

LEGEND

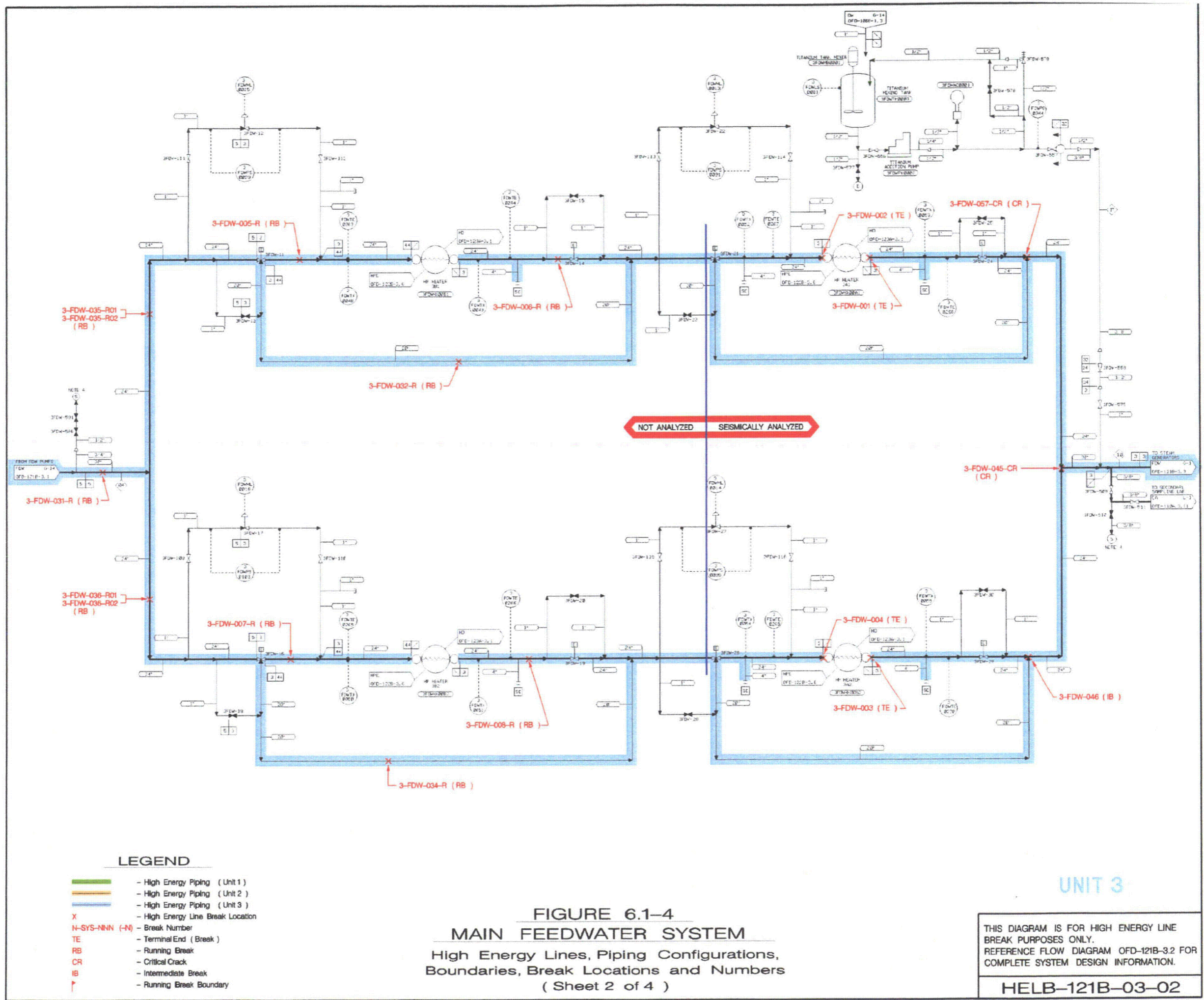
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ↑ - Running Break Boundary

FIGURE 6.1-4
MAIN FEEDWATER SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 1 of 4)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-121B-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-121B-03-01



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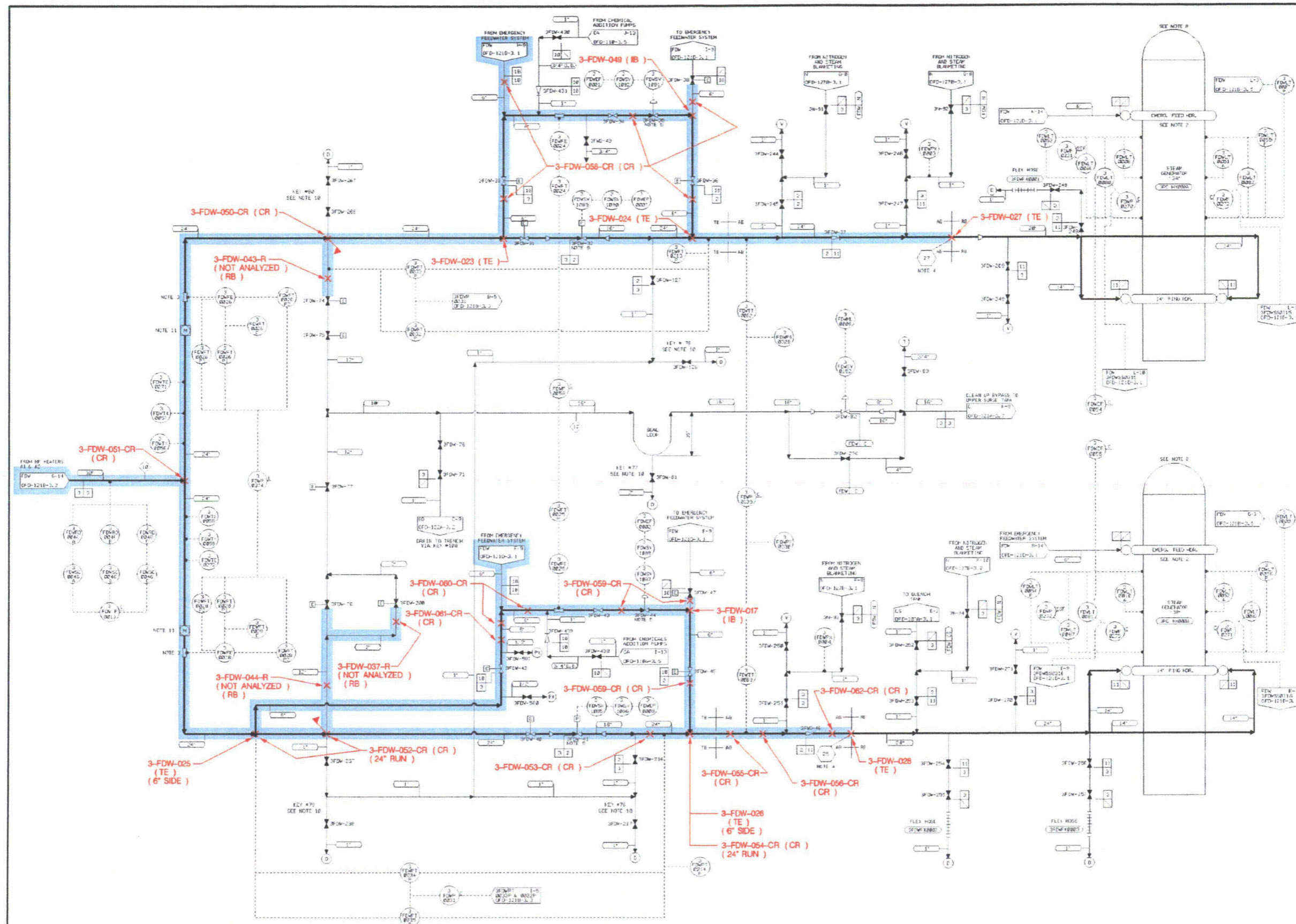
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ↑ - Running Break Boundary

FIGURE 6.1-4
MAIN FEEDWATER SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 2 of 4)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-121B-3.2 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-121B-03-02



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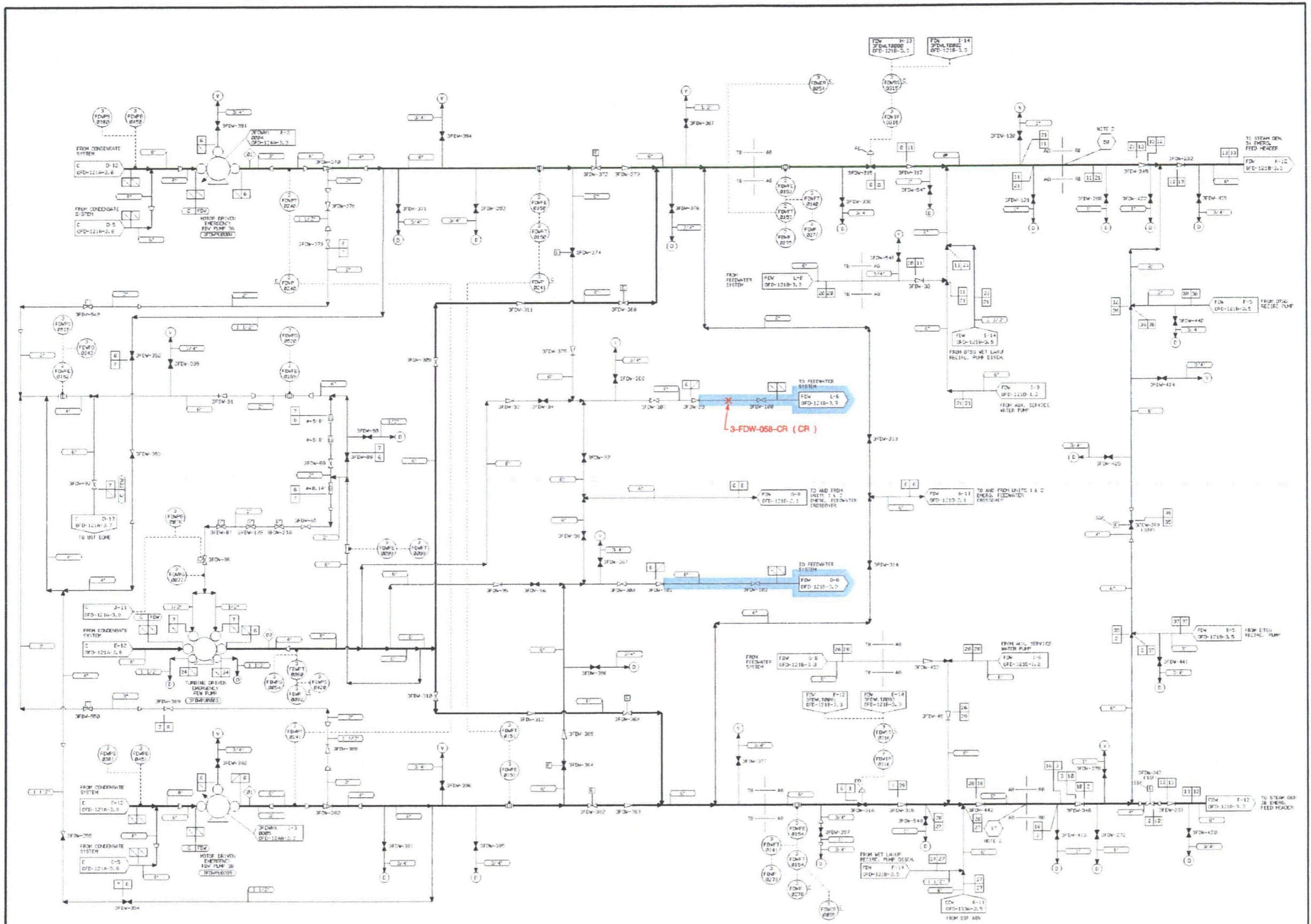
- High Energy Piping (Unit 1)
- High Energy Piping (Unit 2)
- High Energy Piping (Unit 3)
- X High Energy Line Break Location
- N-SYS-NNN (-N) Break Number
- TE Terminal End (Break)
- RB Running Break
- CR Critical Crack
- IB Intermediate Break
- R Running Break Boundary

FIGURE 6.1-4
MAIN FEEDWATER SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 3 of 4)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-121B-3.3 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HEL B-121B-03-03



LEGEND

- High Energy Piping (Unit 1)
- High Energy Piping (Unit 2)
- High Energy Piping (Unit 3)
- X High Energy Line Break Location
- N-SYS-NNN (-N) Break Number
- TE Terminal End (Break)
- RB Running Break
- CR Critical Crack
- IB Intermediate Break
- Running Break Boundary

FIGURE 6.1-4
MAIN FEEDWATER SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 4 of 4)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-121D-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-121D-03-01

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. Or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-HD-001-R	123A-3.4 121A-3.9	RB	12.750	0.375	TB	2410A	775'-0"	K-L	51-52	520	215
3-HD-002-R	123A-3.4	RB	8.625	0.322	TB	2410A, 2410C	775'-0"	J-L	50-51	520	215
3-HD-003-R	123A-3.4	RB	4.500	0.237	TB	2410A, 2410C	775'-0"	J-K	50-51	520	215
3-HD-004-R	123A-3.4	RB	4.500	0.237	TB	2410A, 2410C	775'-0"	J-K	50-51	625	190
3-HD-005-R	123A-3.4	RB	4.500	0.237	TB	2410A, 2410C	775'-0"	J-K	50-51	625	190
3-HD-006-R	123A-3.4	RB	8.625	0.322	TB	2410A, 2410E	775'-0"	H-K	50-52	625	190
3-HD-007-R	123A-3.4	RB	8.625	0.322	TB	2410A, 2410E	775'-0"	H-J	51-52	625	190
3-HD-008-R	123A-3.4	RB	8.625	0.322	TB	2410A, 2410C 2410E	775'-0"	H-K	49-51	625	190
3-HD-009-R	123A-3.4	RB	2.375	0.154	TB	2410A	775'-0"	H-J	51-52	625	190
3-HD-010-R	123A-3.4	RB	2.375	0.154	TB	2410A	775'-0"	H-K	51-52	625	190
3-HD-011-R	123A-3.4	RB	8.625	0.322	TB	2410A, 2410C	775'-0"	K-L	50-52	520	215
3-HD-012-R	123A-3.4	RB	4.500	0.237	TB	2410A, 2410C	775'-0"	K-L	50-51	520	215
3-HD-013-R	123A-3.4	RB	4.500	0.237	TB	2410A, 2410C	775'-0"	K-M	50-51	625	190
3-HD-014-R	123A-3.4	RB	4.500	0.237	TB	2410C	775'-0"	L-M	50-51	625	190
3-HD-015-R	123A-3.4	RB	8.625	0.322	TB	2410A, 2410G	775'-0"	L-M	50-52	625	190
3-HD-016-R	123A-3.4	RB	8.625	0.322	TB	2410A, 2410G	775'-0"	L-M	49-51	625	190
3-HD-017-R	123A-3.4	RB	8.625	0.322	TB	2410A, 2410G	775'-0"	L-M	51-52	625	190
3-HD-018-R	123A-3.4	RB	2.375	0.154	TB	2410A, 2410G	775'-0"	L-M	51-52	625	190
3-HD-019-R	123A-3.4	RB	2.375	0.154	TB	2410A	775'-0"	L-M	51-52	625	190
3-HD-020-R	123A-3.3 121A-3.10	RB	24.000	0.688	TB	2410A	775'-0"	K-L	52-54	520	290
3-HD-021-R	123A-3.3	RB	18.000	0.500	TB	2410A	775'-0"	J-L	51-53	520	290
3-HD-022-R	123A-3.3	RB	10.750	0.365	TB	2410A, 2410E	775'-0"	H-K	51-52	520	290
3-HD-023-R	123A-3.3	RB	10.750	0.365	TB	2410E	775'-0"	H-J	51-52	610	275
3-HD-024-R	123A-3.3	RB	10.750	0.365	TB	2410A	775'-0"	J-K	51-52	610	275
3-HD-025-R	123A-3.3	RB	18.000	0.500	TB	2410A	775'-0"	H-K	50-52	610	275
3-HD-026-R	123A-3.3	RB	6.625	0.280	TB	2410A	775'-0"	H-K	51-53	610	275
3-HD-027-R	123A-3.3	RB	4.500	0.237	TB	2410A	775'-0"	H-J	52-53	610	275
3-HD-028-R	123A-3.3	RB	4.500	0.237	TB	2410A	775'-0"	H-J	52-53	45	275
3-HD-029-R	123A-3.3	RB	6.625	0.280	TB	2410A	775'-0"	H-J	52-53	45	275
3-HD-030-R	123A-3.3	RB	18.000	0.375	TB	2410A, 2410E	775'-0"	H-K	49-53	45	275
3-HD-031-R	123A-3.3	RB	16.000	0.375	TB	2410A, 2410E	775'-0"	G-J	49-50	45	275
3-HD-032-R	123A-3.3	RB	18.000	0.500	TB	2410A	775'-0"	K-M	51-53	520	290

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. Or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-HD-033-R	123A-3.3	RB	10.750	0.365	TB	2410A, 2410D	775'-0"	K-M	51-52	520	290
3-HD-034-R	123A-3.3	RB	10.750	0.365	TB	2410D	775'-0"	L-M	51-52	610	275
3-HD-035-R	123A-3.3	RB	10.750	0.365	TB	2410D	775'-0"	L-M	51-52	610	275
3-HD-036-R	123A-3.3	RB	18.000	0.500	TB	2410A	775'-0"	L-M	50-52	610	275
3-HD-037-R	123A-3.3	RB	6.625	0.280	TB	2410A	775'-0"	L-M	51-53	610	275
3-HD-038-R	123A-3.3	RB	4.500	0.237	TB	2410A	775'-0"	L-M	52-53	610	275
3-HD-039-R	123A-3.3	RB	4.500	0.237	TB	2410A	775'-0"	L-M	52-53	45	275
3-HD-040-R	123A-3.3	RB	6.625	0.280	TB	2410A	775'-0"	L-M	52-53	45	275
3-HD-041-R	123A-3.3	RB	18.000	0.375	TB	2410A, 2410C, 2410G	775'-0"	H-M	50-53	45	275
3-HD-042-R	123A-3.3	RB	16.000	0.375	TB	2410A, 2410C	775'-0"	G-J	50-52	45	275
3-HD-043-R	123A-3.3	RB	12.750	0.375	TB	2410A	775'-0"	J-L	52-53	45	275
3-HD-044-R	123A-3.3	RB	12.750	0.375	TB	2410A	775'-0"	K-L	52-53	45	275
3-HD-045-R	123A-3.3	RB	20.000	0.375	TB	2410H, 2410I	796'-6"	J-K	52-54	45	275
3-HD-046-R01	123A-3.3	RB	8.625	0.322	TB	2410E, 2410I	775'-0"	J-K	52-53	45	275
3-HD-046-R02	123A-3.3	RB	8.625	0.322	TB	2410I	796'-6"	J-K	52-53	45	275
3-HD-047-R	123A-3.3	RB	20.000	0.375	TB	2410H, 2410I	796'-6"	K-M	52-54	45	275
3-HD-048-R01	123A-3.3	RB	8.625	0.322	TB	2410G, 2410I	775'-0"	L-M	52-53	45	275
3-HD-048-R02	123A-3.3	RB	8.625	0.322	TB	2410I	796'-6"	L-M	52-53	45	275
3-HD-049-R	123A-3.3	RB	30.000	0.375	TB	2410A	775'-0"	H-K	52-53	45	275
3-HD-050-R	123A-3.2 123A-3.3	RB	30.000	0.375	TB	2410A	775'-0"	J-K	52-54	45	275
3-HD-051-R	123A-3.2 123A-3.3	RB	30.000	0.375	TB	2410A	775'-0"	L-M	52-54	45	275
3-HD-052-R	123A-3.3	RB	30.000	0.375	TB	2410A	775'-0"	L-M	52-53	45	275
3-HD-053-R	123A-3.2	RB	6.625	0.280	TB	2410G	775'-0"	L-M	53-54	45	275
3-HD-054-R	123A-3.2	RB	6.625	0.280	TB	2410G	775'-0"	L-M	53-54	160	295
3-HD-055-R	123A-3.2	RB	6.625	0.280	TB	2410A, 2410G	775'-0"	L-M	53-54	160	295
3-HD-056-R01	123A-3.2	RB	16.000	0.375	TB	2410A, 2410G	775'-0"	J-M	53-56	160	295
3-HD-056-R02	123A-3.2	RB	16.000	0.375	TB	2410I, 2410H	796'-6"	L-M	54-55	160	295
3-HD-057-R	123A-3.2	RB	16.000	0.375	TB	2410A, 2410C	775'-0"	L-M	55-56	160	295
3-HD-059-R	123A-3.2	RB	6.625	0.280	TB	2410E	775'-0"	J-K	53-54	45	275
3-HD-060-R	123A-3.2	RB	6.625	0.280	TB	2410E	775'-0"	J-K	53-54	160	295
3-HD-061-R	123A-3.2	RB	6.625	0.280	TB	2410A	775'-0"	J-K	53-54	160	295
3-HD-062-R01	123A-3.2	RB	16.000	0.375	TB	2410A, 2410E	775'-0"	G-K	53-56	160	295
3-HD-062-R02	123A-3.2	RB	16.000	0.375	TB	2410I, 2410H	796'-6"	J-K	54-55	160	295
3-HD-063-R	123A-3.2	RB	16.000	0.375	TB	2410A	775'-0"	H-K	55-56	160	295

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. Or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-HD-065-R	123A-3.2	RB	24.000	0.375	TB	2410A	775'-0"	K-M	54-55	160	365
3-HD-066-R	123A-3.2	RB	24.000	0.375	TB	2410A	775'-0"	H-K	54-55	160	365
3-HD-067-R	123A-3.2	RB	18.000	0.375	TB	2410A	775'-0"	K-M	54-56	160	365
3-HD-068-R	123A-3.2	RB	18.000	0.375	TB	2410A	775'-0"	H-K	54-56	160	365
3-HD-069-R	123A-3.2	RB	18.000	0.375	TB	2410J, 2410H	796'-6"	K-M	54-55	160	365
3-HD-070-R	123A-3.2	RB	18.000	0.375	TB	2410J, 2410H	796'-6"	H-K	54-55	160	365
3-HD-071	123A-3.2	IB	18.000	0.375	TB	2410A	783'-6"	L-M	54	45	275
3-HD-075-R01	123A-3.1	RB	16.000	0.375	TB	2410A, 2410C	775'-0"	K-M	50-54	280	380
3-HD-075-R02	123A-3.1	RB	16.000	0.375	TB	2410H	796'-6"	K-L	50-51	280	380
3-HD-076-R	123A-3.1	RB	10.750	0.365	TB	2410A	775'-0"	K-M	50-51	280	380
3-HD-078-R	123A-3.1	RB	10.750	0.365	TB	2410A, 2410C	775'-0"	K-M	50-51	280	380
3-HD-079-R	123A-3.1	RB	18.000	0.375	TB	2410A	775'-0"	K-L	49-50	280	380
3-HD-080-R01	123A-3.1	RB	16.000	0.375	TB	2410A, 2410C	775'-0"	H-K	50-54	280	380
3-HD-080-R02	123A-3.1	RB	16.000	0.375	TB	2410H	796'-6"	J-K	50-51	280	380
3-HD-081-R	123A-3.1	RB	10.750	0.365	TB	2410A	775'-0"	H-K	50-51	280	380
3-HD-083-R	123A-3.1	RB	10.750	0.365	TB	2410A, 2410C	775'-0"	H-L	50-51	280	380
3-HD-084-R	123A-3.1	RB	18.000	0.375	TB	2410A	775'-0"	J-K	49-50	280	380
3-HD-085-R	123A-3.2	RB	8.625	0.322	TB	2410H	796'-6"	J-K	54-55	160	365
3-HD-086-R	123A-3.1	RB	10.750	0.365	TB	2410A, 2410C	775'-0"	K-M	48-51	470	425
3-HD-087-R	123A-3.1	RB	10.750	0.365	TB	2410A	775'-0"	K-M	48-50	470	425
3-HD-088-R	123A-3.1	RB	14.000	0.375	TB	2410A	775'-0"	K-L	48-49	470	425
3-HD-089-R01	123A-3.2	RB	10.750	0.365	TB	2410E	775'-0"	H-J	54-55	160	365
3-HD-089-R02	123A-3.2	RB	10.750	0.365	TB	2410J	796'-6"	H-J	54-55	160	365
3-HD-090-R	123A-3.1	RB	10.750	0.365	TB	2410A, 2410C	775'-0"	H-K	48-51	470	425
3-HD-091-R	123A-3.1	RB	10.750	0.365	TB	2410A	775'-0"	J-L	48-50	470	425
3-HD-092-R	123A-3.1	RB	14.000	0.375	TB	2410A	775'-0"	J-K	48-49	470	425
3-HD-093	123A-3.1	TE	16.000	0.375	TB	2410H	799'-6"	J-K	49-50	280	410
3-HD-094	123A-3.1	TE	16.000	0.375	TB	2410H	799'-6"	K-L	49-50	280	410
3-HD-095	123A-3.2	TE	24.000	0.375	TB	2410H	803'-3"	K-L	54-55	160	295
3-HD-096	123A-3.2	TE	24.000	0.375	TB	2410H	803'-3"	J-K	54-55	160	295
3-HD-097-R	123A-3.2	RB	8.625	0.322	TB	2410H	796'-6"	K-L	54-55	160	365
3-HD-098-R01	123A-3.2	RB	10.750	0.365	TB	2410C	775'-0"	L-M	54-55	160	365
3-HD-098-R02	123A-3.2	RB	10.750	0.365	TB	2410J	796'-6"	L-M	54-55	160	365
3-HD-099-R	123A-3.4	RB	4.500	0.237	TB	2410A	775'-0"	H-J	51-52	625	190
3-HD-100-R	123A-3.4	RB	4.500	0.237	TB	2410A	775'-0"	L-M	51-52	625	190
3-HD-103-R	123A-3.5	RB	1.900	0.200	TB	2410M	775'-0"	J-K	48-49	470	425

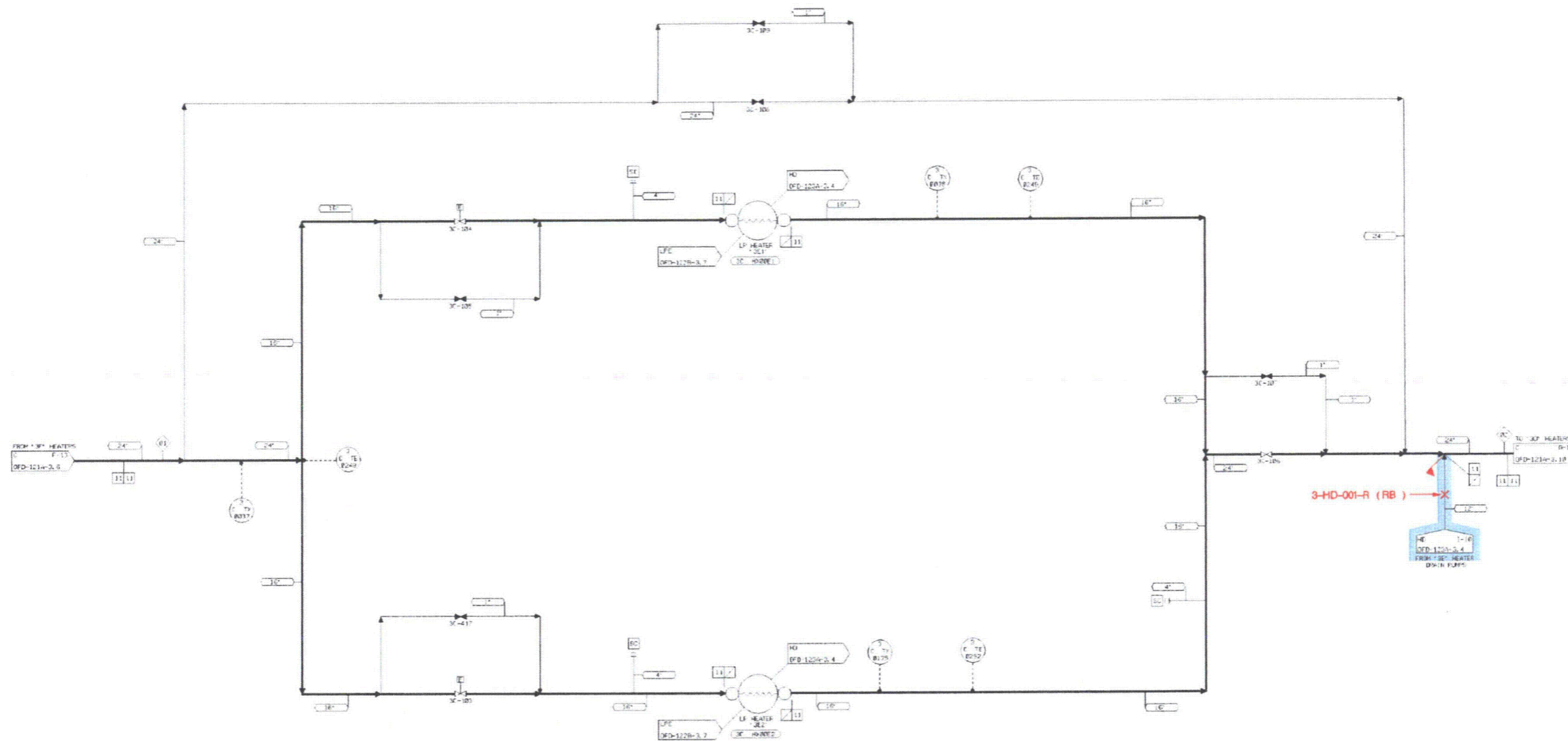
Table 6.1-5
 Heater Drain System – High Energy Line Data – Unit 3

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. Or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-HD-104-R	123A-3.5	RB	2.375	0.218	TB	2410M	775'-0"	K-L	48-49	470	425
3-HD-105-R	123A-3.2	RB	6.625	0.280	TB	2410A	775'-0"	H-K	54-56	160	365
3-HD-106	123A-3.2	TE	6.625	0.280	TB	2410A	791'-2"	L-M	54-55	160	365
3-HD-107	123A-3.2	TE	6.625	0.280	TB	2410A	791'-2"	H-J	54-55	160	365
3-HD-112-R	123A-3.5	RB	1.900	0.200	TB	2410M	775'-0"	K-L	49-50	280	410
3-HD-115	123A-3.1	IB	6.625	0.280	TB	2410A, 2410G	791'-2"	L-M	53-54	280	380
3-HD-116	123A-3.2	IB	18.000	0.375	TB	2410G	791'-2"	L-M	54-55	160	365
3-HD-117	123A-3.1	IB	6.625	0.280	TB	2410G	791'-2"	L-M	54	280	380
3-HD-118	123A-3.1	IB	16.000	0.375	TB	2410G	791'-2"	L-M	53-54	280	380
3-HD-119	123A-3.2	IB	18.000	0.375	TB	2410G	788'-5"	L-M	54-55	160	365
3-HD-120	123A-3.2	TE	18.000	0.375	TB	2410A, 2410G	791'-2"	L-M	54-55	160	365
3-HD-121	123A-3.2	TE	18.000	0.375	TB	2410A, 2410F	791'-2"	H-J	54-55	160	365
3-HD-122	123A-3.3	TE	18.000	0.375	TB	2410D	790'-10"	L-M	52-53	45	275
3-HD-123	123A-3.2	IB	18.000	0.375	TB	2410F	788'-5"	H-J	54-55	160	365
3-HD-124	123A-3.1	IB	6.625	0.280	TB	2410F	791'-2"	H-J	53-54	280	380
3-HD-125	123A-3.1	IB	16.000	0.375	TB	2410F	791'-2"	H-J	53-54	280	380
3-HD-126	123A-3.3	TE	18.000	0.375	TB	2410D	790'-10"	J	52-53	45	275
3-HD-130-R	123A-3.1	RB	10.750	0.365	TB	2410H	796'-6"	J-K	50-51	470	425
3-HD-131-R	123A-3.1	RB	4.500	0.237	TB	2410I	796'-6"	J-K	50-51	470	425
3-HD-132-R	123A-3.1	RB	16.000	0.375	TB	2410I	796'-6"	J-K	50-51	280	410
3-HD-133-R	123A-3.1	RB	16.000	0.375	TB	2410I	796'-6"	J-K	50-51	280	410
3-HD-134-R	123A-3.1	RB	16.000	0.375	TB	2410H	796'-6"	J-K	50-51	280	410
3-HD-135-R	123A-3.1	RB	4.500	0.237	TB	2410H	796'-6"	J-K	50-51	280	410
3-HD-136-R	123A-3.1	RB	4.500	0.237	TB	2410H	796'-6"	J-K	50-51	470	425
3-HD-137-R	123A-3.1	RB	16.000	0.375	TB	2410F	775'-0"	H-J	53-54	280	380
3-HD-138-R	123A-3.1 123A-3.2	RB	16.000	0.375	TB	2410F	775'-0"	H-J	54-55	160	365
3-HD-139-R	123A-3.1 123A-3.2	RB	18.000	0.375	TB	2410F	775'-0"	H-J	54-55	160	365
3-HD-140-R	123A-3.1	RB	10.750	0.365	TB	2410H	796'-6"	K-L	50-51	470	425
3-HD-141-R	123A-3.1	RB	4.500	0.237	TB	2410H	796'-6"	K-L	50-51	470	425
3-HD-142-R	123A-3.1	RB	16.000	0.375	TB	2410H	796'-6"	K-L	50-51	280	410
3-HD-143-R	123A-3.1	RB	16.000	0.375	TB	2410I	796'-6"	K-L	50-51	280	410
3-HD-144-R	123A-3.1	RB	16.000	0.375	TB	2410H	796'-6"	K-L	50-51	280	410
3-HD-145-R	123A-3.1	RB	4.500	0.237	TB	2410H	796'-6"	K-L	50-51	280	410
3-HD-146-R	123A-3.1	RB	4.500	0.237	TB	2410H	796'-6"	K-L	50-51	470	425
3-HD-147-R	123A-3.1	RB	10.750	0.365	TB	2410G	775'-0"	L-M	53-54	280	380

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. Or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-HD-148-R	123A-3.1	RB	6.625	0.280	TB	2410G	775'-0"	L-M	54-55	160	365
3-HD-149-R	123A-3.1 123A-3.2	RB	18.000	0.375	TB	2410G	775'-0"	L-M	54-55	160	365
3-HD-150-R	123A-3.1	RB	16.000	0.375	TB	2410G	796'-6"	L-M	54-55	280	380
3-HD-151-R	123A-3.1 123A-3.2	RB	16.000	0.375	TB	2410G	796'-6"	L-M	54-55	160	365
3-HD-152-R	123A-3.1	RB	10.750	0.365	TB	2410A	775'-0"	H-J	53-54	280	380
3-HD-153-R	123A-3.1	RB	6.625	0.280	TB	2410F	775'-0"	H-J	53-55	280	380
3-HD-154-R	123A-3.1	RB	6.625	0.280	TB	2410F	796'-6"	H-J	54-55	160	365
3-HD-155-R	123A-3.1	RB	4.500	0.237	TB	2410H	796'-6"	K-L	50-51	280	410
3-HD-156-R	123A-3.2 123A-3.3	RB	18.000	0.375	TB	2410A, 2410D 2410F	775'-0"	H-K	52-55	45	275
3-HD-157-R	123A-3.2	RB	6.625	0.280	TB	2410A	775'-0"	H-J	54-56	160	365
3-HD-158-R	123A-3.2 123A-3.3	RB	18.000	0.375	TB	2410A, 2410D 2410G	775'-0"	L-M	52-55	45	275
3-HD-159-R	123A-3.2	RB	6.625	0.280	TB	2410A, 2410G	775'-0"	L-M	54-56	160	365

Notes:

1. Break numbers may not be consecutive
2. Break type: RB – Running Break (Piping not analyzed for seismic), TE – Terminal End, IB – Intermediate Break
3. Building: TB – Turbine Building, AB – Auxiliary Building.
4. Each Running Break may contain one or more sub-breaks.
5. For the Unit 3 Heater Drain System 10 Terminal End Breaks, 9 intermediate Breaks, and 130 Running Breaks were considered; the non-excluded breaks listed in this table include 10 Terminal End Breaks, 9 intermediate Breaks, and 130 Running Breaks.
6. For each Terminal End Break and each Intermediate Break location the elevation of the break location is given. For each Running Break the elevation of the floor or room that contains the Running Break is given.
7. Other Abbreviations: OD – Outer Diameter, in – inches, Op - operating



LEGEND

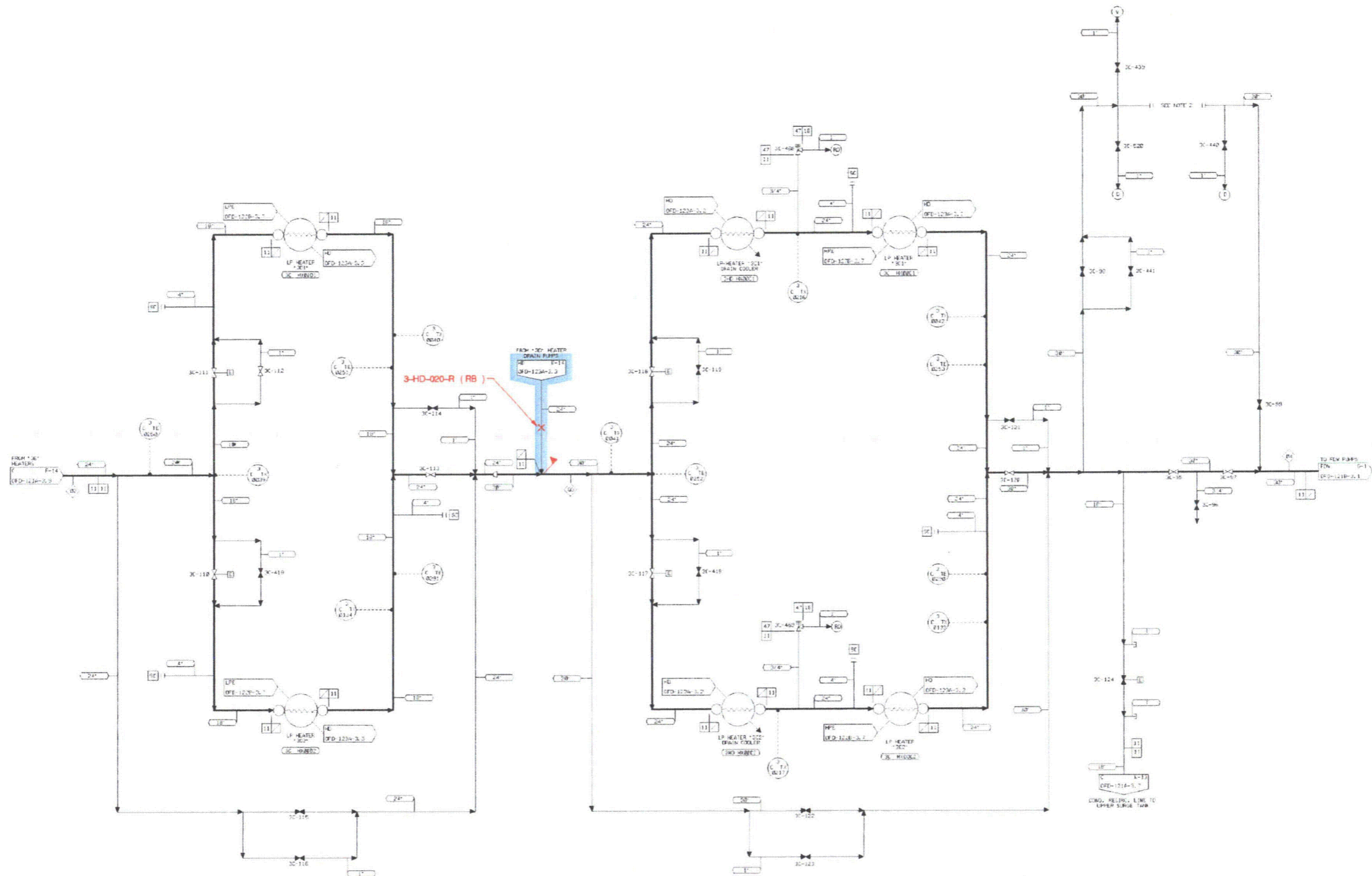
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-MNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ▶ - Running Break Boundary

FIGURE 6.1-5
HEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 1 of 7)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-121A-3.9 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-121A-03-09



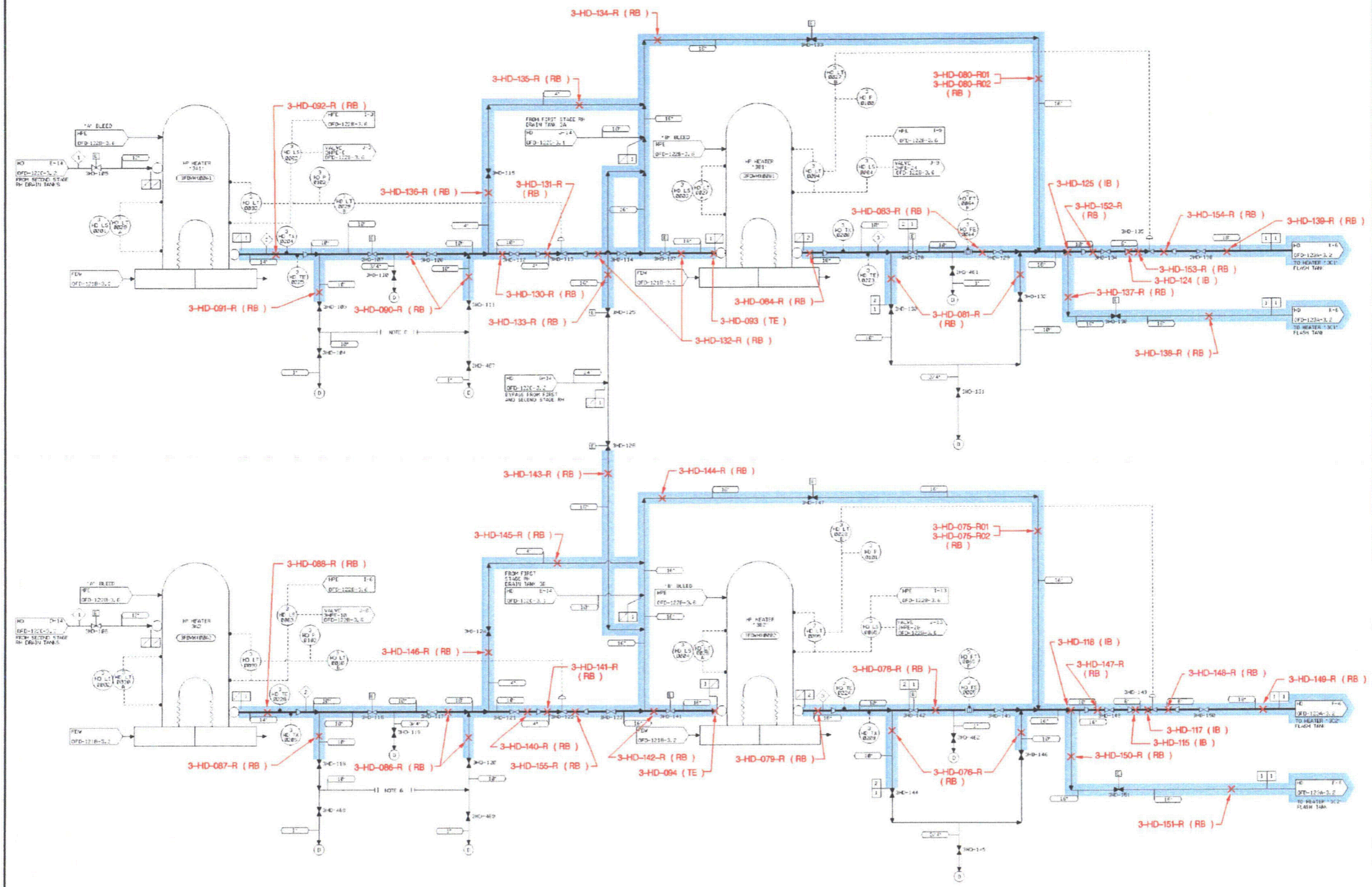
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NINN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - ▶ - Running Break Boundary

FIGURE 6.1-5
HEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 2 of 7)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-121A-3.10 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-121A-03-10



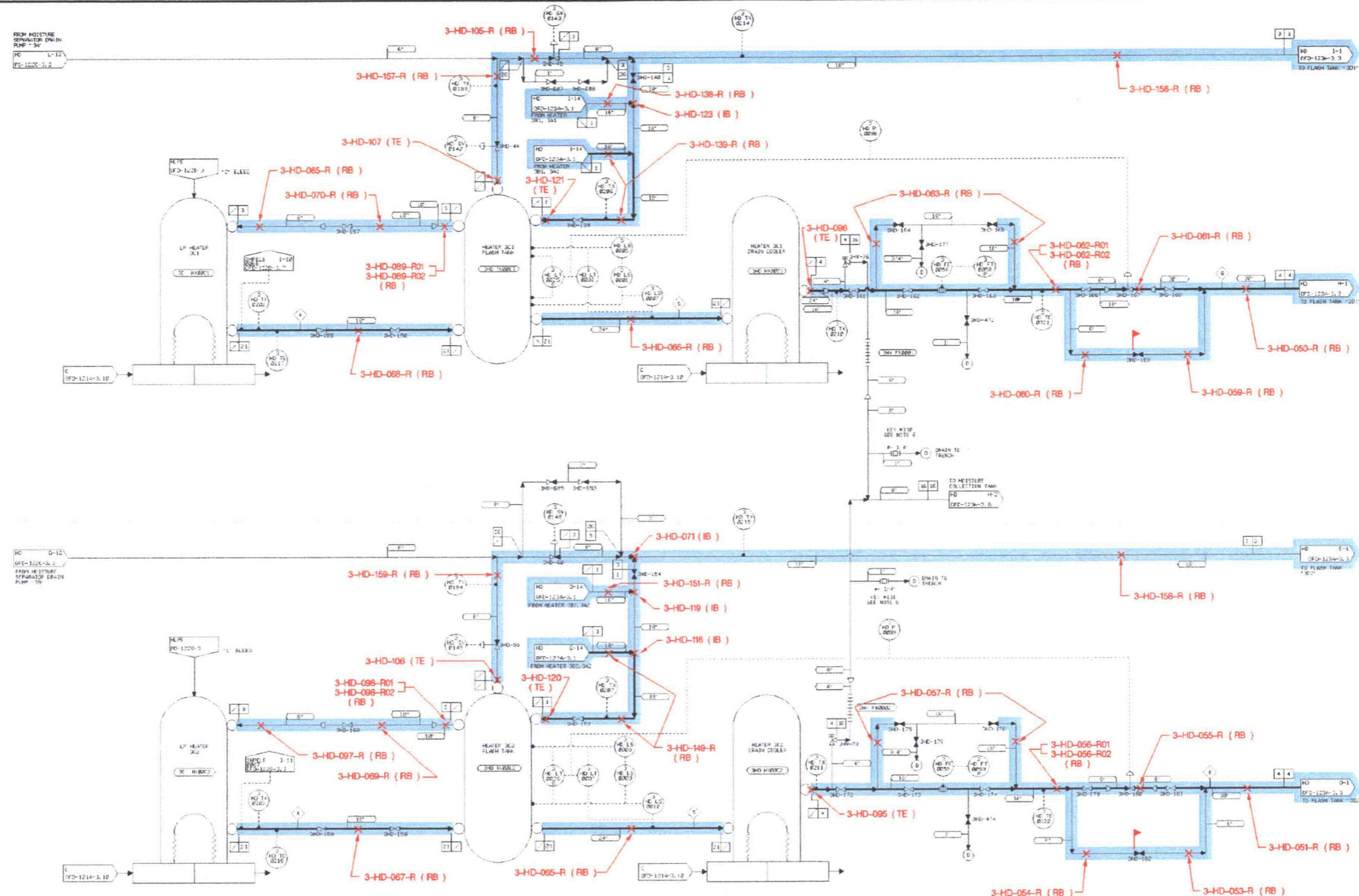
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - |— - Running Break Boundary

FIGURE 6.1-5
HEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 3 of 7)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-123A-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-01



LEGEND

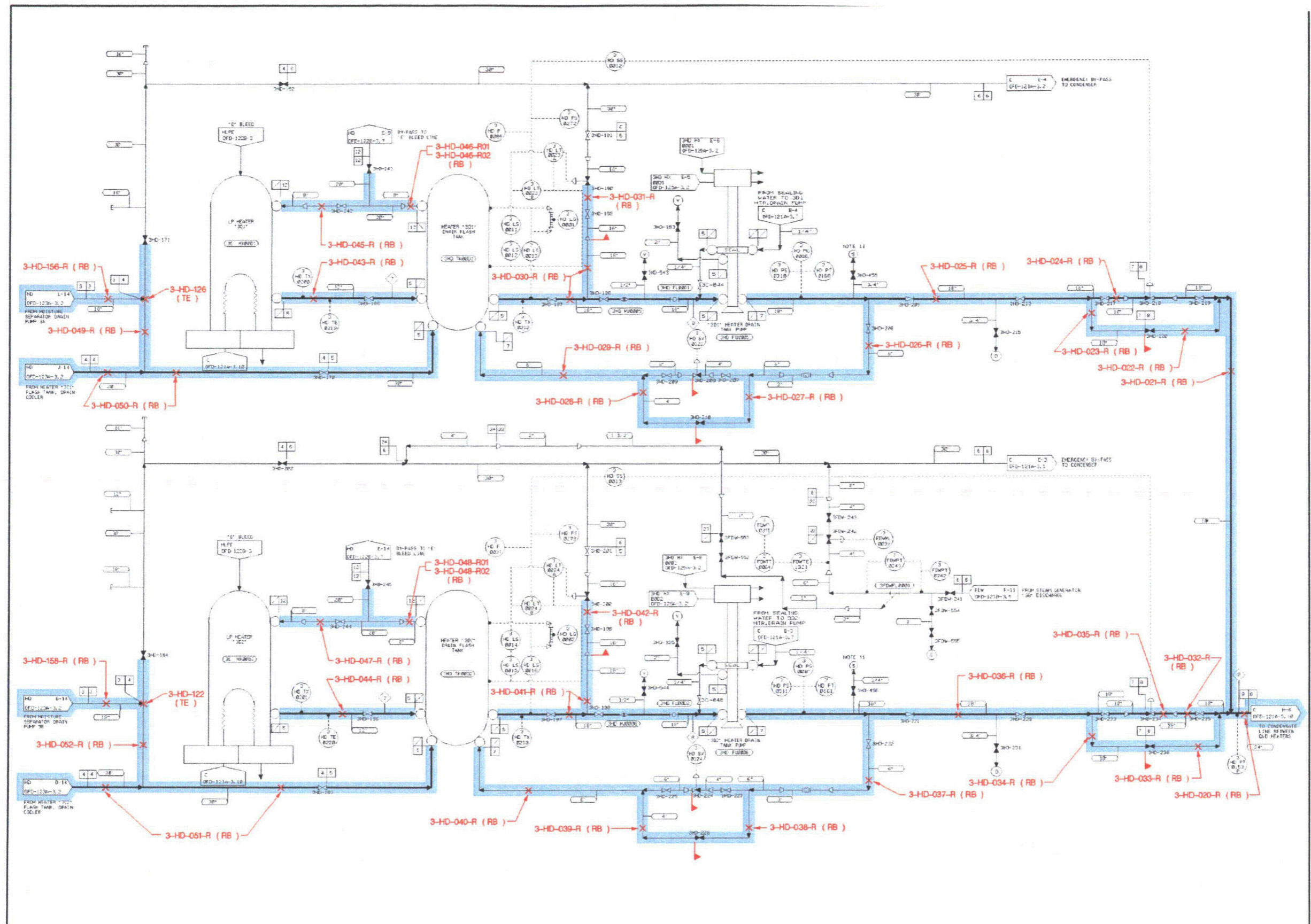
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ▶ - Running Break Boundary

FIGURE 6.1-5
HEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 4 of 7)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-123A-3.2 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-02



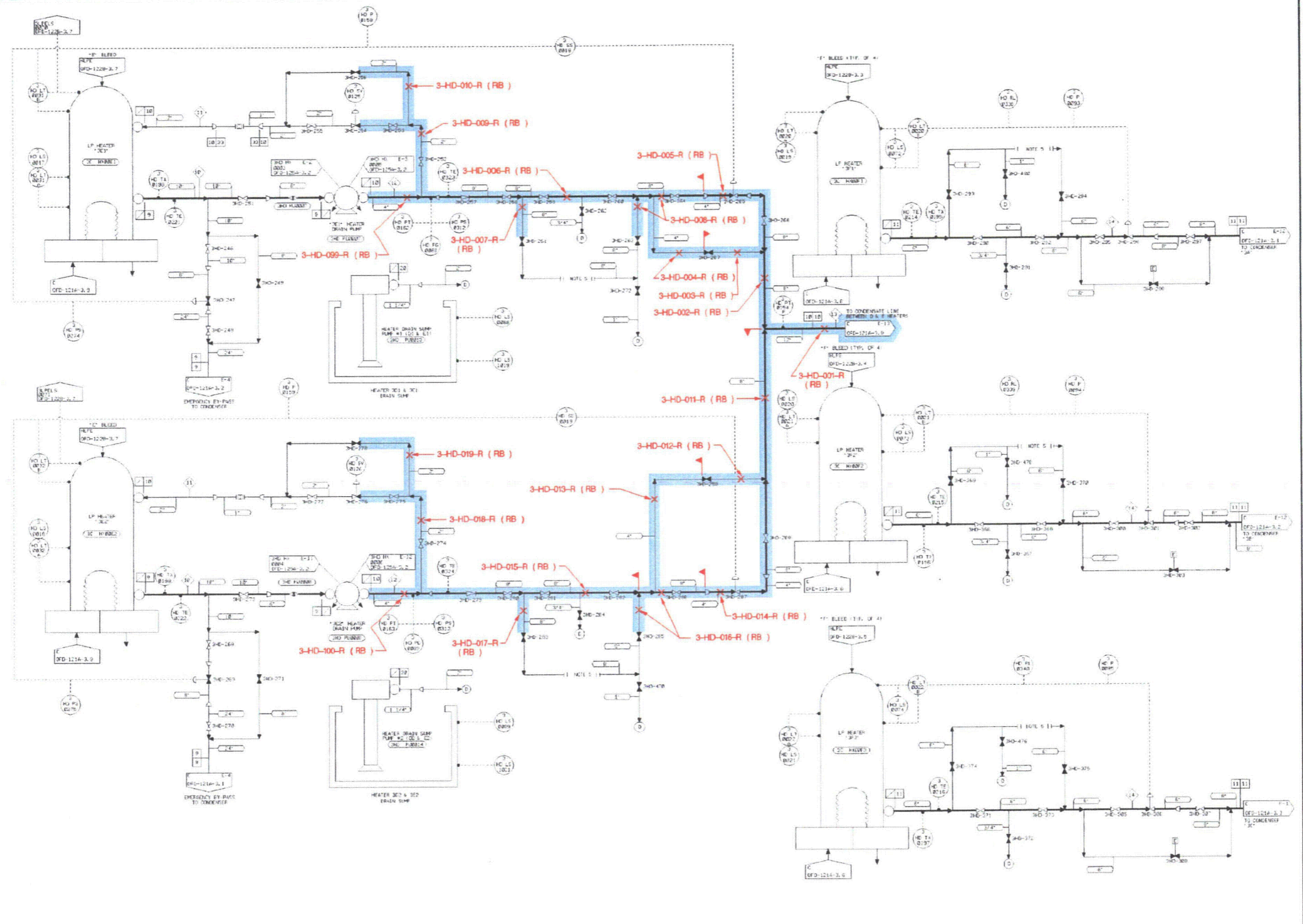
- LEGEND**
- High Energy Piping (Unit 1)
 - High Energy Piping (Unit 2)
 - High Energy Piping (Unit 3)
 - X High Energy Line Break Location
 - N-SYS-NNN (-N) Break Number
 - TE Terminal End (Break)
 - RB Running Break
 - CR Critical Crack
 - IB Intermediate Break
 - ▶ Running Break Boundary

FIGURE 6.1-5
HEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 5 of 7)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-123A-3.3 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-03



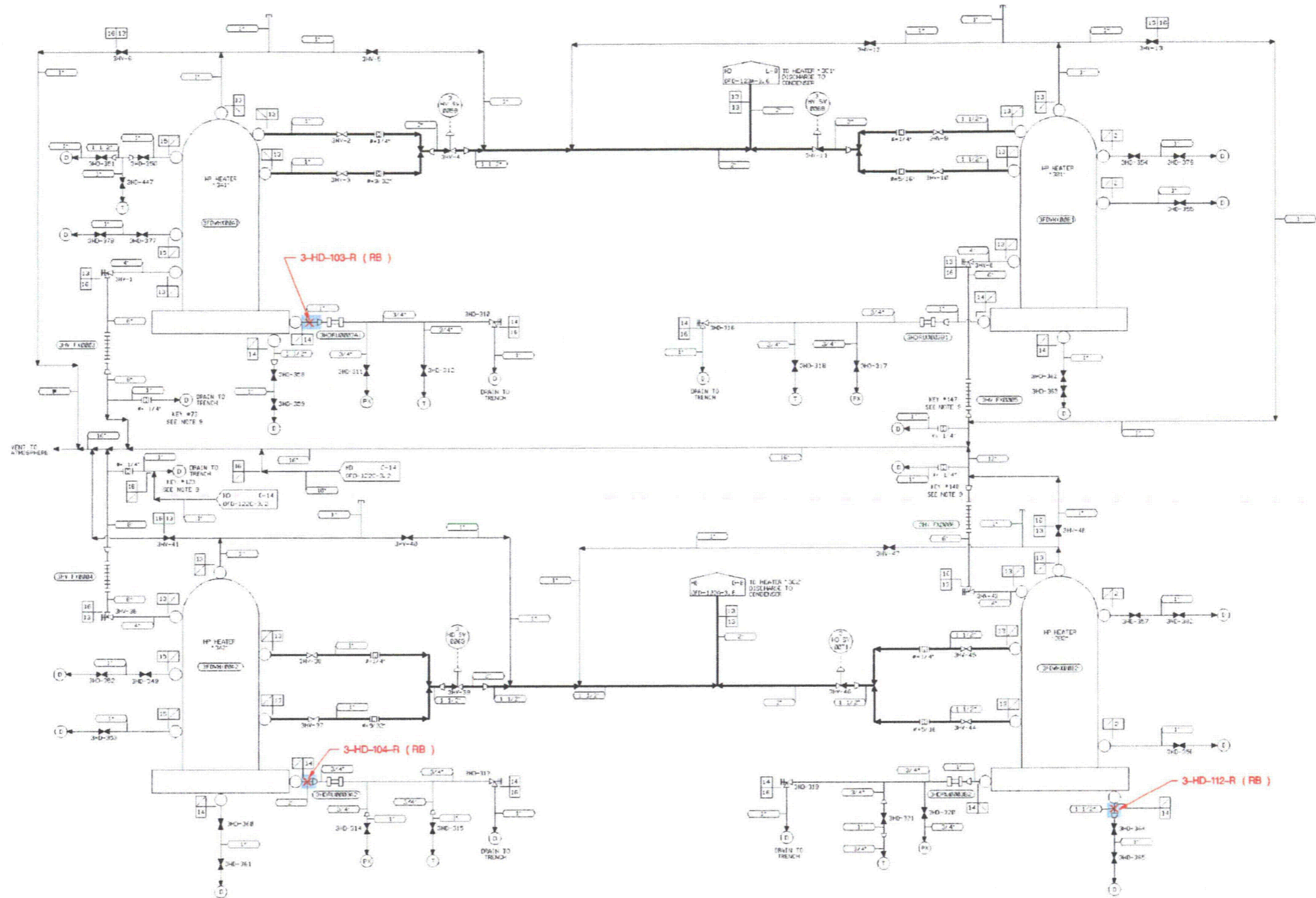
- LEGEND**
- High Energy Piping (Unit 1)
 - High Energy Piping (Unit 2)
 - High Energy Piping (Unit 3)
 - X High Energy Line Break Location
 - N-SYS-NINN (-N) Break Number
 - TE Terminal End (Break)
 - RB Running Break
 - CR Critical Crack
 - IB Intermediate Break
 - ▴ Running Break Boundary

FIGURE 6.1-5
HEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 6 of 7)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-123A-3.4 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-04



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ┆ - Running Break Boundary

**FIGURE 6.1-5
HEATER DRAIN SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 7 of 7)

UNIT 3

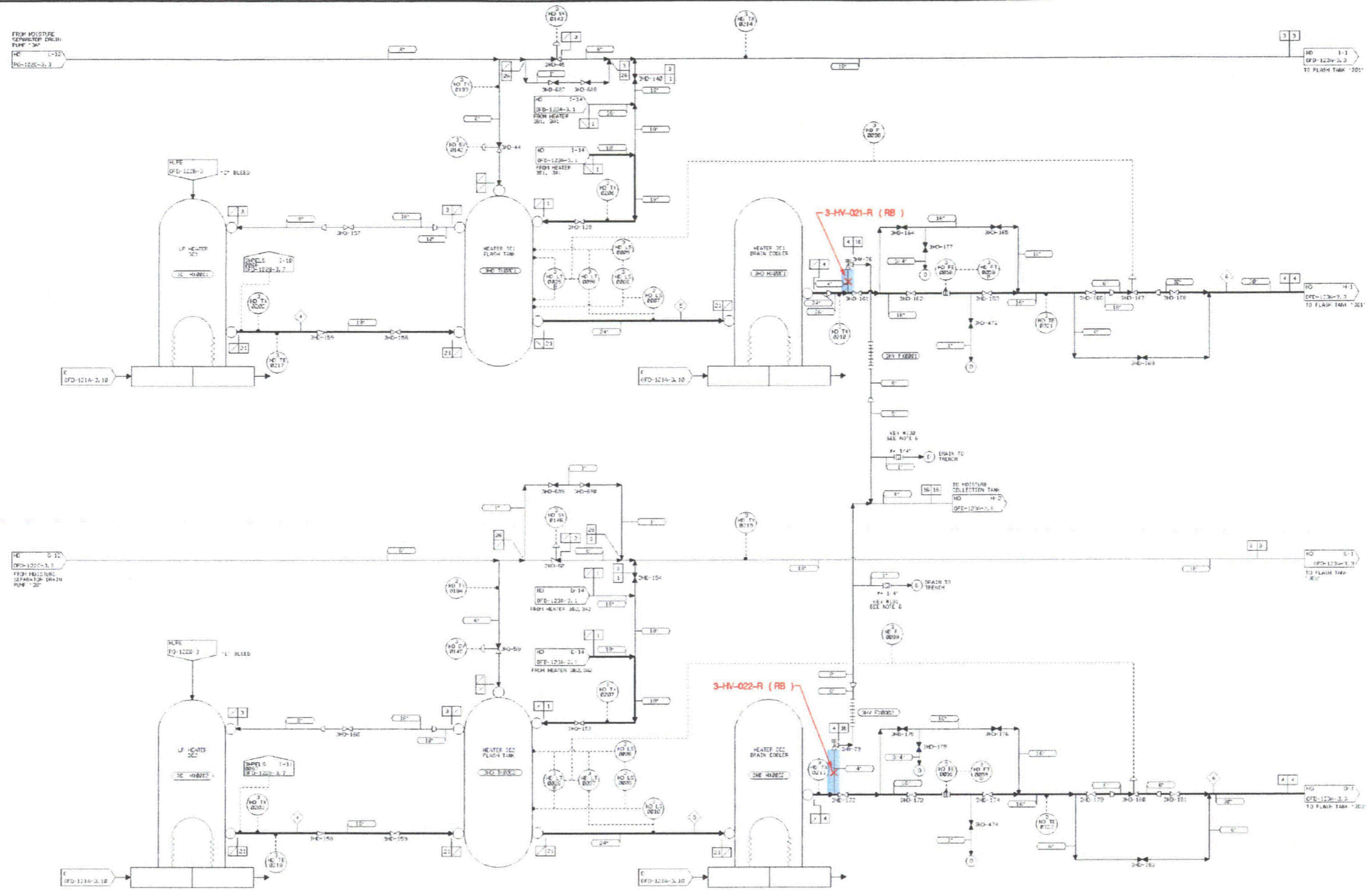
THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-123A-3.5 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-05

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev.	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-HV-001-R	123A-3.5	RB	1.900	0.145	TB	2410L	796'-6"	J-K	49-50	280	410
3-HV-002-R01	123A-3.5	RB	1.900	0.145	TB	2410L	775'-0"	J-K	49-50	280	410
3-HV-002-R02	123A-3.5	RB	1.900	0.145	TB	2410L	796'-6"	J-K	49-50	280	410
3-HV-003-R	123A-3.5	RB	1.900	0.145	TB	2410L	796'-6"	K-M	49-50	280	410
3-HV-004-R01	123A-3.5	RB	1.900	0.145	TB	2410L	775'-0"	K-M	49-50	280	410
3-HV-004-R02	123A-3.5	RB	1.900	0.145	TB	2410L	796'-6"	K-M	49-50	280	410
3-HV-005-R	123A-3.5	RB	4.500	0.237	TB	2410H	796'-6"	J-K	49-50	280	410
3-HV-006-R	123A-3.5	RB	4.500	0.237	TB	2410H	796'-6"	K-L	49-50	280	410
3-HV-007-R	123A-3.5	RB	4.500	0.237	TB	2410H	796'-6"	J-K	48-49	470	425
3-HV-008-R	123A-3.5	RB	4.500	0.237	TB	2410H	796'-6"	K-L	48-49	470	425
3-HV-009-R	123A-3.6	RB	4.500	0.237	TB	2410H	796'-6"	J-K	54-55	160	365
3-HV-010-R	123A-3.6	RB	4.500	0.237	TB	2410H	796'-6"	K-L	54-55	160	365
3-HV-011-R	123A-3.6	RB	6.625	0.280	TB	2410H	796'-6"	J-K	52-53	45	275
3-HV-012-R	123A-3.6	RB	6.625	0.280	TB	2410H	796'-6"	K-L	52-53	45	275
3-HV-013-R	123A-3.6	RB	3.500	0.216	TB	2410L	796'-6"	J-K	54-55	160	365
3-HV-014-R01	123A-3.6	RB	3.500	0.216	TB	2410L	775'-0"	J-K	54-55	160	365
3-HV-014-R02	123A-3.6	RB	3.500	0.216	TB	2410L	796'-6"	J-K	54-55	160	365
3-HV-015-R	123A-3.6	RB	3.500	0.216	TB	2410L	796'-6"	J-K	52-53	45	275
3-HV-016-R01	123A-3.6	RB	3.500	0.216	TB	2410L	775'-0"	J-K	52-53	45	275
3-HV-016-R02	123A-3.6	RB	3.500	0.216	TB	2410L	796'-6"	J-K	52-53	45	275
3-HV-017-R	123A-3.6	RB	3.500	0.216	TB	2410L	796'-6"	K-L	54-55	160	365
3-HV-018-R01	123A-3.6	RB	3.500	0.216	TB	2410L	775'-0"	K-L	54-55	160	365
3-HV-018-R02	123A-3.6	RB	3.500	0.216	TB	2410L	796'-6"	K-L	54-55	160	365
3-HV-019-R	123A-3.6	RB	3.500	0.216	TB	2410L	796'-6"	K-L	52-53	45	275
3-HV-020-R01	123A-3.6	RB	3.500	0.216	TB	2410L	775'-0"	K-L	52-53	45	275
3-HV-020-R02	123A-3.6	RB	3.500	0.216	TB	2410L	796'-6"	K-L	52-53	45	275
3-HV-021-R	123A-3.2	RB	4.500	0.237	TB	2410H	796'-6"	J-K	54-55	160	295
3-HV-022-R	123A-3.2	RB	4.500	0.237	TB	2410H	796'-6"	L	54-55	160	295

Notes:

1. Break numbers may not be consecutive
2. Break type: RB – Running Break (Piping not analyzed for seismic), TE – Terminal End, IB – Intermediate Break
3. Building: TB – Turbine Building, AB – Auxiliary Building
4. Each running break may contain one or more sub-breaks. For the Unit 3 Heater Vent System 44 Running Breaks were considered; the 28 non-excluded, Running Breaks are listed in this table.
5. For each Running Break the elevation of the floor or room that contains the Running Break is given.
6. Other Abbreviations: OD – Outer Diameter, in – inches, Op - operating



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ┆ - Running Break Boundary

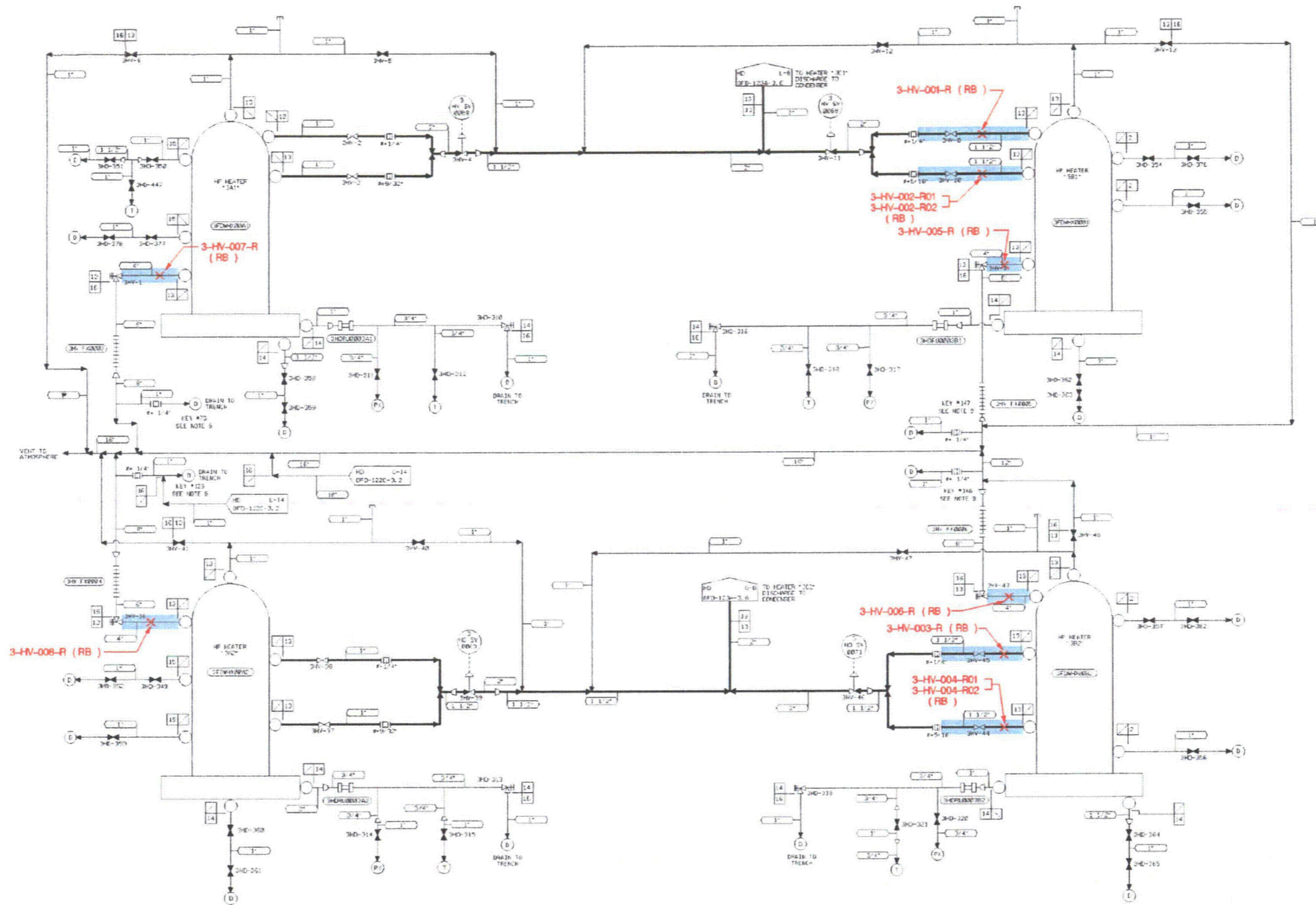
**FIGURE 6.1-6
HEATER VENT SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 1 of 3)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-123A-3.2 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-02



LEGEND

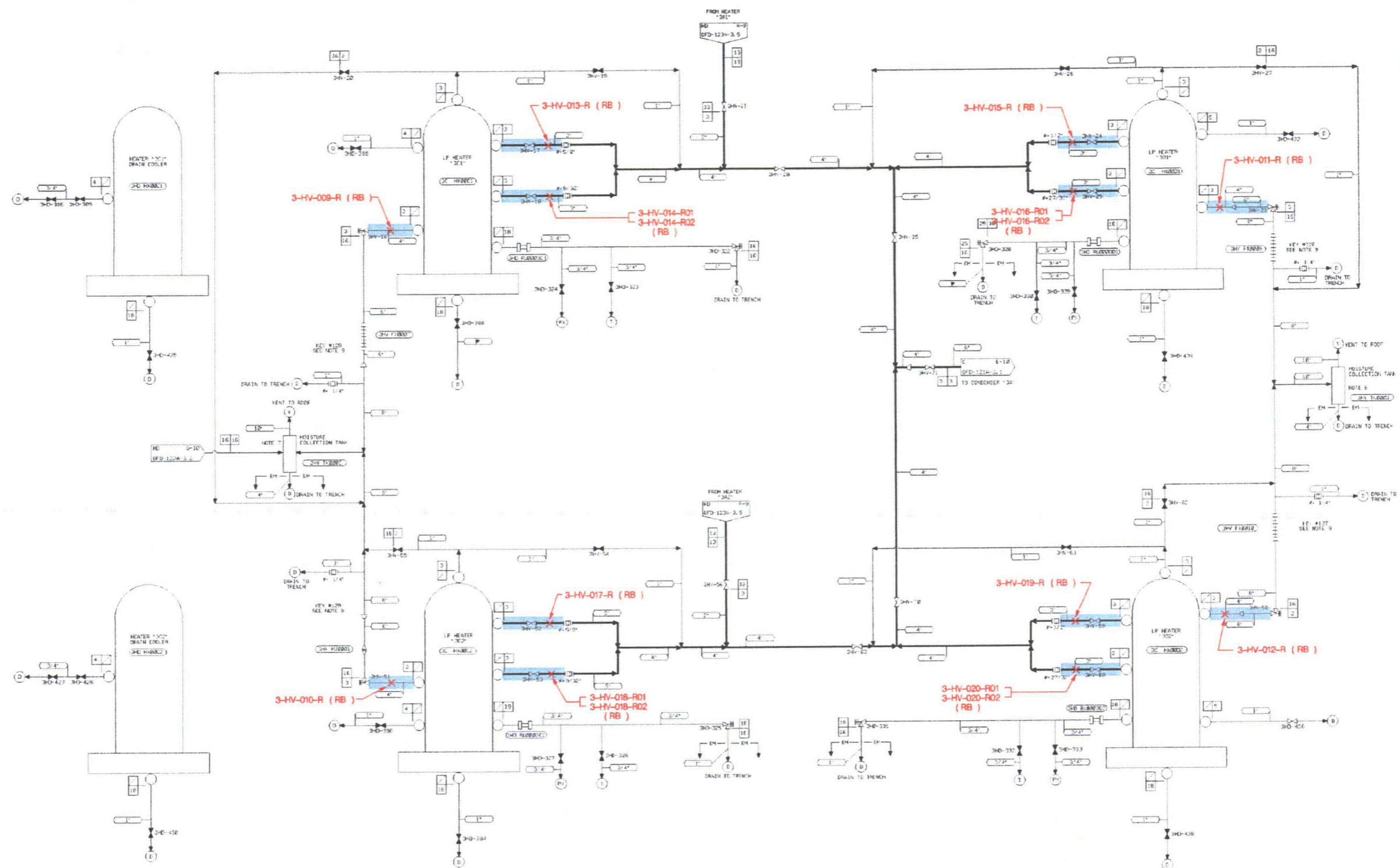
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-MNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ▶ - Running Break Boundary

FIGURE 6.1-6
HEATER VENT SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 2 of 3)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-123A-3.5 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-05



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ▶ - Running Break Boundary

FIGURE 6.1-6
HEATER VENT SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 3 of 3)

UNIT 3

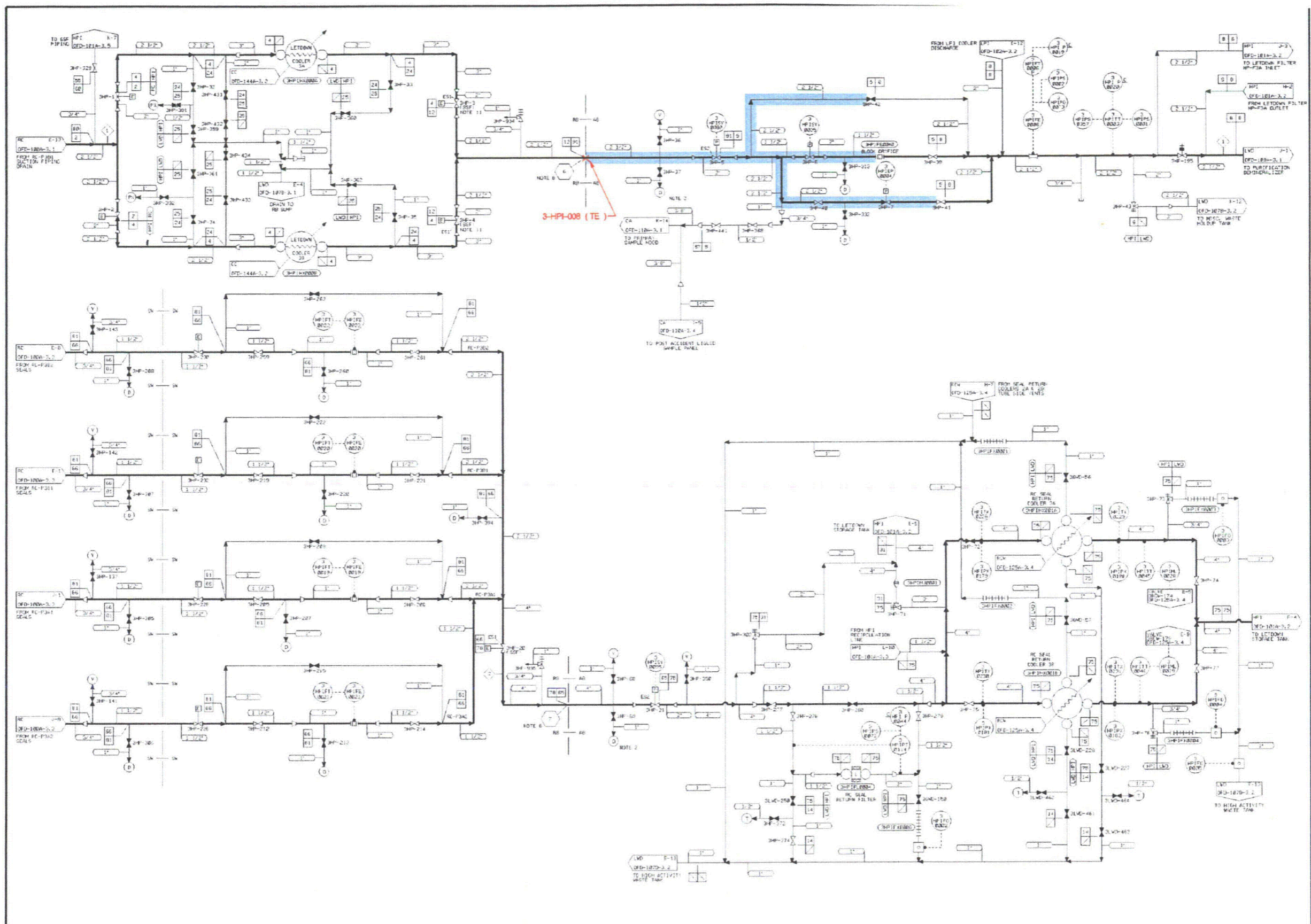
THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-123A-3.6 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-06

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in.)	Pipe Thickness (in.)	Building	Layout Drawing (O-)	Floor Elev. Or Break Elev. (See Note 6)	Location (Room No.)	Op Pres. (psig)	Op Temp. (°F)
3-HPI-001	101A-3.3	TE	3.500	0.438	AB	2435D	760'-1"	77	3028	150
3-HPI-002	101A-3.3	TE	3.500	0.438	AB	2435D	760'-1"	77	3028	150
3-HPI-003	101A-3.4	TE	1.900	0.400	AB	2439D	816'-0"	452	3028	150
3-HPI-004	101A-3.4	TE	1.900	0.400	AB	2439C	812'-0"	456	3028	150
3-HPI-005	101A-3.4	TE	1.900	0.400	AB	2439C	812'-0"	456	3028	150
3-HPI-006	101A-3.4	TE	1.900	0.400	AB	2439D	816'-0"	452	3028	150
3-HPI-007	101A-3.4	TE	4.500	0.674	AB	2439A	812'-0"	452	3028	150
3-HPI-008	101A-3.1	TE	2.875	0.552	AB	2439D	812'-0"	452	2263	142
3-HPI-015-R	101A-3.3	RB	1.900	0.281	AB	2435J	758'-0"	77	3028	150
3-HPI-016-R	101A-3.3	RB	1.900	0.281	AB	2435J	758'-0"	77	3028	150

Notes:

1. Break numbers may not be consecutive
2. Break type: RB – Running Break (Piping not analyzed for seismic), TE – Terminal End, IB – Intermediate Break, CR – Critical Crack
3. Building: TB – Turbine Building, AB – Auxiliary Building.
4. Each running break may contain one or more sub-breaks.
5. For the Unit 3 High Pressure Injection System the eight (8) non-excluded, Terminal End Breaks and the two (2) non-excluded, Running Breaks are listed in this table.
6. For Terminal End Break locations the elevation of the break location is given. For each Running Break the elevation of the floor or room that contains the Running Break is given.
7. Other Abbreviations: OD – Outer Diameter, in – inches, Op - operating



LEGEND

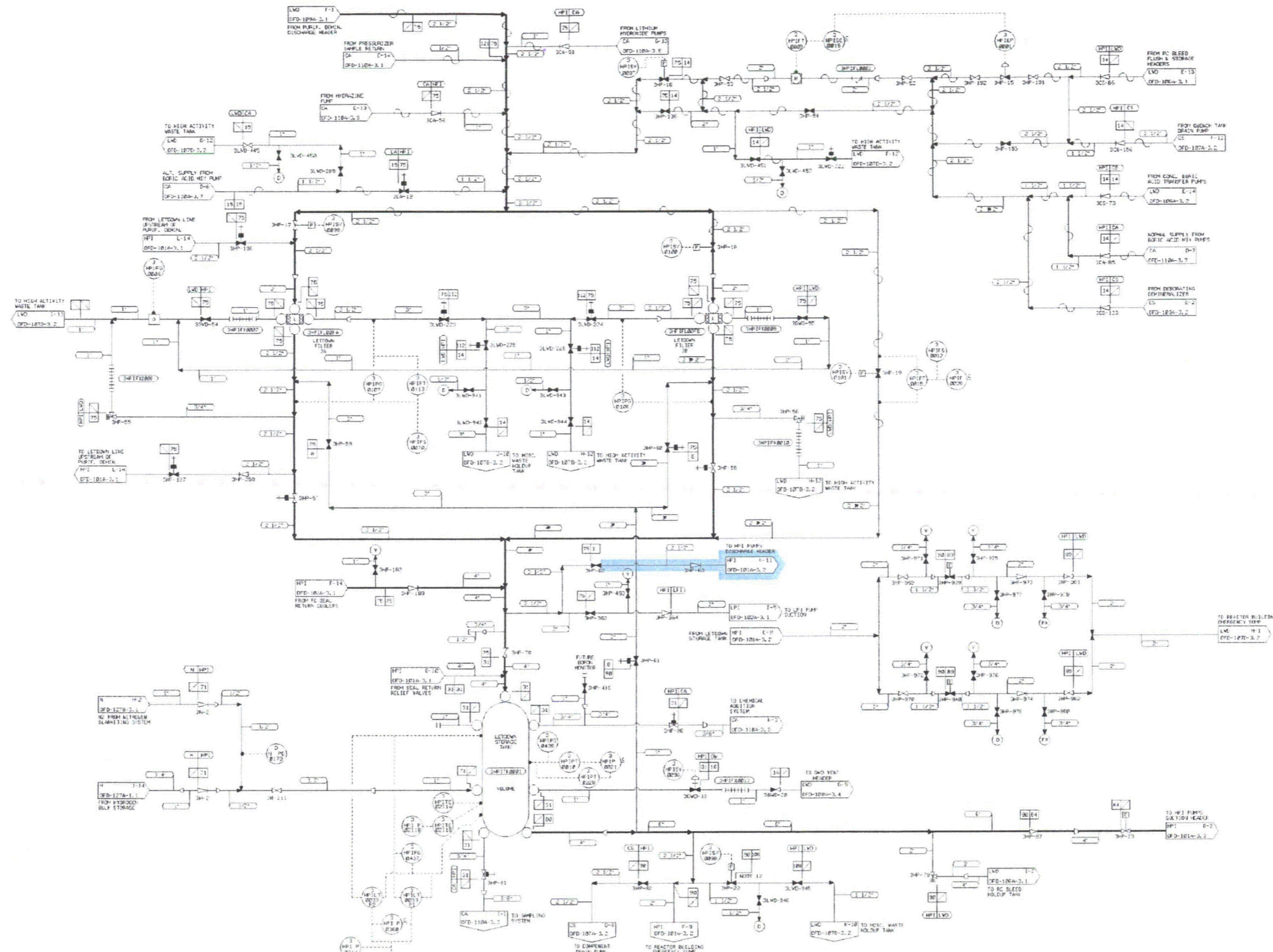
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ↑ - Running Break Boundary

FIGURE 6.1-7
HIGH PRESSURE INJECTION SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 1 of 4)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-101A-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-101A-03-01



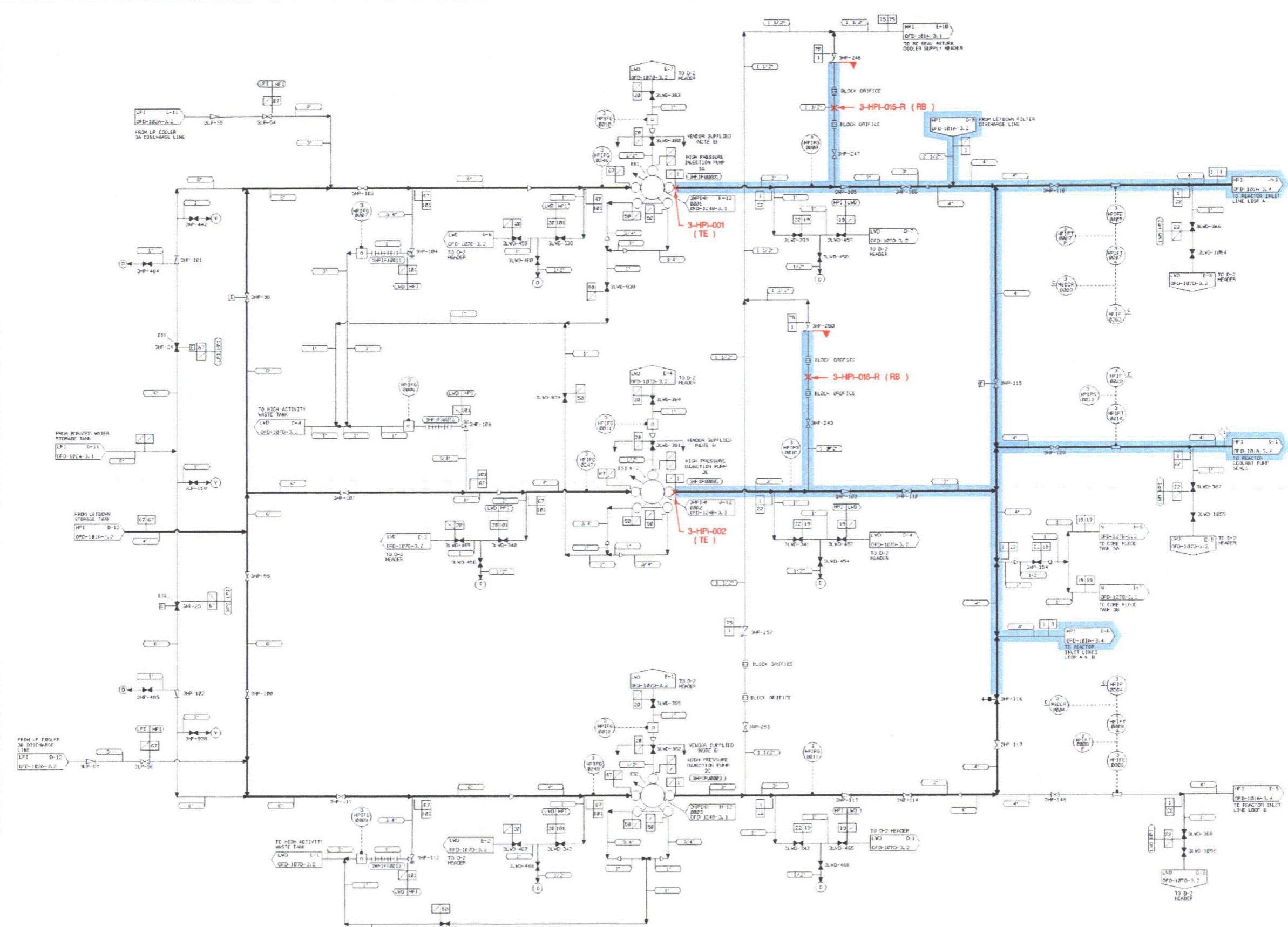
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - ↑ - Running Break Boundary

FIGURE 6.1-7
HIGH PRESSURE INJECTION SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 2 of 4)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-101A-3.2 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-101A-03-02



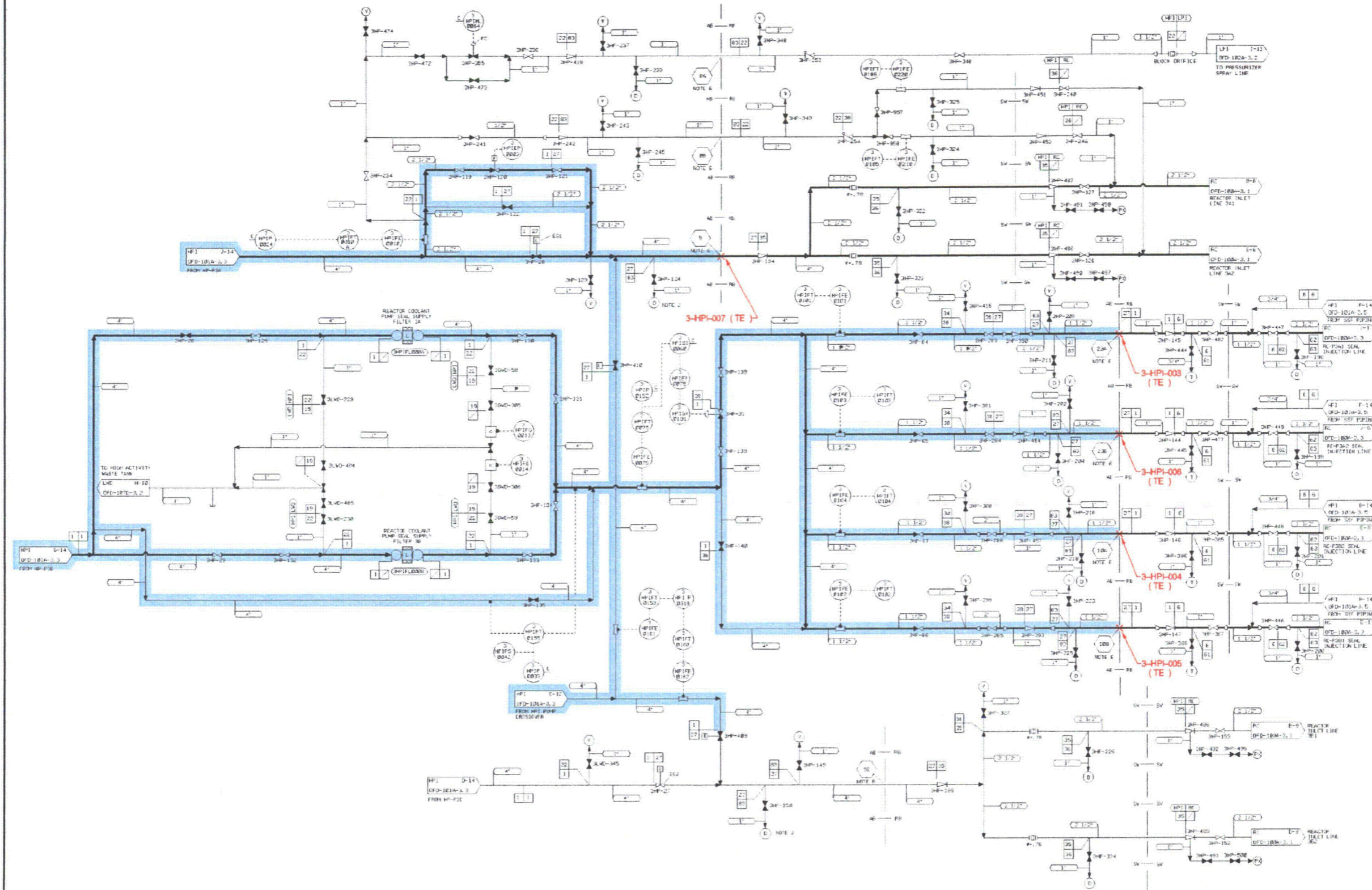
- LEGEND**
- High Energy Piping (Unit 1)
 - High Energy Piping (Unit 2)
 - High Energy Piping (Unit 3)
 - X High Energy Line Break Location
 - N-SYS-NNN (-N) Break Number
 - TE Terminal End (Break)
 - RB Running Break
 - CR Critical Crack
 - IB Intermediate Break
 - RB Running Break Boundary

FIGURE 6.1-7
HIGH PRESSURE INJECTION SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 3 of 4)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-101A-3.3 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-101A-03-03



- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - |— - Running Break Boundary

FIGURE 6.1-7
HIGH PRESSURE INJECTION SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 4 of 4)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-101A-3.4 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-101A-03-04

Table 6.1-8
 Main Steam System – High Energy Line Data – Unit 3

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-) See Note 7	Floor Elev. or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MS-001	122B-3.2	TE	28.000	1.400	TB	2401B OM-2200-40-4	831'-1"	E-F	52-53	900	595
3-MS-002	122B-3.2	TE	28.000	1.400	TB	2401B OM-2200-40-2	820'-9"	E-F	52-53	900	595
3-MS-003	122B-3.2	TE	28.000	1.400	TB	2401B OM-2200-40-4	831'-1"	E-F	52-53	900	595
3-MS-004	122B-3.2	TE	28.000	1.400	TB	2401B OM-2200-40-2	820'-9"	E-F	52-53	900	595
3-MS-008	122A-3.1	TE	12.750	0.562	TB	2401B	812'-10"	L-M	53-54	900	595
3-MS-009	122A-3.1	TE	12.750	0.562	TB	2401B	812'-9"	L-M	55-56	900	595
3-MS-010	122C-3.2	TE	8.625	0.500	TB	OM-2200-52-2	805'-6"	B-C	54-55	900	595
3-MS-011	122C-3.2	TE	8.625	0.500	TB	OM-2200-52-2	805'-6"	C-D	55-56	900	595
3-MS-012	122A-3.1	TE	12.750	0.562	TB	OM-2200-52-1	812'-0"	F-G	55-56	900	595
3-MS-013	122C-3.2	TE	8.625	0.500	TB	OM-2200-52-1	805'-6"	H-J	54-55	900	595
3-MS-014	122C-3.2	TE	8.625	0.500	TB	OM-2200-52-1	805'-6"	G-H	55-56	900	595
3-MS-015	122A-3.1	TE	12.750	0.562	TB	OM-2200-52-2	812'-0"	E-F	55-56	900	595
3-MS-016	122A-3.4	TE	6.625	0.280	TB	2403E	777'-8"	C-D	49-50	310	507
3-MS-017	122A-3.1	TE	6.625	0.432	TB	2401G	812'-0"	E-F	55-56	900	595
3-MS-018	122A-3.1	TE	6.625	0.432	TB	2401G	812'-0"	E-F	55-56	900	595
3-MS-019	122A-3.1	TE	8.625	0.500	TB	2401G	812'-0"	F-G	55-56	900	595
3-MS-020	122A-3.1	TE	8.625	0.500	TB	2401G	812'-0"	E-F	55-56	900	595
3-MS-023	122A-3.1	TE	12.750	0.562	TB	2441	827'-0"	L-M	53-54	900	595
3-MS-024	122A-3.1	TE	12.750	0.562	TB	2441	827'-1"	M-N	53-54	900	595
3-MS-037-R	122A-3.3	RB	2.375	0.218	TB	2403C	796'-6"	D-E	43-44	900	595
3-MS-038-R	122A-3.3	RB	3.500	0.300	TB	2403C	796'-6"	B-G	43-46	900	595
3-MS-056-R01	122A-3.3	RB	8.625	0.500	TB	2403C, 2403D	796'-6"	B-E	46-56	900	595
3-MS-056-R02	122A-3.3	RB	8.625	0.500	TB	2403A	775'-0"	B-C	45-47	900	595
3-MS-057-R01	122A-3.3	RB	8.625	0.500	TB	2403C, 2403D	796'-6"	B-E	43-56	900	595
3-MS-057-R02	122A-3.3	RB	8.625	0.500	TB	2403A	775'-0"	B-C	43-44	900	595
3-MS-063	122A-3.1	TE	36.500	1.125	Yard	2441	853'-9"	V-W	96	900	595
3-MS-064	122A-3.1	TE	36.500	1.125	AB	2441	835'-0"	East Penetration Room No. 562		900	595
3-MS-066-R	122A-3.2	RB	8.625	0.500	TB	2401E	796'-6"	L-M	50-51	900	595
3-MS-067-R	122A-3.2	RB	8.625	0.500	TB	2401E	796'-6"	L-M	50-51	900	595
3-MS-068-R	122A-3.2	RB	8.625	0.500	TB	2401D	796'-6"	L-M	49-50	900	595
3-MS-069-R	122A-3.2	RB	8.625	0.500	TB	2401D	796'-6"	L-M	49-50	900	595
3-MS-076-R	128A-3.1	RB	8.625	0.500	TB	2403D, 2403M	796'-6"	J-K	54-56	300	505
3-MS-077-R	128A-3.1	RB	6.625	0.432	TB	2403M	796'-6"	J-K	55-56	300	505

Table 6.1-8
 Main Steam System – High Energy Line Data – Unit 3

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-) See Note 7	Floor Elev. or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MS-078-R	128A-3.1	RB	6.625	0.432	TB	2403M	796'-6"	J-K	55-56	300	505
3-MS-080-R	122A-3.3	RB	3.500	0.300	TB	2403C, 2403F	796'-6"	F-H	43-44	900	595
3-MS-081-R	122A-3.3 121C-3.2	RB	2.375	0.218	TB	2403F	796'-6"	G-H	43-45	300	505
3-MS-082-R	122A-3.3 121C-3.2	RB	2.375	0.218	TB	2403F	796'-6"	G-H	43-44	300	505
3-MS-083-R	122A-3.3 121C-3.2	RB	2.375	0.218	TB	2403F	796'-6"	G-H	43-44	300	505
3-MS-084-R	121C-3.2	RB	2.375	0.218	TB	2403F	796'-6"	F-G	43-44	300	505
3-MS-085-R	121C-3.2	RB	2.375	0.218	TB	2403F	796'-6"	F-G	43-44	300	505
3-MS-086-R	121C-3.2	RB	2.375	0.218	TB	2403F	796'-6"	F-G	44-45	300	505
3-MS-087-R	121C-3.2	RB	2.375	0.154	TB	2403C OM-2202-2	796'-6"	F-G	43-44	300	505
3-MS-088-R	121C-3.2	RB	2.375	0.154	TB	2403C OM-2202-2	796'-6"	F-G	43-44	300	505
3-MS-089-R	121C-3.2	RB	2.375	0.154	TB	2403C OM-2202-2	796'-6"	F-G	43-44	300	505
3-MS-090-R	121C-3.2	RB	2.375	0.154	TB	2403C OM-2202-2	796'-6"	F-G	43-44	300	505
3-MS-091-R	121C-3.2	RB	2.375	0.154	TB	2403C OM-2202-2	796'-6"	F-G	44-45	300	505
3-MS-092-R	121C-3.2	RB	2.375	0.154	TB	2403C OM-2202-2	796'-6"	F-G	44-45	300	505
3-MS-098-R	121C-3.2	RB	2.875	0.203	TB	2403C OM-2202-2	796'-6"	F-G	43-44	300	505
3-MS-099-R	121C-3.2	RB	2.875	0.203	TB	2403C OM-2202-2	796'-6"	F-G	43-44	300	505
3-MS-100-R	121C-3.2	RB	2.875	0.203	TB	2403C OM-2202-2	796'-6"	F-G	44-45	300	505
3-MS-201	122A-3.1	IB	36.500	1.125	TB	2441	827'-0"	L-M	53-54	900	595
3-MS-202	122A-3.1	IB	24.000	0.968	TB	2401B	812'-0"	E-F	55-56	900	595
3-MS-203	122A-3.1	IB	36.500	1.125	TB	2441	827'-1"	M-N	53-54	900	595
3-MS-204	122A-3.1	IB	36.500	1.125	YARD	2411	827'-2"	N-P	98-99	900	595
3-MS-205	122A-3.1	IB	12.750	0.562	TB	2401B	812'-10"	L-M	53-54	900	595
3-MS-206	128A-3.1	IB	8.625	0.500	TB	2403D	805'-6"	K	55-56	900	595
3-MS-207	122C-3.2	IB	6.625	0.432	TB	OM-2200-52-1	817'-7"	F-G	55-56	900	595
3-MS-208-R	122B-3.1	RB	3.5	0.3	TB	OM-2200-40-1	796'-6"	D-F	53-55	900	595
3-MS-209-R	122A-3.3	RB	2.375	0.218	TB	2403F	796'-6"	G-H	43-44	900	595
3-MS-210-R	122A-3.3	RB	2.375	0.218	TB	2403F	796'-6"	G-H	43-44	900	595
3-MS-211-R	122A-3.3	RB	2.375	0.218	TB	2403C, 2403F	796'-6"	G-H	43-45	900	595
3-MS-212	122A-3.4	IB	3.500	0.216	TB	2403E	783'-0"	C-D	49-50	310	500
3-MS-230-CR	122A-3.1	CR	36.500	1.125	YARD	2441	827'-2"	N-P	53-54	900	595

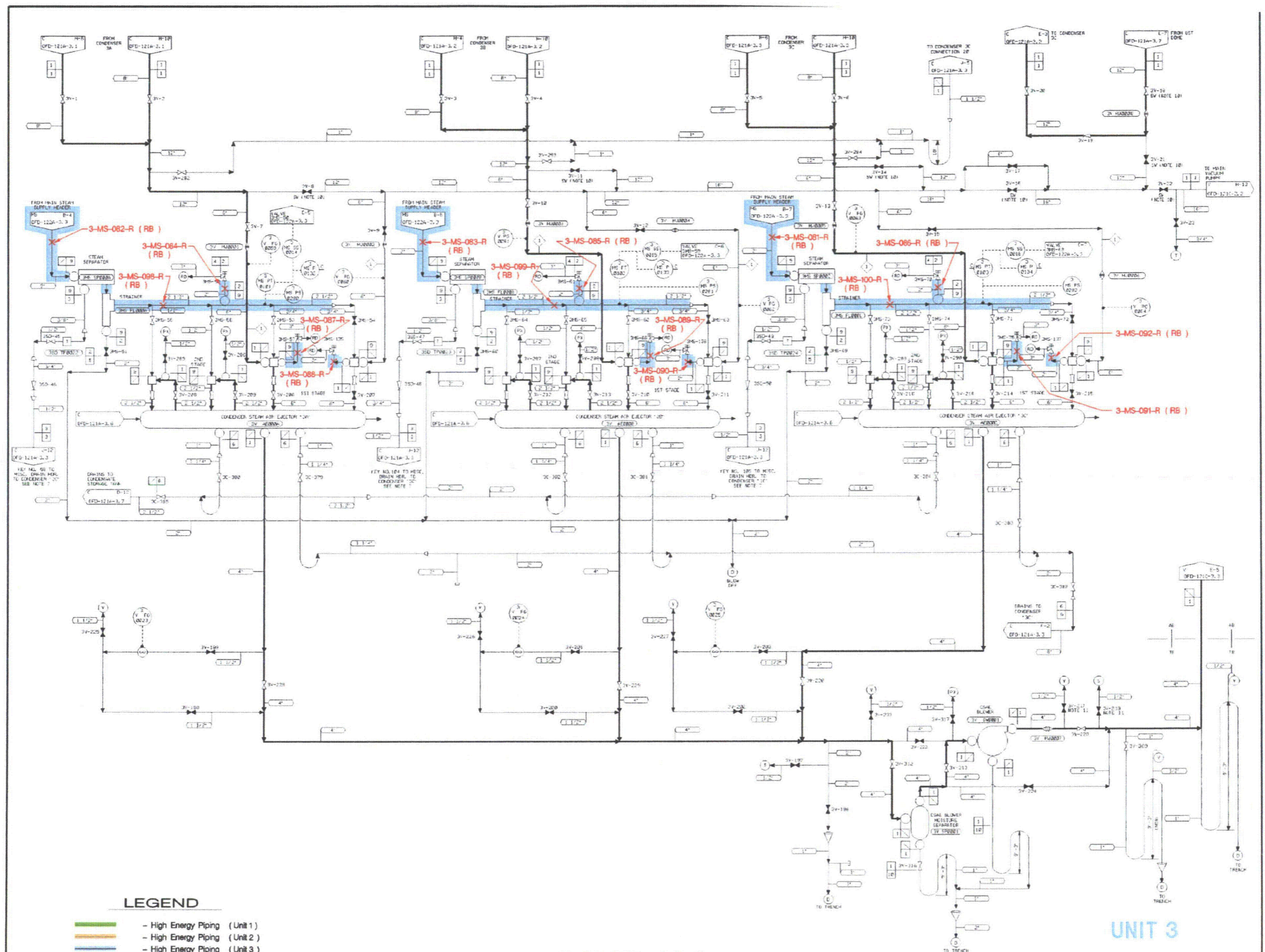
Table 6.1-8
 Main Steam System – High Energy Line Data – Unit 3

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-) See Note 7	Floor Elev. or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MS-231-CR	122A-3.1	CR	36.500	1.125	TB	2441, 2401F	827'-1"	L-N	53-54	900	595
3-MS-232-CR	122A-3.1	CR	36.500	1.125	TB	2401B, 2401F 2441	812'-10"	L-M	53-54	900	595
3-MS-233-CR	122A-3.1	CR	36.500	1.125	TB	2401B	812'-7"	L-M	55-56	900	595
3-MS-234-CR	122A-3.1	CR	24.000	0.968	TB	2401B	812'-0"	E-F	54-56	900	595
3-MS-235-CR	122A-3.1	CR	24.000	0.968	TB	2401B	812'-0"	E-F	54-56	900	595
3-MS-236-CR	122A-3.1	CR	36.500	1.125	TB	2401B	812'-0"	E-F	55-56	900	595
3-MS-237-CR	122A-3.1	CR	36.500	1.125	YARD	2441	828'-0"	V-X	97-99	900	595
3-MS-238-CR	122A-3.1	CR	36.500	1.125	YARD	2441	827'-4"	N-Q	98-99	900	595
3-MS-239-CR	122A-3.1	CR	36.500	1.125	TB	2441, 2401F	827'-1"	L-N	53-54	900	595
3-MS-240-CR	122A-3.1	CR	36.500	1.125	TB	2401B, 2401F 2441	812'-10"	L-M	53-55	900	595
3-MS-241-CR	122A-3.1	CR	36.500	1.125	TB	2401B	812'-9"	L-M	55-56	900	595
3-MS-242-CR	122A-3.1	CR	36.500	1.125	TB	2401B	812'-8"	L-M	55-56	900	595
3-MS-243-CR	122A-3.1	CR	24.000	0.968	TB	2401B	812'-0"	E-F	54-56	900	595
3-MS-244-CR	122B-3.1	CR	28.000	1.400	TB	OM-2200-40-4	787'-0"	E-F	54-55	900	595
3-MS-245-CR	122B-3.2	CR	28.000	1.400	TB	OM-2200-40-2	804'-0"	E-F	52-53	900	595
3-MS-246-CR	122A-3.1	CR	24.000	0.968	TB	2401B	812'-0"	E-F	54-56	900	595
3-MS-247-CR	122A-3.2	CR	8.625	0.500	TB	2401D	805'-0"	L-M	49-50	900	595
3-MS-248-CR	122A-3.2	CR	12.75	0.562	TB	2401D	805'-0"	L-M	49-50	900	595
3-MS-249-CR	122A-3.2	CR	12.75	0.562	TB	2401C	805'-0"	L-M	50-52	900	595
3-MS-250-CR	122A-3.2	CR	12.75	0.562	TB	2401B, 2401F	807'-0"	L-M	52-53	900	595
3-MS-251-CR	122A-3.2	CR	12.75	0.562	TB	2401B, 2401F	805'-0"	L-M	54-56	900	595
3-MS-252-CR	122A-3.2	CR	8.625	0.500	TB	2401D	799'-0"	L-M	49-50	900	595
3-MS-253-CR	122A-3.2	CR	12.75 8.625	0.562 0.500	TB	2401C	807'-0"	L-M	50-51	900	595
3-MS-254-CR	122A-3.2	CR	12.75	0.562	TB	2401B, 2401F	807'-0" 809'-0"	L-M	51-53	900	595
3-MS-255-CR	122A-3.2	CR	12.75	0.562	TB	2401B	807'-0"	L-M	52-53	900	595
3-MS-256-CR	122A-3.2	CR	12.75	0.562	TB	2401B	807'-0"	L-M	53-54	900	595
3-MS-257-CR	122A-3.2	CR	8.625	0.500	TB	2401C	805'-0" 798'-0"	L-M	50-51	900	595
3-MS-258-CR	122A-3.2	CR	6.625	0.432	TB	2403D	805'-5"	L-M	53-54	900	595
3-MS-259-CR	122A-3.2	CR	6.625	0.432	TB	2403D	807'-3"	L-M	53-54	900	595
3-MS-260-CR	122A-3.2	CR	6.625	0.432	TB	2403D	807'-3"	L-M	54-55	900	595
3-MS-261-CR	122A-3.2	CR	8.625	0.500	TB	2403D	807'-3"	L-M	54-55	900	595
3-MS-262-CR	128A-3.1	CR	8.625	0.500	TB	2403D	807'-3" 805'-6"	L-M	55-56	900	595

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-) See Note 7	Floor Elev. or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MS-263-CR	128A-3.1	CR	8.625	0.500	TB	2403D	805'-6"	K	55-56	900	595
3-MS-264-CR	128A-3.1	CR	8.625 6.625	0.500 0.432	TB	2403D	805'-6"	K	55-56	900	595
3-MS-265-CR	122A-3.2	CR	6.625	0.432	TB	2403D	805'-6"	L-M	55	900	595
3-MS-266-CR	122A-3.3	CR	8.625	0.500	TB	2403D	817'-6"	D-E	55-56	900	595
3-MS-267-CR	122A-3.3	CR	8.625	0.500	TB	2403F	804'-6"	D-E	55-56	900	595
3-MS-268-CR	122C-3.2	CR	8.625	0.500	TB	OM-2200-52-1	807'-4"	H-J	54-55	900	595
3-MS-269-CR	122C-3.2	CR	8.625	0.500	TB	OM-2200-52-1	817'-7"	G-H	55-56	900	595
3-MS-270-CR	122C-3.2	CR	8.625	0.500	TB	OM-2200-52-1	807'-4"	G-H	55-56	900	595
3-MS-271-CR	122C-3.2	CR	8.625	0.500	TB	OM-2200-52-2	817'-0"	B-C	54-56	900	595
3-MS-272-CR	122C-3.2	CR	8.625	0.500	TB	OM-2200-52-2	807'-2"	B-C	54-55	900	595
3-MS-273-CR	122C-3.2	CR	6.625	0.432	TB	OM-2200-52-2	817'-1"	C-D	55-56	900	595
3-MS-274-CR	122C-3.2	CR	8.625	0.500	TB	OM-2200-52-2	817'-1"	C-D	55-56	900	595
3-MS-275-CR	122C-3.2	CR	8.625	0.500	TB	OM-2200-52-2	807'-2"	C-D	55-56	900	595
3-MS-276-CR	122A-3.4	CR	6.625	0.432	TB	2403D	817'-2"	E-F	55-56	900	595
3-MS-277-CR	122A-3.4	CR	2.375	0.218	TB	2403D	807'-6"	B-C	51-52	900	595
3-MS-278-CR	122A-3.4	CR	6.625	0.280	TB	2403E	783'-6"	C-D	49-50	310	500
3-MS-279-CR	122A-3.4	CR	6.625	0.280	TB	2403E	782'-0"	C-D	49-50	310	500
3-MS-280-CR	122A-3.1	CR	12.750	0.562	TB	2441	832'-10"	L-M	53-54	900	595

Notes:

1. Break numbers may not be consecutive
2. Break type: RB – Running Break (Piping not analyzed for seismic), TE – Terminal End, IB – Intermediate Break, CR – Critical Cracks
3. Building: TB – Turbine Building, AB – Auxiliary Building, EPR – East Penetration Room, Yard.
4. Each running break may contain one or more sub-breaks.
5. For the Unit 3 Main Steam System 21 Terminal End Breaks, 8 Intermediate Breaks, 51 Critical Cracks, and 55 Running Breaks were considered; the non-excluded breaks listed in this table include 21 Terminal End Breaks, 8 Intermediate Breaks, 51 Critical Cracks, and 33 Running Breaks.
6. For Terminal End Break, Intermediate Break, and Critical Crack locations the elevation of the break location is given. For Running Breaks the elevation of floor or room that contains running break is given.
7. Layout of piping system may be shown on vendor supplied drawings (OM-)
8. Other Abbreviations: OD – Outer Diameter, in – inches, Op - operating



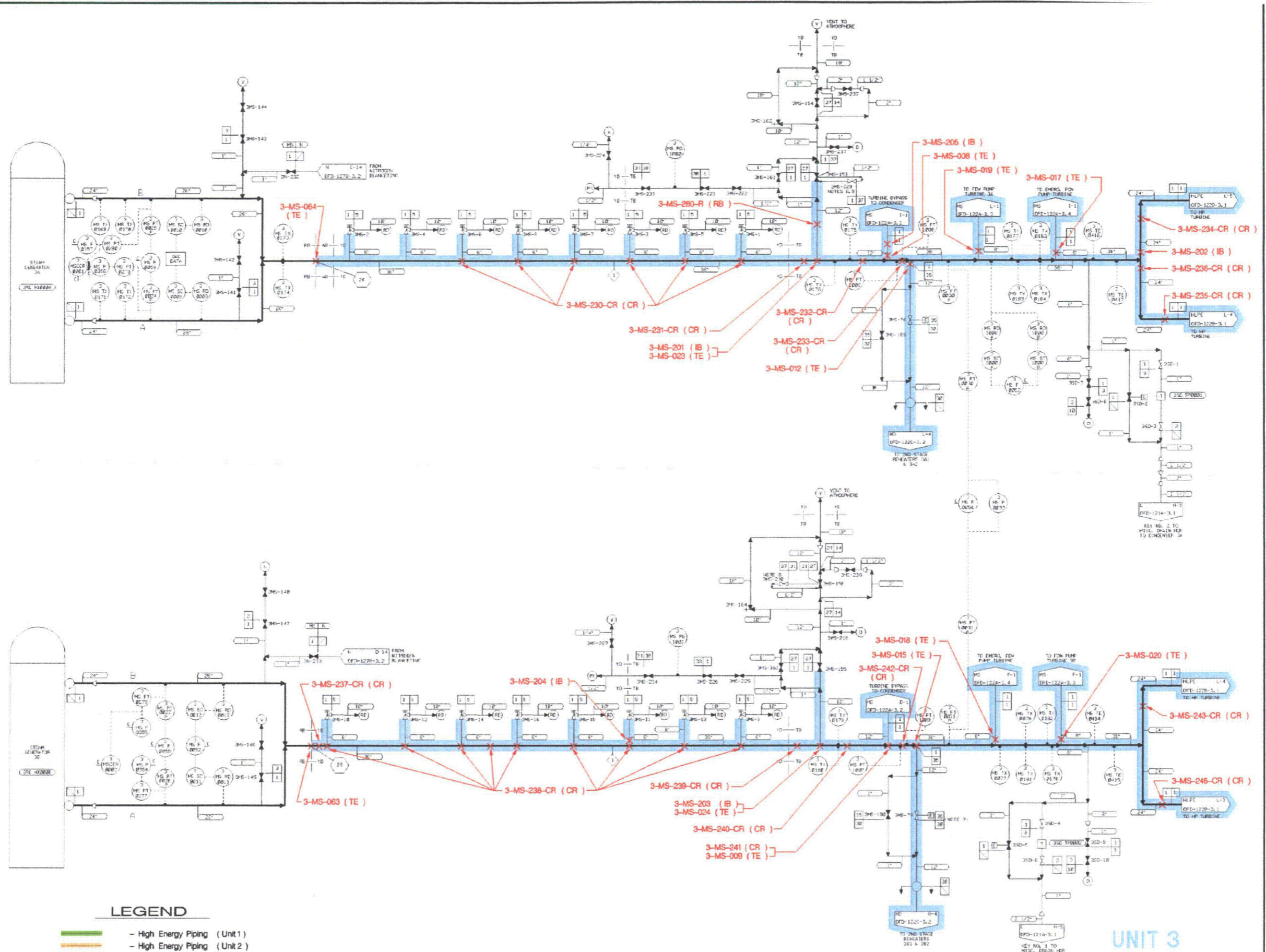
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - |— - Running Break Boundary

FIGURE 6.1-8
MAIN STEAM SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 1 of 9)

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-121C-3.2 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-121C-03-02

UNIT 3

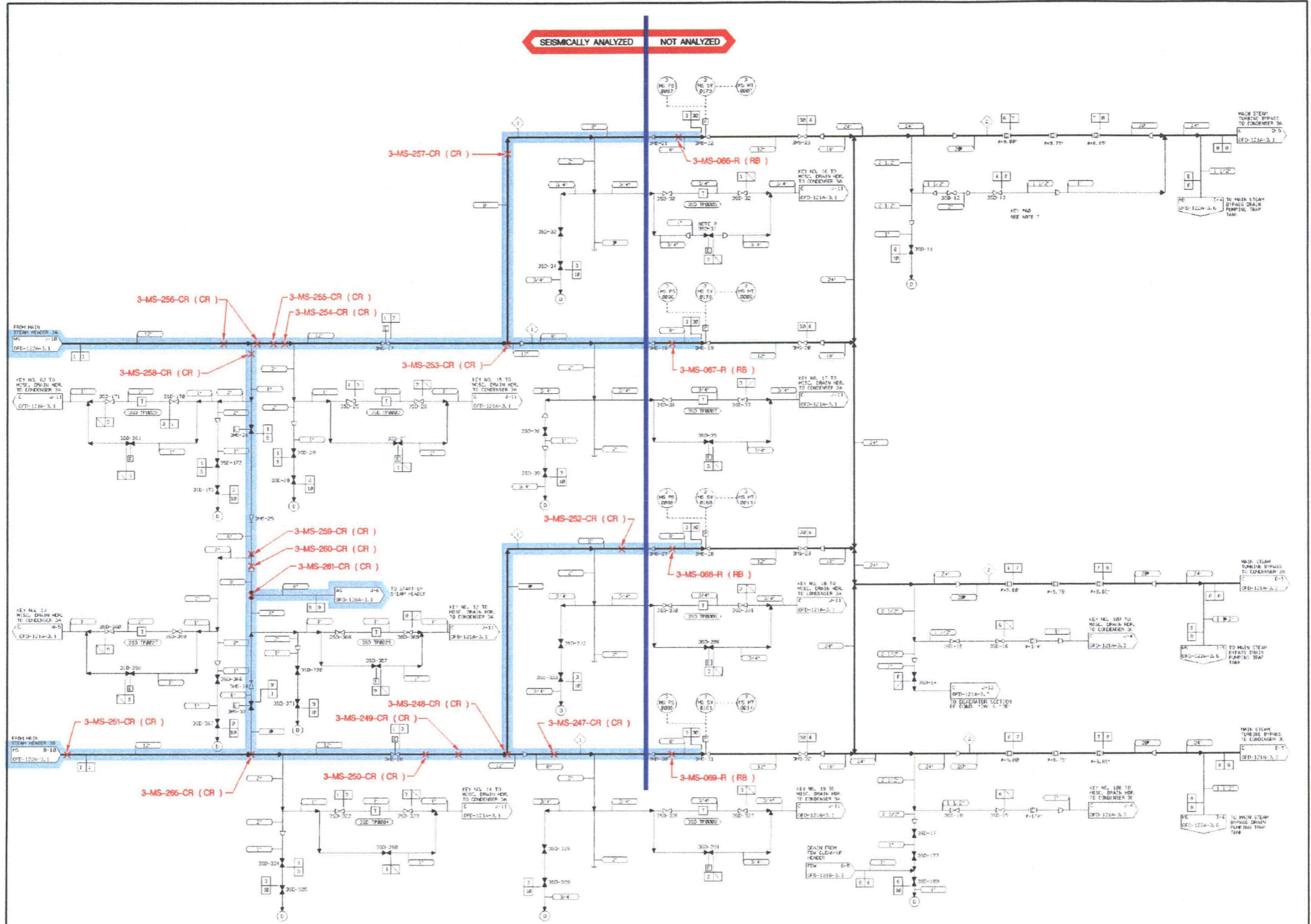


- LEGEND**
- High Energy Piping (Unit 1)
 - High Energy Piping (Unit 2)
 - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - |— - Running Break Boundary

FIGURE 6.1-8
MAIN STEAM SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 2 of 9)

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122A-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122A-03-01



SEISMICALLY ANALYZED NOT ANALYZED

LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- R - Running Break Boundary

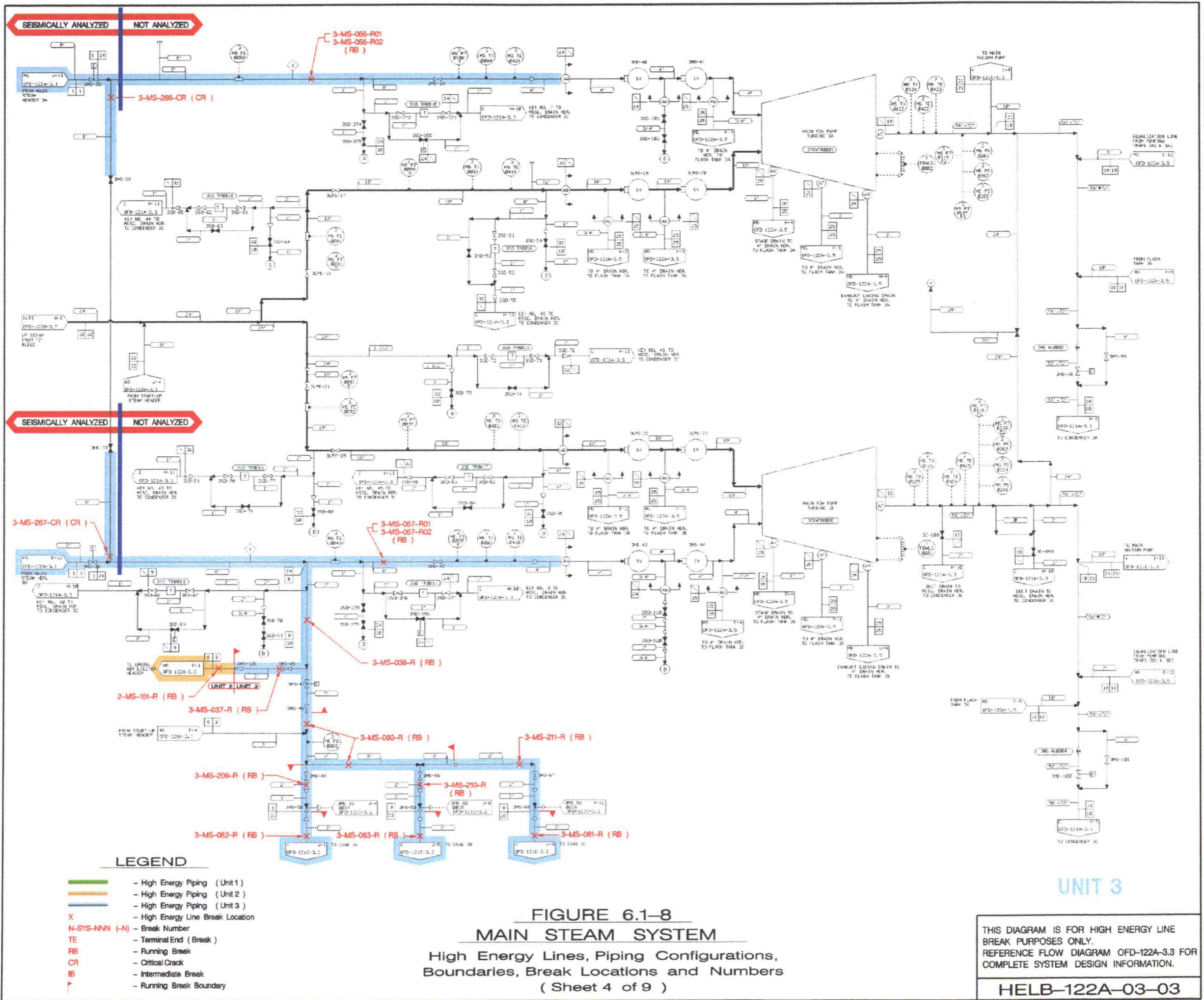
**FIGURE 6.1-8
MAIN STEAM SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 3 of 9)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-122A-3.2 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122A-03-02



SEISMICALLY ANALYZED NOT ANALYZED

SEISMICALLY ANALYZED NOT ANALYZED

LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- |— - Running Break Boundary

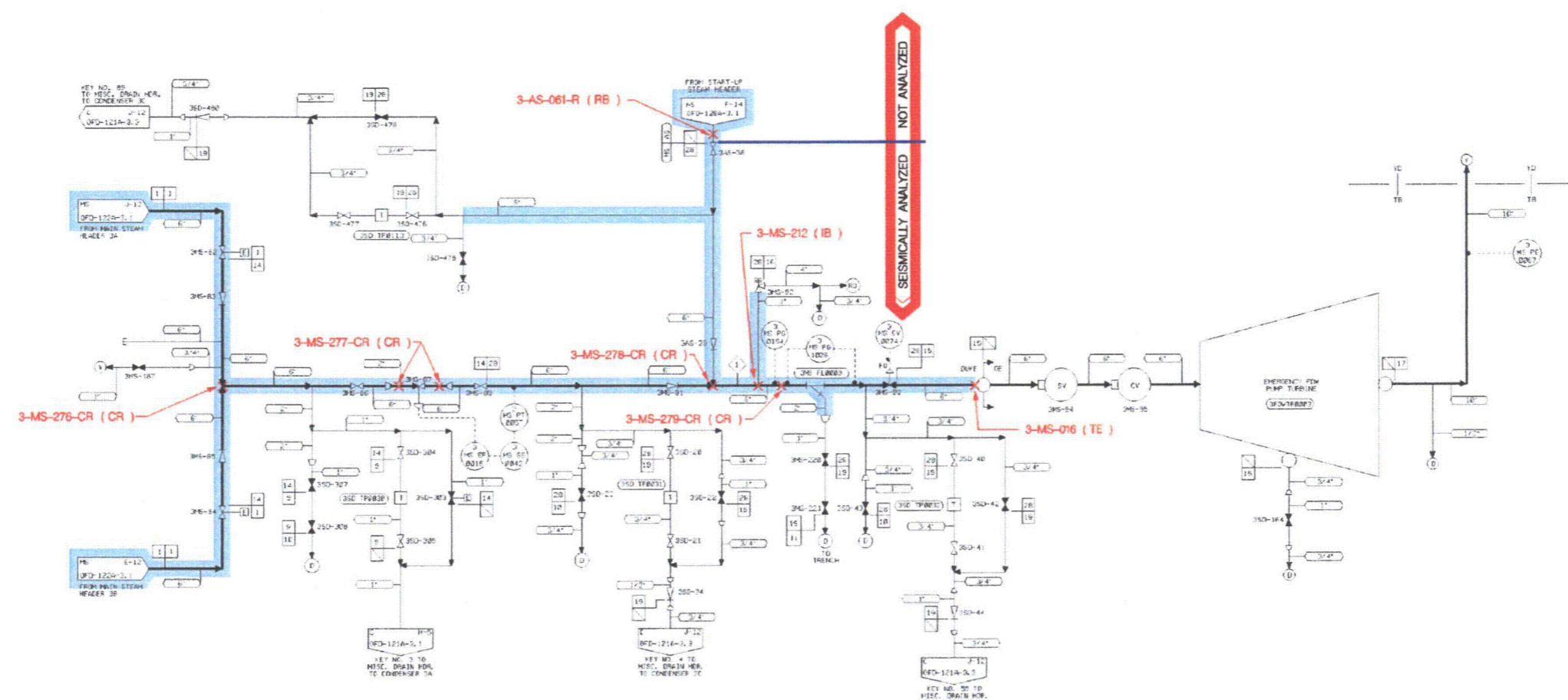
FIGURE 6.1-8
MAIN STEAM SYSTEM

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 4 of 9)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-122A-3.3 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122A-03-03



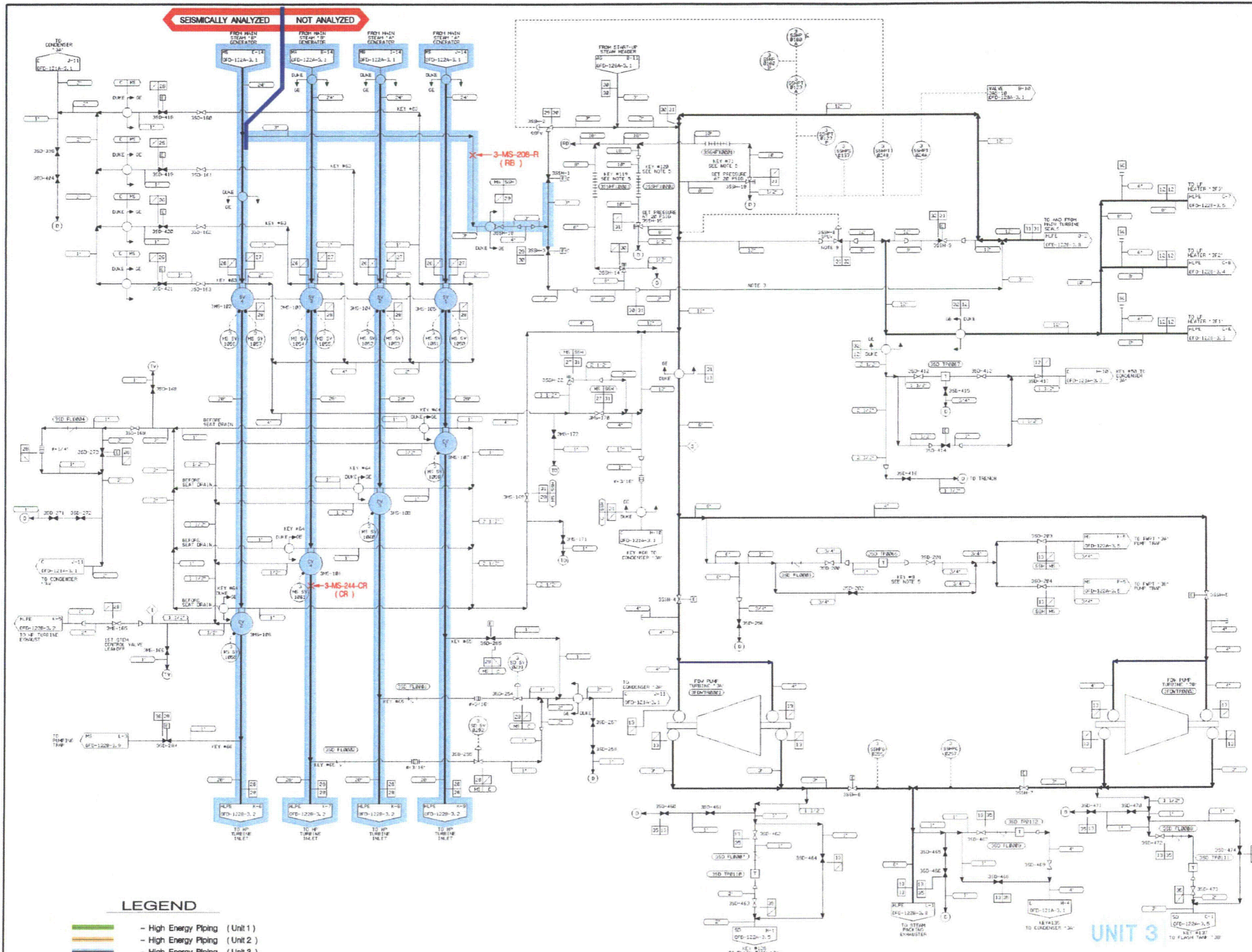
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - ▶ - Running Break Boundary

FIGURE 6.1-8
MAIN STEAM SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 5 of 9)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122A-3.4 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122A-03-04



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- |— - Running Break Boundary

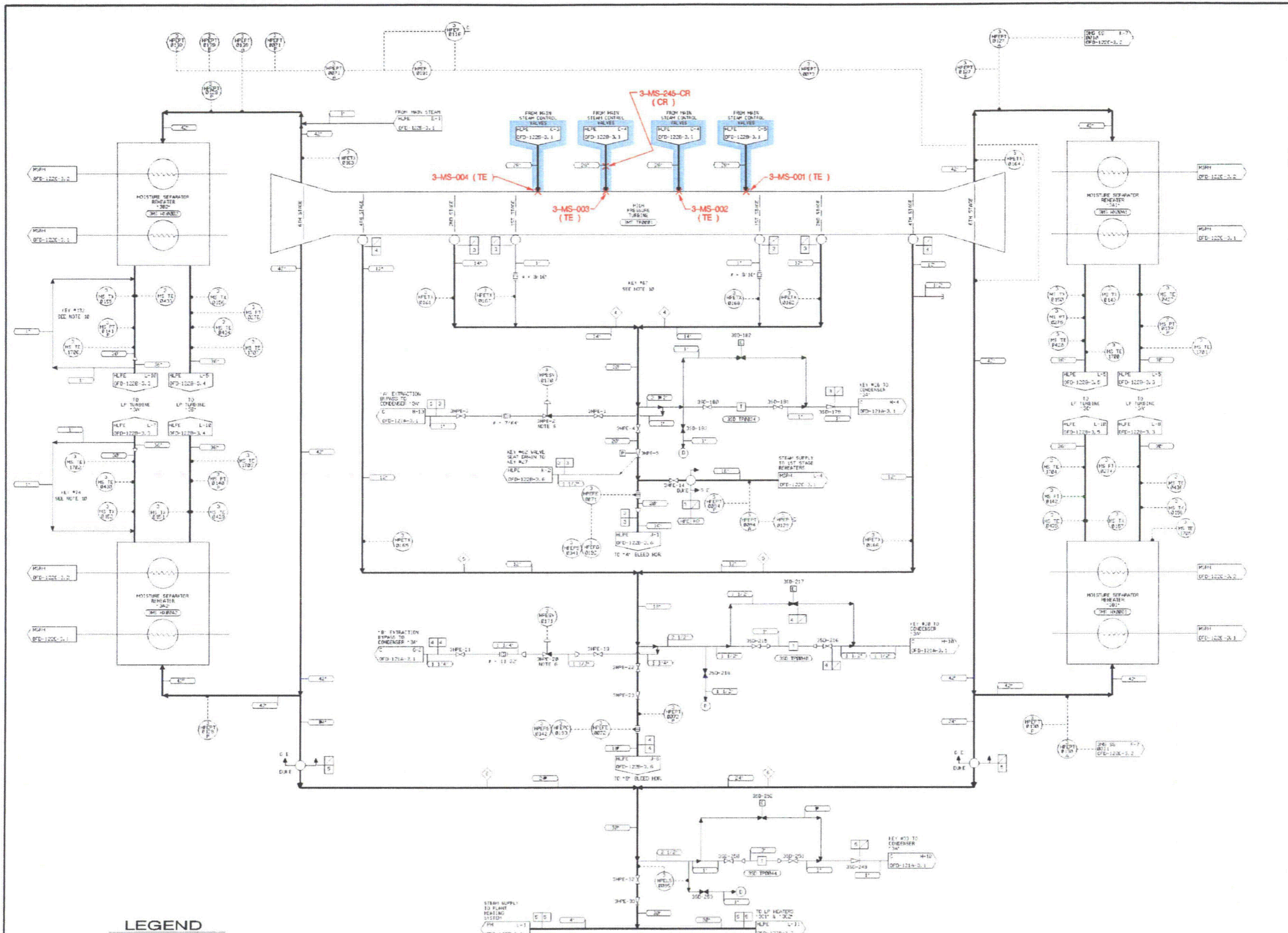
**FIGURE 6.1-8
MAIN STEAM SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 6 of 9)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-122B-3.1 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122B-03-01



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ┆ - Running Break Boundary

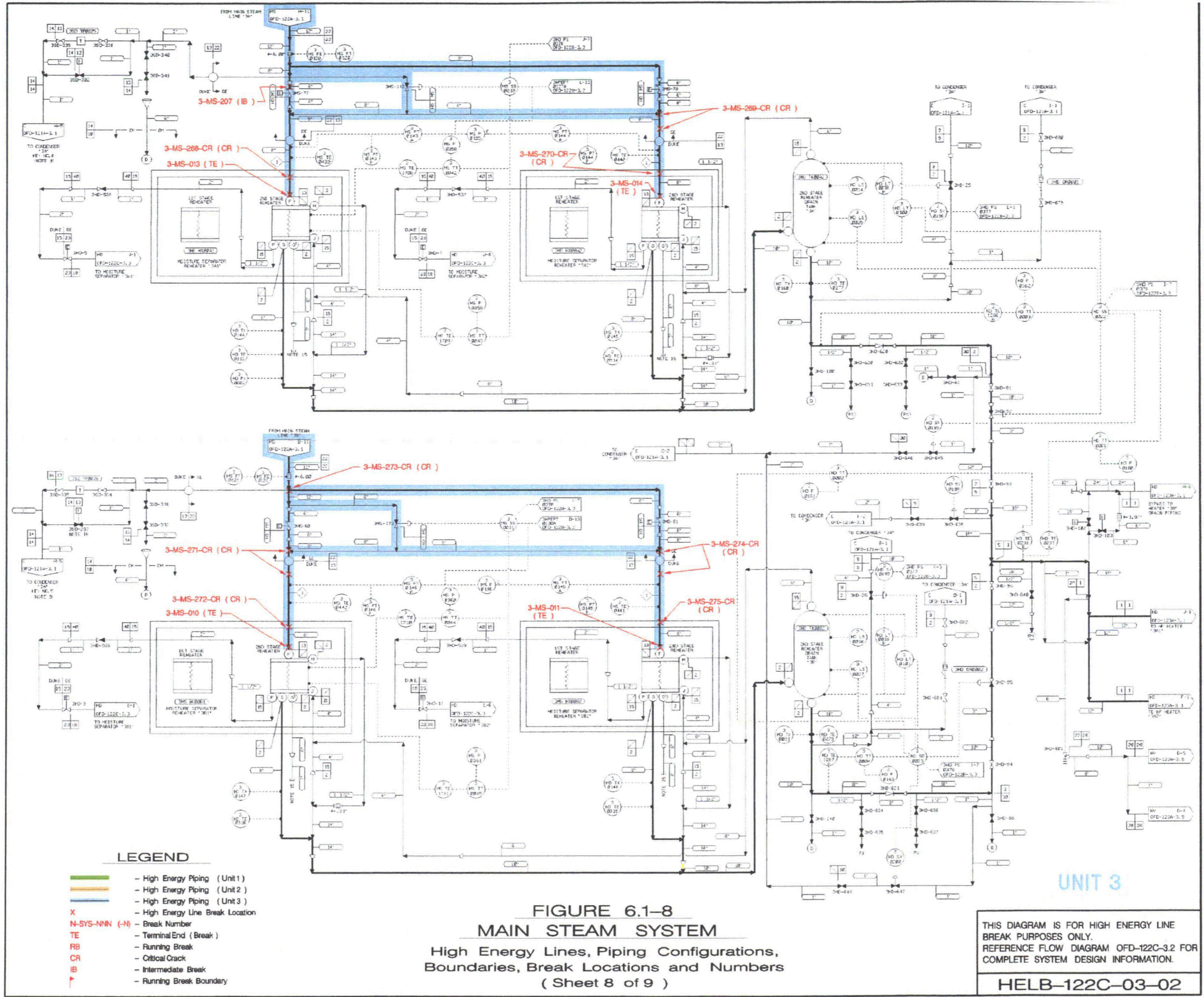
**FIGURE 6.1-8
MAIN STEAM SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 7 of 9)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-122B-3.2 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122B-03-02

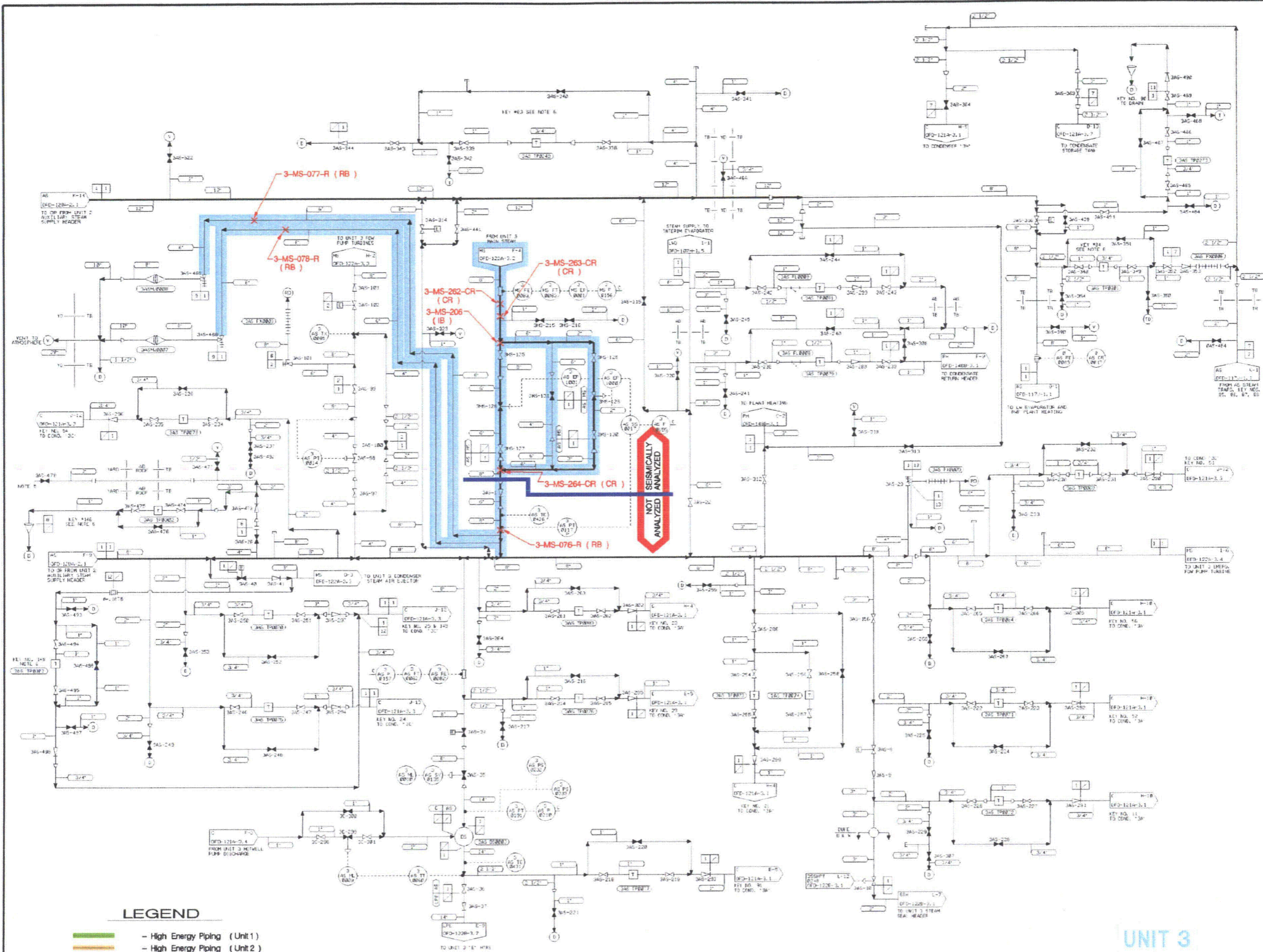


- LEGEND**
- High Energy Piping (Unit 1)
 - High Energy Piping (Unit 2)
 - High Energy Piping (Unit 3)
 - X High Energy Line Break Location
 - N-SYS-NNN (-N) Break Number
 - TE Terminal End (Break)
 - RB Running Break
 - CR Critical Crack
 - IB Intermediate Break
 - Running Break Boundary

FIGURE 6.1-8
MAIN STEAM SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 8 of 9)

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122C-3.2 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122C-03-02



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- P - Running Break Boundary

**FIGURE 6.1-8
MAIN STEAM SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 9 of 9)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-128A-3.1 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-128A-03-01

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. or Break Elev. (See Note 7)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MSRD-001	122C-3.1	TE	8.625	0.322	TB	2410U	798'-0"	H-J	54-55	460	460
3-MSRD-002-R01	122C-3.1	RB	1.900	0.145	TB	2410V	775'-0"	H-J	54-55	460	460
3-MSRD-002-R02	122C-3.1	RB	1.900	0.145	TB	2410H	796'-6"	H-J	54-55	460	460
3-MSRD-003	122C-3.1	TE	4.500	0.237	TB	2410U	800'-0"	H-J	54-55	460	460
3-MSRD-004	122C-3.1	TE	8.625	0.322	TB	2410U	798'-0"	G-H	55	460	460
3-MSRD-005-R01	122C-3.1	RB	1.900	0.145	TB	2410V	775'-0"	G-H	54-55	460	460
3-MSRD-005-R02	122C-3.1	RB	1.900	0.145	TB	2410H	796'-6"	G-H	54-55	460	460
3-MSRD-006	122C-3.1	TE	4.500	0.237	TB	2410U	800'-0"	G-H	55	460	460
3-MSRD-007	122C-3.1	TE	8.625	0.322	TB	2410S	784'-0"	F-G	52-53	460	460
3-MSRD-008	122C-3.1	TE	6.625	0.280	TB	2410S	791'-6"	F-G	52-53	460	460
3-MSRD-009	122C-3.1	TE	8.625	0.322	TB	2410S	784'-0"	F-G	52-53	460	460
3-MSRD-010	122C-3.1	TE	8.625	0.322	TB	2410U	798'-0"	B-C	54-55	460	460
3-MSRD-011-R01	122C-3.1	RB	1.900	0.145	TB	2410V	775'-0"	B-C	54-55	460	460
3-MSRD-011-R02	122C-3.1	RB	1.900	0.145	TB	2410U	796'-6"	B-C	54-55	460	460
3-MSRD-012	122C-3.1	TE	4.500	0.237	TB	2410U	800'-0"	B-C	54-55	460	460
3-MSRD-013	122C-3.1	TE	8.625	0.322	TB	2410U	798'-0"	C-D	55	460	460
3-MSRD-014-R01	122C-3.1	RB	1.900	0.145	TB	2410V	775'-0"	B-C	54-56	460	460
3-MSRD-014-R02	122C-3.1	RB	1.900	0.145	TB	2410U	796'-6"	C-D	54-55	460	460
3-MSRD-015	122C-3.1	TE	4.500	0.237	TB	2410U	800'-0"	C-D	55	460	460
3-MSRD-016	122C-3.1	TE	8.625	0.322	TB	2410S	784'-0"	D-E	52-53	460	460
3-MSRD-017	122C-3.1	TE	6.625	0.280	TB	2410S	791'-6"	D-E	52-53	460	460
3-MSRD-018	122C-3.1	TE	8.625	0.322	TB	2410S	784'-0"	D-E	52-53	460	460
3-MSRD-019-R	122C-3.2	RB	6.625	0.280	TB	2410H	796'-6"	K-L	49	470	460
3-MSRD-020-R	122C-3.2	RB	18.000	0.375	TB	2410H	796'-6"	K-M	48-49	470	460
3-MSRD-021-R01	122C-3.3	RB	6.625	0.280	TB	2410N, 2410S	775'-0"	F-H	52-54	160	380
3-MSRD-021-R02	122C-3.3	RB	6.625	0.280	TB	2410H	796'-6"	G-J	53-55	160	380
3-MSRD-022-R	122C-3.2	RB	6.625	0.432	TB	2410I	796'-6"	L-M	48-49	470	460
3-MSRD-023	122C-3.2	TE	8.625	0.322	TB	2410U	803'-5"	H-J	54-55	900	540
3-MSRD-024-R01	122C-3.2	RB	1.900	0.145	TB	2410V	775'-0"	H-J	54-55	900	540

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. or Break Elev. (See Note 7)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MSRD-024-R02	122C-3.2	RB	1.900	0.145	TB	2410U	796'-6"	H-J	54-55	900	540
3-MSRD-025	122C-3.2	TE	4.500	0.237	TB	2410U	805'-0"	H-J	54-55	900	540
3-MSRD-026	122C-3.2	TE	8.625	0.322	TB	2410U	803'-5"	G-H	55	900	540
3-MSRD-027-R01	122C-3.2	RB	1.900	0.145	TB	2410V	775'-0"	G-H	54-55	900	540
3-MSRD-027-R02	122C-3.2	RB	1.900	0.145	TB	2410U	796'-6"	G-H	54-55	900	540
3-MSRD-028	122C-3.2	TE	4.500	0.237	TB	2410U	805'-0"	G-H	55	900	540
3-MSRD-029	122C-3.2	TE	10.750	0.365	TB	2410S	785'-6"	G-H	52-53	900	540
3-MSRD-030	122C-3.2	TE	6.625	0.280	TB	2410S	793'-0"	G-H	52-53	900	540
3-MSRD-031	122C-3.2	TE	10.750	0.365	TB	2410S	785'-6"	G-H	52-53	900	540
3-MSRD-032	122C-3.2	TE	8.625	0.322	TB	2410U	803'-5"	B-C	54-55	900	540
3-MSRD-033-R01	122C-3.2	RB	1.900	0.145	TB	2410V	775'-0"	B-C	54-55	900	540
3-MSRD-033-R02	122C-3.2	RB	1.900	0.145	TB	2410U	796'-6"	B-C	54-55	900	540
3-MSRD-034	122C-3.2	TE	4.500	0.237	TB	2410U	805'-0"	B-C	54-55	900	540
3-MSRD-035	122C-3.2	TE	8.625	0.322	TB	2410U	803'-5"	C-D	55	900	540
3-MSRD-036-R01	122C-3.2	RB	1.900	0.145	TB	2410V	775'-0"	B-C	54-56	900	540
3-MSRD-036-R02	122C-3.2	RB	1.900	0.145	TB	2410U	796'-6"	B-D	54-56	900	540
3-MSRD-037	122C-3.2	TE	4.500	0.237	TB	2410U	805'-0"	C-D	55	900	540
3-MSRD-038	122C-3.2	TE	10.750	0.365	TB	2410S	785'-6"	C-D	52-53	900	540
3-MSRD-039	122C-3.2	TE	6.625	0.280	TB	2410S	793'-0"	C-D	52-53	900	540
3-MSRD-040	122C-3.2	TE	10.750	0.365	TB	2410S	785'-6"	C-D	52-53	900	540
3-MSRD-041-R01	122C-3.2	RB	4.500	0.237	TB	2410V	775'-0"	G-J	54-55	900	540
3-MSRD-041-R02	122C-3.2	RB	4.500	0.237	TB	2410U	796'-6"	H-J	54-55	900	540
3-MSRD-042-R01	122C-3.2	RB	4.500	0.237	TB	2410V	775'-0"	G-J	54-55	900	540
3-MSRD-042-R02	122C-3.2	RB	4.500	0.237	TB	2410U	796'-6"	G-J	54-55	900	540
3-MSRD-043-R01	122C-3.2	RB	4.500	0.237	TB	2410V	775'-0"	B-C	54-55	900	540
3-MSRD-043-R02	122C-3.2	RB	4.500	0.237	TB	2410U	796'-6"	B-C	54-55	900	540
3-MSRD-044-R01	122C-3.2	RB	4.500	0.237	TB	2410V	775'-0"	B-C	54-55	900	540
3-MSRD-044-R02	122C-3.2	RB	4.500	0.237	TB	2410U	796'-6"	C-D	54-55	900	540
3-MSRD-045	122C-3.2	TE	18.000	0.375	TB	2410H	808'-6"	L-M	49	470	460
3-MSRD-046-R	122C-3.2 123A-3.1	RB	12.750	0.375	TB	2410H	796'-6"	K-M	48-49	900	540

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. or Break Elev. (See Note 7)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MSRD-047-R	122C-3.2 123A-3.1	RB	12.750	0.375	TB	2410H	796'-6"	J-L	48-49	900	540
3-MSRD-048-R	122C-3.1	RB	2.375	0.154	TB	2410H	796'-6"	H-J	54-55	460	480
3-MSRD-049-R	122C-3.1	RB	2.375	0.154	TB	2410H	796'-6"	G-H	54-55	460	480
3-MSRD-050-R	122C-3.1	RB	2.375	0.154	TB	2410U	796'-6"	B-C	54-55	460	480
3-MSRD-051-R	122C-3.1	RB	2.375	0.154	TB	2410U	796'-6"	C-D	54-55	460	480
3-MSRD-052-R	122C-3.1 122C-3.3	RB	2.375	0.154	TB	2410H	796'-6"	H-J	54-55	170	480
3-MSRD-053-R	122C-3.1 122C-3.3	RB	2.375	0.154	TB	2410H	796'-6"	G-H	54-55	170	480
3-MSRD-054-R	122C-3.1 122C-3.3	RB	2.375	0.154	TB	2410U	796'-6"	B-C	54-55	170	480
3-MSRD-055-R	122C-3.1 122C-3.3	RB	2.375	0.154	TB	2410U	796'-6"	C-D	54-55	170	480
3-MSRD-056-R	122C-3.2	RB	2.375	0.154	TB	2410U	796'-6"	H-J	54-55	900	595
3-MSRD-057-R	122C-3.2	RB	2.375	0.154	TB	2410U	796'-6"	G-H	54-55	900	595
3-MSRD-058-R	122C-3.2	RB	2.375	0.154	TB	2410U	796'-6"	B-C	54-55	900	595
3-MSRD-059-R	122C-3.2	RB	2.375	0.154	TB	2410U	796'-6"	C-D	54-55	900	595
3-MSRD-060-R	122C-3.2 122C-3.3	RB	2.375	0.218	TB	2410U	796'-6"	H-J	54-55	170	595
3-MSRD-061-R	122C-3.2 122C-3.3	RB	2.375	0.218	TB	2410U	796'-6"	G-H	54-55	170	595
3-MSRD-062-R	122C-3.2 122C-3.3	RB	2.375	0.218	TB	2410U	796'-6"	B-C	54-55	170	595
3-MSRD-063-R	122C-3.2 122C-3.3	RB	2.375	0.218	TB	2410U	796'-6"	C-D	54-55	170	595
3-MSRD-069-R01	122C-3.3	RB	6.625	0.280	TB	2410N, 2410S	775'-0"	C-E	52-54	160	380
3-MSRD-069-R02	122C-3.3	RB	6.625	0.280	TB	2410U	796'-6"	B-D	53-55	160	380
3-MSRD-070-R01	122C-3.3	RB	20.000	0.375	TB	2410N	775'-0"	B-D	53-55	160	380
3-MSRD-070-R02	122C-3.3	RB	20.000	0.375	TB	2410U	796'-6"	B-C	54-55	160	380
3-MSRD-071-R	122C-3.3	RB	12.750	0.375	TB	2410N	775'-0"	C-D	53-54	160	380
3-MSRD-072-R	122C-3.3	RB	6.625	0.280	TB	2410N, 2410S	775'-0"	C-D	53-54	160	380
3-MSRD-073-R	122C-3.3	RB	12.750	0.375	TB	2410N	775'-0"	C-D	53-54	160	380
3-MSRD-074-R01	122C-3.3	RB	20.000	0.375	TB	2410N	775'-0"	C-D	53-55	160	380

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. or Break Elev. (See Note 7)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MSRD-074-R02	122C-3.3	RB	20.000	0.375	TB	2410U	796'-6"	C-D	54-55	160	380
3-MSRD-075-R	122C-3.3	RB	6.625	0.280	TB	2410N, 2410S	775'-0"	C-D	53-54	160	380
3-MSRD-076-R	122C-3.3	RB	8.625	0.322	TB	2410N	775'-0"	C-E	52-54	160	380
3-MSRD-077-R01	122C-3.3	RB	20.000	0.375	TB	2410N	775'-0"	H-J	53-55	160	380
3-MSRD-077-R02	122C-3.3	RB	20.000	0.375	TB	2410U	796'-6"	H-J	54-55	160	380
3-MSRD-078-R	122C-3.3	RB	12.750	0.375	TB	2410N	775'-0"	H-J	53-54	160	380
3-MSRD-079-R	122C-3.3	RB	6.625	0.280	TB	2410N	775'-0"	G-H	53-54	160	380
3-MSRD-080-R01	122C-3.3	RB	20.000	0.375	TB	2410N	775'-0"	G-H	53-55	160	380
3-MSRD-080-R02	122C-3.3	RB	20.000	0.375	TB	2410U	796'-6"	G-H	54-55	160	380
3-MSRD-081-R	122C-3.3	RB	12.750	0.375	TB	2410N	775'-0"	G-H	53-54	160	380
3-MSRD-082-R	122C-3.3	RB	6.625	0.280	TB	2410N	775'-0"	G-H	53-54	160	380
3-MSRD-083-R	122C-3.3	RB	8.625	0.322	TB	2410N	775'-0"	F-H	52-54	160	380
3-MSRD-084-R	122C-3.3	RB	2.375	0.154	TB	2403B	775'-0"	F-G	52-54	160	380
3-MSRD-085-R01	122C-3.3	RB	1.900	0.145	TB	2410N	775'-0"	B-E	52-55	160	380
3-MSRD-085-R02	122C-3.3	RB	1.900	0.145	TB	2410U	796'-6"	B-C	54-55	160	380
3-MSRD-086-R	122C-3.3	RB	2.375	0.154	TB	2410N	775'-0"	D-E	52-53	160	380
3-MSRD-087-R01	122C-3.3	RB	1.900	0.145	TB	2410N	775'-0"	C-E	52-55	160	380
3-MSRD-087-R02	122C-3.3	RB	1.900	0.145	TB	2410U	796'-6"	C-D	54-55	160	380
3-MSRD-088-R	122C-3.3	RB	2.375	0.154	TB	2410N	775'-0"	D-E	52-53	160	380
3-MSRD-089-R01	122C-3.3	RB	1.900	0.145	TB	2410N	775'-0"	F-J	51-55	160	380
3-MSRD-089-R02	122C-3.3	RB	1.900	0.145	TB	2410U	796'-6"	H-J	54-55	160	380
3-MSRD-090-R	122C-3.3	RB	2.375	0.154	TB	2410N	775'-0"	F-G	52-53	160	380
3-MSRD-091-R	122C-3.3	RB	2.375	0.154	TB	2410N	775'-0"	F-G	52-53	160	380
3-MSRD-092-R01	122C-3.3	RB	1.900	0.145	TB	2410N	775'-0"	F-H	51-55	160	380
3-MSRD-092-R02	122C-3.3	RB	1.900	0.145	TB	2410U	796'-6"	G-H	54-55	160	380
3-MSRD-093-R	122C-3.3	RB	2.375	0.154	TB	2403B	775'-0"	D-E	52-54	160	380
3-MSRD-094-R	122C-3.3	RB	2.375	0.154	TB	2403B	775'-0"	D-E	53-54	200	380
3-MSRD-095-R	122C-3.3	RB	6.625	0.280	TB	2410A, 2410N 2410T	775'-0"	D-M	53-56	200	380
3-MSRD-096-R	122C-3.3	RB	6.625	0.280	TB	2410N	775'-0"	D-E	53-54	160	380
3-MSRD-098-R	122C-3.3	RB	2.375	0.154	TB	2403B	775'-0"	F-G	53-54	200	380

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. or Break Elev. (See Note 7)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MSRD-099-R	122C-3.3	RB	6.625	0.280	TB	2410A, 2410N 2410Q	775'-0"	F-J	53-56	200	380
3-MSRD-101-R	122C-3.3	RB	6.625	0.280	TB	2410N	775'-0"	F-G	53-54	160	380
3-MSRD-102-R	122C-3.3	RB	6.625	0.280	TB	2410N	775'-0"	E-G	51-53	160	380
3-MSRD-103-R	122C-3.3	RB	8.625	0.322	TB	2410Q, 2410N	775'-0"	F-G	52-54	160	380
3-MSRD-104-R	122C-3.3	RB	6.625	0.280	TB	2410N	775'-0"	D-F	51-53	160	380
3-MSRD-105-R	122C-3.3	RB	8.625	0.322	TB	2410N, 2410T	775'-0"	D-E	53-54	160	380
3-MSRD-106	122C-3.4	TE	2.375	0.154	TB	2410A, 2410C	779'-4.5"	H-J	53-54	200	380
3-MSRD-201	122C-3.1	IB	3.500	0.216	TB	2410C	776'-8"	J	50-51	460	460
3-MSRD-202	122C-3.1	IB	8.625	0.322	TB	2410N	783'-3"	D-E	52-53	460	460
3-MSRD-203	122C-3.1	IB	4.500	0.237	TB	2410U	800'-10"	B-C	54-55	460	460
3-MSRD-204	122C-3.2	IB	6.625	0.280	TB	2410S	793'-7"	C-D	52-53	900	540
3-MSRD-301-R	122C-3.3 122C-3.4	RB	2.375	0.154	TB	2410N	775'-0"	F-G	53-54	200	380
3-MSRD-302-R	122C-3.4	RB	3.500	0.216	TB	2410N	775'-0"	G-H	53-54	200	380
3-MSRD-303-R	122C-3.4	RB	2.375	0.154	TB	2410N, 2410A	775'-0"	G-J	53-54	200	380
3-MSRD-304-R	123A-3.2 122C-3.3	RB	6.625	0.280	TB	2410A, 2410E	775'-0"	H-J	55-56	200	380
3-MSRD-305-R	123A-3.2 122C-3.3	RB	6.625	0.280	TB	2410A, 2410C	775'-0"	L-M	55-56	200	380
3-MSRD-306-R01	122C-3.1	RB	8.625	0.322	TB	2410V	775'-0"	H-J	54-55	460	460
3-MSRD-306-R02	122C-3.1	RB	8.625	0.322	TB	2410H, 2410U	796'-6"	H-J	54-56	460	460
3-MSRD-307-R01	122C-3.1	RB	8.625	0.322	TB	2410V	775'-0"	H-J	54-55	460	460
3-MSRD-307-R02	122C-3.1	RB	8.625	0.322	TB	2410H, 2410U	796'-6"	G-J	54-56	460	460
3-MSRD-308-R01	122C-3.2	RB	8.625	0.500	TB	2410V	775'-0"	H-J	54-55	900	540
3-MSRD-308-R02	122C-3.2	RB	8.625	0.500	TB	2410U	796'-6"	H-J	54-56	900	540
3-MSRD-309-R01	122C-3.2	RB	8.625	0.500	TB	2410V	775'-0"	H-J	54-55	900	540
3-MSRD-309-R02	122C-3.2	RB	8.625	0.500	TB	2410U	796'-6"	G-J	54-56	900	540
3-MSRD-310-R01	122C-3.1	RB	8.625	0.322	TB	2410V	775'-0"	B-C	54-55	460	460
3-MSRD-310-R02	122C-3.1	RB	8.625	0.322	TB	2410U	796'-6"	B-C	54-56	460	460
3-MSRD-311-R01	122C-3.1	RB	8.625	0.322	TB	2410V	775'-0"	B-C	54-55	460	460
3-MSRD-311-R02	122C-3.1	RB	8.625	0.322	TB	2410U	796'-6"	B-D	54-56	460	460

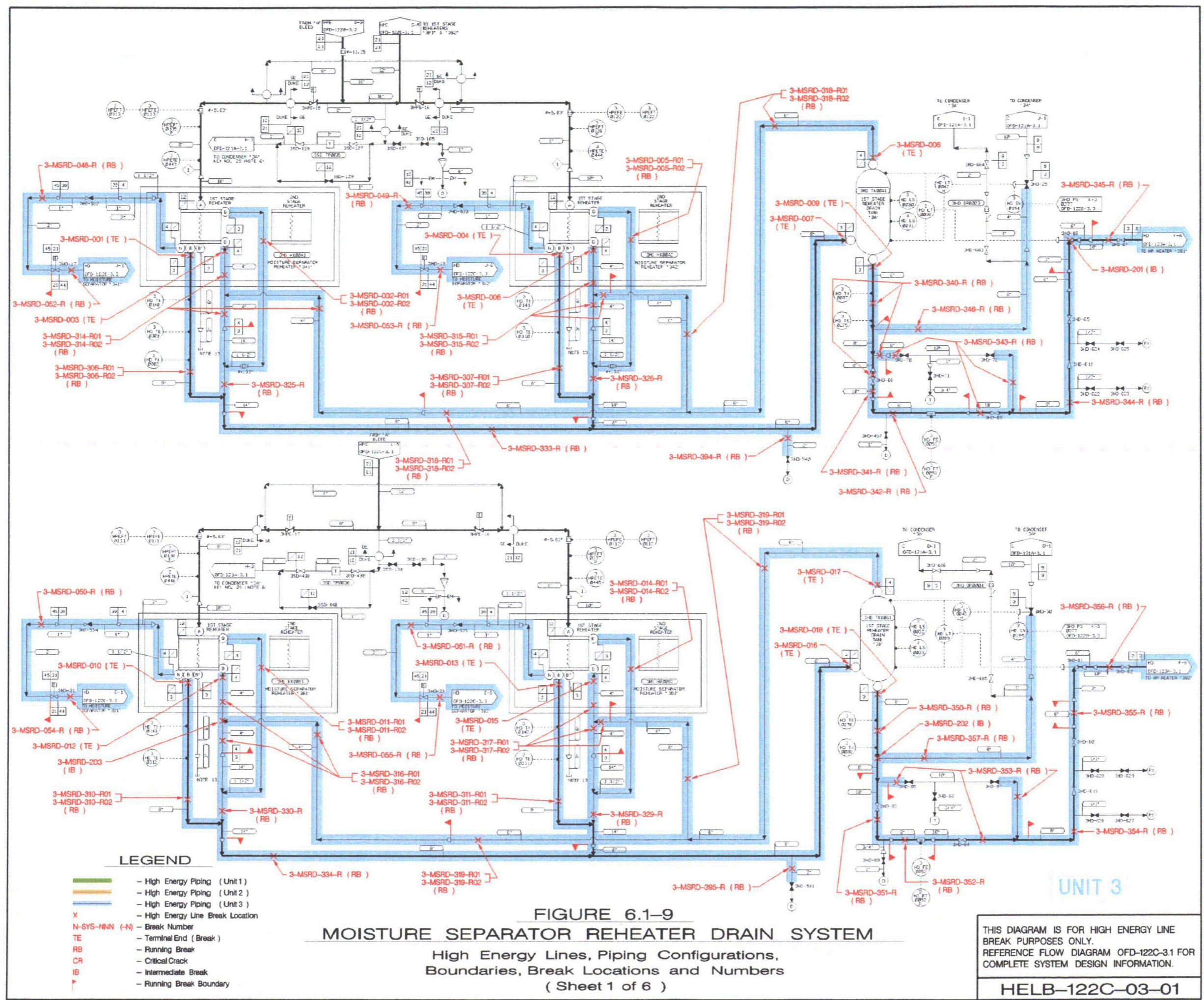
Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. or Break Elev. (See Note 7)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MSRD-312-R01	122C-3.2	RB	8.625	0.500	TB	2410V	775'-0"	B-C	54-55	900	540
3-MSRD-312-R02	122C-3.2	RB	8.625	0.500	TB	2410U	796'-6"	B-C	54-56	900	540
3-MSRD-313-R01	122C-3.2	RB	8.625	0.500	TB	2410V	775'-0"	B-C	54-55	900	540
3-MSRD-313-R02	122C-3.2	RB	8.625	0.500	TB	2410U	796'-6"	B-D	54-56	900	540
3-MSRD-314-R01	122C-3.1	RB	4.500	0.237	TB	2410V	775'-0"	H-J	54-55	460	460
3-MSRD-314-R02	122C-3.1	RB	4.500	0.237	TB	2410H, 2410U	796'-6"	H-J	54-56	460	460
3-MSRD-315-R01	122C-3.1	RB	4.500	0.237	TB	2410V	775'-0"	H-J	54-55	460	460
3-MSRD-315-R02	122C-3.1	RB	4.500	0.237	TB	2410H, 2410U	796'-6"	G-J	54-56	460	460
3-MSRD-316-R01	122C-3.1	RB	4.500	0.237	TB	2410V	775'-0"	B-C	54-55	460	460
3-MSRD-316-R02	122C-3.1	RB	4.500	0.237	TB	2410U	796'-6"	B-C	54-55	460	460
3-MSRD-317-R01	122C-3.1	RB	4.500	0.237	TB	2410V	775'-0"	B-D	54-56	460	460
3-MSRD-317-R02	122C-3.1	RB	4.500	0.237	TB	2410U	796'-6"	B-C	54-56	460	460
3-MSRD-318-R01	122C-3.1	RB	6.625	0.280	TB	2410V, 2410N	775'-0"	F-J	52-55	460	460
3-MSRD-318-R02	122C-3.1	RB	6.625	0.280	TB	2410H, 2410U	796'-6"	G-J	54-56	460	460
3-MSRD-319-R01	122C-3.1	RB	6.625	0.280	TB	2410N, 2410V 2410T	775'-0"	B-E	52-55	460	460
3-MSRD-319-R02	122C-3.1	RB	6.625	0.280	TB	2410U	796'-6"	B-D	54-56	460	460
3-MSRD-320-R01	122C-3.2	RB	6.625	0.280	TB	2410N, 2410Q	775'-0"	G-H	52-53	900	540
3-MSRD-320-R02	122C-3.2	RB	6.625	0.280	TB	2410H, 2410U	796'-6"	G-J	52-55	900	540
3-MSRD-321-R01	122C-3.2	RB	6.625	0.280	TB	2410N, 2410S 2410T	775'-0"	C-E	52-54	900	540
3-MSRD-321-R02	122C-3.2	RB	6.625	0.280	TB	2410U	796'-6"	B-D	53-55	900	540
3-MSRD-325-R	122C-3.1	RB	14.000	0.375	TB	2410V, 2410N	775'-0"	H-J	54-55	460	460
3-MSRD-326-R	122C-3.1	RB	14.000	0.375	TB	2410V, 2410N	775'-0"	H-J	54-55	460	460
3-MSRD-327-R	122C-3.2	RB	14.000	0.750	TB	2410V, 2410N	775'-0"	H-J	54-55	900	540
3-MSRD-328-R	122C-3.2	RB	14.000	0.750	TB	2410V, 2410N	775'-0"	H-J	54-55	900	540
3-MSRD-329-R	122C-3.1	RB	14.000	0.375	TB	2410V, 2410N	775'-0"	B-C	55-56	460	460
3-MSRD-330-R	122C-3.1	RB	14.000	0.375	TB	2410V, 2410N	775'-0"	B-C	55-56	460	460
3-MSRD-331-R	122C-3.2	RB	14.000	0.750	TB	2410V, 2410N	775'-0"	B-C	55-56	900	540
3-MSRD-332-R	122C-3.2	RB	14.000	0.750	TB	2410V, 2410N	775'-0"	B-C	55-56	900	540
3-MSRD-333-R	122C-3.1	RB	8.625	0.322	TB	2410N, 2410R	775'-0"	F-J	52-55	460	460

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. or Break Elev. (See Note 7)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MSRD-334-R	122C-3.1	RB	8.625	0.322	TB	2410V, 2410N	775'-0"	B-E	52-56	460	460
3-MSRD-335-R	122C-3.2	RB	10.750	0.500	TB	2410N, 2410R	775'-0"	G-I	52-55	900	540
3-MSRD-336-R	122C-3.2	RB	10.750	0.500	TB	2410V, 2410N	775'-0"	B-D	52-56	900	540
3-MSRD-340-R	122C-3.1	RB	8.625	0.322	TB	2410N, 2410A 2410Q	775'-0"	F-H	51-53	460	460
3-MSRD-341-R	122C-3.1	RB	10.750	0.365	TB	2410A	775'-0"	H-J	52-53	460	460
3-MSRD-342-R	122C-3.1	RB	8.625	0.322	TB	2410A	775'-0"	H-J	51-53	460	460
3-MSRD-343-R	122C-3.1	RB	10.750	0.365	TB	2410A	775'-0"	G-H	51-52	460	460
3-MSRD-344-R	122C-3.1	RB	8.625	0.322	TB	2410A, 2410C	775'-0"	G-K	50-51	460	460
3-MSRD-345-R	122C-3.1 123A-3.1	RB	10.750	0.365	TB	2410A, 2410C 2410H	775'-0"	J-K	50-51	460	460
3-MSRD-346-R	122C-3.1	RB	8.625	0.322	TB	2410N, 2410Q 2410F	775'-0"	E-G	52-53	460	460
3-MSRD-350-R	122C-3.1	RB	8.625	0.322	TB	2410N, 2410T	775'-0"	D-E	52-53	460	460
3-MSRD-351-R	122C-3.1	RB	10.750	0.365	TB	2410N, 2410R	775'-0"	D-E	52-53	460	460
3-MSRD-352-R	122C-3.1	RB	8.625	0.322	TB	2410N	775'-0"	D-F	52-53	460	460
3-MSRD-353-R	122C-3.1	RB	10.750	0.365	TB	2410N	775'-0"	D-F	52-53	460	460
3-MSRD-354-R	122C-3.1	RB	8.625	0.322	TB	2410N, 2410A 2410C	775'-0"	E-K	50-53	460	460
3-MSRD-355-R	122C-3.1	RB	6.625	0.280	TB	2410A, 2410C	775'-0"	J-K	50-51	460	460
3-MSRD-356-R	122C-3.1 123A-3.1	RB	10.750	0.365	TB	2410A, 2410C	775'-0"	K-L	50-51	460	460
3-MSRD-357-R	122C-3.1	RB	8.625	0.322	TB	2410N, 2410F	775'-0"	D-F	52-53	460	460
3-MSRD-360-R	122C-3.2	RB	10.750	0.500	TB	2410N, 2410Q	775'-0"	D-H	52-54	900	540
3-MSRD-361-R	122C-3.2	RB	12.750	0.375	TB	2410N, 2410Q 2410R	775'-0"	D-F	52-53	900	540
3-MSRD-362-R01	122C-3.2	RB	18.000	0.375	TB	2410N, 2410R	775'-0"	E-I	52-53	900	540
3-MSRD-362-R02	122C-3.2	RB	18.000	0.375	TB	2410H, 2410R	796'-6"	H-M	49-53	900	540
3-MSRD-370-R	122C-3.2	RB	10.750	0.500	TB	2410N, 2410Q	775'-0"	C-G	52-54	900	540
3-MSRD-371-R	122C-3.2	RB	3.500	0.300	TB	2410N, 2410Q	775'-0"	F-G	52-53	900	540
3-MSRD-372-R	122C-3.2	RB	12.750	0.687	TB	2410N, 2410Q	775'-0"	F-G	52-53	900	540
3-MSRD-380-R	122C-3.2	RB	10.750	0.500	TB	2410N, 2410Q 2410F	775'-0"	E-H	52-53	900	540

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. or Break Elev. (See Note 7)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-MSRD-381-R	122C-3.2	RB	8.625	0.500	TB	2410N, 2410Q 2410F	775'-0"	E-F	52-53	900	540
3-MSRD-390-R	122C-3.2	RB	10.750	0.500	TB	2410N, 2410Q 2410F	775'-0"	C-F	52-53	900	540
3-MSRD-391-R	122C-3.2	RB	8.625	0.500	TB	2410N, 2410Q 2410F	775'-0"	E-F	52-53	900	540
3-MSRD-392-R	122C-3.3	RB	2.375	0.154	TB	2410N, 2410Q	775'-0"	F-G	53-54	160	380
3-MSRD-393-R	122C-3.3	RB	2.375	0.154	TB	2410N, 2410Q	775'-0"	D-E	53-54	160	380
3-MSRD-394-R	122C-3.1	RB	2.375	0.154	TB	2410N	775'-0"	F-G	52-53	460	460
3-MSRD-395-R	122C-3.1	RB	2.375	0.154	TB	2410N	775'-0"	D-E	52-53	460	460

Notes:

1. Break numbers may not be consecutive
2. Break type: RB – Running Break (Piping not analyzed for seismic), TE – Terminal End, IB – Intermediate Break, CR – Critical Cracks
3. Building: TB – Turbine Building, AB – Auxiliary Building, EPR – East Penetration Room, Yard.
4. Each running break may contain one or more sub-breaks.
5. For the Unit 3 Moisture Separator Reheater Drain System 30 Terminal End Breaks, 4 Intermediate Breaks, and 174 Running Breaks were considered; the non-excluded breaks listed in this table include 30 Terminal End Breaks, 4 Intermediate Breaks, and 170 Running Breaks.
6. CI indicates Centerline of Turbine/Generator
7. For Terminal End and Intermediate Break locations the elevation of the break location is given. For Running Breaks the elevation of the RB is given.
8. Other Abbreviations: OD – Outer Diameter, in – inches, Op - operating



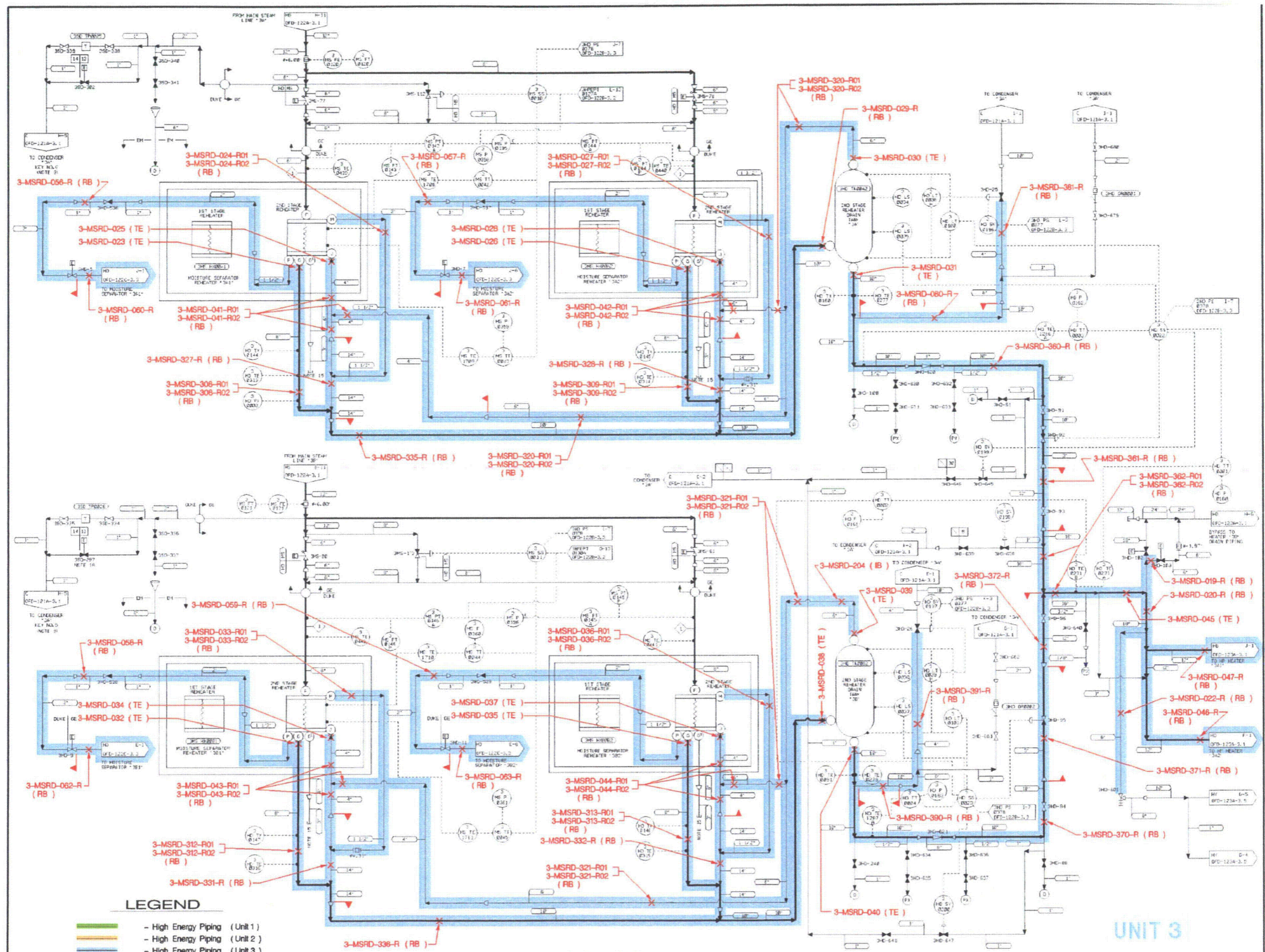
- LEGEND**
- High Energy Piping (Unit 1)
 - High Energy Piping (Unit 2)
 - High Energy Piping (Unit 3)
 - X — High Energy Line Break Location
 - N-SYS-MNN (-N) — Break Number
 - TE — Terminal End (Break)
 - RB — Running Break
 - CR — Critical Crack
 - IB — Intermediate Break
 - Running Break Boundary

FIGURE 6.1-9
MOISTURE SEPARATOR REHEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 1 of 6)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122C-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122C-03-01



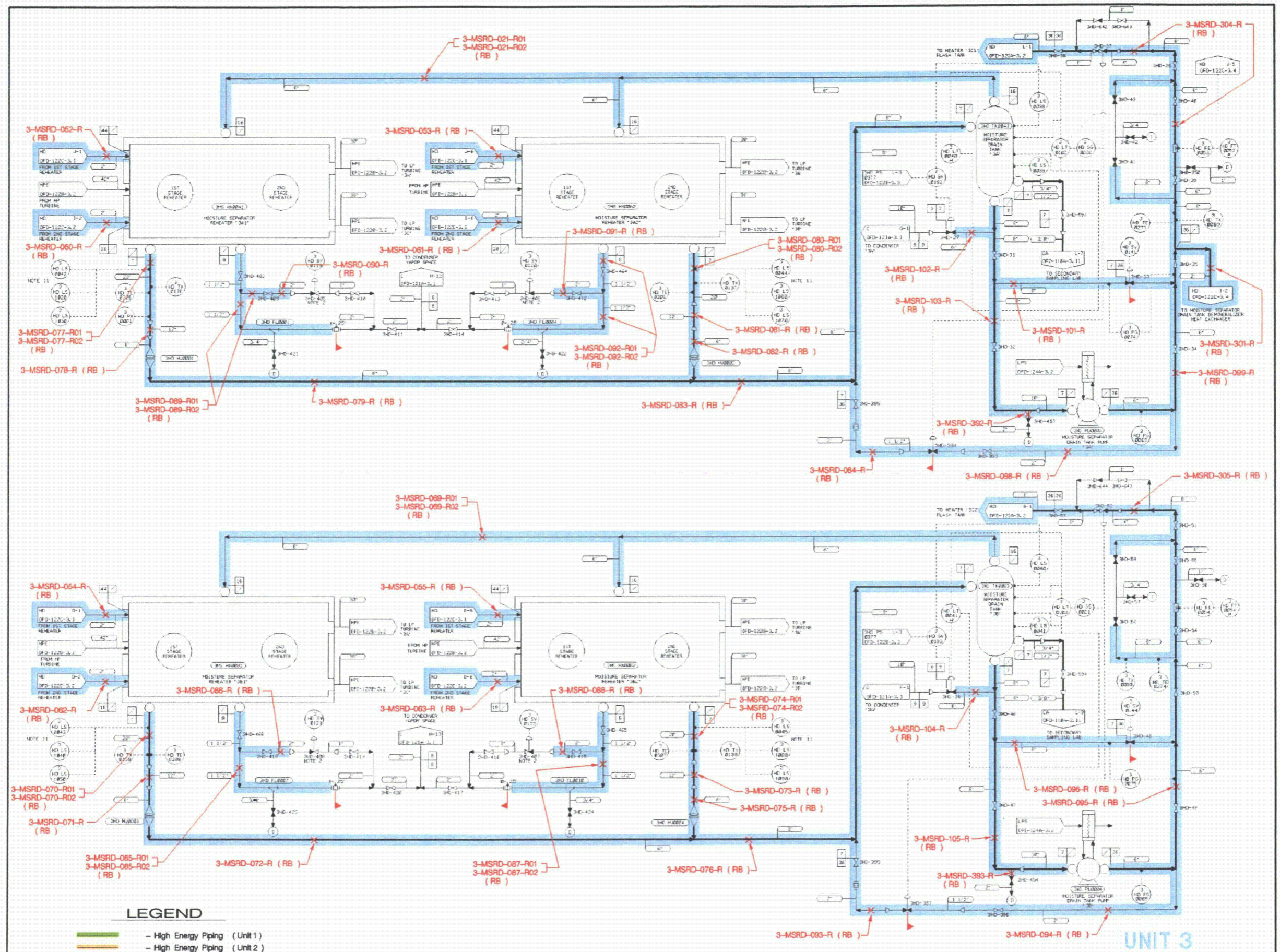
LEGEND

- High Energy Piping (Unit 1)
- High Energy Piping (Unit 2)
- High Energy Piping (Unit 3)
- X High Energy Line Break Location
- N-SYS-NNN (-N) Break Number
- TE Terminal End (Break)
- RB Running Break
- CR Critical Crack
- IB Intermediate Break
- ▶ Running Break Boundary

FIGURE 6.1-9
MOISTURE SEPARATOR REHEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 2 of 6)

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122C-3.2 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122C-03-02



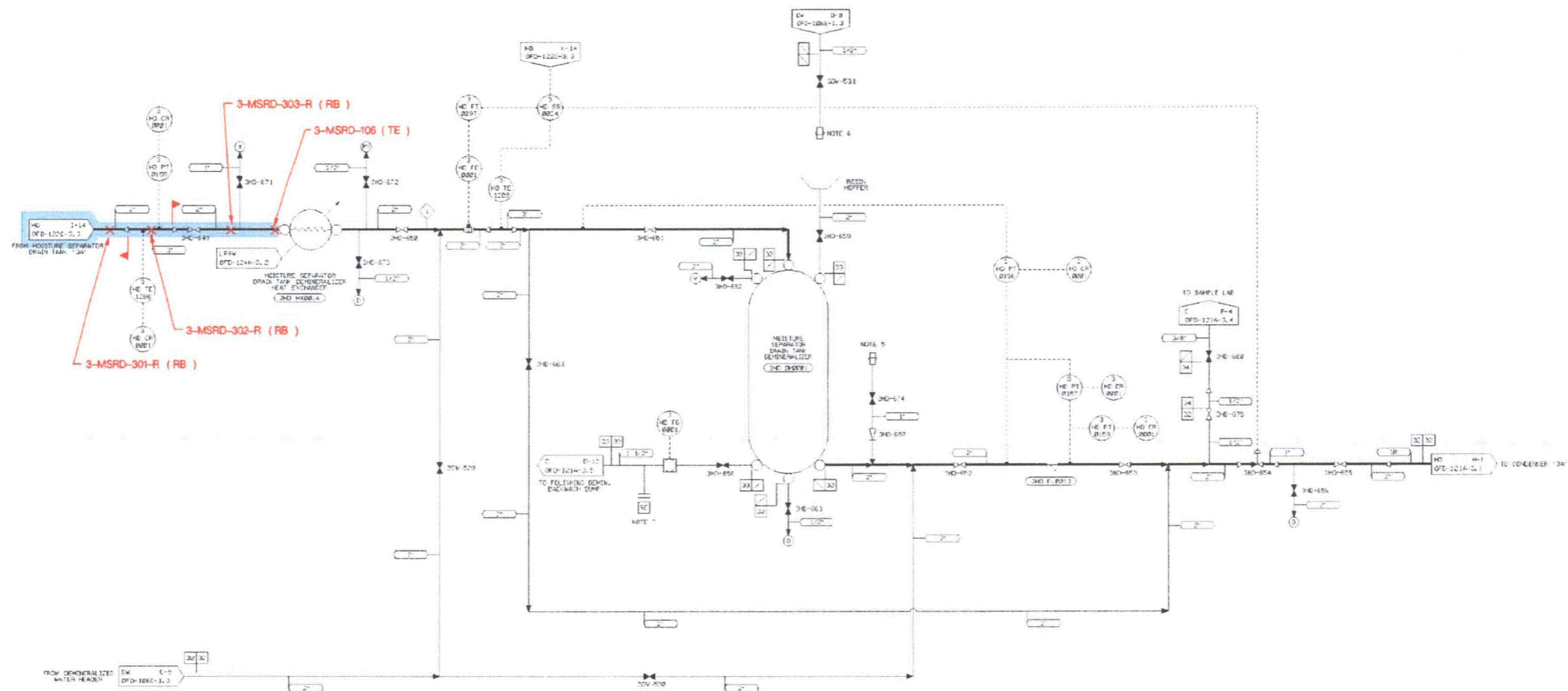
LEGEND

- High Energy Piping (Unit 1)
- High Energy Piping (Unit 2)
- High Energy Piping (Unit 3)
- X High Energy Line Break Location
- N-SYS-NNN (-N) Break Number
- TE Terminal End (Break)
- RB Running Break
- CR Critical Crack
- IB Intermediate Break
- ▶ Running Break Boundary

FIGURE 6.1-9
MOISTURE SEPARATOR REHEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 3 of 6)

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122C-3.3 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122C-03-03

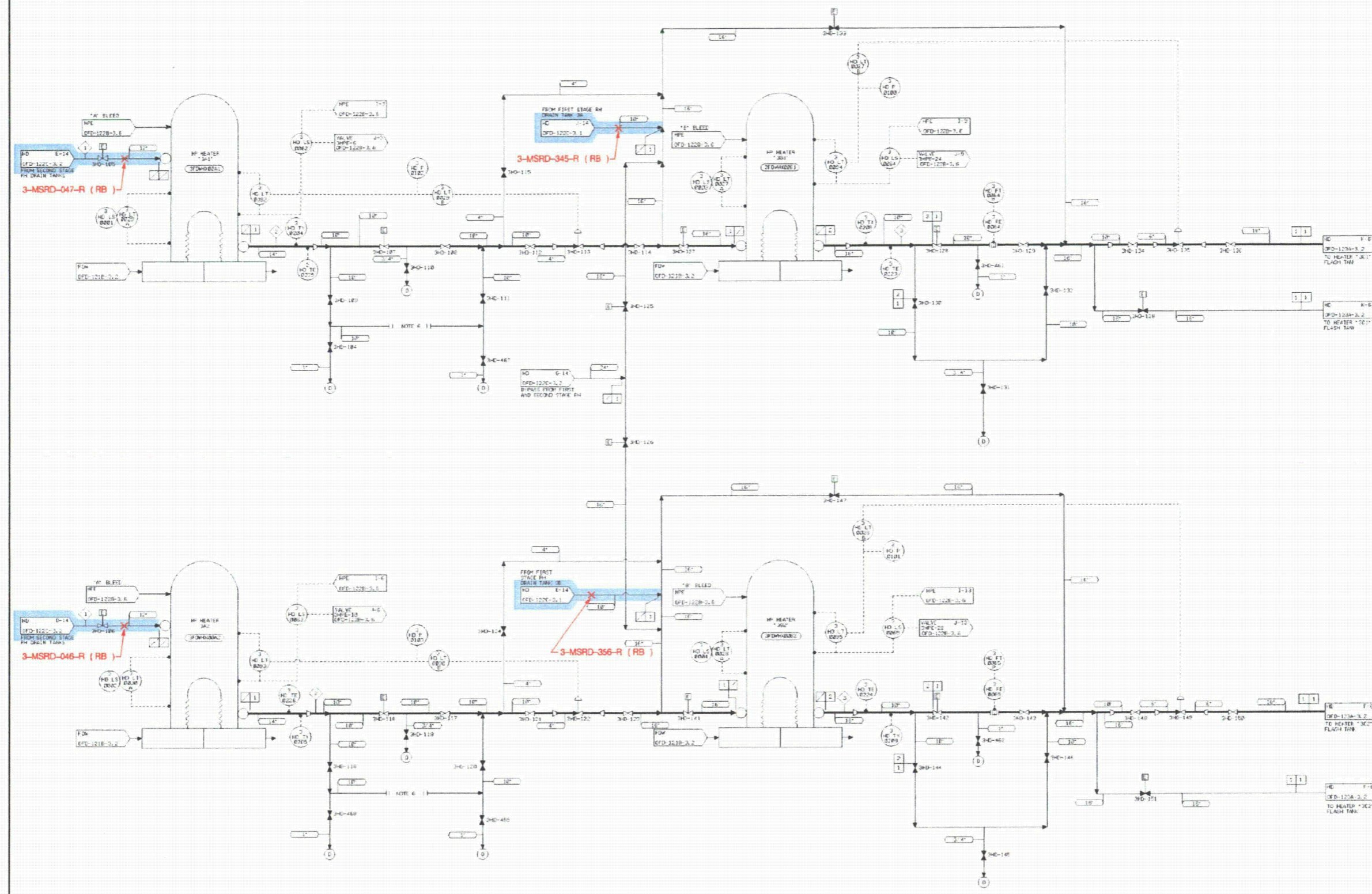


- LEGEND**
- High Energy Piping (Unit 1)
 - High Energy Piping (Unit 2)
 - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - ↑ - Running Break Boundary

FIGURE 6.1-9
MOISTURE SEPARATOR REHEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 4 of 6)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122C-3.4 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.
HELB-122C-03-04



LEGEND

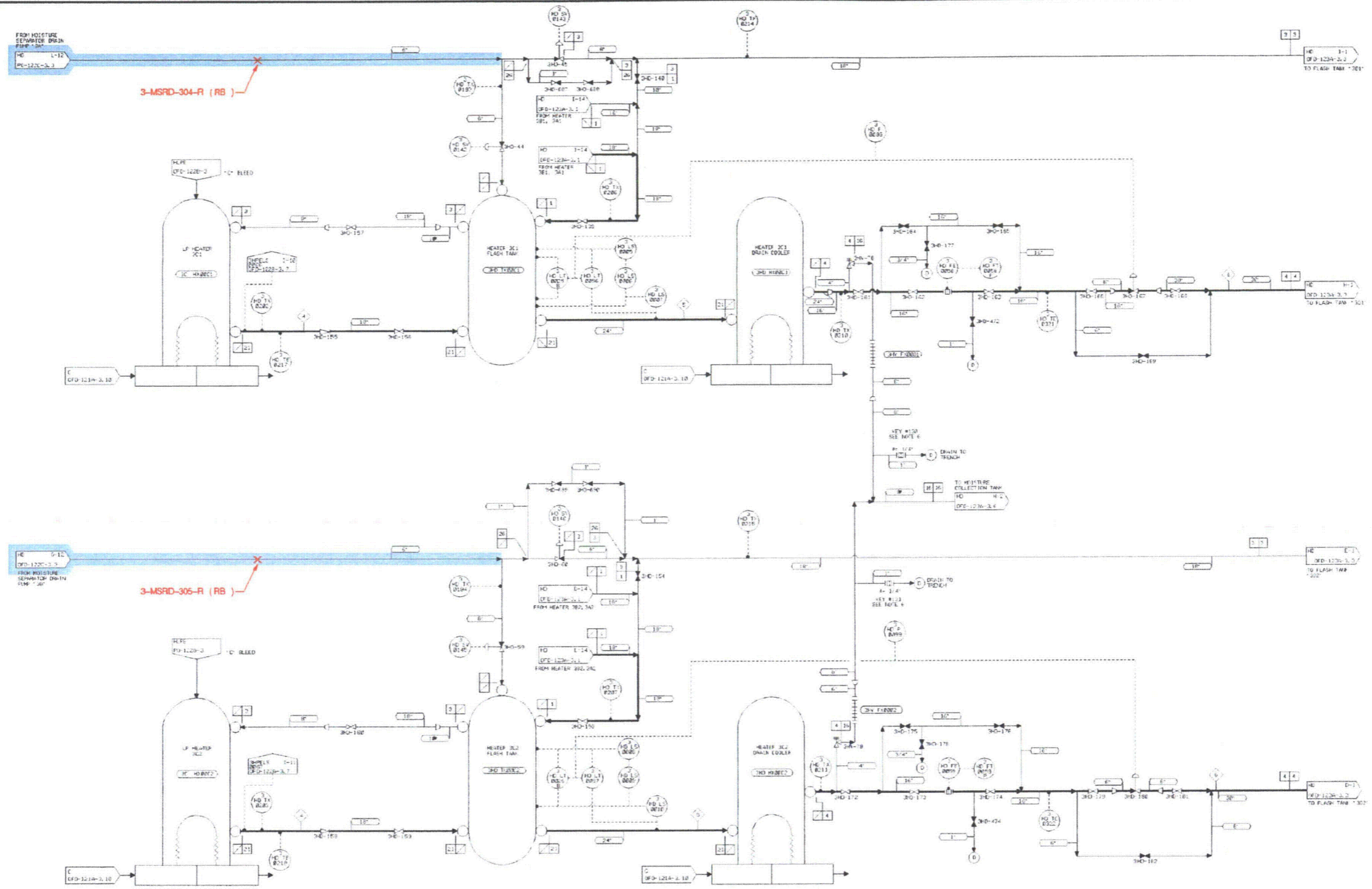
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ▶ - Running Break Boundary

FIGURE 6.1-9
MOISTURE SEPARATOR REHEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 5 of 6)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-123A-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-01



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- |— - Running Break Boundary

FIGURE 6.1-9
MOISTURE SEPARATOR REHEATER DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 6 of 6)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-123A-3.2 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-123A-03-02

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-PH-001-R	148B-3.1	RB	6.625	0.280	TB	2403B, 2403E	775'-0"	J-K	55-56	27	267
3-PH-002-R	148B-3.1	RB	2.375	0.154	TB	2403B, 2403E	775'-0"	F-G	54-55	120	470
3-PH-003-R	148B-3.1	RB	4.500	0.237	TB	2403E, 2411C	775'-0"	F-G	54-55	120	470
3-PH-004-R	148B-3.1	RB	3.500	0.216	TB	2403F	796'-6"	F-G	54-55	120	470
3-PH-005-R	148B-3.1	RB	4.500	0.237	TB	2403B, 2403E	775'-0"	F-G	54-55	120	470
3-PH-006-R	148B-3.1	RB	4.500	0.237	TB	2403B, 2403E	775'-0"	F-G	54-55	120	470
3-PH-007-R	148B-3.1	RB	6.625	0.280	TB	2403B, 2403E	775'-0"	F-G	54-55	27	425
3-PH-008-R	148B-3.1	RB	6.625	0.280	TB	2403B, 2403E 2510A	775'-0"	F-G	55-56	27	267
3-PH-009-R	148B-3.1	RB	2.875	0.203	TB	2403B, 2411B	775'-0"	F-G	55-56	27	267
3-PH-010-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	B-C	46-47	27	267
3-PH-011-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	B-D	50-51	27	267
3-PH-012-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	B-D	55-56	27	267
3-PH-013-R	148B-3.1	RB	2.375	0.218	TB	2510A, 2410N	775'-0"	E-F	55-56	27	267
3-PH-014-R	148B-3.1 148B-3.2	RB	4.500	0.237	TB	2510A	775'-0"	E-F	55-56	27	267
3-PH-015-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	F-G	55-56	27	267
3-PH-016-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	J-K	55-56	27	267
3-PH-017-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	J-K	53-54	27	267
3-PH-018-R	148B-3.1	RB	2.375	0.218	TB	2510A	775'-0"	J-K	55-56	27	267
3-PH-019-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	J-K	53-56	27	267
3-PH-020-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	L-M	53-54	27	267
3-PH-021-R	148B-3.1	RB	3.500	0.216	TB	2510A	775'-0"	L-M	49-51	27	267
3-PH-022-R	148B-3.1 148B-3.2	RB	6.625	0.280	TB	2510A	775'-0"	L-M	49-50	27	267
3-PH-023-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	L-M	48-49	27	267
3-PH-024-R	148B-3.1	RB	2.375	0.218	TB	2510A	775'-0"	L-M	48-49	27	267
3-PH-025-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	J-K	48-49	27	267
3-PH-026-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	J-M	48-49	27	267
3-PH-027-R	148B-3.1 148B-3.2	RB	4.500	0.237	TB	2510A, 2510C	775'-0" 796'-6"	L-M	45-48	27	267
3-PH-028-R	148B-3.1	RB	2.375	0.218	TB	2510A	775'-0"	L-M	43-44	27	267
3-PH-029-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	L-M	43-45	27	267
3-PH-030-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	J-L	43-44	27	267
3-PH-031-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	H-K	43-45	27	267
3-PH-032-R	148B-3.1	RB	4.500	0.237	TB	2510A, 2403A 2403E	775'-0"	B-M	41-44	27	267
3-PH-033-R	148B-3.1	RB	3.500	0.216	TB	2403E	775'-0"	C-D	41-42	27	267

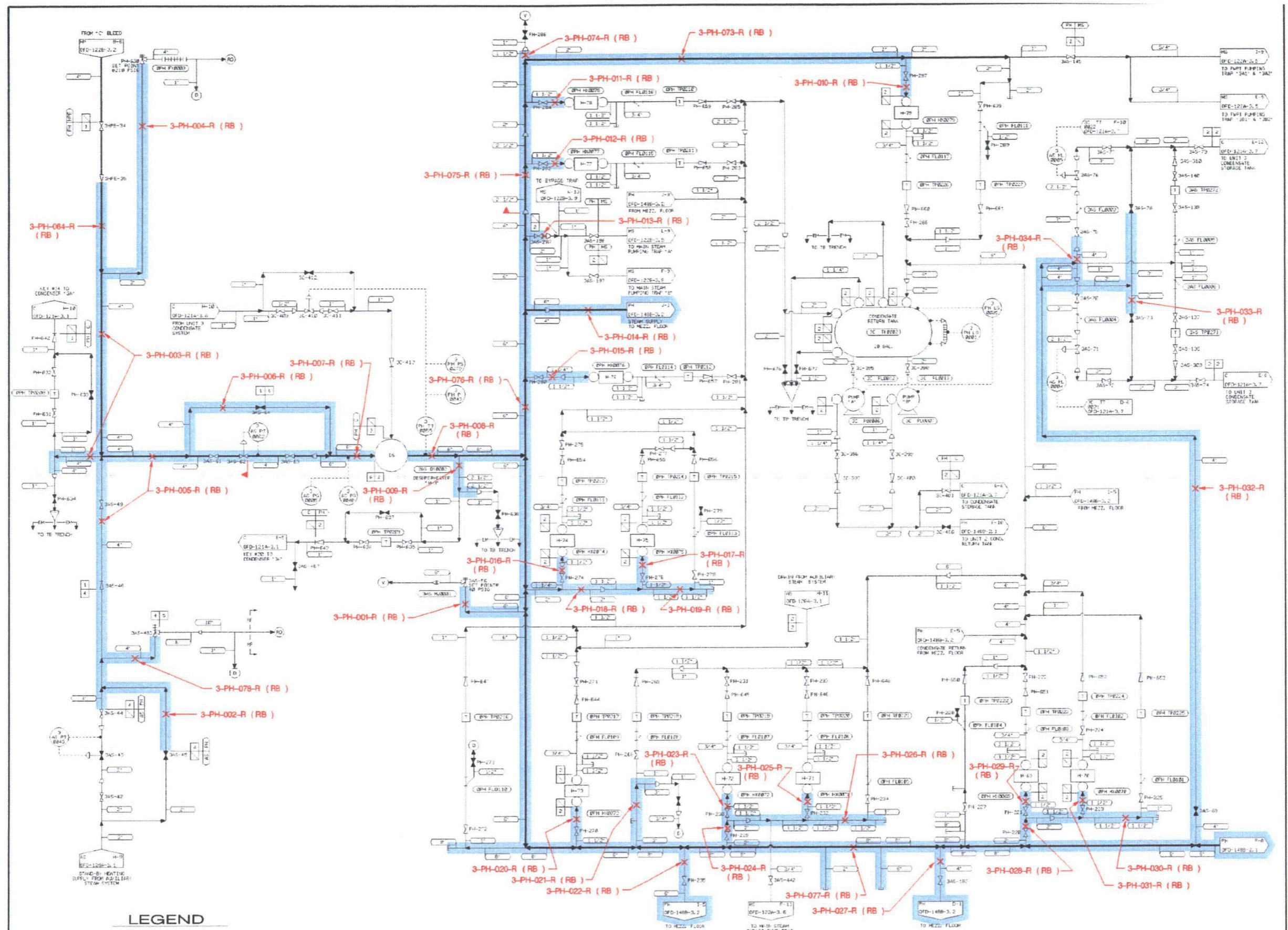
Table 6.1-10
 Plant Heating System – High Energy Line Data – Unit 3

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-PH-034-R	148B-3.1	RB	4.500	0.237	TB	2403E	775'-0"	C-D	41-42	27	267
3-PH-035-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	B-C	46-47	27	267
3-PH-036-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	B-C	49-50	27	267
3-PH-037-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	B-C	52-53	27	267
3-PH-038-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	B-C	55-56	27	267
3-PH-039-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	E-F	55-56	27	267
3-PH-040-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	F-H	55-56	27	267
3-PH-041-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	J-K	55-56	27	267
3-PH-042-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	L-M	53-54	27	267
3-PH-043-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	L-M	48-49	27	267
3-PH-044-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	L-M	45-46	27	267
3-PH-045-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	B-C	46-50	27	267
3-PH-046-R	148B-3.2	RB	2.375	0.218	TB	2510B	796'-6"	B-C	49-56	27	267
3-PH-047-R	148B-3.2	RB	2.875	0.203	TB	2510B	796'-6"	B-E	55-56	27	267
3-PH-048-R	148B-3.2	RB	4.500	0.237	TB	2510B	796'-6"	E-F	55-56	27	267
3-PH-049-R	148B-3.2	RB	2.875	0.203	TB	2510B	796'-6"	E-K	55-56	27	267
3-PH-050-R	148B-3.2	RB	2.375	0.218	TB	2510B	796'-6"	K-M	48-56	27	267
3-PH-051-R	148B-3.2	RB	1.900	0.200	TB	2510B	796'-6"	L-M	45-49	27	267
3-PH-052-R	148B-3.2	RB	6.625	0.280	AB	2510P	822'-0"	565		27	267
3-PH-053-R	148B-3.2	RB	3.500	0.216	AB	2510P	822'-0"	565		27	267
3-PH-054-R	148B-3.2	RB	3.500	0.216	AB	2510P	822'-0"	565		27	267
3-PH-055-R	148B-3.2	RB	3.500	0.216	AB	2510P	822'-0"	565		27	267
3-PH-056-R	148B-3.2	RB	2.375	0.218	AB	2510Q	838'-0"	651		27	267
3-PH-057-R	148B-3.2	RB	2.875	0.203	AB	2510Q	838'-0"	651		27	267
3-PH-058-R	148B-3.2	RB	2.875	0.203	AB	2510Q	838'-0"	651		27	267
3-PH-059-R	148B-3.2	RB	4.500	0.237	AB	2510L	809'-3"	454A		27	267
3-PH-060-R	148B-3.2	RB	4.500	0.237	AB	2510L	809'-3"	452/453		27	267
3-PH-061-R	148B-3.2	RB	4.500	0.237	AB	2510L	809'-3"	456		27	267
3-PH-062-R	148B-3.2	RB	4.500	0.237	AB	2510Q	838'-0"	669		27	267
3-PH-063-R	148B-3.2	RB	3.500	0.216	AB	2510Q	838'-0"	669		27	267
3-PH-064-R	148B-3.1	RB	4.500	0.237	TB	2403D, 2403F	796'-6"	F-G	54-55	120	470
3-PH-065-R	148B-3.2	RB	6.625	0.280	TB	2510B	796'-6"	L-M	34-35	27	267
3-PH-066-R	148B-3.2	RB	3.500	0.216	AB	2510P, 2510N	822'-0"	562		27	267
3-PH-067-R	148B-3.2	RB	3.500	0.216	AB	2510Q	838'-0"	666		27	267
3-PH-068-R	148B-3.2	RB	3.500	0.216	AB	2510Q	838'-0"	655		27	267
3-PH-069-R	148B-3.2	RB	3.500	0.216	AB	2510Q	838'-0"	657		27	267
3-PH-070-R	148B-3.2	RB	3.500	0.216	AB	2510Q	838'-0"	658		27	267

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-PH-071-R	148B-3.2	RB	3.500	0.216	AB	2510Q	838'-0"	659		27	267
3-PH-072-R	148B-3.2	RB	3.500	0.216	AB	2510Q	838'-0"	651		27	267
3-PH-073-R	148B-3.1	RB	2.375	0.218	TB	2510A	775'-0"	B-D	46-55	27	267
3-PH-074-R	148B-3.1	RB	1.900	0.200	TB	2510A	775'-0"	B-C	45-47	27	267
3-PH-075-R	148B-3.1	RB	2.875	0.203	TB	2510A	775'-0"	C-F	55-56	27	267
3-PH-076-R	148B-3.1	RB	6.625	0.280	TB	2510A	775'-0"	E-M	55-56	27	267
3-PH-077-R	148B-3.1	RB	8.625	0.322	TB	2510A	775'-0"	L-M	43-56	27	267
3-PH-078-R	148B-3.1	RB	4.500	0.237	TB	2403B, 2403E	784'-0"	F-G	54-55	120	470

Notes:

1. Break numbers may not be consecutive
2. Break type: RB – Running Break (Piping not analyzed for seismic), TE – Terminal End, IB – Intermediate Break
3. Building: TB – Turbine Building, AB – Auxiliary Building.
4. Each running break may contain one or more sub-breaks.
5. For the Unit 3 Plant Heating System 78 Running Breaks were considered; 78 non-excluded, Running Breaks are listed in this table.
6. For each Running Break, except for Break 3-PH-078-R, the elevation of the floor or room that contains the Running Break is given. For Running Break 3-PH-078-R the elevation of the break location is given.
7. Other Abbreviations: OD – Outer Diameter, in – inches, Op - operating



LEGEND

- High Energy Piping (Unit 1)
- High Energy Piping (Unit 2)
- High Energy Piping (Unit 3)
- X** High Energy Line Break Location
- N-SYS-NNN (-N)** Break Number
- TE** Terminal End (Break)
- RB** Running Break
- CR** Critical Crack
- IB** Intermediate Break
- ↑** Running Break Boundary

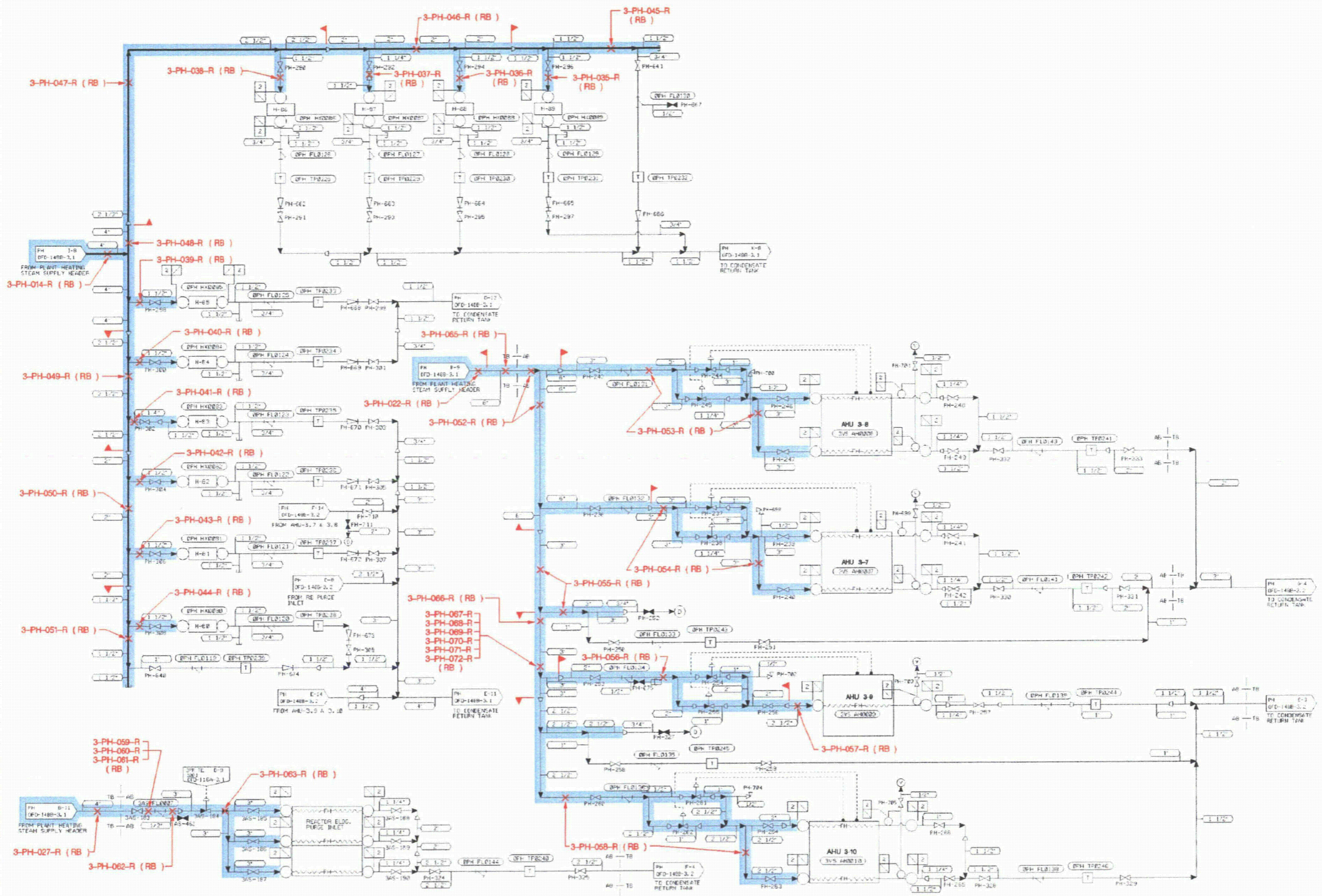
**FIGURE 6.1-10
PLANT HEATING SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 1 of 2)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-148B-3.1 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-148B-03-01



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ↑ - Running Break Boundary

**FIGURE 6.1-10
PLANT HEATING SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 2 of 2)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-148B-3.2 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-148B-03-02

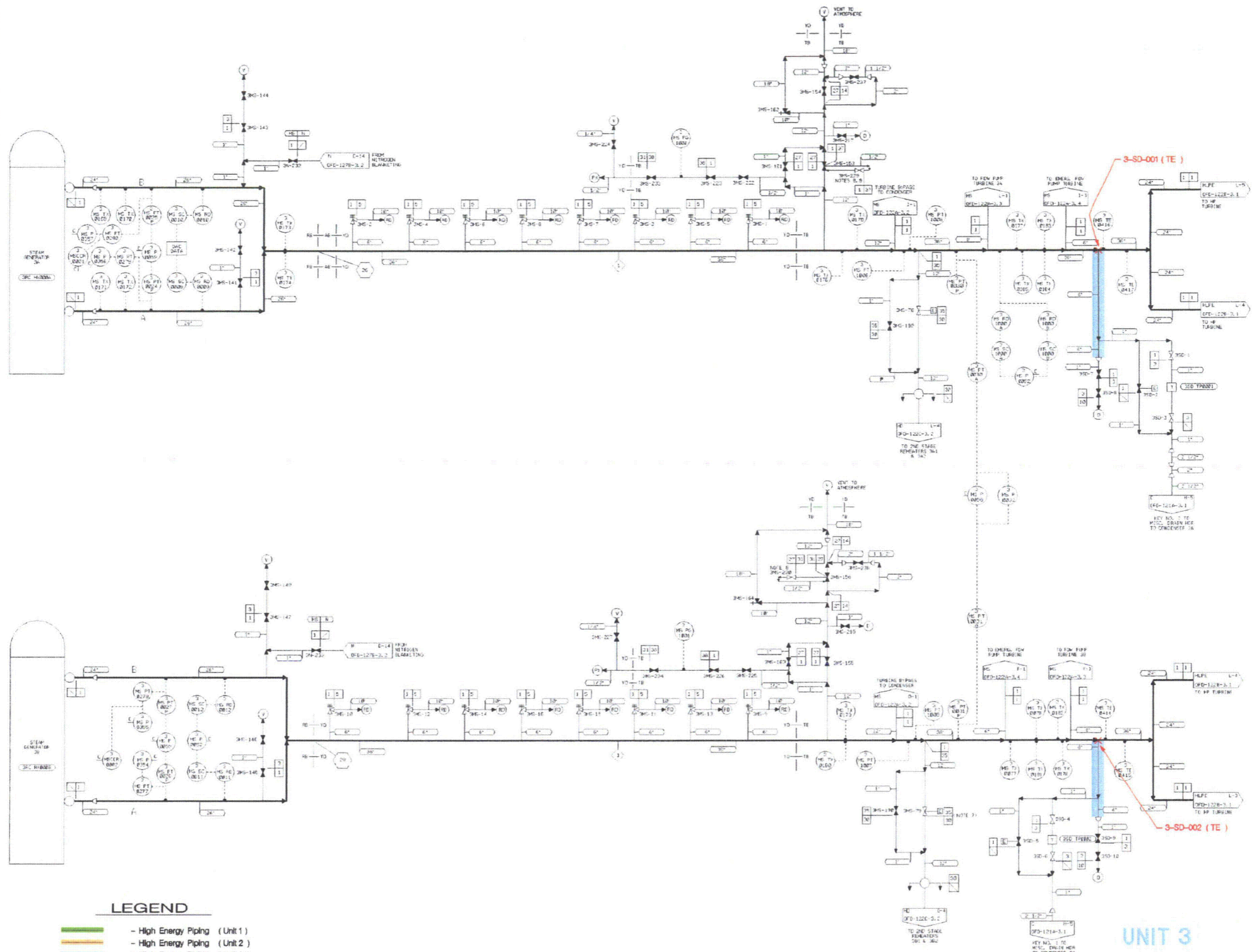
Table 6.1-11
 Steam Drains System – High Energy Line Data – Unit 3

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. Or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-SD-001	122A-3.1	TE	6.625	0.432	TB	2401B	796'-6"	E-F	55-56	900	595
3-SD-002	122A-3.1	TE	6.625	0.432	TB	2401B	796'-6"	E-F	55-56	900	595
3-SD-003	122A-3.2	TE	2.375	0.218	TB	2401B	796'-6"	L-M	53-54	900	595
3-SD-004	122A-3.2	TE	2.375	0.218	TB	2403D	796'-6"	L-M	53-54	900	595
3-SD-005	122A-3.2	TE	2.375	0.218	TB	2401B	796'-6"	L-M	50-51	900	595
3-SD-006	122A-3.4	TE	2.375	0.218	TB	2403D	796'-6"	B-C	51-52	900	595
3-SD-007	122A-3.4	TE	2.375	0.154	TB	2403A	775'-0"	C-D	49-50	310	507
3-SD-009-R	122A-3.2	RB	2.375	0.218	TB	2403D	796'-6"	L-M	53-54	900	595
3-SD-010-R	122A-3.2	RB	2.375	0.218	TB	2401E	796'-6"	L-M	50-51	900	595
3-SD-011-R	122A-3.2	RB	2.375	0.218	TB	2401E	796'-6"	L-M	50-51	900	595
3-SD-012-R	122A-3.2	RB	2.375	0.218	TB	2401D	796'-6"	L-M	49-50	900	595
3-SD-013-R	122A-3.2	RB	2.375	0.218	TB	2401A, 2401D	796'-6"	L-M	49-50	900	595
3-SD-023-R	122A-3.3	RB	2.375	0.154	TB	2401A	796'-6"	D-E	45-46	300	505
3-SD-024-R	122A-3.3	RB	2.375	0.154	TB	2401A	796'-6"	D-E	45-46	300	505
3-SD-025	122A-3.3	TE	1.900	0.145	TB	2401A, 2401H 2411C	796'-6"	G-H	46	300	505
3-SD-026-R	122A-3.3	RB	6.625	0.280	TB	2400A	775'-0"	C-D	45-46	300	505
3-SD-027-R	122A-3.3	RB	6.625	0.280	TB	2400A	775'-0"	C-D	43-44	300	505
3-SD-030-R	122A-3.3	RB	2.375	0.218	TB	2403C	796'-6"	B-C	45-46	900	595
3-SD-032	122B-3.7	TE	1.900	0.145	TB	2401A, 2411C	796'-6"	J-K	47-48	300	505
3-SD-033-R	122B-3.2	RB	2.875	0.203	TB	2401B	796'-6"	J-K	52-53	455	465
3-SD-034-R	122B-3.2	RB	2.875	0.203	TB	2401G, 2401B	796'-6"	F-G	52-53	275	420
3-SD-035-R	122B-3.2	RB	1.900	0.145	TB	2401G, 2401B	796'-6"	F-G	52-53	275	420
3-SD-036-R	122B-3.2	RB	1.900	0.145	TB	2401G, 2401B	796'-6"	F-G	52-53	275	420
3-SD-037-R	122B-3.2	RB	1.900	0.145	TB	2401G, 2401B	796'-6"	F-G	52-53	275	420
3-SD-038-R	122B-3.2	RB	2.875	0.203	TB	2401G	796'-6"	F-G	53-54	165	375
3-SD-039-R	122B-3.3	RB	2.375	0.154	TB	2401B	796'-6"	G-H	51-52	45	295
3-SD-040-R	122B-3.3	RB	2.375	0.154	TB	2401B	796'-6"	G-H	50-51	45	295
3-SD-041-R	122B-3.3	RB	1.900	0.145	TB	2401B, 2411A	796'-6"	G-H	51-52	45	295
3-SD-042-R	122B-3.3	RB	1.900	0.145	TB	2401B, 2411A	796'-6"	G-H	50-51	45	295
3-SD-046-R	122B-3.4	RB	2.375	0.154	TB	2401A	796'-6"	G-H	49-50	45	295
3-SD-047-R	122B-3.4	RB	2.375	0.154	TB	2401A	796'-6"	G-H	48-49	45	295
3-SD-048-R	122B-3.4	RB	1.900	0.145	TB	2401A, 2411A	796'-6"	G-H	49-50	45	295
3-SD-049-R	122B-3.4	RB	1.900	0.145	TB	2401A, 2411A	796'-6"	G-H	48-49	45	295
3-SD-053-R	122B-3.5	RB	2.375	0.154	TB	2401A	796'-6"	G-H	47-48	45	295
3-SD-054-R	122B-3.5	RB	2.375	0.154	TB	2401A	796'-6"	G-H	46-47	45	295

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-)	Floor Elev. Or Break Elev. (See Note 6)	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-SD-055-R	122B-3.5	RB	1.900	0.145	TB	2401A, 2411A	796'-6"	G-H	47-48	45	295
3-SD-056-R	122B-3.5	RB	1.900	0.145	TB	2401A, 2411A	796'-6"	G-H	46-47	45	295
3-SD-061-R	122B-3.6	RB	2.875	0.203	TB	2401A	796'-6"	K-L	49-50	275	420
3-SD-065-R	122B-3.7	RB	2.875	0.203	TB	2401B	796'-6"	J-K	53-54	165	375
3-SD-066-R	122B-3.7	RB	1.900	0.145	TB	2401B	796'-6"	K-L	53-54	45	295
3-SD-067-R	122B-3.7	RB	1.900	0.145	TB	2401B	796'-6"	K-L	53-54	45	295
3-SD-068-R	122B-3.7	RB	1.900	0.145	TB	2401B	796'-6"	K-L	53-54	45	295
3-SD-072-R	122B-3.7	RB	2.875	0.203	TB	2401A	796'-6"	J-K	48-49	45	295
3-SD-086-R	122C-3.1	RB	2.875	0.203	TB	2401B	796'-6"	C-D	55-56	460	480
3-SD-087-R	122C-3.1	RB	2.875	0.203	TB	2401B	796'-6"	G-H	55-56	460	480
3-SD-088-R	122C-3.2	RB	2.375	0.218	TB	2401B	796'-6"	G-H	55-56	900	595
3-SD-089-R	122C-3.2	RB	2.375	0.218	TB	2401B	796'-6"	C-D	55-56	900	595
3-SD-099-R	122A-3.2	RB	2.375	0.218	TB	2403D	796'-6"	L-M	54-55	900	595
3-SD-111-R	122A-3.3	RB	1.900	0.145	TB	2401A, 2411C 2401H	805'-0"	G-H	45-46	300	505
3-SD-112-R	122B-3.7	RB	1.900	0.145	TB	2401A, 2411C	808'-0"	J-K	47-48	300	505

Notes:

1. Break numbers may not be consecutive
2. Break type: RB – Running Break (Piping not analyzed for seismic), TE – Terminal End, IB – Intermediate Break
3. Building: TB – Turbine Building, AB – Auxiliary Building.
4. Each running break may contain one or more sub-breaks.
5. For the Unit 3 Steam Drain System 10 Terminal End Breaks and 75 Running Breaks were considered; the non-excluded breaks listed in this table include nine (9) Terminal End Breaks and 41 Running Breaks.
6. For each Running Break, except for Breaks 3-SD-111-R & 3-SD-112-R, and each Terminal End Break the elevation of the floor or room that contains the break is given. For Running Breaks 3-SD-111-R & 3-SD-112-R the elevation of the break location is given.
7. Other Abbreviations: OD – Outer Diameter, in – inches, Op - operating

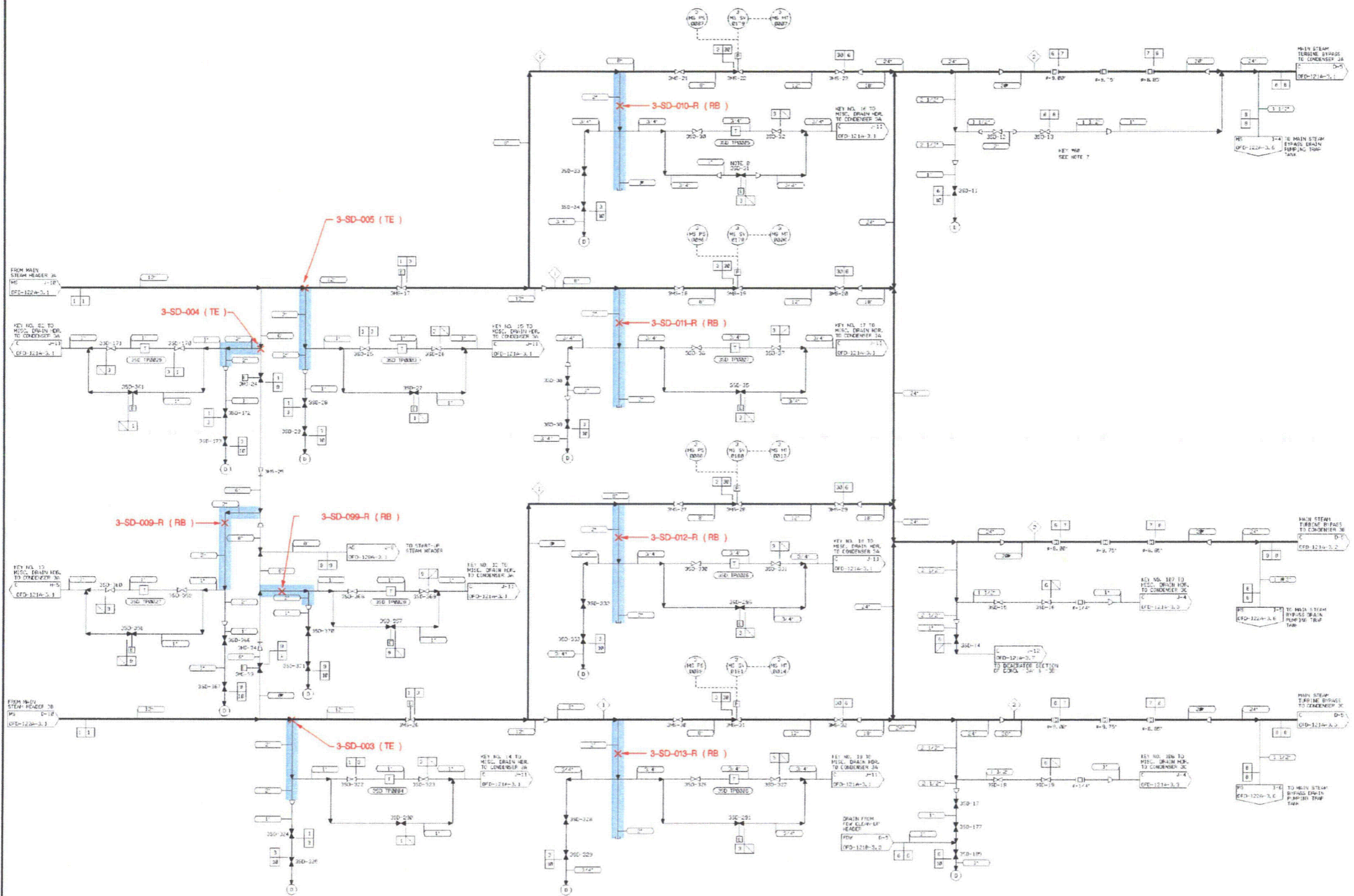


- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - ↑ - Running Break Boundary

FIGURE 6.1-11
STEAM DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 1 of 12)

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122A-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122A-03-01



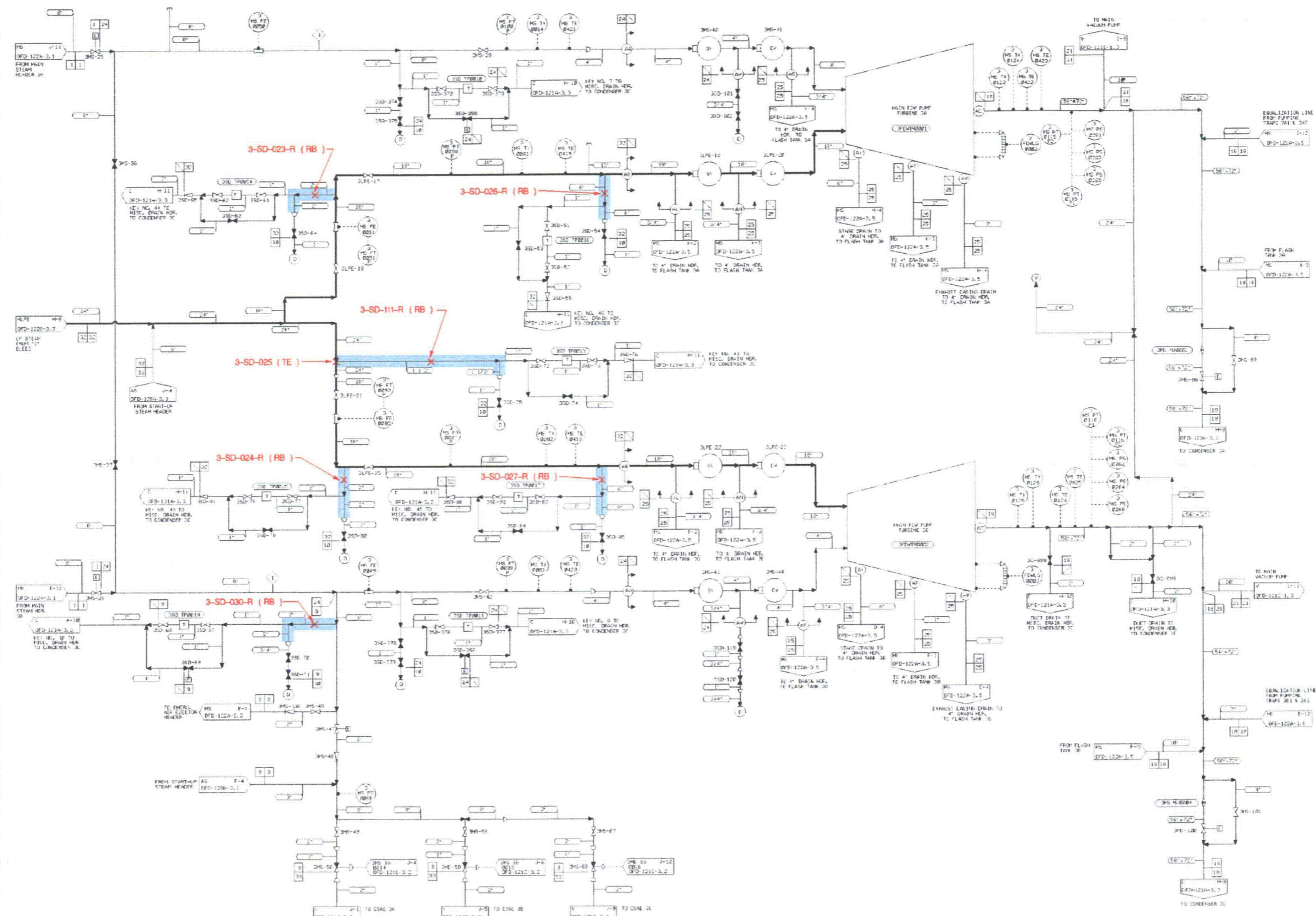
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - ↑ - Running Break Boundary

FIGURE 6.1-11
STEAM DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 2 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122A-3.2 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122A-03-02



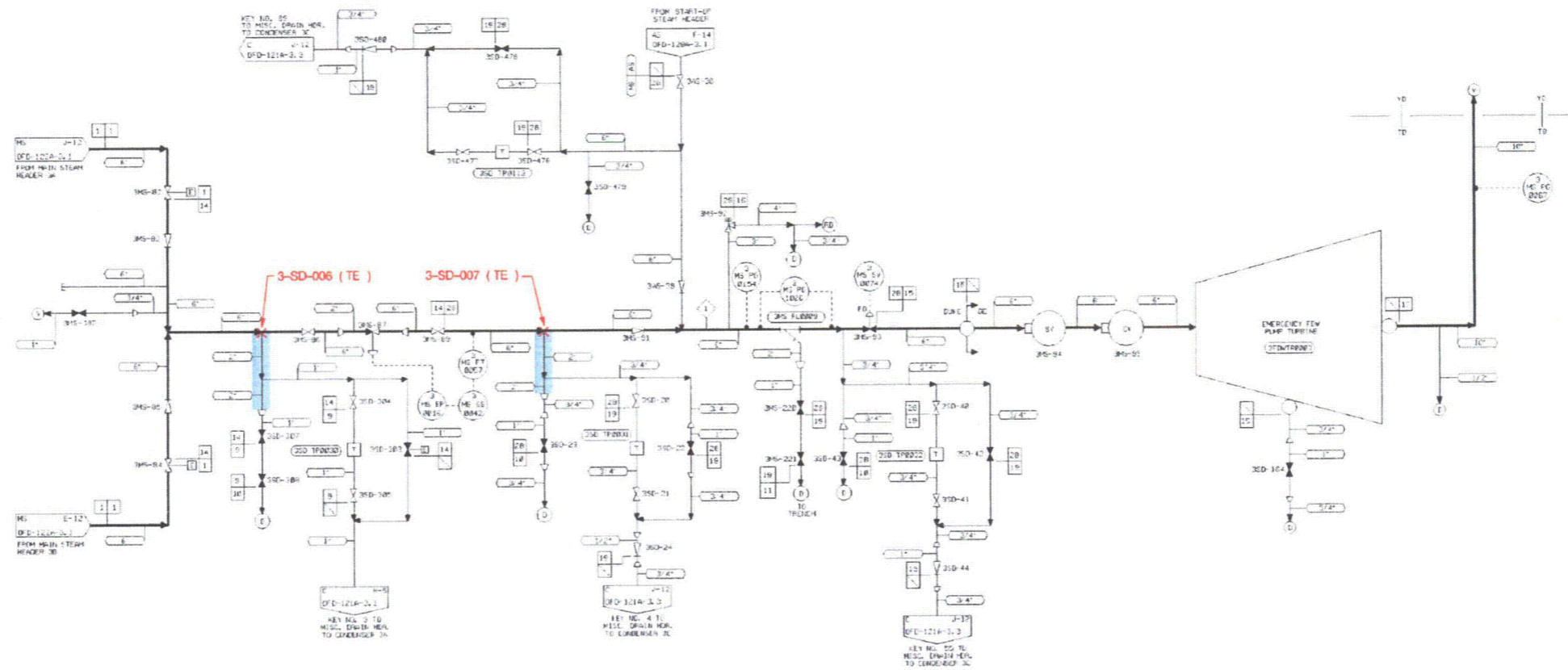
- LEGEND**
- High Energy Piping (Unit 1)
 - High Energy Piping (Unit 2)
 - High Energy Piping (Unit 3)
 - X High Energy Line Break Location
 - N-SYS-NNN (-N) Break Number
 - TE Terminal End (Break)
 - RB Running Break
 - CR Critical Crack
 - IB Intermediate Break
 - ▶ Running Break Boundary

FIGURE 6.1-11
STEAM DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 3 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122A-3.3 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122A-03-03



LEGEND

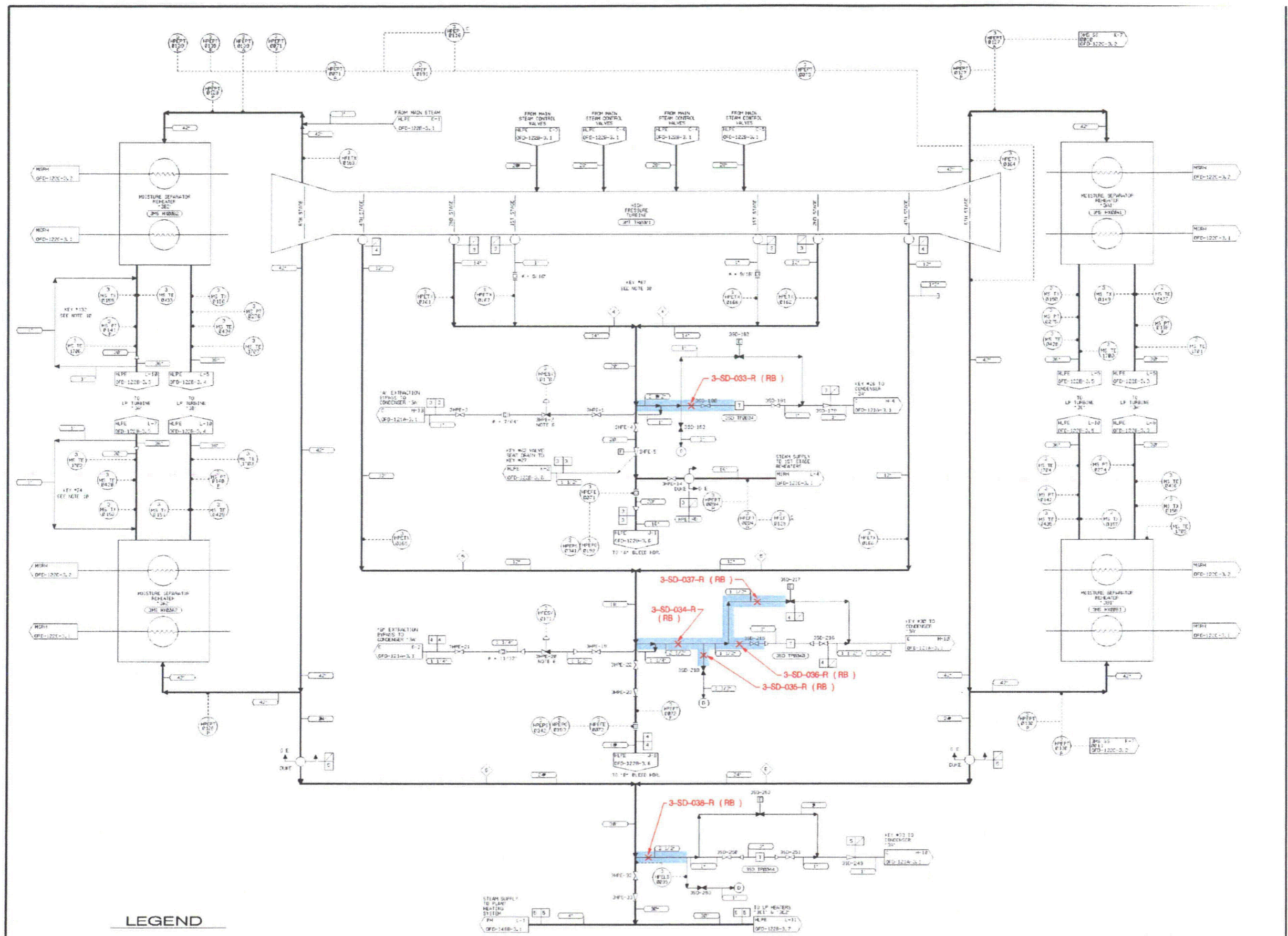
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ┆ - Running Break Boundary

FIGURE 6.1-11
STEAM DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 4 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122A-3.4 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122A-03-04



LEGEND

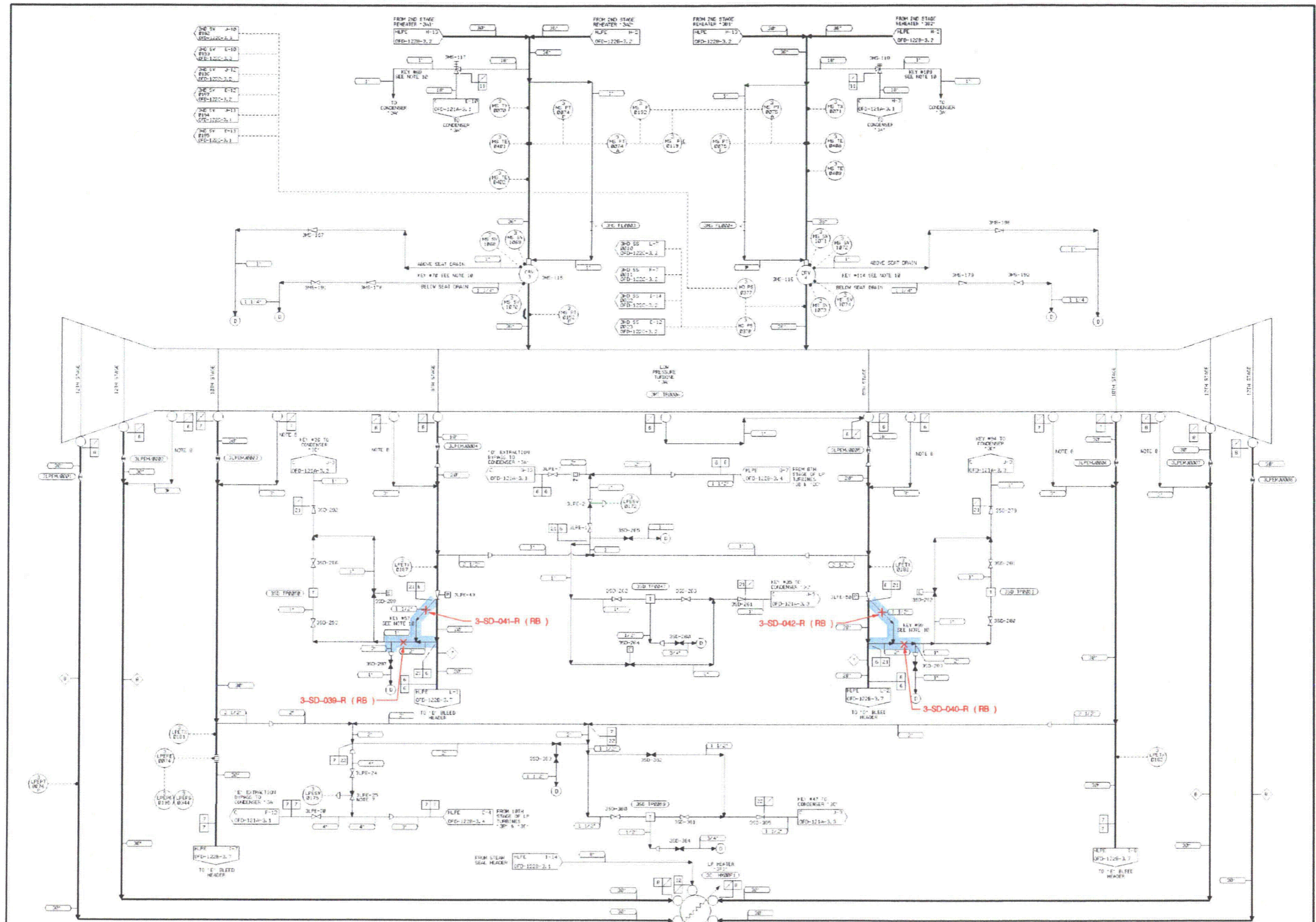
- High Energy Piping (Unit 1)
- High Energy Piping (Unit 2)
- High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ↑ - Running Break Boundary

FIGURE 6.1-11
STEAM DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 5 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122B-3.2 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122B-03-02



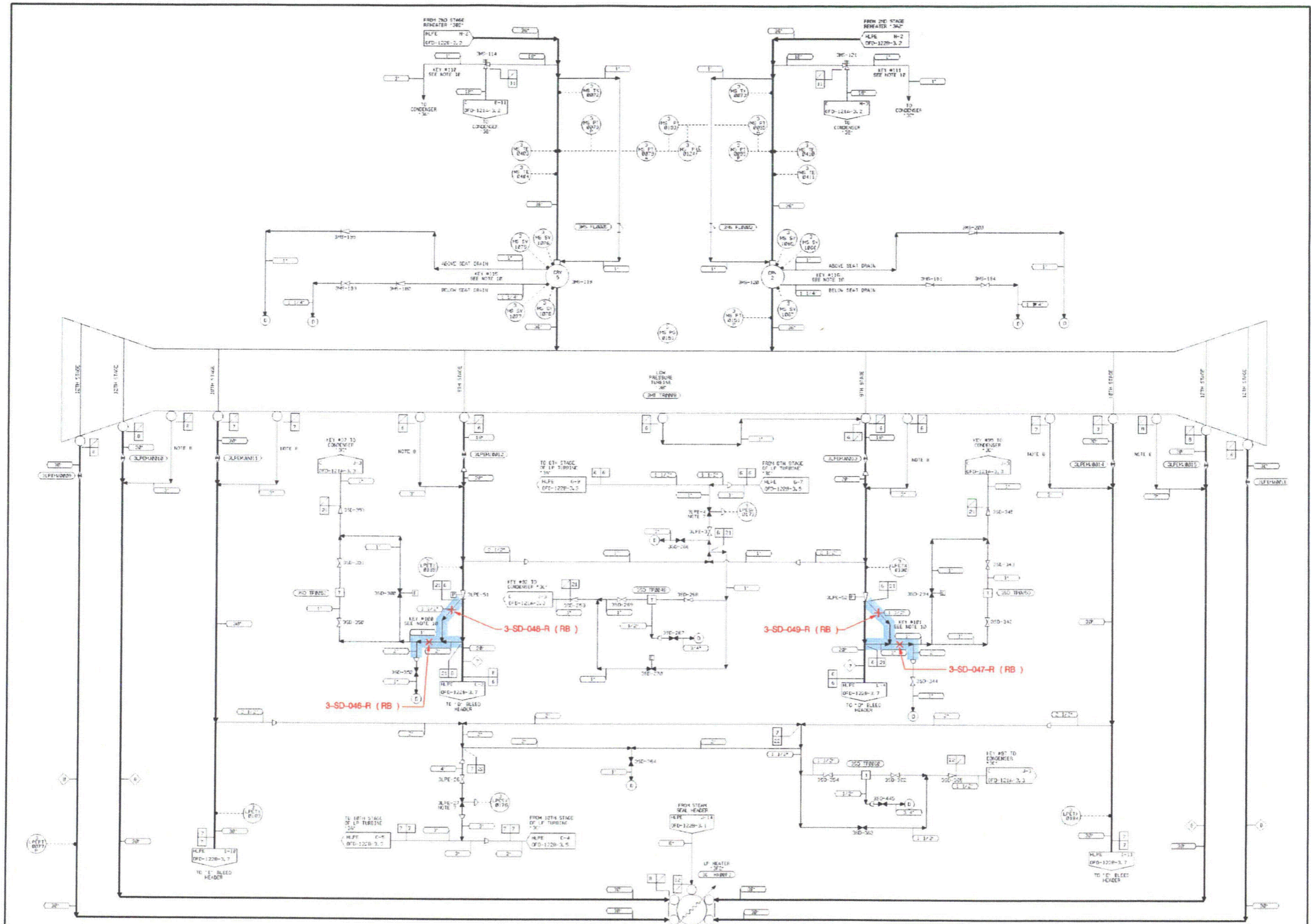
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - ▬ - Running Break Boundary

FIGURE 6.1-11
STEAM DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 6 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122B-3.3 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122B-03-03



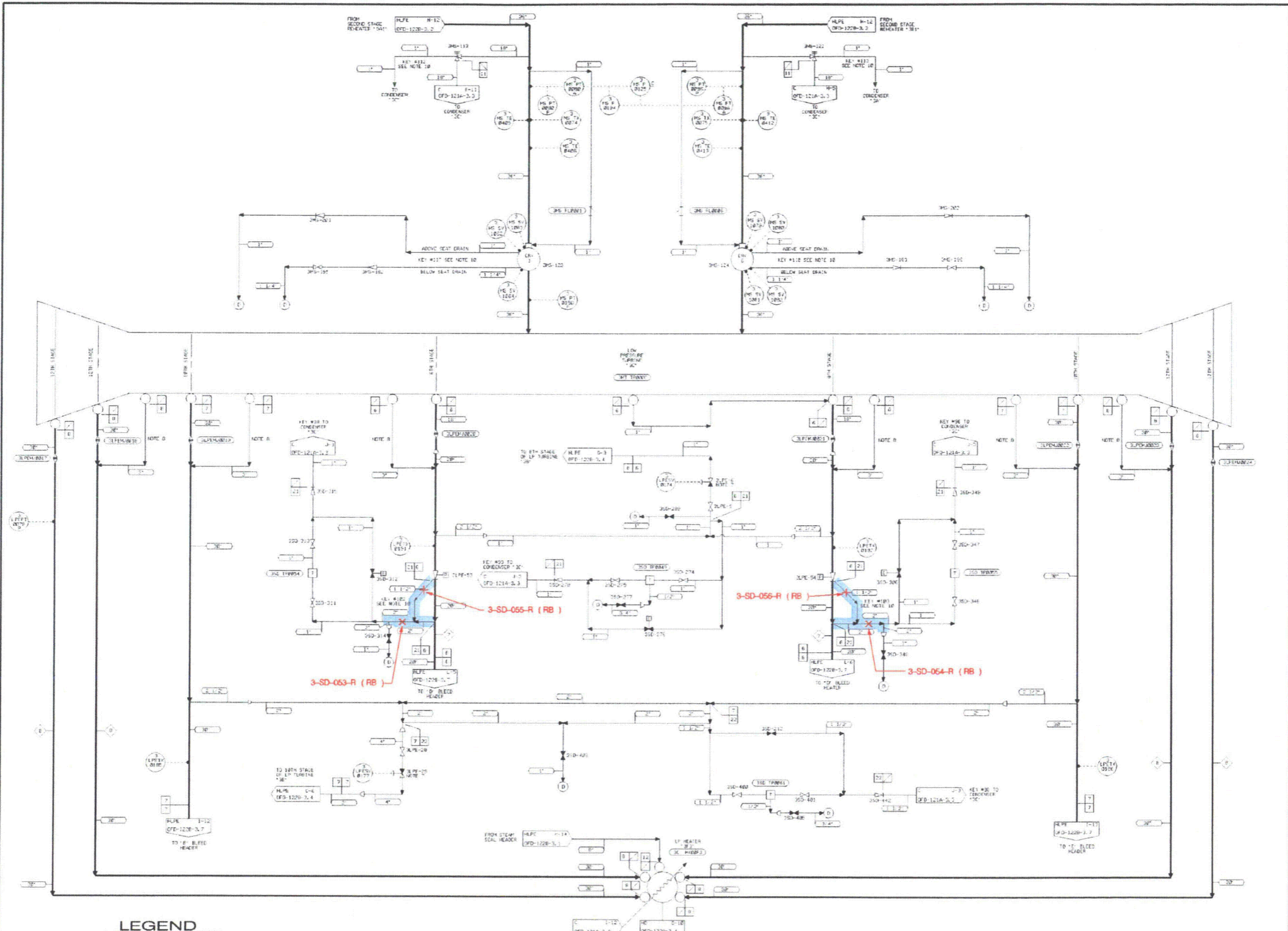
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - ▶ - Running Break Boundary

FIGURE 6.1-11
STEAM DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 7 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122B-3.4 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122B-03-04



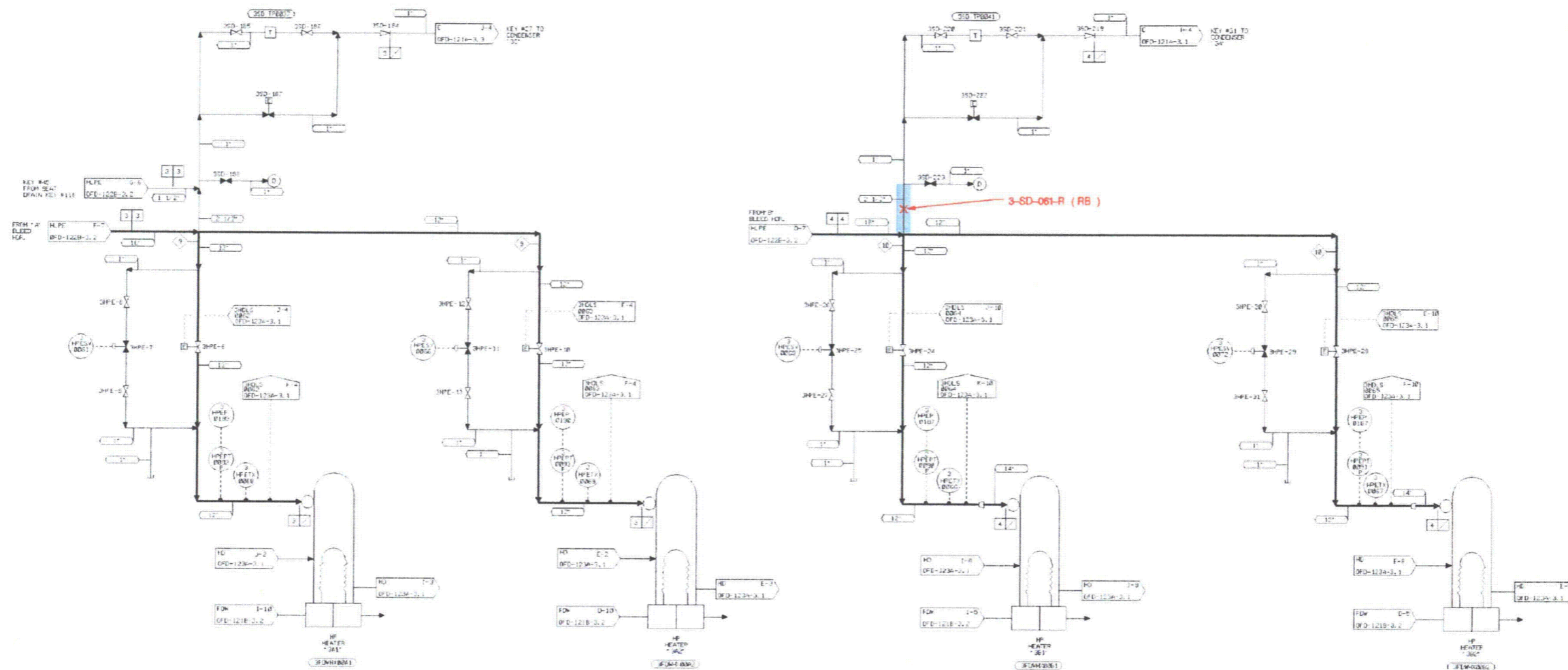
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - R - Running Break Boundary

FIGURE 6.1-11
STEAM DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 8 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122B-3.5 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122B-03-05



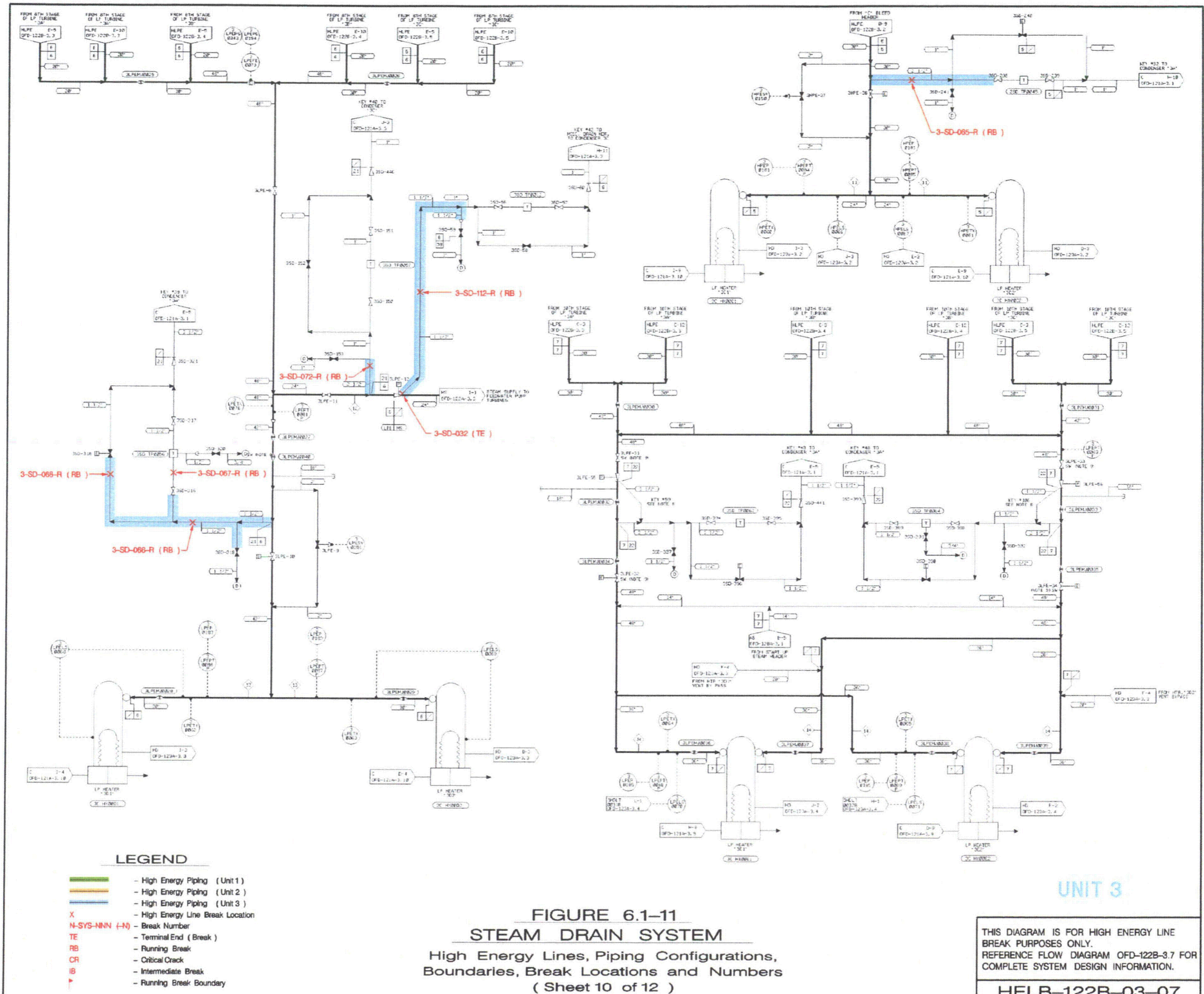
- LEGEND**
- - High Energy Piping (Unit 1)
 - - High Energy Piping (Unit 2)
 - - High Energy Piping (Unit 3)
 - X - High Energy Line Break Location
 - N-SYS-NNN (-N) - Break Number
 - TE - Terminal End (Break)
 - RB - Running Break
 - CR - Critical Crack
 - IB - Intermediate Break
 - |— - Running Break Boundary

FIGURE 6.1-11
STEAM DRAIN SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 9 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122B-3.6 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122B-03-06



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- P - Running Break Boundary

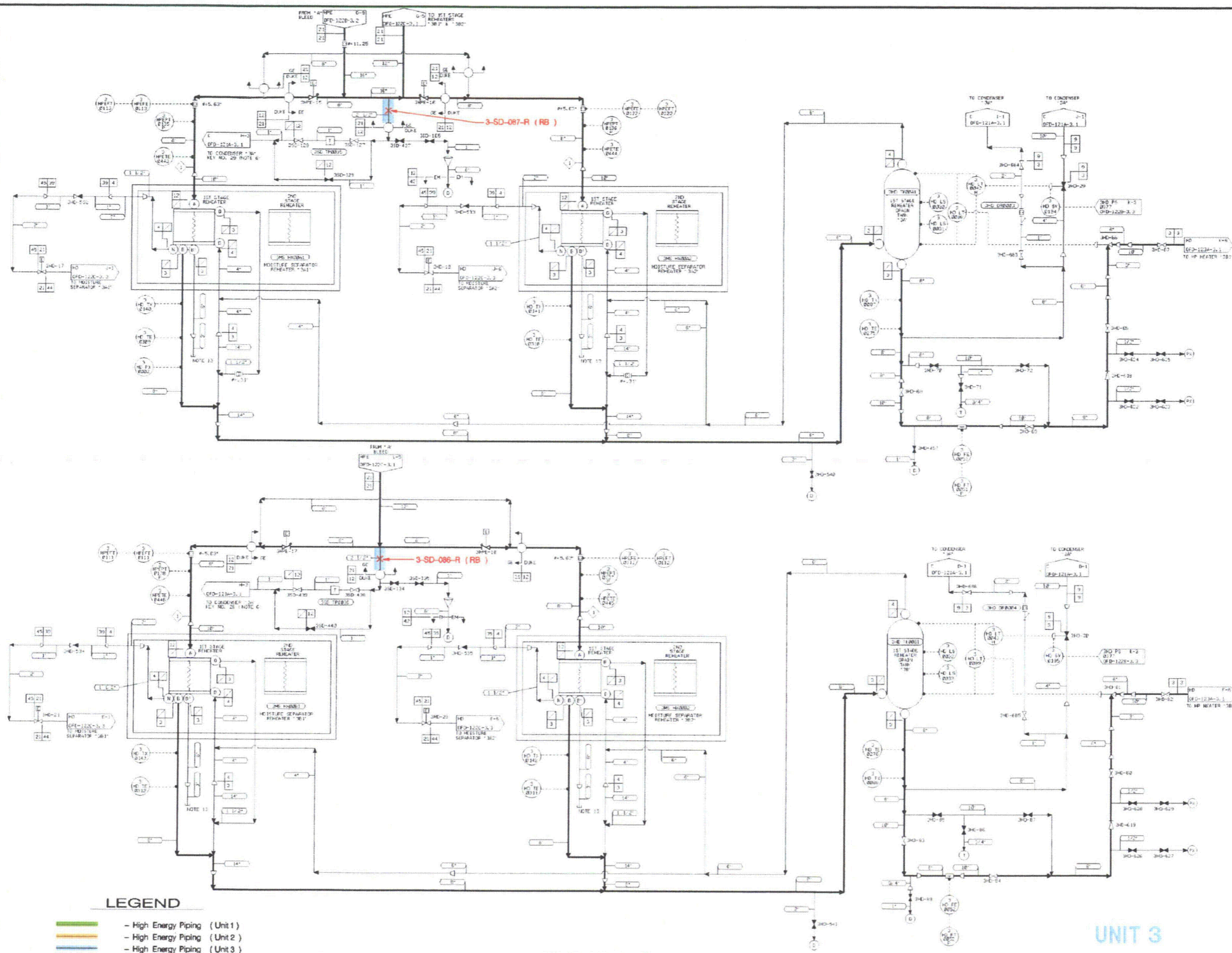
**FIGURE 6.1-11
STEAM DRAIN SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 10 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-122B-3.7 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122B-03-07



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- |— - Running Break Boundary

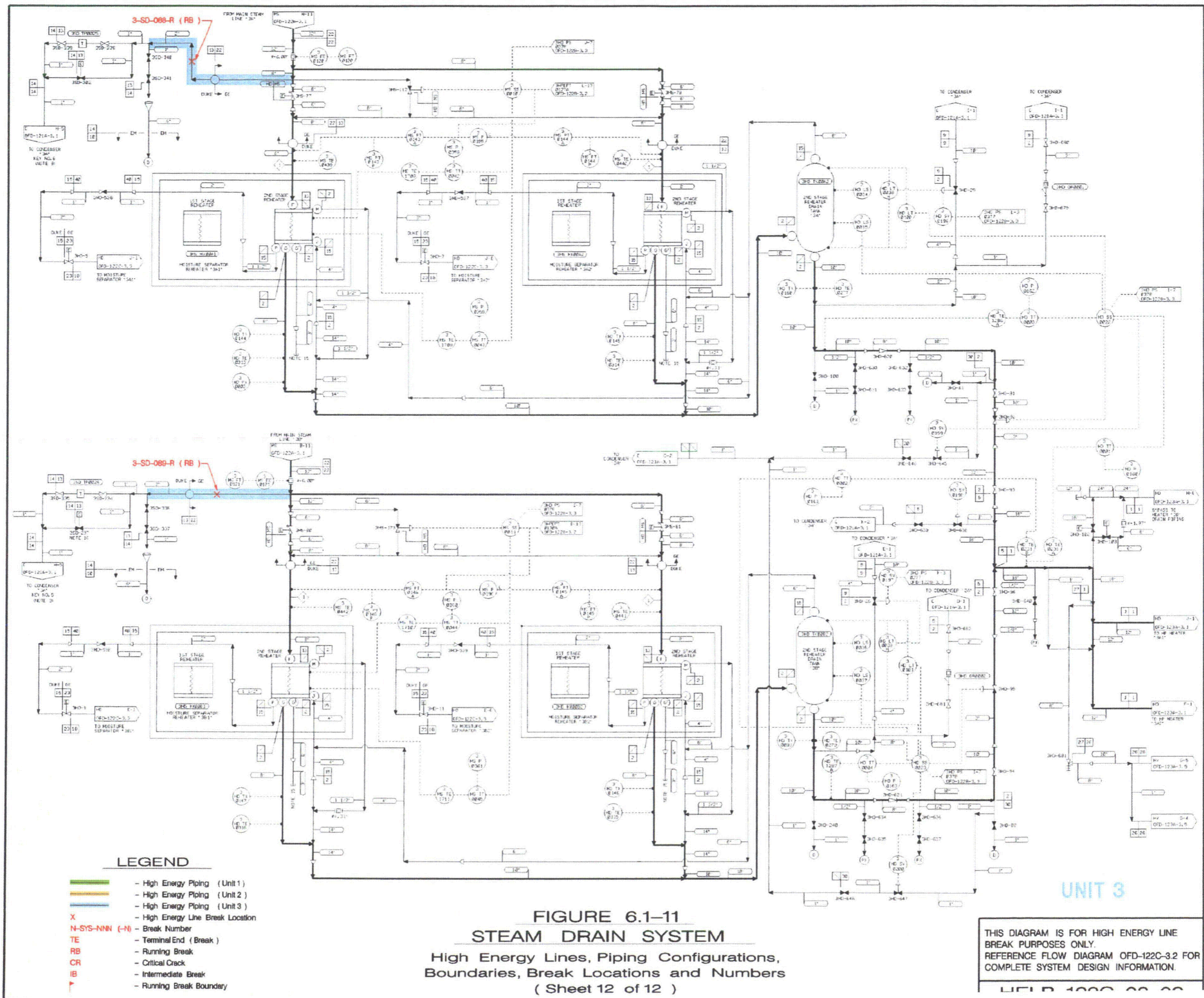
**FIGURE 6.1-11
STEAM DRAIN SYSTEM**

High Energy Lines, Piping Configurations,
Boundaries, Break Locations and Numbers
(Sheet 11 of 12)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
BREAK PURPOSES ONLY.
REFERENCE FLOW DIAGRAM OFD-122C-31 FOR
COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122C-03-01

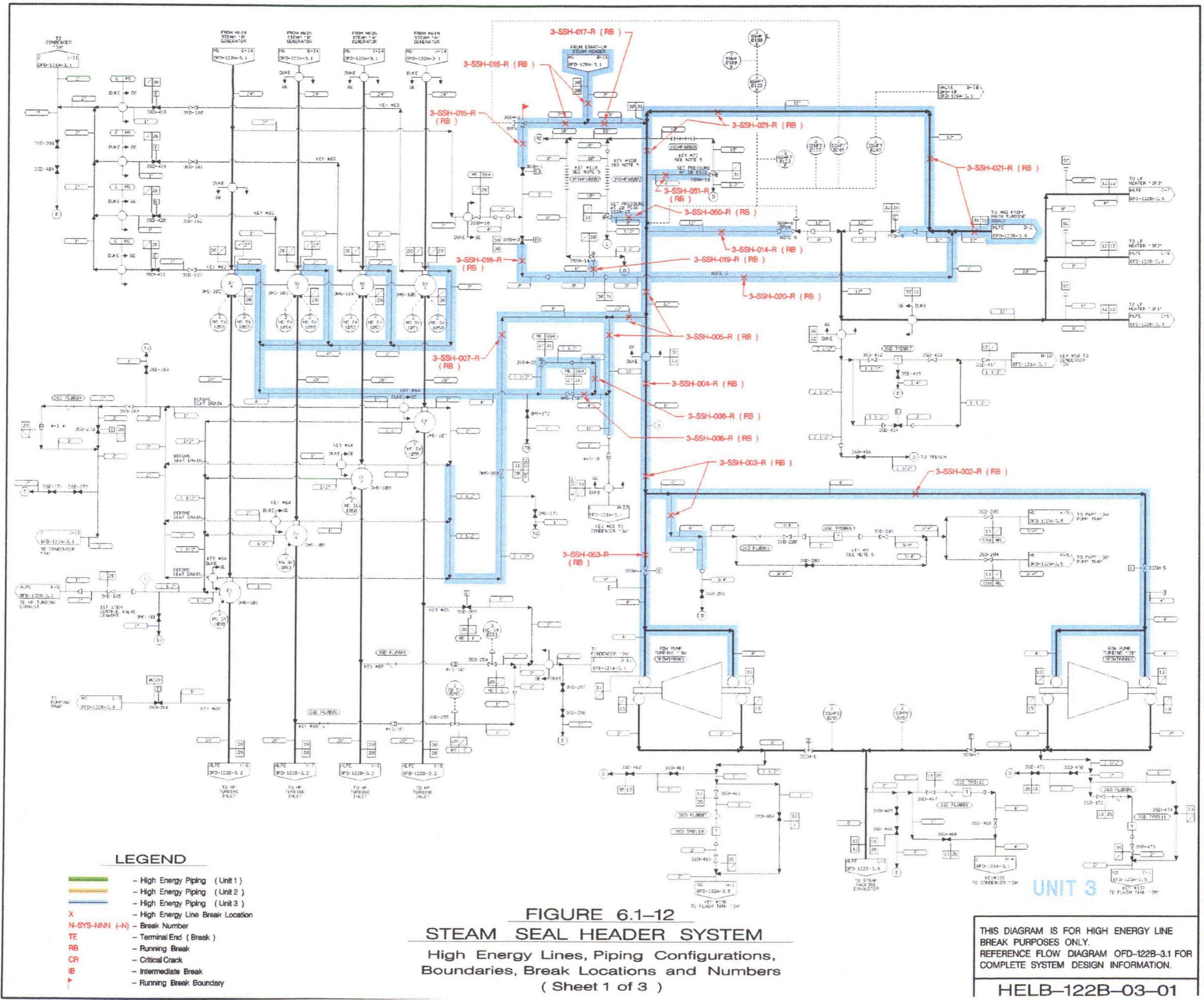


Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-) See Note 6	Floor Elev.	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-SSH-002-R	122B-3.1	RB	4.500	0.237	TB	2403A, 2403E	775'-0"	B-C	43-47	10	440
3-SSH-003-R	122B-3.1	RB	6.625	0.280	TB	2403A, 2403E	775'-0"	B-C	46	10	440
3-SSH-004-R	122B-3.1	RB	6.625	0.280	TB	2403C, 2403D	796'-6"	B-E	46-54	10	440
3-SSH-005-R	122B-3.1	RB	12.750	0.406	TB	OM-2200-40 SH.1, 4	796'-6"	D-E	53-54	10	440
3-SSH-006-R	122B-3.1	RB	4.500	0.237	TB	OM-2200-40 SH.1, 4	796'-6"	D-E	53-55	10	440
3-SSH-007-R	122B-3.1	RB	2.875	0.203	TB	OM-2200-40 SH.1, 4	796'-6"	D-F	53-54	10	440
3-SSH-008-R	122B-3.1	RB	3.500	0.216	TB	OM-2200-40 SH.1, 4	796'-6"	D-E	53-54	10	440
3-SSH-014-R	122B-3.1	RB	12.750	0.406	TB	OM-2200-40 SH.1	796'-6"	D-E	53-54	10	440
3-SSH-015-R	122B-3.1	RB	3.500	0.300	TB	OM-2200-40 SH.1	796'-6"	D-F	53-55	10	440
3-SSH-016-R	122B-3.1 128A-3.1	RB	3.500	0.300	TB	OM-2200-40 SH.1	796'-6"	D-E	53-54	10	440
3-SSH-017-R	122B-3.1	RB	3.500	0.300	TB	OM-2200-40 SH.1	796'-6"	D-E	53-54	10	440
3-SSH-018-R	122B-3.1	RB	3.500	0.300	TB	OM-2200-40 SH.1	796'-6"	D-E	53-54	10	440
3-SSH-019-R	122B-3.1	RB	8.625	0.500	TB	OM-2200-40 SH.1	796'-6"	D-E	53-54	10	440
3-SSH-020-R	122B-3.1	RB	3.500	0.216	TB	OM-2200-40 SH.1	796'-6"	C-E	53-54	10	440
3-SSH-021-R	122B-3.1 122B-3.8	RB	12.750	0.406	TB	OM-2200-40 SH.1	796'-6"	D-E	50-54	10	440
3-SSH-022-R	122B-3.8	RB	10.750	0.365	TB	OM-2200-40 SH.1	796'-6"	D-E	48-51	10	440
3-SSH-023-R	122B-3.8	RB	5.563	0.258	TB	OM-2200-40 SH.1	796'-6"	D-F	46-49	10	440
3-SSH-024-R	122B-3.8	RB	8.625	0.322	TB	OM-2200-40 SH.1	796'-6"	D-F	52-54	10	440
3-SSH-025-R	122B-3.8	RB	8.625	0.322	TB	OM-2200-40 SH.1	796'-6"	D-F	52-53	10	440
3-SSH-026-R	122B-3.8	RB	5.563	0.258	TB	OM-2200-40 SH.1	796'-6"	D-F	51-52	10	440
3-SSH-027-R	122B-3.8	RB	8.625	0.322	TB	OM-2200-40 SH.1	796'-6"	D-E	50-51	10	440
3-SSH-028-R	122B-3.8	RB	8.625	0.322	TB	OM-2200-40 SH.1	796'-6"	D-E	48-49	10	440

Break ID	Flow Diagram (OFD-)	Break Type	Pipe OD (in)	Pipe Thickness (in)	Building	Layout Drawing (O-) See Note 6	Floor Elev.	Location (Room No. or Column Numbers)		Op Pres. (psig)	Op Temp. (°F)
3-SSH-029-R	122B-3.8	RB	5.563	0.258	TB	OM- 2200-40 SH. 1	796'-6"	E-F	50-51	10	440
3-SSH-030-R	122B-3.8	RB	5.563	0.258	TB	OM- 2200-40 SH. 1	796'-6"	E-F	49-50	10	440
3-SSH-031-R	122B-3.8	RB	5.563	0.258	TB	OM- 2200-40 SH. 1	796'-6"	E-F	48-49	10	440
3-SSH-032-R	122B-3.8	RB	5.563	0.258	TB	OM- 2200-40 SH. 1	796'-6"	E-F	47-48	10	440
3-SSH-050-R	122B-3.1	RB	8.625	0.322	TB	OM- 2200-40 SH. 1	796'-6"	D-E	53-54	10	440
3-SSH-051-R	122B-3.1	RB	8.625	0.322	TB	OM- 2200-40 SH. 1	796'-6"	D-E	53-54	10	440
3-SSH-053-R	122B-3.1	RB	4.500	0.237	TB	2403A, 2403E	775'-0"	B-C	45-47	10	440

Notes:

1. Break numbers may not be consecutive
2. Break type: RB – Running Break (Piping not analyzed for seismic), TE – Terminal End, IB – Intermediate Break
3. Building: TB – Turbine Building, AB – Auxiliary Building.
4. Each running break may contain one or more sub-breaks.
5. For the Unit 3 Steam Seals System 53 Running Breaks were considered; 29 non-excluded, Running Breaks are listed in this table.
6. Layout of piping system may be shown on vendor supplied drawings (OM-).
7. For each Running Break the elevation of the floor or room that contains the Running Break is given.
8. Other Abbreviations: OD – Outer Diameter, in – inches, Op - operating



LEGEND

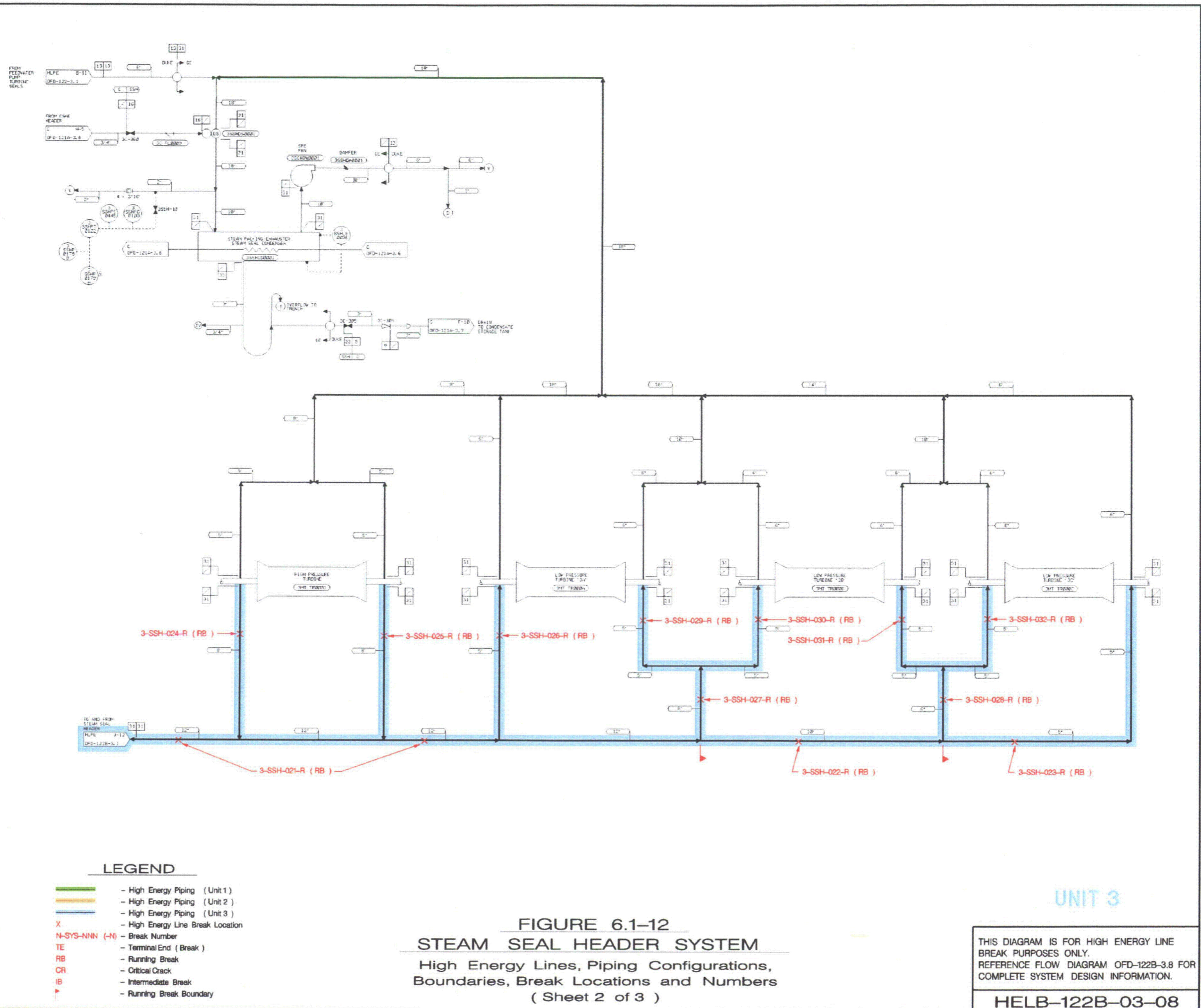
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- |— - Running Break Boundary

FIGURE 6.1-12
STEAM SEAL HEADER SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 1 of 3)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122B-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

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LEGEND

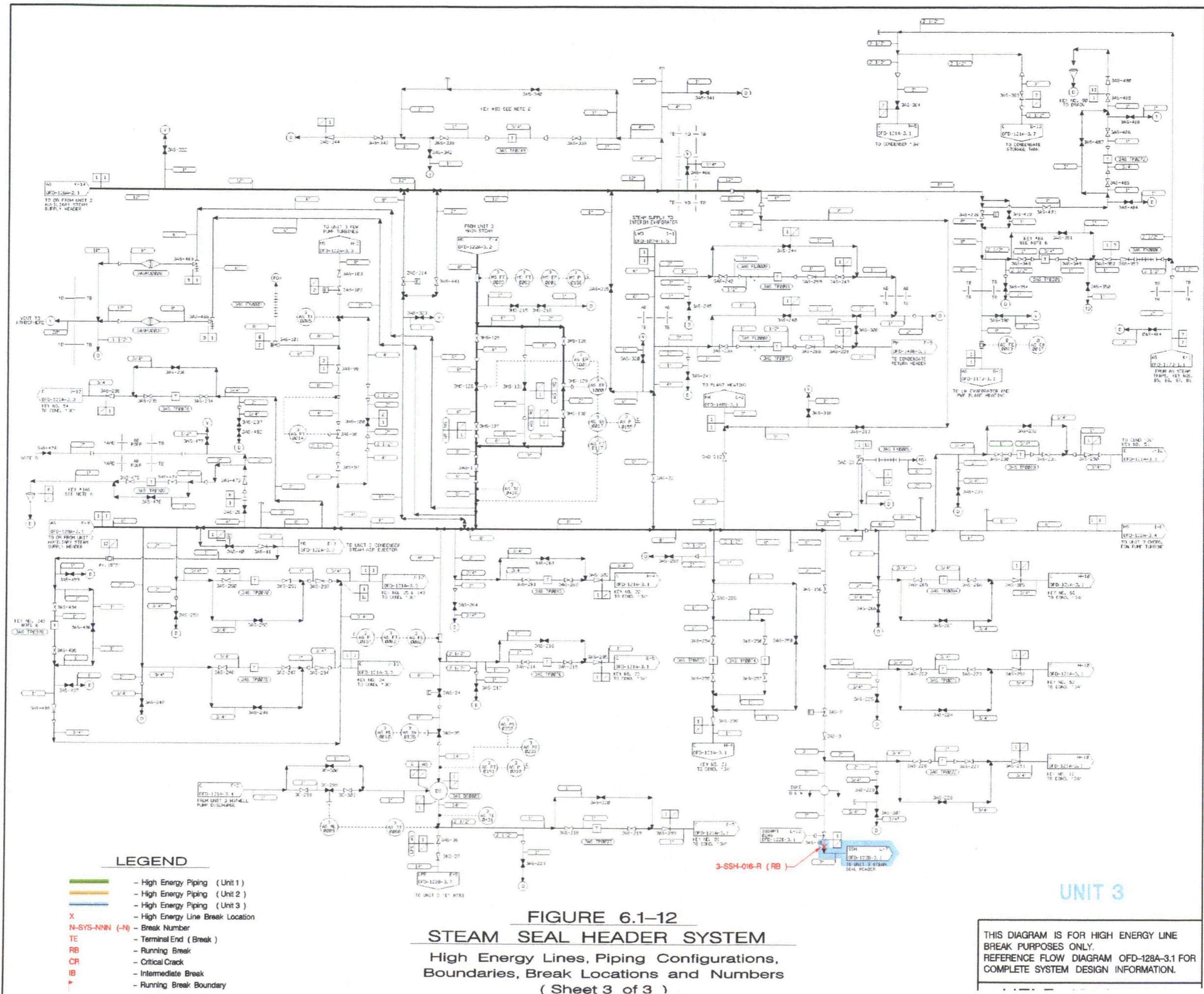
- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ▬ - Running Break Boundary

FIGURE 6.1-12
STEAM SEAL HEADER SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 2 of 3)

UNIT 3

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-122B-3.8 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

HELB-122B-03-08



LEGEND

- - High Energy Piping (Unit 1)
- - High Energy Piping (Unit 2)
- - High Energy Piping (Unit 3)
- X - High Energy Line Break Location
- N-SYS-NNN (-N) - Break Number
- TE - Terminal End (Break)
- RB - Running Break
- CR - Critical Crack
- IB - Intermediate Break
- ▶ - Running Break Boundary

FIGURE 6.1-12
STEAM SEAL HEADER SYSTEM
 High Energy Lines, Piping Configurations,
 Boundaries, Break Locations and Numbers
 (Sheet 3 of 3)

THIS DIAGRAM IS FOR HIGH ENERGY LINE
 BREAK PURPOSES ONLY.
 REFERENCE FLOW DIAGRAM OFD-128A-3.1 FOR
 COMPLETE SYSTEM DESIGN INFORMATION.

UNIT 3