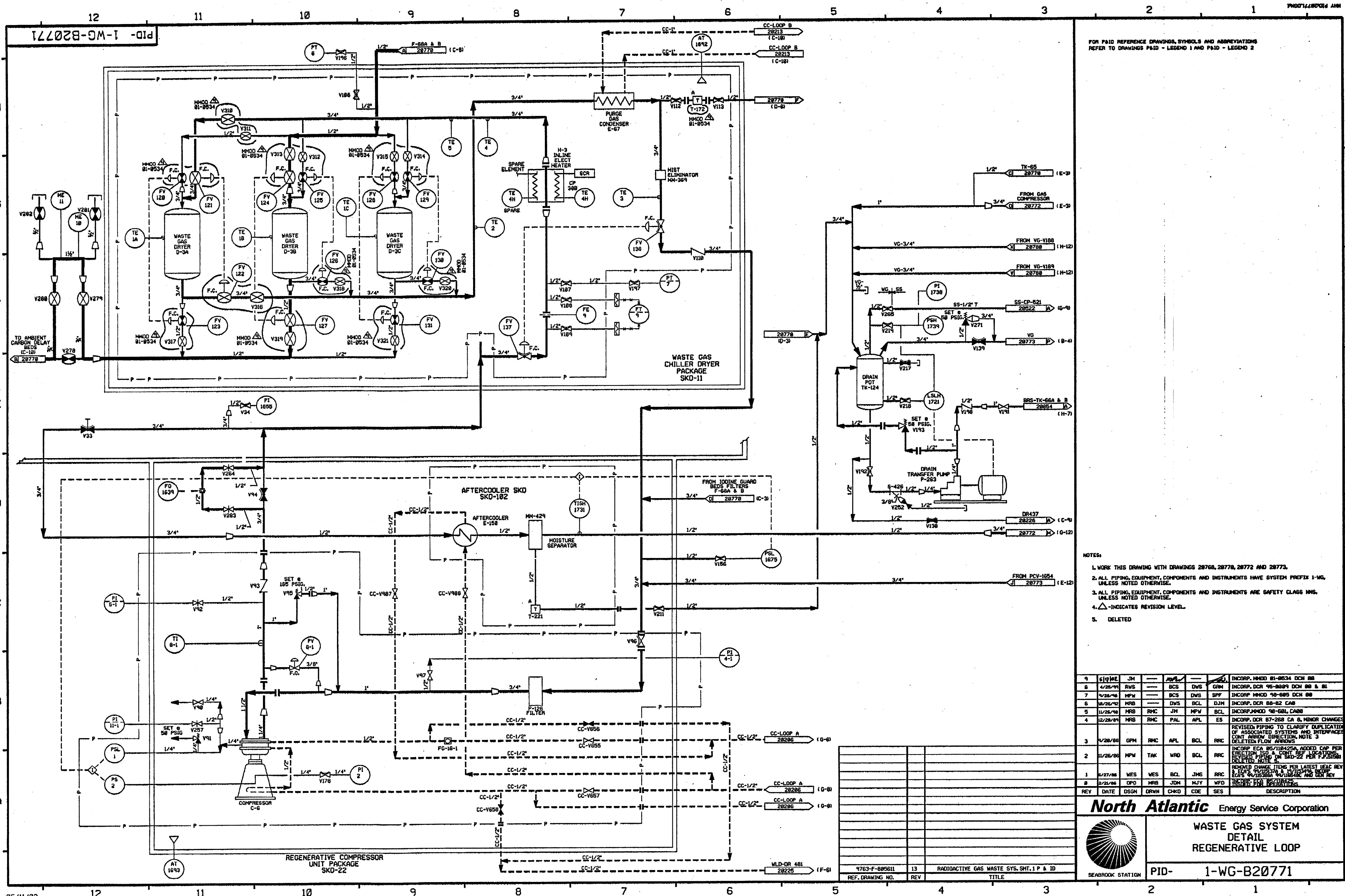
**North Atlantic** Energy Service Corporation

WASTE GAS SYSTEM OVERVIEW

PID-1-WG-B20768

9763-F-805612	13	RADIOACTIVE WASTE GAS SYS. SHT. 2 P & ID
9763-F-805611	13	RADIOACTIVE WASTE GAS SYS. SHT. 1 P & ID
REF. DRAWING NO.	REV	TITLE





FOR PAID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS
REFER TO DRAWINGS PAID - LEGEND 1 AND PAID - LEGEND 2

- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 28768, 28776, 28772 AND 28773.
 2. ALL PIPING, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX 1-WG, UNLESS NOTED OTHERWISE.
 3. ALL PIPING, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS UNS, UNLESS NOTED OTHERWISE.
 4. Δ - INDICATES REVISION LEVEL.
 5. DELETED

9	6/10/02	JM	—	—	—	—	—	INCORP. MMD 81-9534 DCM 88
8	4/28/99	RVS	—	BCS	DWS	GRM	—	INCORP. DCR 95-8889 DCM 88 & 81
7	4/28/99	MPM	—	BCS	DWS	SPF	—	INCORP. MMD 98-8885 DCM 88
6	8/26/92	MRB	—	DWS	BCL	DJM	—	INCORP. DCR 88-82 CAB
5	11/25/98	MRB	—	JH	MPW	BCL	—	INCORP. MMD 98-681 CAB
4	12/28/89	MRB	RMC	PAL	APL	ES	—	INCORP. DCR 87-288 CA 6, MINOR CHANGES
3	7/28/88	GPM	RMC	APL	BCL	RRC	—	REVISED PIPING TO CLARIFY DUPLICATION OF ASSOCIATED SYSTEMS AND INTERFACES. CONT. ARROW DIRECTION. NOTE 3 DELETED. FLOW ARROWS.
2	11/28/86	MPW	TAK	MRD	BCL	RRC	—	INCORP. ECA 85/118425A. ADDED CAP PER ERECTION 150 & CONT. REF. LOCATIONS. REVISED PIPING ON SKD-22 PER P.J. 28768. DELETED NOTE 4.
1	8/27/86	WES	WES	BCL	JMS	RRC	—	REMOVED CHANGE ITEMS PER LATEST HEAC REV 1. ECA 85/118425A. ADDED CAP PER ERECTION 150 & CONT. REF. LOCATIONS. REVISED PIPING ON SKD-22 PER P.J. 28768. DELETED NOTE 4.
REV	DATE	DSGN	DRWN	CHKD	CODE	SES	DESCRIPTION	

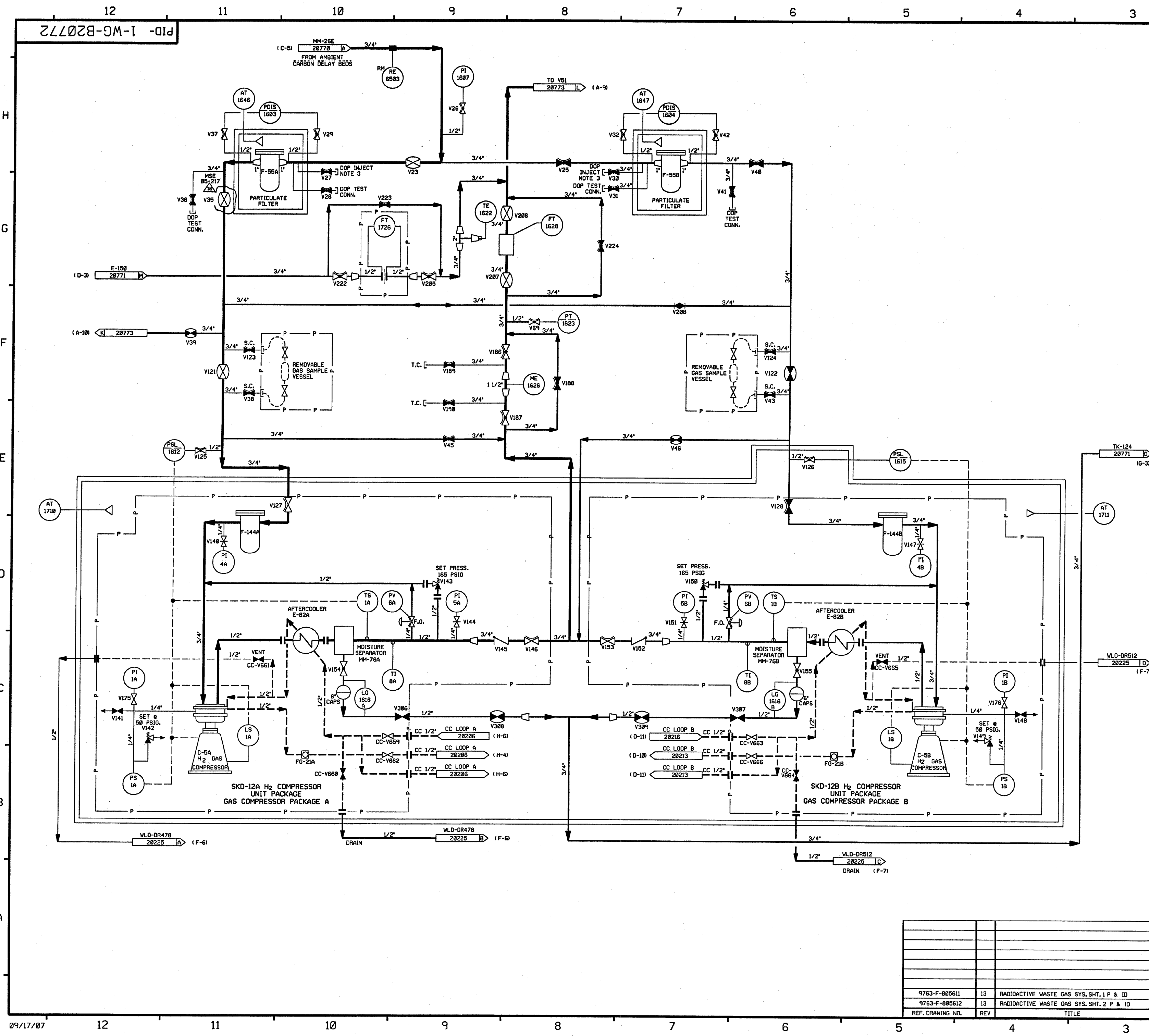


North Atlantic Energy Service Corporation

**WASTE GAS SYSTEM
DETAIL
REGENERATIVE LOOP**

PID- 1-WG-B20771

9763-F-805611	13	RADIOACTIVE GAS WASTE SYS. SHT. 1 P & ID
REF. DRAWING NO.	REV	TITLE

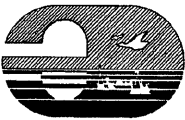


FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS
REFER TO DRAWINGS P&ID - LEGEND 1 AND P&ID - LEGEND 2

- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20768, 20770, 20771 & 20773.
 2. ALL PIPING, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX 1-WG, UNLESS NOTED OTHERWISE.
 3. DOP FILTER EFFICIENCY TEST PORTS.
 4. ALL PIPING, EQUIPMENT, COMPONENT AND INSTRUMENTS ARE SAFETY CLASS NNS, UNLESS NOTED OTHERWISE.
 5. Δ INDICATES REVISION LEVEL.
 6. DELETED

16	1-17-07	JM	BCS	RJR	INCRP MSE 05-217 REV 00, 01.
15	10/19/06	BCS	JM	RRB	PARTIAL INCRP MSE 05-217 REV 00
14	10/20/03	BCS	ALP	RRB	PARTIAL INCRP MSE 01-206 REV. 00
13	10/16/03	MPW	BCS	RRB	INCRP MSE 03-225 REV. 01
12	5/22/03	BCS	JM	JC	PARTIAL INCRP DCR 02-001 DCN-00
11	10/01/01	BCS	MPW	DJM	INCRP MSE 01-0096 REV. 0
10	11/14/00	MPW	BCS	SPF	INCRP MMDD 99-0005 DCN 00
9	4/27/99	RWS	BCS	HWM	INCRP MMDD 98-0564 DCN 00
8	4/22/99	RWS	BCS	SGF	INCRP DCR 98-0046 DCN 00
7	6/02/98	DRL	BCS	VNS	INCRP MMDD 97-521 DCN 00
6	12/9/94	DWS	BCL	MHO	INCRP MMDD 930545 CA#0
5	10/26/90	MRB	JM	BCL	INCRP MMDD 98-001 CA#0
4	09/20/88	GPM	APL	RRC	REVISED NOTE 3, VALVE SYMBOLS FOR V0-V88 & V120 PER PP 93874 & 91411, EQUIPMENT CONT REFERENCE FROM E-150 TO C-5. ADDED FCV SYMBOL FOR VALVE FV 130 PER MHY-506893.
3	11/20/86	MPW	WRD	RRC	ADDED CONTINUATION REF DWG. AND P&ID LEGEND REF NOTE, ADDED RACK MOUNTED SYMBOL PER S.I.S., REVISED FT TO PT & FCV TO PCV PER S.I.S., DELETED NOTE 5.
2	9/2/86	JDM	MAP	RRC	INCRP ECA 99/117730A
1	6/20/86	JDM	DWS	RRC	APPROVED CHANGE ITEM NO. 1 PER LATEST REV TO REF. DWG.
0	2/21/86	OPD	JDM	WFD	INCRP ECA 85/082103A.19/115491A
REV	DATE	DSGN	CHKD	CE	DESCRIPTION

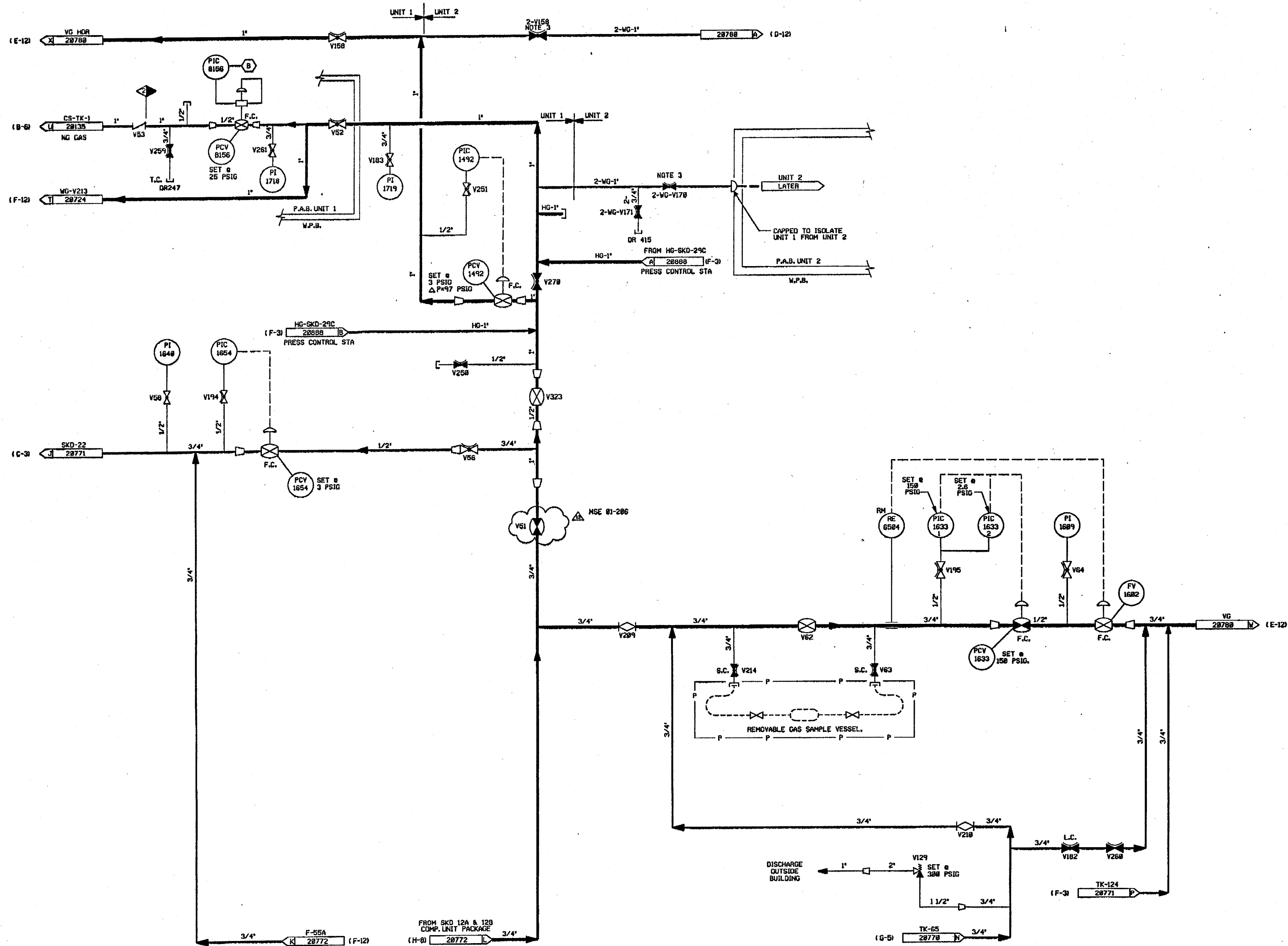
FPL ENERGY
Seabrook Station

**WASTE GAS SYSTEM
DETAIL**

PID- 1-WG-B20772

9763-F-805611	13	RADIOACTIVE WASTE GAS SYS. SHT. 1 P & ID
9763-F-805612	13	RADIOACTIVE WASTE GAS SYS. SHT. 2 P & ID
REF. DRAWING NO.	REV	TITLE

PID-1-WG-B20773



FOR PAID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS
REFER TO DRAWINGS PAID - LEGEND 1 AND PAID - LEGEND 2

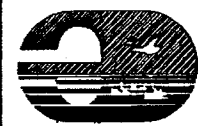
- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20768, 20770, 20771, & 20772.
 2. ALL PIPING, EQUIPMENT, COMPONENTS, & INSTRUMENTS HAVE SYSTEM PREFIX "1-WG" UNLESS NOTED OTHERWISE.
 3. THIS VALVE TO BE LOCKED CLOSED DURING UNIT 2 CONSTRUCTION.
 4. ALL PIPING & INSTRUMENTS ARE SAFETY CLASS NNS UNLESS OTHERWISE NOTED.
 5. Δ INDICATES REVISION LEVEL.
 6. DELETED
 7. INSTRUMENT REFERENCES:
(B) FROM CS-PT-115 ON PAID CS-20725

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	DESCRIPTION
13	10/15/03	BCS	ML	ML	PARTIAL INCORP MSE 01-206 REV.0
12	5/1/03	BCS	JM	JC	PARTIAL INCORP DCR 02-081, DCR-08
11	5/1/02	JM	MPV	ICV	INCORP MSE 01-0096 REV.0
10	3/18/99	BCL	MPV	MRJ	INCORP M400 930535 CA#0
9	2/7/94	DWS	BCL	MRJ	INCORP M400 930545 CA#0
8	6/2/94	DWS	BCL	MRJ	INCORP M400 940505 CA#0 & 2
7	10/2/92	DWS	BCL	MRJ	INCORP DCR 090001 CA#0
6	10/3/91	GPM	JM	RSG	INCORP DCR 09-57 CA#0
5	10/28/90	MRB	JM	BCL	INCORP M400 90-601 CA#0
4	12/28/89	MRB	PAL	ES	INCORPORATED DCR 07-268 CA#0 REVISED NOTE 4, V210 VALVE SYMBOL FROM NORMALLY CLOSED TO OPEN, CONT DND NO & COORD ADDED F.C. PER PP 51975 & 55688 FOR VALVE PCV-8556, LOOP & LOGIC NNT-50689 FOR VALVE PCV-143L
3	1/28/88	GPM	APL	RRC	ADDED CONTINUATION FLAG CORDS, REMOVED CAP PER ECA 19/101646, REMOVED DUPLICATED INSTR. SHOWN ON HG SYS DELETED NOTE 6, IDENTIFIED DRAIN PER LEAK PAID, ADDED NUCLEAR SAFETY RELATED NOTE
2	11/28/86	MRJ	MRJ	RRC	REMOVED CHANGE ITEMS PER ECA 19/103330 & LATEST USAC REV. INCORP ECA 19/107012A & 19/101644
1	6/17/86	MES	DWS	RRC	ISSUED FOR OPERATIONS
0	2/21/86	DPO	JDM	WFD	

FPL ENERGY

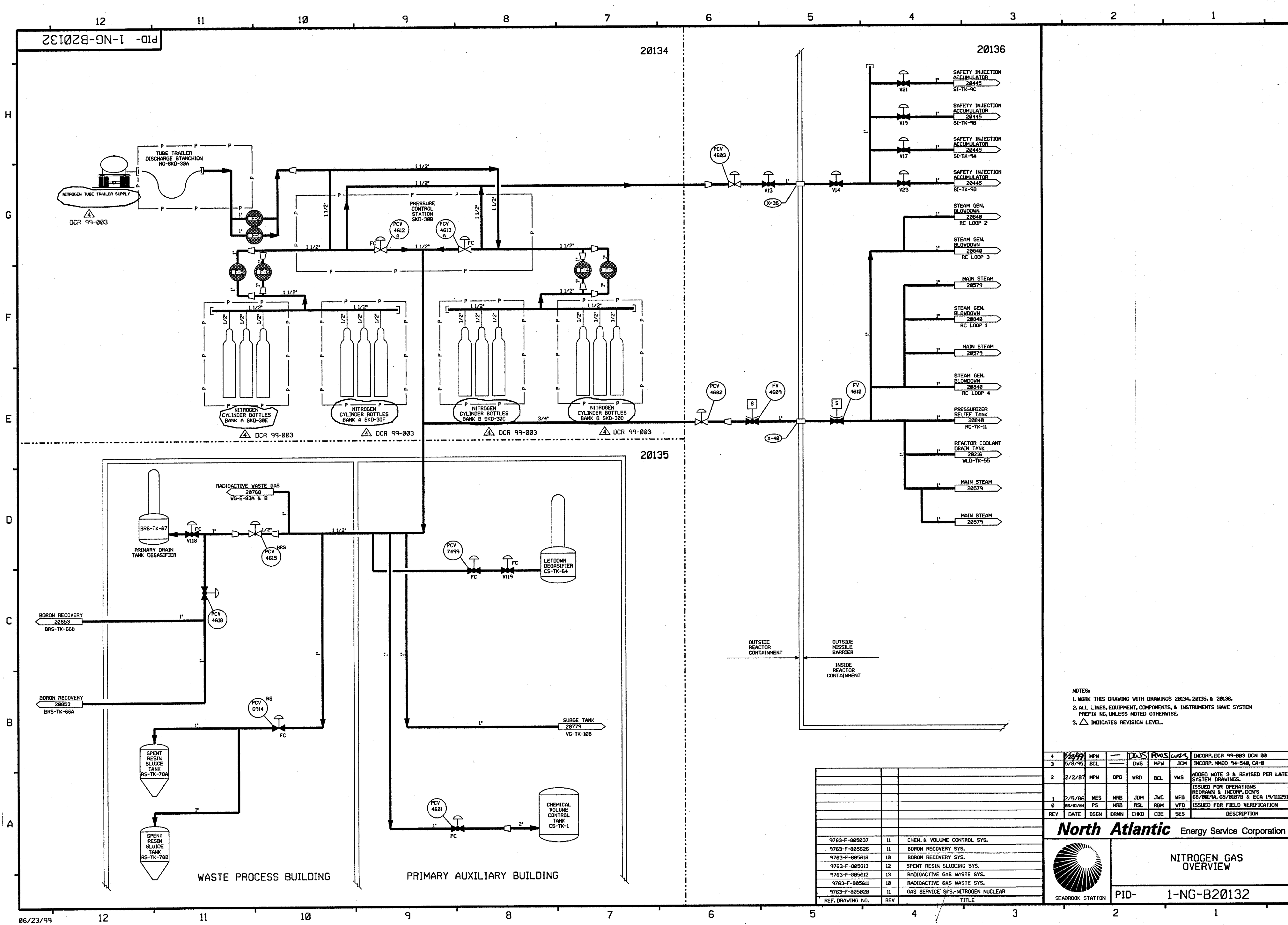
Seabrook Station



WASTE GAS SYSTEM
DETAIL

PID- 1-WG-B20773

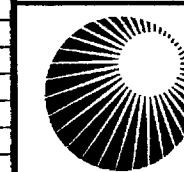
REF. DRAWING NO.	REV	TITLE
9763-F-005612	13	RADIOACTIVE GAS WASTE SYS. SHT. 2 P. & ID



NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20134, 20135, & 20136.
2. ALL LINES, EQUIPMENT, COMPONENTS, & INSTRUMENTS HAVE SYSTEM PREFIX NG, UNLESS NOTED OTHERWISE.
3. Δ INDICATES REVISION LEVEL.

4	1/2/99	MPW	—	DCS	RMS	WSS	INCORP. DCR 99-003 DCM 00
3	5/8/95	BCL	—	DWS	MPW	JCH	INCORP. MMOD 94-548, CA-8
2	2/2/87	MPW	OPD	WRO	BCL	VMS	ADDED NOTE 3 & REVISED PER LATEST SYSTEM DRAWINGS
1	2/5/86	WES	MRB	JCH	JWC	WFD	ISSUED FOR OPERATIONS REDRAWN & INCORP. DCM'S 68/001/9A, 65/0187B & ECA 19/111251B
0	06/01/84	PS	MRB	RSL	RBM	WFD	ISSUED FOR FIELD VERIFICATION
REV	DATE	DSGN	DRWN	CHKD	CDE	SES	DESCRIPTION

North Atlantic Energy Service Corporation



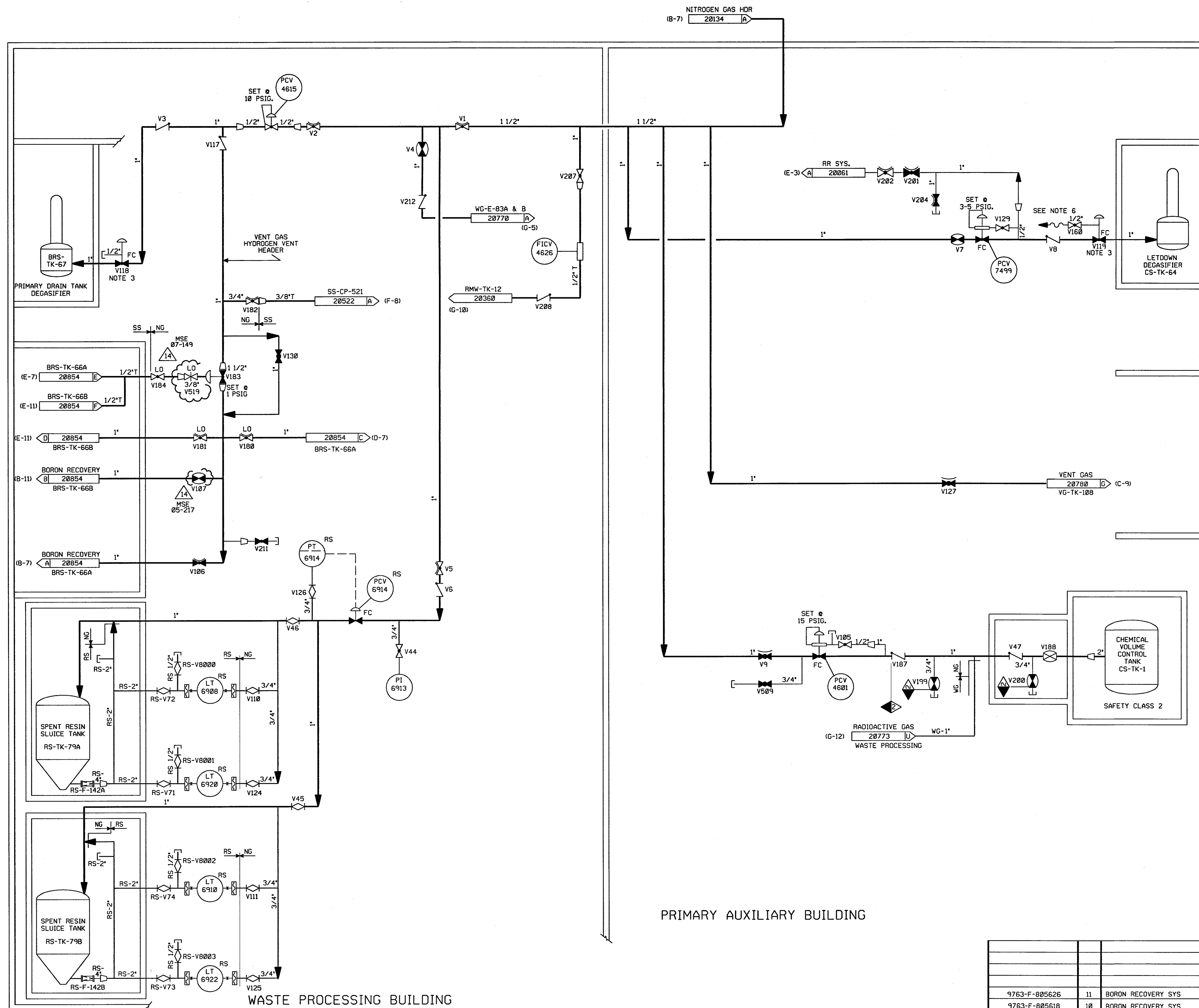
NITROGEN GAS OVERVIEW

PID- 1-NG-B20132

REF. DRAWING NO.	REV	TITLE
9763-F-805037	11	CHEM. & VOLUME CONTROL SYS.
9763-F-805626	11	BORON RECOVERY SYS.
9763-F-805618	10	BORON RECOVERY SYS.
9763-F-805613	12	SPENT RESIN SLUICING SYS.
9763-F-805612	13	RADIOACTIVE GAS WASTE SYS.
9763-F-805611	10	RADIOACTIVE GAS WASTE SYS.
9763-F-805022	11	GAS SERVICE SYS.-NITROGEN NUCLEAR

PID-1-NG-B20135

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS
REFER TO DRAWINGS P&ID - LEGEND 1 AND P&ID - LEGEND 2

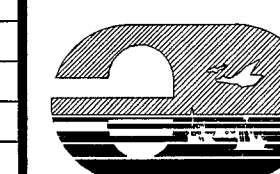


- NOTES
1. WORK THIS DRAWING WITH DRAWINGS 20132, 20134, & 20136
 2. ALL LINES, EQUIPMENT, COMPONENTS, AND INSTRUMENTS HAVE SYSTEM PREFIX NG, UNLESS NOTED OTHERWISE.
 3. VALVE TO BE INSTALLED WITH DEGASIFIER LIQUID UNDER THE VALVE SEAT
 4. ALL LINES, EQUIPMENT, COMPONENT AND INSTRUMENTS ARE SAFETY CLASS NNS, UNLESS NOTED OTHERWISE.
 5. Δ INDICATES REVISION LEVEL
 6. REFER TO DRAWING VSL-20774 FOR VALVE LEAKOFFS.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

14	9-17-07	JM	BCS	RRB	INCORP MSE 07-149 REV 00 & MSE 05-217 REV 00, 01
13	12/9/04	BCS	JM	RRB	INCORP CR 04-09401 REV. 0
12	12/23/99	BCS	DWS	JCM	INCORP MMOD 96-531 DCN*03
11	4/20/99	DWS	BCS	JCM	INCORP MMOD 980588 DCN*00
10	6/12/97	MPW	DWS	RRC	INCORP MMOD 96-531 DCN 00, ADDED OPERATOR TO NG-V7 PER PP-97064
9	6/3/94	BCL	DWS	JLD	INCORP DCR 93-23, CA-0, 1 & DCR 88-152 CA 0
8	11/2/92	MRB	BCL	DJM	INCORP DCR 88-179 CA0
7	4/22/92	MRB	BCL	JEV	INCORP MMOD 91-515 CA0
6	8/21/91	MRB	FCB	PEB	INCORP DCR 90-7 CA03
5	5/26/89	MRB	PAL	IW	INCORPORATED DCR 87-110 CA 11 REVISED NOTE 4
4	8/6/87	OPM	MPW	RRC	ADDED SYSTEM BREAKS, ADDED NOTE 6, CONT COORD AND DELETED REF. DWG.
3	10/17/87	MPW	MAP	RRC	ADDED VALVES RS-V8000-8003, NOTE 5, CAPPED CONN PER ERECTION ISO AND CONT REF. DWG, DELETED REF. DWG'S.
2	6/23/86	WES	VNK	RRC	UPDATE PER LATEST P&ID
1	2/5/86	WES	JDM	WFD	ISSUED FOR OPERATIONS, GENERAL REVISIONS & INCORP ECA 19/2734 & DCR 88/0019A
0	06/01/84	PJC	RSL	WFD	ISSUED FOR FIELD VERIFICATION
REV	DATE	DSGN	CHKD	CE	DESCRIPTION

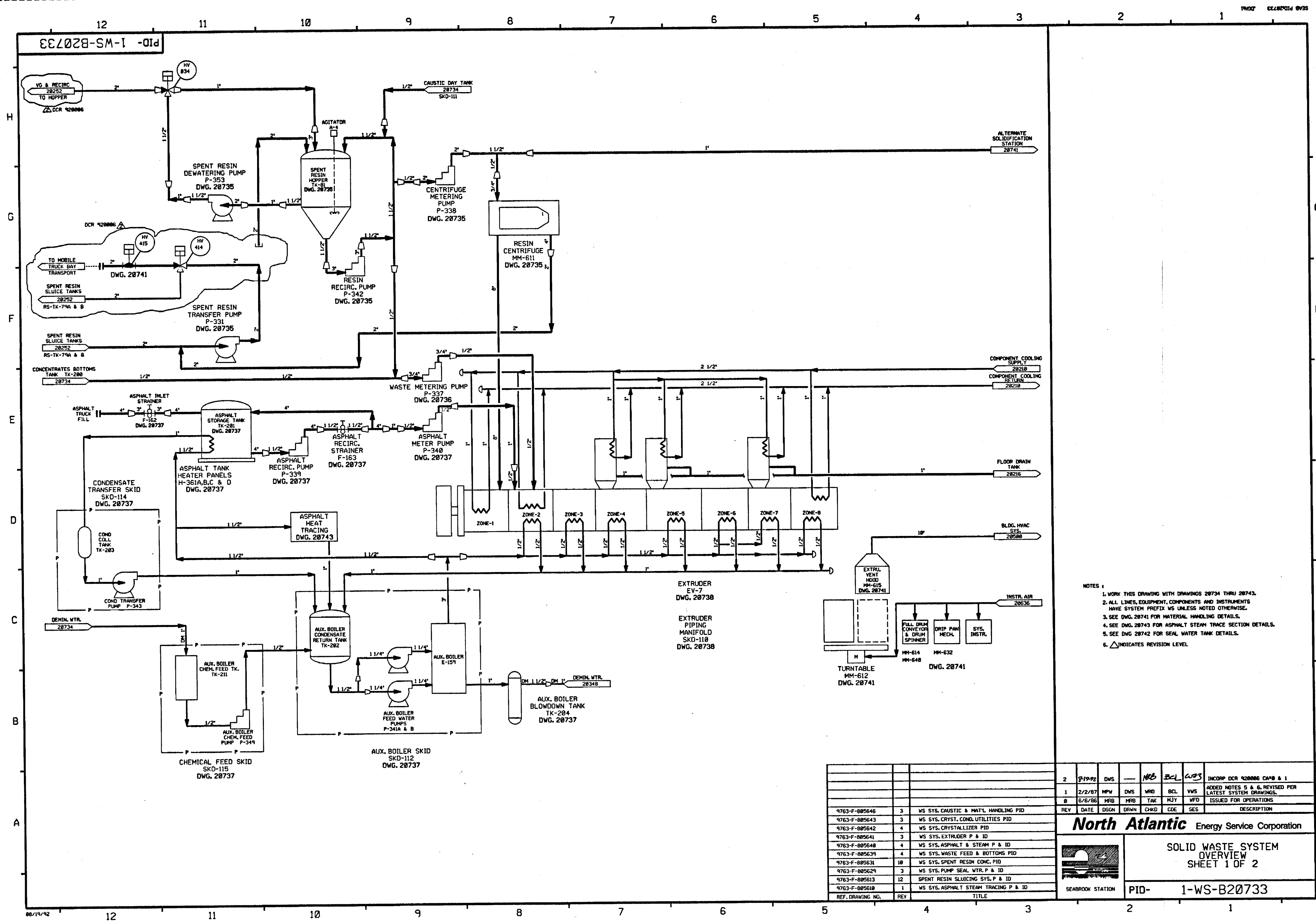
FPL ENERGY Seabrook Station

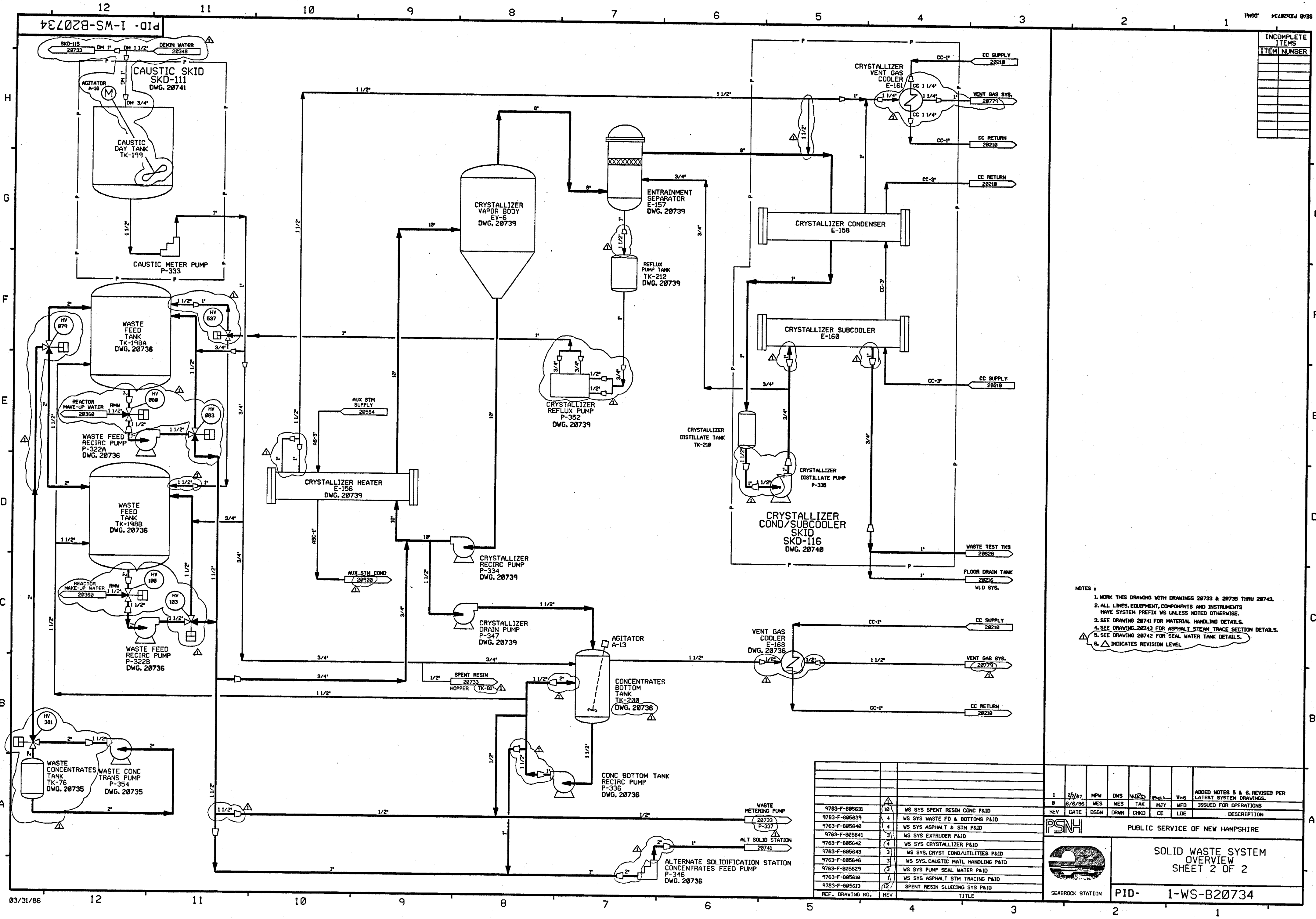


NITROGEN GAS
DETAIL

PID- 1-NG-B20135

REF. DRAWING NO.	REV	TITLE
9763-F-805626	11	BORON RECOVERY SYS
9763-F-805618	10	BORON RECOVERY SYS
9763-F-805820	11	GAS SERVICE SYS NITROGEN NUCLEAR
9763-F-805613	12	SPENT RESIN SLUICING SYS
9763-F-805837	11	CHEM & VOLUME CONTROL SYS.



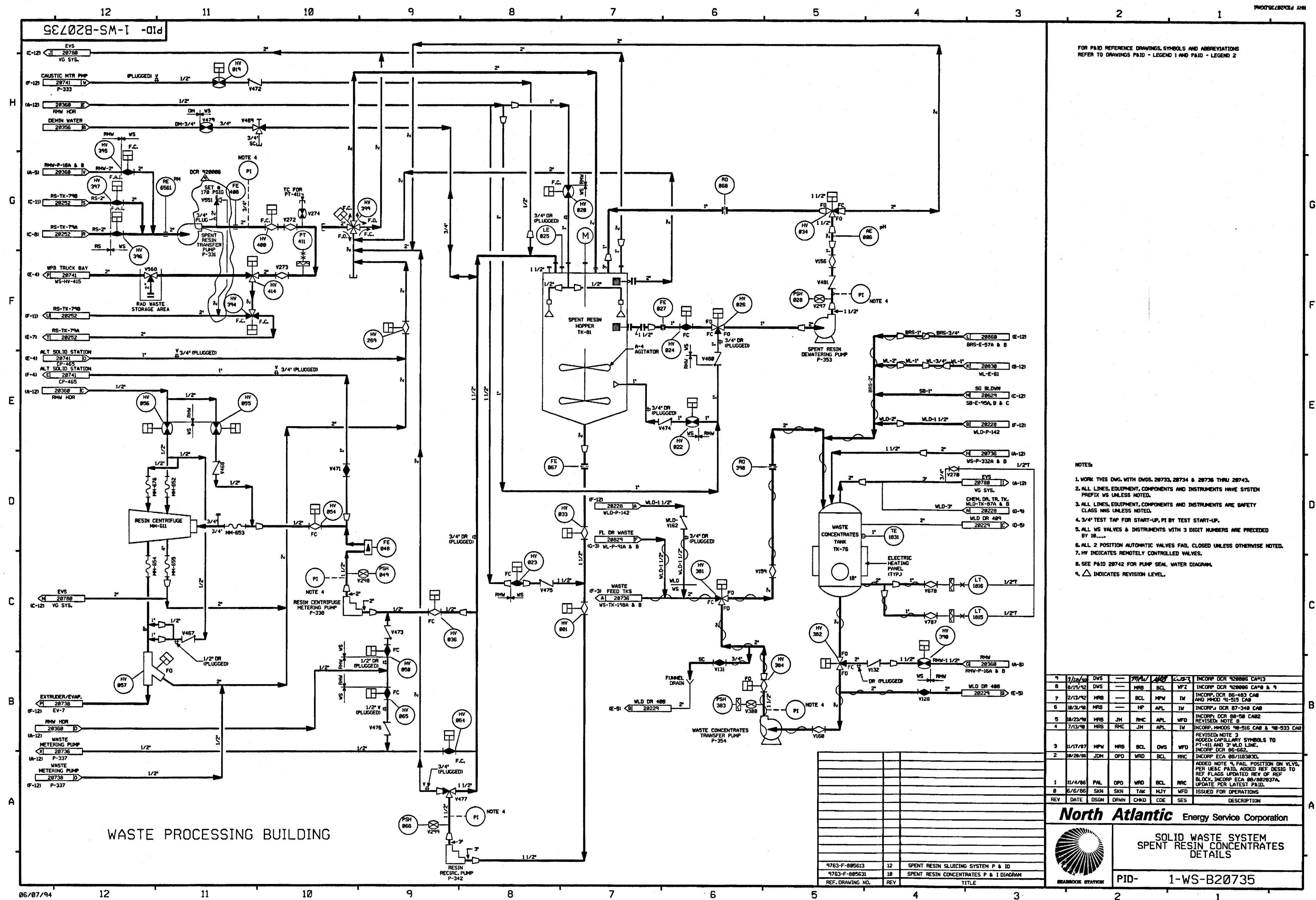


INCOMPLETE ITEMS	
ITEM	NUMBER

- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20733 & 20735 THRU 20743.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX VS UNLESS NOTED OTHERWISE.
 3. SEE DRAWING 20741 FOR MATERIAL HANDLING DETAILS.
 4. SEE DRAWING 20743 FOR ASPHALT STEAM TRACE SECTION DETAILS.
 5. SEE DRAWING 20742 FOR SEAL WATER TANK DETAILS.
 6. INDICATES REVISION LEVEL


REF. DRAWING NO.	REV	TITLE
9763-F-805631	10	WS SYS SPENT RESIN CONC P&ID
9763-F-805639	4	WS SYS WASTE FD & BOTTOMS P&ID
9763-F-805640	4	WS SYS ASPHALT & STM P&ID
9763-F-805641	3	WS SYS EXTRUDER P&ID
9763-F-805642	4	WS SYS CRYSTALLIZER P&ID
9763-F-805643	3	WS SYS.CRYST COND/UTILITIES P&ID
9763-F-805646	3	WS SYS.CAUSTIC MATL HANDLING P&ID
9763-F-805629	3	WS SYS PUMP SEAL WATER P&ID
9763-F-805610	1	WS SYS ASPHALT STM TRACING P&ID
9763-F-805613	12	SPENT RESIN SLUICING SYS P&ID

1	3/8/82	MPW	DVS	WJZ	DEL	UWS	ADDED NOTES 5 & 6. REVISED PER LATEST SYSTEM DRAWINGS.
0	6/6/86	WES	WES	TAK	MYJ	MFD	ISSUED FOR OPERATIONS
REV	DATE	DSGN	DRWN	CHKD	CE	LDE	DESCRIPTION
PSNH							PUBLIC SERVICE OF NEW HAMPSHIRE
							SOLID WASTE SYSTEM OVERVIEW SHEET 2 OF 2
SEABROOK STATION							PID- 1-WS-B20734



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS
REFER TO DRAWINGS P&ID - LEGEND 1 AND P&ID - LEGEND 2

NOTES:

1. WORK THIS DWG. WITH DWGS. 28733, 28734 & 28736 THRU 28743.
2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX WS UNLESS NOTED.
3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS NMS UNLESS NOTED.
4. 3/4" TEST TAP FOR START-UP, PI BY TEST START-UP.
5. ALL WS VALVES & INSTRUMENTS WITH 3 DIGIT NUMBERS ARE PRECEDED BY 18_____
6. ALL 2 POSITION AUTOMATIC VALVES FAIL CLOSED UNLESS OTHERWISE NOTED.
7. HV INDICATES REMOTELY CONTROLLED VALVES.
8. SEE P&ID 28742 FOR PUMP SEAL WATER DIAGRAM.
9.  INDICATES REVISION LEVEL.

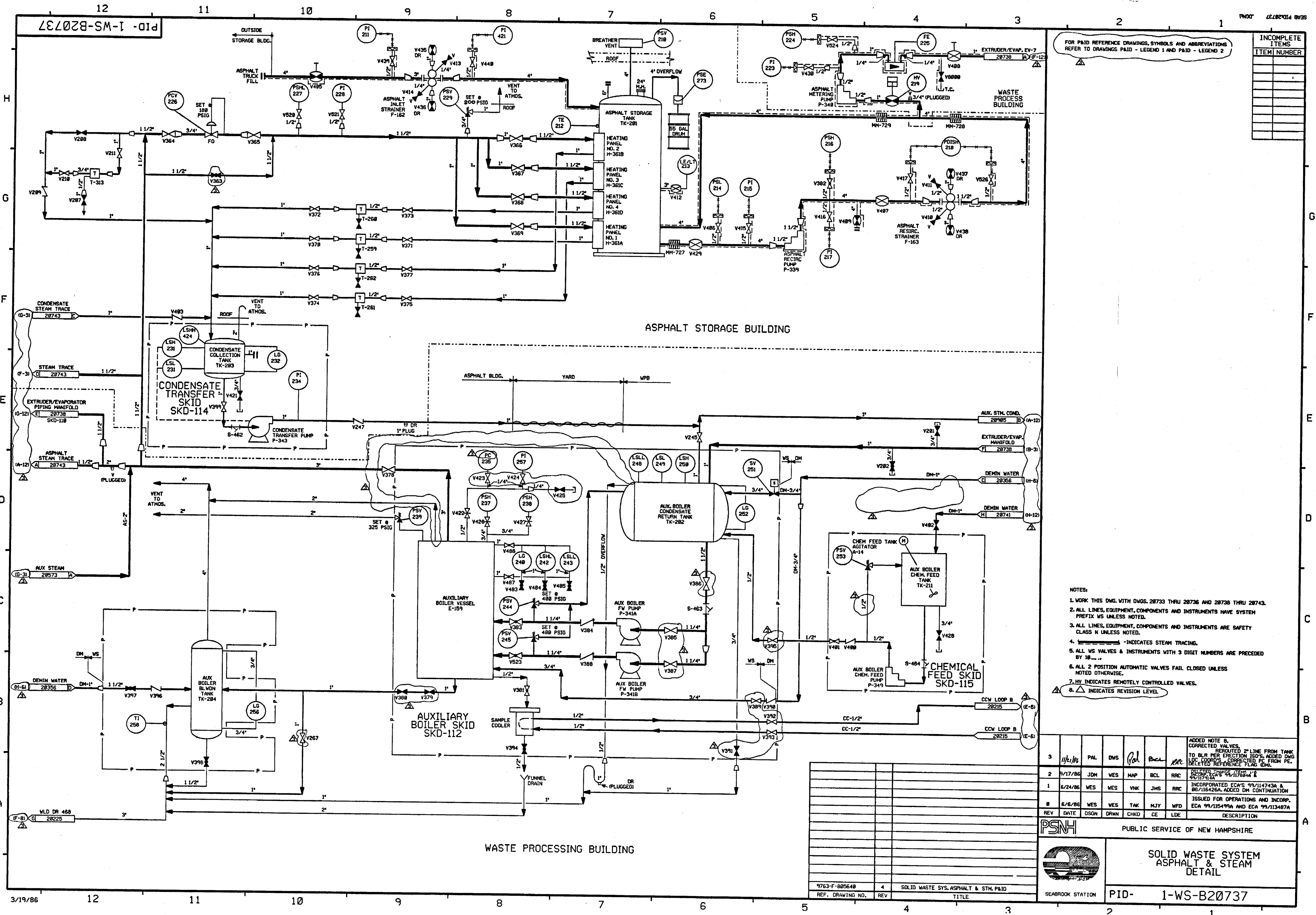
9	2/28/98	DWS	---	MAU	MAU	CU-23	INCORP DCR 920886 CA#13
8	8/19/92	DWS	---	MRB	BCL	WFZ	INCORP DCR 920886 CA#8 & 9
7	2/13/92	MRB	---	BCL	MPM	IV	INCORP DCR 86-483 CA# AND MM02 91-515 CA#
6	10/31/98	MRB	---	HP	APL	IV	INCORP DCR 87-348 CA#
5	10/23/98	MRB	JM	RMC	APL	WFO	INCORP DCR 88-58 CA#2 REVISED NOTE 8
4	7/13/98	MRB	RMC	JM	APL	IV	INCORP MM005 88-516 CA# AND 88-933 CA#
							REVISED NOTE 3 ADDED CAPILLARY SYMBOLS TO PT-411 AND 3 WLD LINE. INCORP DCR 86-58
3	11/17/87	MPM	MRB	BCL	WFO		INCORP ECA 88/118383D.
2	08/28/86	JDM	OPD	WRD	BCL	NRG	ADDED NOTE 9, FAIL POSITION ON VLYS, PER U&C PAID, ADD REF DESIG TO REF FLAG UPDATED REV OF REF BLOCK, INCORP ECA 88/682937A, UPDATE PER LATEST PAID.
1	11/4/86	PAL	OPD	WRD	BCL	NRG	ISSUED FOR OPERATIONS
0	6/5/86	SKN	SKN	TAK	NJY	WFO	DESCRIPTION
REV	DATE	DSGN	DRWN	CHKD	CDE	SFS	

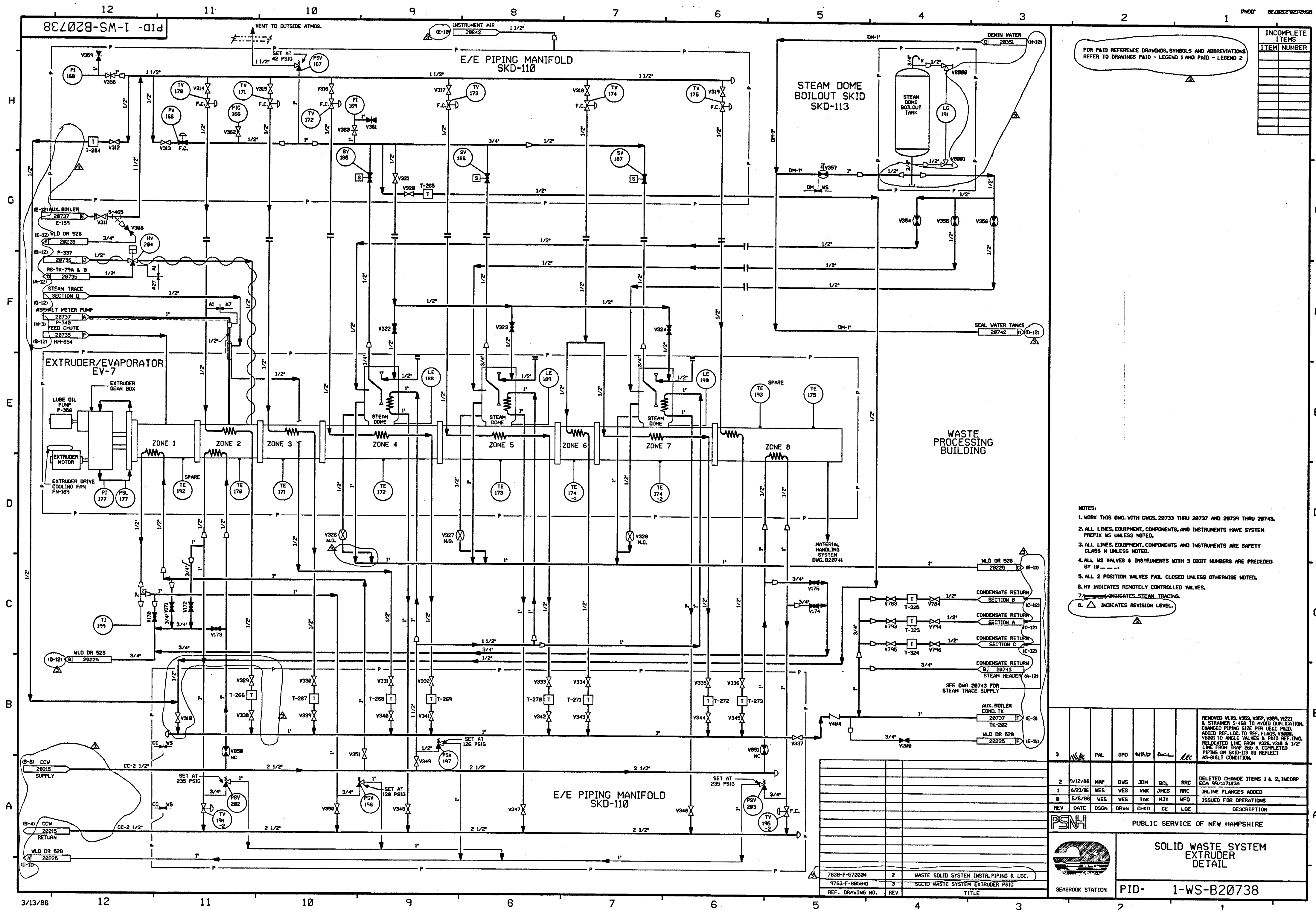
North Atlantic Energy Service Corporation



SOLID WASTE SYSTEM
SPENT RESIN CONCENTRATES
DETAILS

PID- 1-WS-B20735





NOTES:

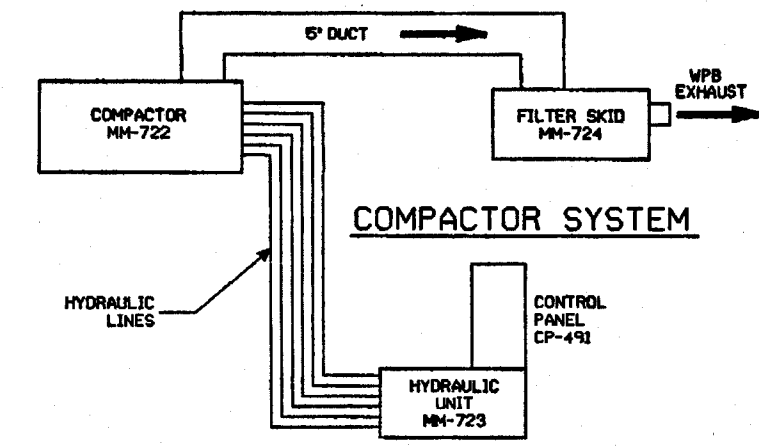
1. WORK THIS DWG. WITH DWGS. 28739 THRU 28738 & 28748 THRU 28743.
2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX VS UNLESS NOTED.
3. ALL LINES EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS N UNLESS NOTED.
4. INSTRUMENT VALVES V602 THRU V607 & V620 THRU V627 ARE LOCATED ON INSTRUMENT RACK IR-56.
5. ALL VS VALVES & INSTRUMENTS WITH 3 DIGIT NUMBERS ARE PRECEDED BY 10.....
6. ALL 2 POSITION AUTOMATIC VALVES FAIL CLOSED UNLESS NOTED OTHERWISE.
7. HV INDICATES REMOTELY CONTROLLED VALVES.
8. SEE DWG. 28742 FOR PUMP SEAL WATER DIAGRAM.
9. 3/4" TEST TAP FOR START-UP, PL BY TEST START-UP.
10. ^ INDICATES REVISION LEVEL.

FPL ENERGY Seabrook Station




PID- 1-WS-B20739

9763-F-885642	4	SOLID WASTE SYSTEM CRYSTALLIZER P&ID
SEE DRAWING NO	REV	TTTT F

[illegible]

- | | | | | | | | |
|------|----------|---------------------------------|------|------|-----|-----|--|
| 1 | 11/10/86 | MPW | OPD | WRD | CEL | AK | INCRP. ECA 99/117802A. ADDED NOTE B
& CONT. REF. LOCATIONS. |
| 8 | 5/6/86 | SKN | SKN | TAK | MUY | WFD | ISSUED FOR OPERATIONS |
| REV | DATE | DSGN | DRWN | CHKD | CE | LDE | DESCRIPTION |
| PSNH | | PUBLIC SERVICE OF NEW HAMPSHIRE | | | | | |


	SOLID WASTE SYSTEM CRYSTALLIZER CONDENSER UTILITIES DETAIL
	PID- 1-WS-B20740

CAUSTIC BULK STORAGE AND METERING SYSTEM

CCTV CAMERA LOCATION

ALTERNATE SOLIDIFICATION STATION

MATERIAL HANDLING SYSTEM

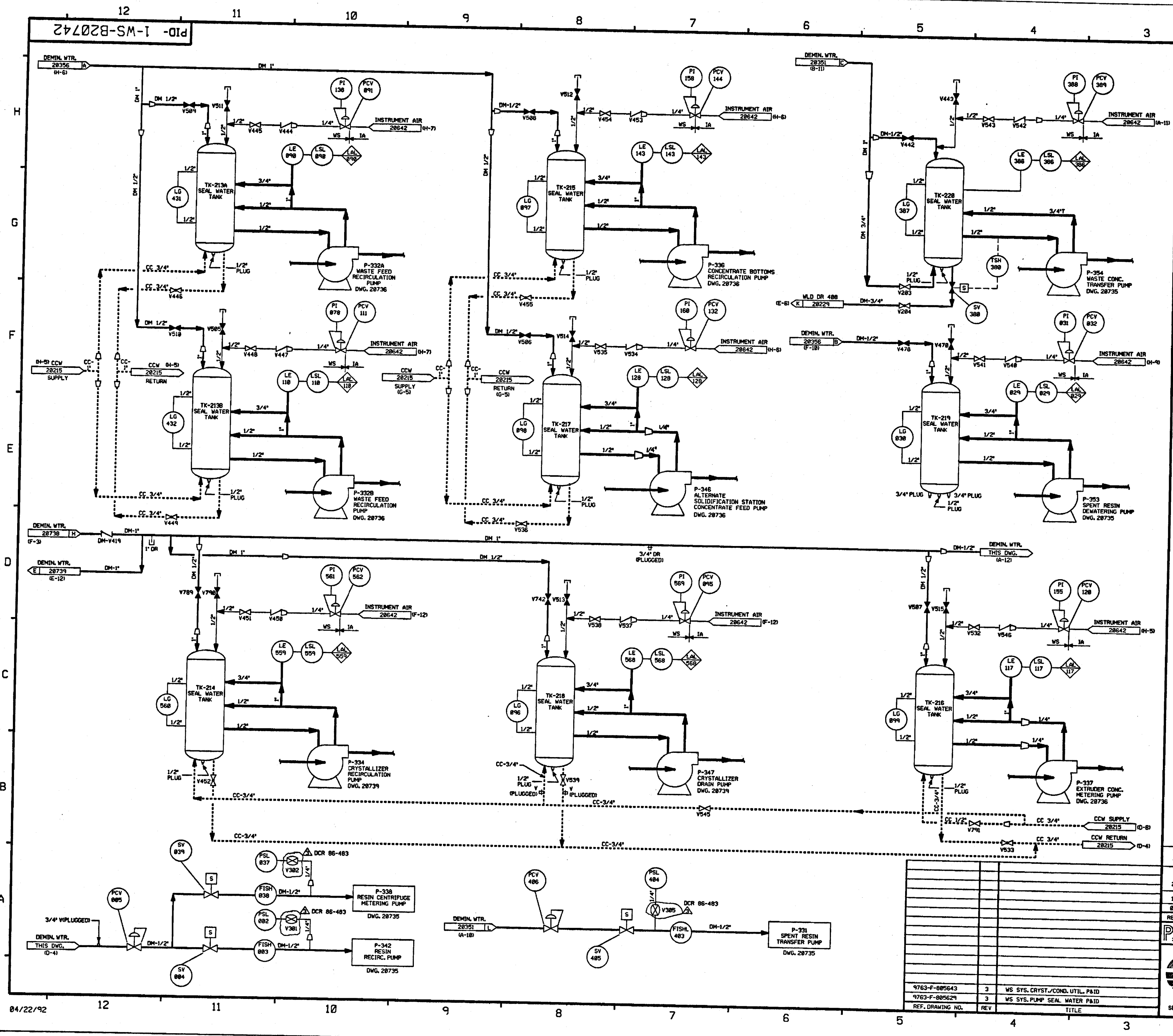
North Atlantic Energy Service Corporation	
 SEABROOK STATION	SOLID WASTE SYSTEM CAUSTIC & MATERIAL HANDLING DETAIL
	PID- 1-WS-B20741



SEABROOK STATION

SOLID WASTE SYSTEM
CAUSTIC & MATERIAL HANDLING
DETAIL

PID- 1-WS-B20741



- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 28733 THRU 28741 & 28743.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX WS, UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS WNS, UNLESS NOTED OTHERWISE.
 4. ALL WS VALVES & INSTRUMENTS WITH 3 DIGIT NUMBERS ARE PRECEDED BY 18.
 5. Δ INDICATES REVISION LEVEL.

3	12/92	MRB	—	DRS	11/10	11/10	DCR 86-483 C&B3 REVISED NOTE 3 PER NEW DWS DESIGN STANDARD 31786 SECT 3.8
2	11/28/92	MRB	MRB	MRB	MRB	MRB	ADDED NOTE 5, CONT REF LOCATIONS. ADDED REDUCERS PER ERECTIONS ISO'S REVISED VALVE NO FROM V012 TO V014 PER ERECTION ISO.
1	06/23/92	MRB	MRB	MRB	MRB	MRB	INCORPORATED ECA 99/116162A, UPDATED PER U.E.C. P&ID.
0	06/06/92	MRB	MRB	TAK	MJT	WFO	ISSUED FOR OPERATIONS
REV	DATE	DSGN	DRWN	CHKD	CE	LDE	DESCRIPTION

PSNH
PUBLIC SERVICE OF NEW HAMPSHIRE

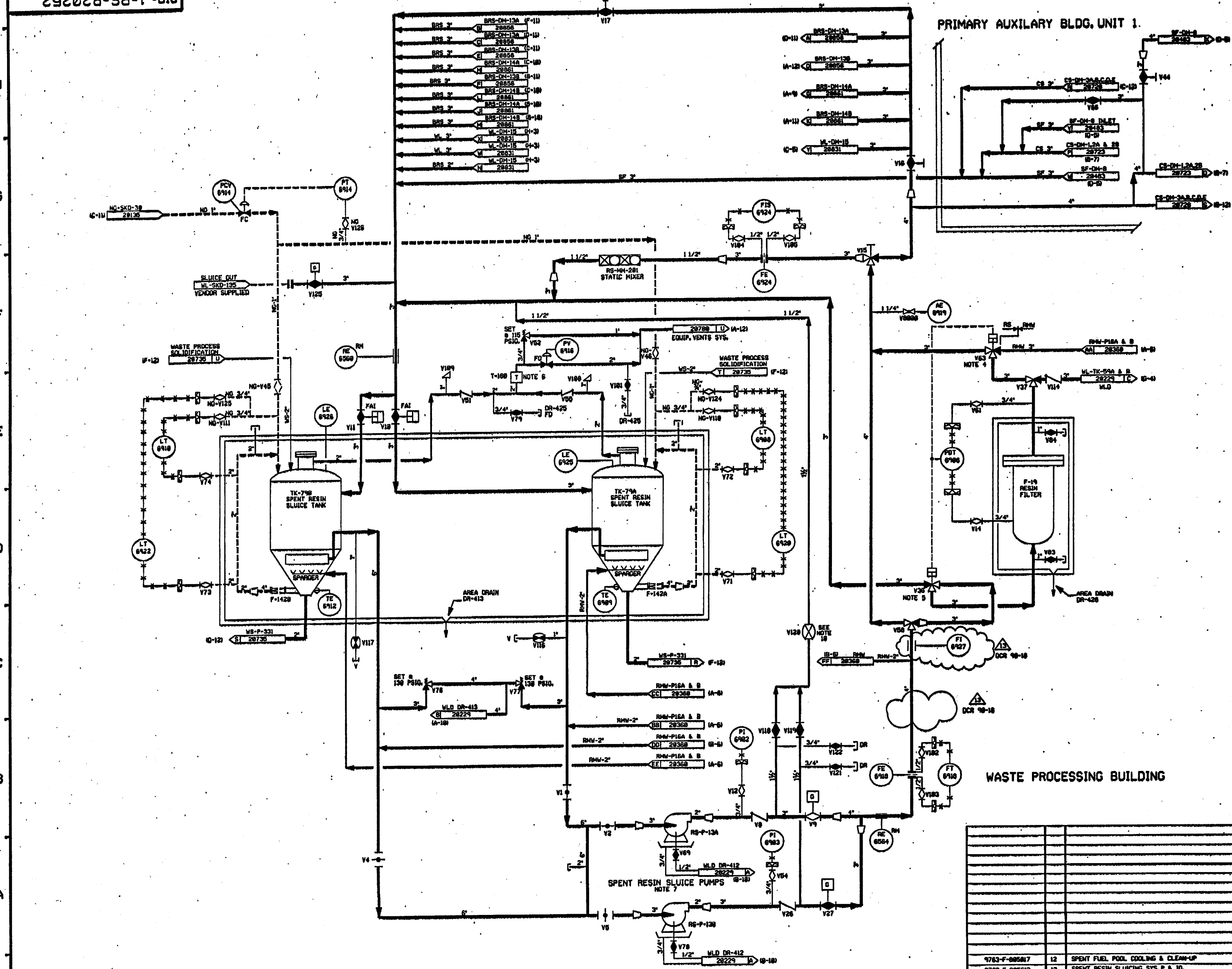
SEABROOK STATION

SOLID WASTE SYSTEM
PUMP SEAL WATER
DETAIL

PID- 1-WS-B20742

PID-1-RS-B20252


FOR PAID REFERENCE DRAWING SYMBOLS AND ABBREVIATIONS
REFER TO DRAWINGS P&ID - 1-00000 (1) AND P&ID - 1-00000 (2)



- NOTES:
- 1. ALL LINES, COMPONENTS, EQUIPMENT & INSTRUMENTS HAVE SYSTEM PREFIX RS, UNLESS NOTED OTHERWISE.
 - 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS INS.
 - 3. THE RS IS A ONE DRAINING SYSTEM AND AN OVERVIEW IS NOT REQUIRED.
 - 4. VALVE V63 FAILS WITH FLOW TO AE-097.
 - 5. VALVE V63 FAILS WITH FLOW TO RS-F-19.
 - 6. THE TRAP IS EQUIPPED WITH 1/2" PIPE PLUGS TOP & BOTTOM FOR VENT/DRAIN.
 - 7. FOR WATER SUPPLY TO PUMP DOUBLE MECHANICAL SEALS.
 - 8. SEE DRAWING 20252.
 - 9. DELETED.
 - 10. INDICATES REVISION LEVEL.
 - 11. THIS VALVE IS THROTTLED.

REV	DATE	DSGN	CHKD	SES	DESCRIPTION
13	1/13/04	BCS	JIM	ZZB	RE-INCORP DCR 10-10 DCR 03-004308
12	7/28/07	MPV	BCS	VMS	INCORP H400 10-050 DCR IN
11	12/13/04	DMS	BCL	VMS	INCORP DCR 10-32 CAP4 AND H400 10-245 DCR 5
10	8/17/03	MRS	BCL	VMS	INCORP DCR 10-32 CAP3
9	8/24/02	BCL	MRS	JEV	RE-INCORP DCR 10-18 CAP3
8	8/15/02	DMS	MRS	WFD	INCORP DCR 10-18 CAP1
7	8/16/02	MRS	MPV	JEV	INCORP DCR 10-18 CAP3
6	1/13/02	RHC	MRS	JEV	INCORP DCR 10-18 CAP3
5	8/14/01	MPV	BCL	RRC	RE-INCORP DCR 10-215 CAP3 DELETED SPZ. RE-INCORP DCR 10-18 CAP3 IN PHANTOM
4	11/4/00	JOM	WFD	RRC	RE-INCORP DCR 10-215 CAP3 DELETED SPZ. RE-INCORP DCR 10-18 CAP3 IN PHANTOM
3	9/12/00	MPV	MVP	RRC	ADDED VALVE V63B TO AE-097
2	8/24/00	TAK	WFD	RRC	RE-INCORP DCR 10-215 CAP3 DELETED SPZ. RE-INCORP DCR 10-18 CAP3 IN PHANTOM
1	8/16/00	DMS	TAK	WFD	RE-INCORP DCR 10-215 CAP3 DELETED SPZ. RE-INCORP DCR 10-18 CAP3 IN PHANTOM
0	8/16/00	TAK	DMS	WFD	ISSUED FOR OPERATIONS

FPL ENERGY
Seabrook Station



SPENT RESIN SLUICING SYSTEM

PID- 1-RS-B20252

RE-6502	PID	44-20772
BLDG/EL. WPB/ 71	INSTL. F.P. 71999	
LOC. F-500314	LOOP M-506879 (WG SYS)	
DESCRIPTION:	WASTE GAS INLET TO CARBON DELAY BEDS	ON LINE

RE-6503	PID	44-20770
BLDG/EL. WPB/ 71	INSTL. F.P. 71999	
LOC. F-500314	LOOP M-506879 (WG SYS)	
DESCRIPTION:	WASTE GAS COMPRESSOR INLET	ON LINE

RE-6504 (NOTE 5)	PID	44-20773
BLDG/EL. WPB/ 53	INSTL. F.P. 71999	
LOC. F-500314	LOOP M-506879 (WG SYS)	
DESCRIPTION:	H ₂ GAS COMPRESSOR DISCHARGE	ON LINE

RE-6505	PID	AR-20744
BLDG/EL. TURB/	INSTL. F.P. 72045	
LOC. F-500794	LOOP M-506055 (AR SYS)	
DESCRIPTION:	CONDENSOR AIR EVACUATOR	IN LINE

RE-6515	PID	CC-20211
BLDG/EL. PAB/25-0	INSTL. F.P. 71130	
LOC. F-500779	LOOP M-506190 (CC SYS)	
DESCRIPTION:	PCW LOOP "B"	OFF LINE

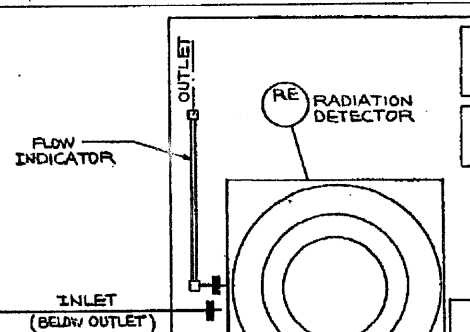
RE-6481-1	PID	MS-20590
BLDG/EL. F.W. PIPE	INSTL. F.P. 72898	
LOC. F-500222	LOOP M-506551 (MS SYS)	
DESCRIPTION:	MIN. STIM. LINE MON. LOOP 1	ON LINE

RE-6482-1	PID	MS-20581
BLDG/EL. F.W. PIPE	INSTL. F.P. 72898	
LOC. F-500221	LOOP M-506552 (MS SYS)	
DESCRIPTION:	MIN. STIM. LINE MON. LOOP 2	ON LINE

RE-6482-2	PID	MS-20581
BLDG/EL. F.W. PIPE	INSTL. F.P. 72898	
LOC. F-500321	LOOP M-506553 (MS SYS)	
DESCRIPTION:	MIN. STIM. LINE MON. LOOP 3	ON LINE

RE-6481-2	PID	MS-20580
BLDG/EL. F.W. PIPE	INSTL. F.P. 72898	
LOC. F-500222	LOOP M-506554	
DESCRIPTION:	MIN. STIM. LINE MON. LOOP 4	ON LINE

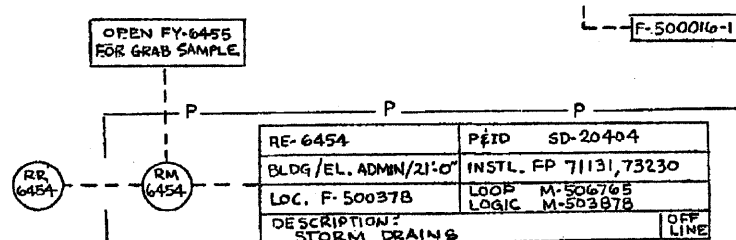
RE-6490	PID	ASC-20508
BLDG. TB-21	INSTL. F.P. 71282	
LOC. F-500765	LOOP M-507165 (AS-68)	
DESCRIPTION:	AUX. STIM. COND. MON.	OFF LINE



TYPICAL LIQUID & EFFLUENT RAD. MON. SKID

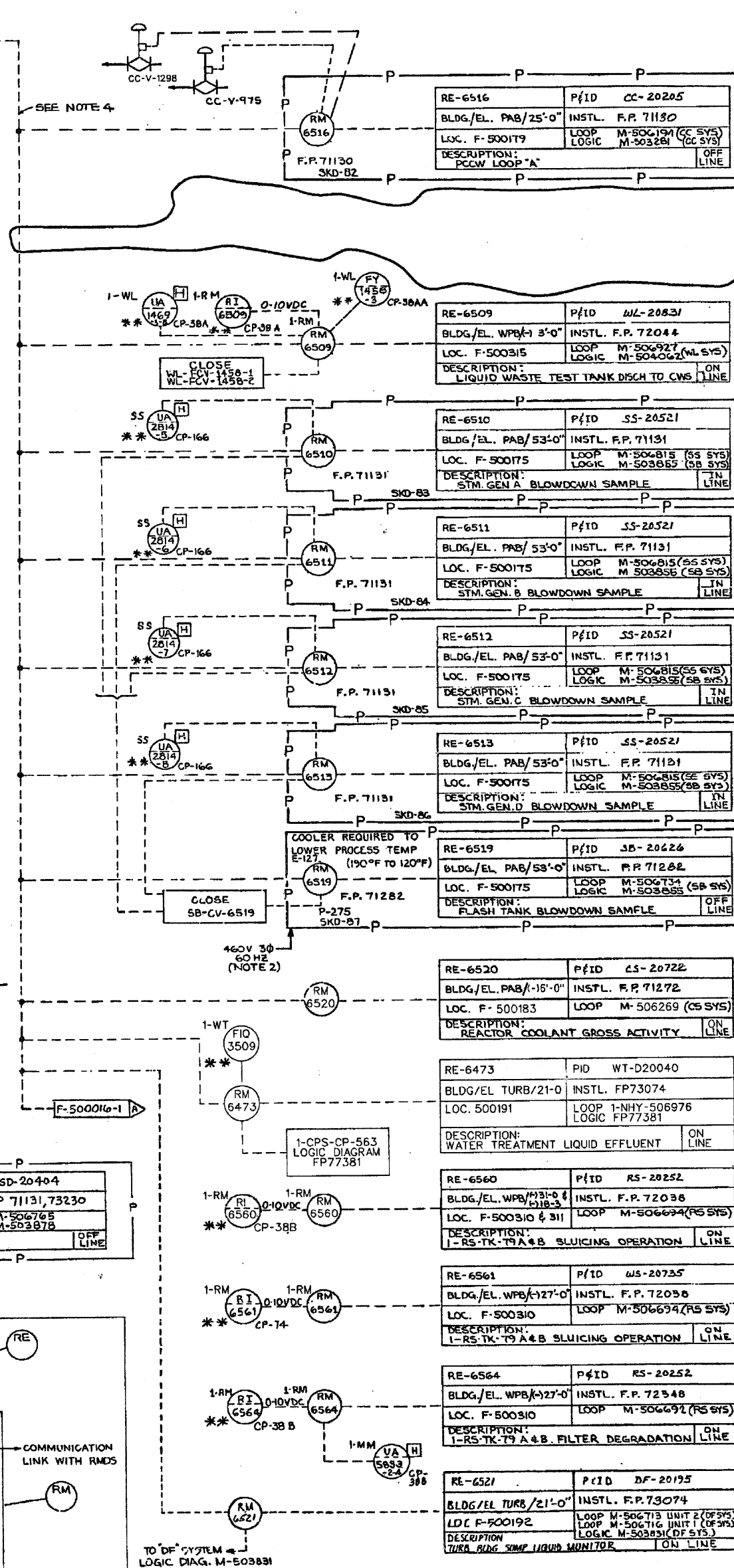
NOTE: MICROPROCESSOR (RM) MTD ON SKID

R.D.M.S. HOST COMPUTER CPU 1 & 2



GENERAL SCHEMATIC OF RM & RE INTERNALS

● VITAL BUS FOR CLASS 1E RADIATION MONITORS ONLY



NOTES

- ALL INSTRUMENTS ARE FOR UNITS 1 & 2 UNLESS OTHERWISE NOTED. SYSTEM PREFIX IS "RM" UNLESS OTHERWISE SPECIFIED.
- TRANSFORMER 460/115V TO BE SUPPLIED BY R.D.M.S. VENDOR
- FOR DETECTOR BACKGROUND LEVELS REFER TO SPEC. 172-1S, TABLE 9.2-1
- DATA LOOP CONSISTS OF DUAL REDUNDANT TRANSMISSION LOOPS WITH ISOLATED OUTPUT FROM THE 1E RM UNITS (SEE F.P. 71800)
- DESIGNED EXPLOSION PROOF
- ALL FIELD TERMINATIONS FOR RM UNIT ARE MADE IN ADJACENT JUNCTION BOX SUPPLIED BY VENDOR
- NOT SUPPLIED BY R.D.M.S. VENDOR

REFERENCE DRAWINGS

DBD-RM-1
SPEC. 9763-006-172-1
510000 (SIS)
500006

ISSUED FOR CONSTRUCTION

14	3/1/09	TLM	JNB	CP	CP	INCORP. EC 12627
13	2/26/09	JWB	TLM	STB	CJF	PARTIAL INCORP. EC12627
12	5/17/05	MRB	TLM	STB	CM	INCORP. DCR 02-015, DCN 6
11	9/30/03	SAC	TLM	RCP	RWM	INCORP. DCR 91-032, DCN04; DCR 92-016, DCN06; DCR 98-018, DCN09; DCR 00-020, DCN09; REF. CR 03-00510
REV	DATE	DRWN	CHKD	CE	LDE	DESCRIPTION

FPL Energy Seabrook Station

PROCESS & EFFLUENT RADIATION MONITOR SYSTEM

INSTRUMENTATION ENGINEERING DIAGRAM

1-NHY-500015