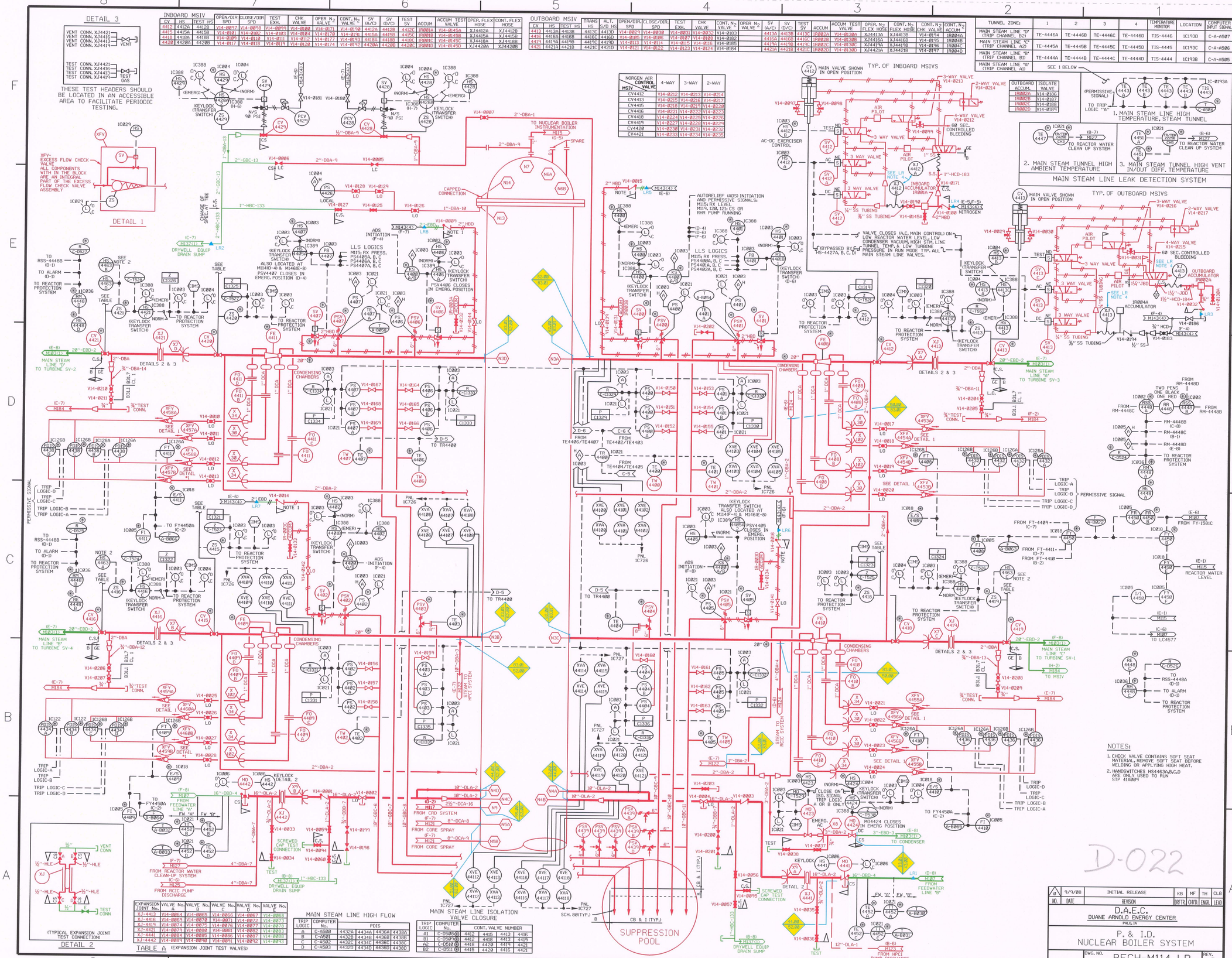

INBOARD MSIV																
CV	HS	TEST HS	OPEN/DIR SPD	CLOSE/DIR SPD	TEST EXH.	CHK VALVE	OPER N_2 VALVE	CONT. N_2 VALVE	SV (A/C)	SV (D/C)	TEST SV	ACCUM	ACCUM TEST VALVE	OPER. FLNT HOSE	CONT. FLEX HOSE	
4412	4412A	4412B	V14-0097	V14-0098	V14-0099	V14-0100	V14-0171	V14-0190	4412A	4412B	4412C	IR0001A	V14-0145A	XJ4412A	XJ4412B	
4415	4415A	4415B	V14-0101	V14-0102	V14-0103	V14-0104	V14-0170	V14-0191	4415A	4415B	4415C	IR0001B	V14-0145B	XJ4415A	XJ4415B	
4418	4418A	4418B	V14-0109	V14-0110	V14-0111	V14-0112	V14-0177	V14-0193	4418A	4418B	4418C	IR0001C	V14-0145C	XJ4418A	XJ4418B	
4420	4420A	4420B	V14-0117	V14-0118	V14-0119	V14-0120	V14-0174	V14-0192	4420A	4420B	4420C	IR0001D	V14-0145D	XJ4420A	XJ4420B	

OUTBOARD MSIV																
CV	HS	TEST HS	TRANS HS	ALT. S/D HS	OPEN/DIR. SPD	CLOSE/DIR. SPD	TEST EXH.	CHK VALVE	CONT. N_2 VALVE	OPER N_2 VALVE	SV (A/C)	SV (D/C)	TEST SV	ACCUM	ACCUM TEST VALVE	OPER. N_2 FLEX HOSE	CONT. N_2 FLEX HOSE	CONT. N_2 CHK VALVE	CONT. N_2 ACCUM
4413	4413A	4413B	4413C	4413D	V14-0029	V14-0030	V14-0031	V14-0032	V14-0183		4413A	4413B	4413C	IR0002A	V14-0138A	XJ4413A	XJ4413B	V14-0194	IR0044A
4416	4416A	4416B	4416C	4416D	V14-0105	V14-0106	V14-0107	V14-0108	V14-0184		4416A	4416B	4416C	IR0002B	V14-0138B	XJ4416A	XJ4416B	V14-0195	IR0044B
4419	4419A	4419B	4419C	4419D	V14-0113	V14-0114	V14-0115	V14-0116	V14-0185		4419A	4419B	4419C	IR0002C	V14-0138C	XJ4419A	XJ4419B	V14-0196	IR0044C
4421	4421A	4421B	4421C	4421D	V14-0121	V14-0122	V14-0123	V14-0124	V14-0186		4421A	4421B	4421C	IR0002D	V14-0138D	XJ4421A	XJ4421B	V14-0197	IR0044D

NORGEN AIR CONTROL VALVE MSIV	4-WAY	3-WAY	2-WAY
CV4412	V14-0212	V14-0213	V14-0214
CV4413	V14-0215	V14-0216	V14-0217
CV4415	V14-0218	V14-0219	V14-0220
CV4416	V14-0221	V14-0222	V14-0223
CV4418	V14-0224	V14-0225	V14-0226
CV4419	V14-0227	V14-0228	V14-0229
CV4420	V14-0230	V14-0231	V14-0232
CV4421	V14-0233	V14-0234	V14-0235

TUNNEL ZONE:	1	2	3	4	TEMPERATURE MONITOR	LOCATION	COMPUTER INPUT SIGNAL
MAIN STEAM LINE "D" (TRIP CHANNEL B2)	TE-4446A	TE-4446B	TE-4446C	TE-4446D	TIS-4446	1C193D	C-A-A507
MAIN STEAM LINE "C" (TRIP CHANNEL A2)	TE-4445A	TE-4445B	TE-4445C	TE-4445D	TIS-4445	1C193C	C-A-A506
MAIN STEAM LINE "B" (TRIP CHANNEL B1)	TE-4444A	TE-4444B	TE-4444C	TE-4444D	TIS-4444	1C193B	C-A-A505
MAIN STEAM LINE "A" (TRIP CHANNEL A1)	SEE 1 BELOW						

OUTBOARD ACCUM.	ISOLATE VALVE
IR0020A	V14-0186
IR0020B	V14-0187
IR0020C	V14-0188
IR0020D	V14-0189

1. MAIN STEAM LINE HIGH TEMPERATURE, STEAM TUNNEL
2. MAIN STEAM TUNNEL HIGH AMBIENT TEMPERATURE
3. MAIN STEAM TUNNEL HIGH VENT IN/OUT DIFF. TEMPERATURE

MAIN STEAM LINE LEAK DETECTION SYSTEM

EXPANSION JOINT No.	VALVE No. A	VALVE No. B	VALVE No. C	VALVE No. D	VALVE No. E
XJ-4413	V14-0064	V14-0065	V14-0066	V14-0067	V14-0068
XJ-4416	V14-0069	V14-0070	V14-0071	V14-0072	V14-0073
XJ-4419	V14-0074	V14-0075	V14-0076	V14-0077	V14-0078
XJ-4421	V14-0079	V14-0080	V14-0081	V14-0082	V14-0083
XJ-4441	V14-0084	V14-0085	V14-0086	V14-0087	V14-0088
XJ-4442	V14-0089	V14-0090	V14-0091	V14-0092	V14-0093

TABLE A (EXPANSION JOINT TEST VALVES)

MAIN STEAM LINE HIGH FLOW

TRIP LOGIC	COMPUTER No.	PDIS			
A	C-A500	4432A	4434A	4436A	4438A
B	C-A501	4432B	4434B	4436B	4438B
C	C-A502	4432C	4434C	4436C	4438C
D	C-A503	4432D	4434D	4436D	4438D

TRIP LOGIC	COMPUTER No.	CONT. VALVE NUMBER			
A1	C-D508(a)	4412	4415	4413	4416
B1	C-D509(a)	4412	4418	4413	4419
A2	C-D510(a)	4418	4420	4419	4421
B2	C-D511(a)	4415	4420	4416	4421

LR NOTES:

1. (N/A) ARE PENETRATIONS THAT ARE EVALUATED IN 62.00 NUCLEAR BOILER.
2. (X/A) ARE PENETRATIONS THAT ARE EVALUATED IN 99.28PC PRIMARY CONTAINMENT STRUCTURE.
3. SUPPRESSION POOL IS EVALUATED IN 99.28PC PRIMARY CONTAINMENT STRUCTURE.
4. XJ44XX, FLEXHOSES ARE PERIODICALLY REPLACED

LR NSAS ANCHOR NOTES:

- ▲ LR1 HP HEATERS 1E006A & 1E006B ACT AS SEISMIC ANCHORS. SEE PAID BECH-M107 FOR EQUIPMENT LOCATION (m-2)
- ▲ LR2 SEISMIC ANCHOR SUPPORT (E-7) FSK-04041, PS-2 & DET. B
- ▲ LR3 SEISMIC ANCHOR SUPPORT (E-1) FSK-05424, PS-1, DET. B
- ▲ LR4 SEISMIC ANCHOR SUPPORT (E-2) FSK-04658B, PS-2, DET. B
- ▲ LR5 SEISMIC ANCHOR SUPPORT (E-5) FSK-04656, PS-1, DET. A
- ▲ LR6 SEISMIC ANCHOR SUPPORT (C-4) FSK-04655, PS-1, DET. B
- ▲ LR7 SEISMIC ANCHOR SUPPORT (C-7) FSK-04657B, PS-1, DET. A
- ▲ LR8 SEISMIC ANCHOR SUPPORT (E-6) FSK-04654, PS-2, DET. B

NOTES:

1. CHECK VALVE CONTAINS SOFT SEAT MATERIAL. REMOVE SOFT SEAT BEFORE WELDING OR APPLYING HIGH HEAT.
2. HANDSWITCHES HS4463A,B,C,D ARE ONLY USED TO RUN STP 41A089

LR LEGEND:

- COMPONENTS IN SCOPE PER 10CFR54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 54.21
- COMPONENTS NOT SUBJECT TO AMR
- COMPONENTS IN SCOPE PER 10CFR54.4(a)(2) AND SUBJECT TO AMR PER 54.21

SYSTEM BOUNDARY INTERFACE

- 43.00 CONDENSER
- 44.00 CONDENSATE AND FEEDWATER/EXTRACTION STEAM
- 50.00 Rx CORE ISOLATION COOLING
- 51.00 CORE SPRAY
- 52.00 HIGH PRESSURE COOLING INJECTION
- 55.00 CONTROL ROD DRIVE
- 59.00 PRIMARY CONTAINMENT
- 83.01 MAIN STEAM JSO & ADS

NO.	DATE	REVISION	DRFTR	CHK'D	ENGR	LEAD
0	9/9/08	INITIAL RELEASE	KB	MF	TH	CLB

D.A.E.C.
DUANE ARNOLD ENERGY CENTER
PALO, IA

P. & I.D.
NUCLEAR BOILER SYSTEM

DWG. NO. BECH-M114-LR REV. 0

BASE PAID REV 70