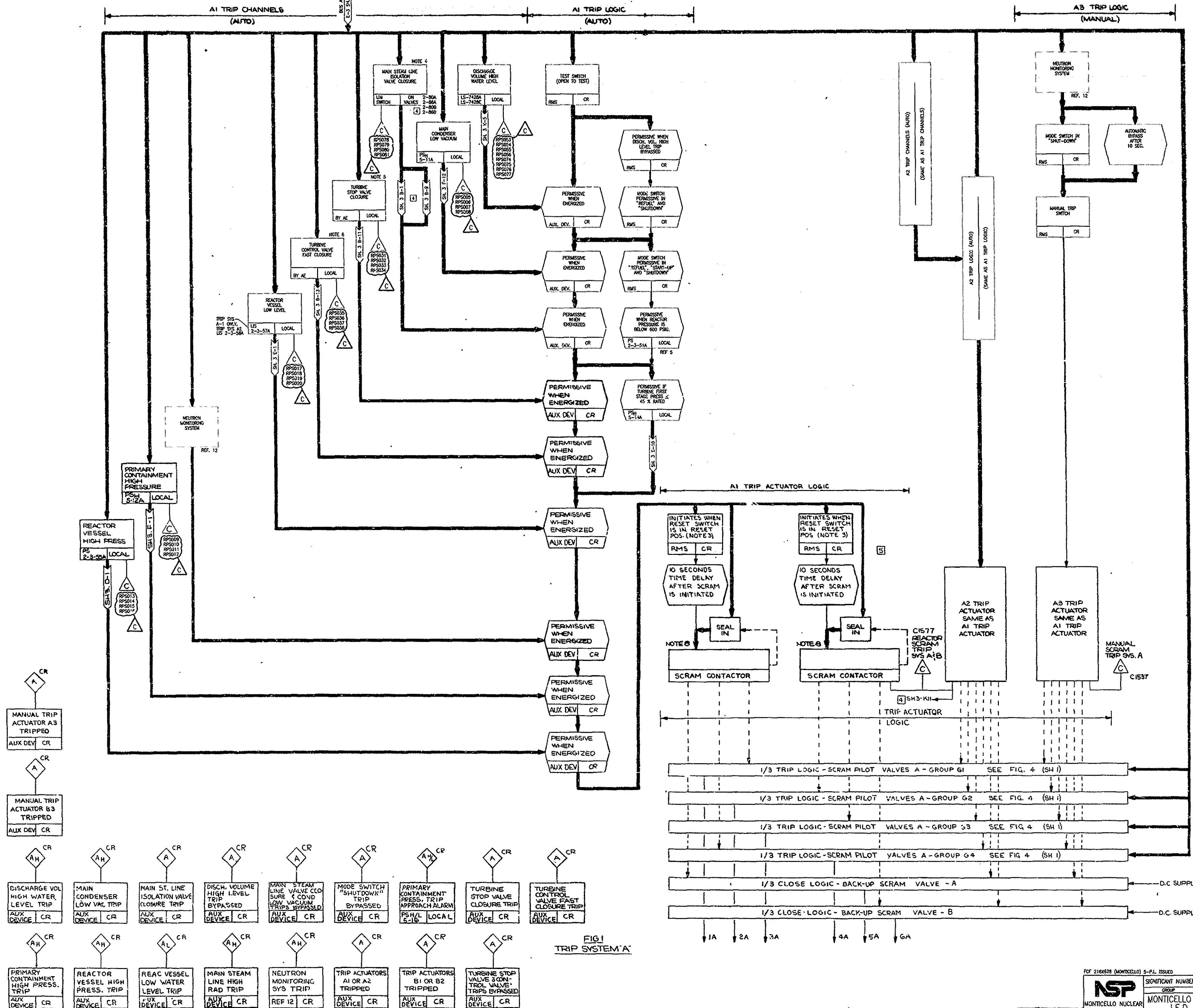
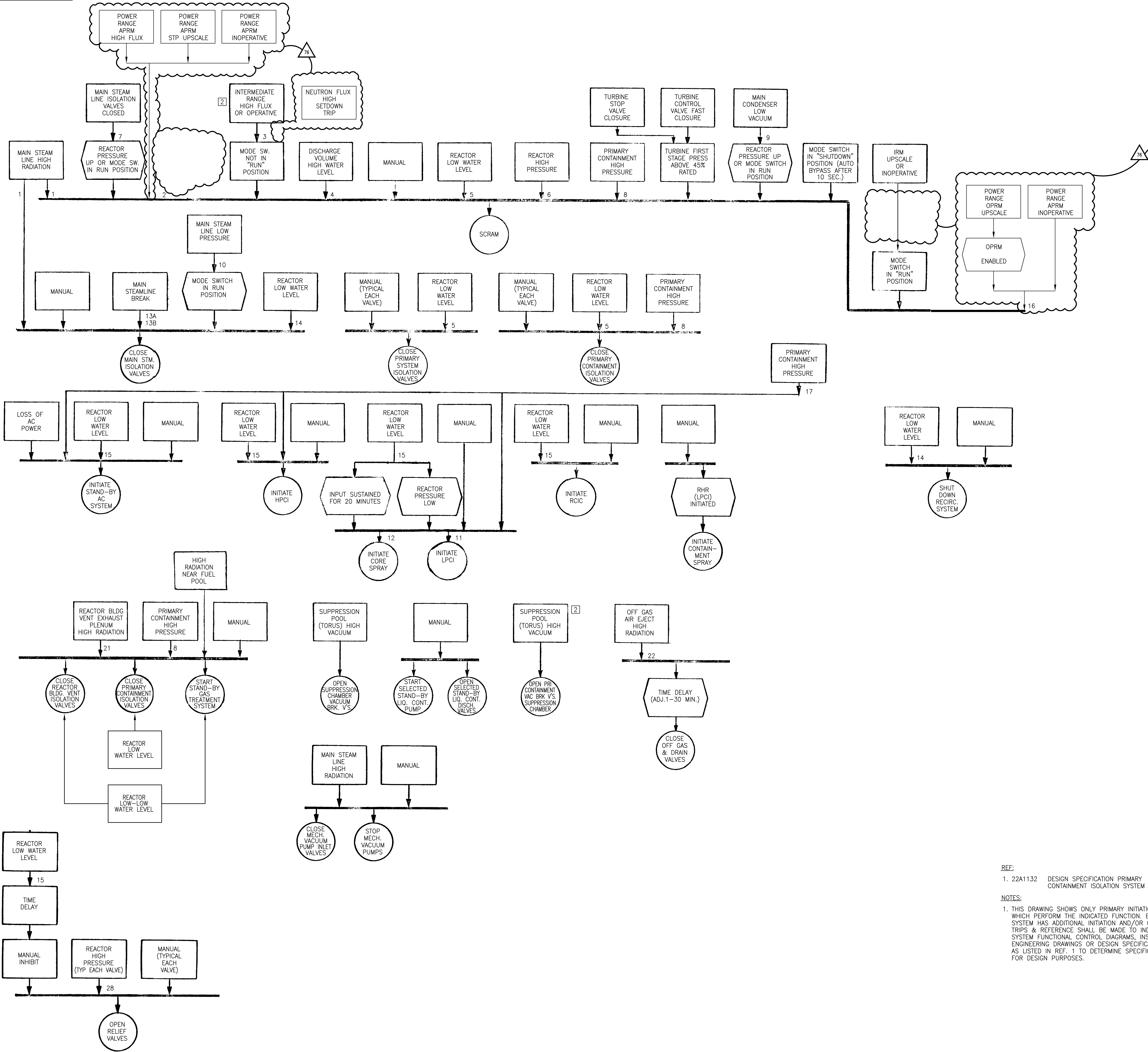


REVISIONS
 B AS BUILT
 REVISED TO REFLECT
 THE ELIMINATION OF
 M.S. HIGH RAD SCRAM
 ISOLATION MOD PER
 CR/DR: MO-93-62
 DWN: RPH 4-22-93
 CHK: PEB 8-26-93
 MOD: 920315
 FILED: 9-10-93
 C AS BUILT
 REVISED TO REFLECT
 THE RPS H.F.A. RELAY
 CONTACT CHANGES TO
 THE PROCESS COMPUTER
 MODIFICATION PER
 CR/DR: MO-94-71
 DWN: RPH 8-2-94
 CHK: JLD 2-3-97
 MOD: 920455
 FILED: 6-15-97

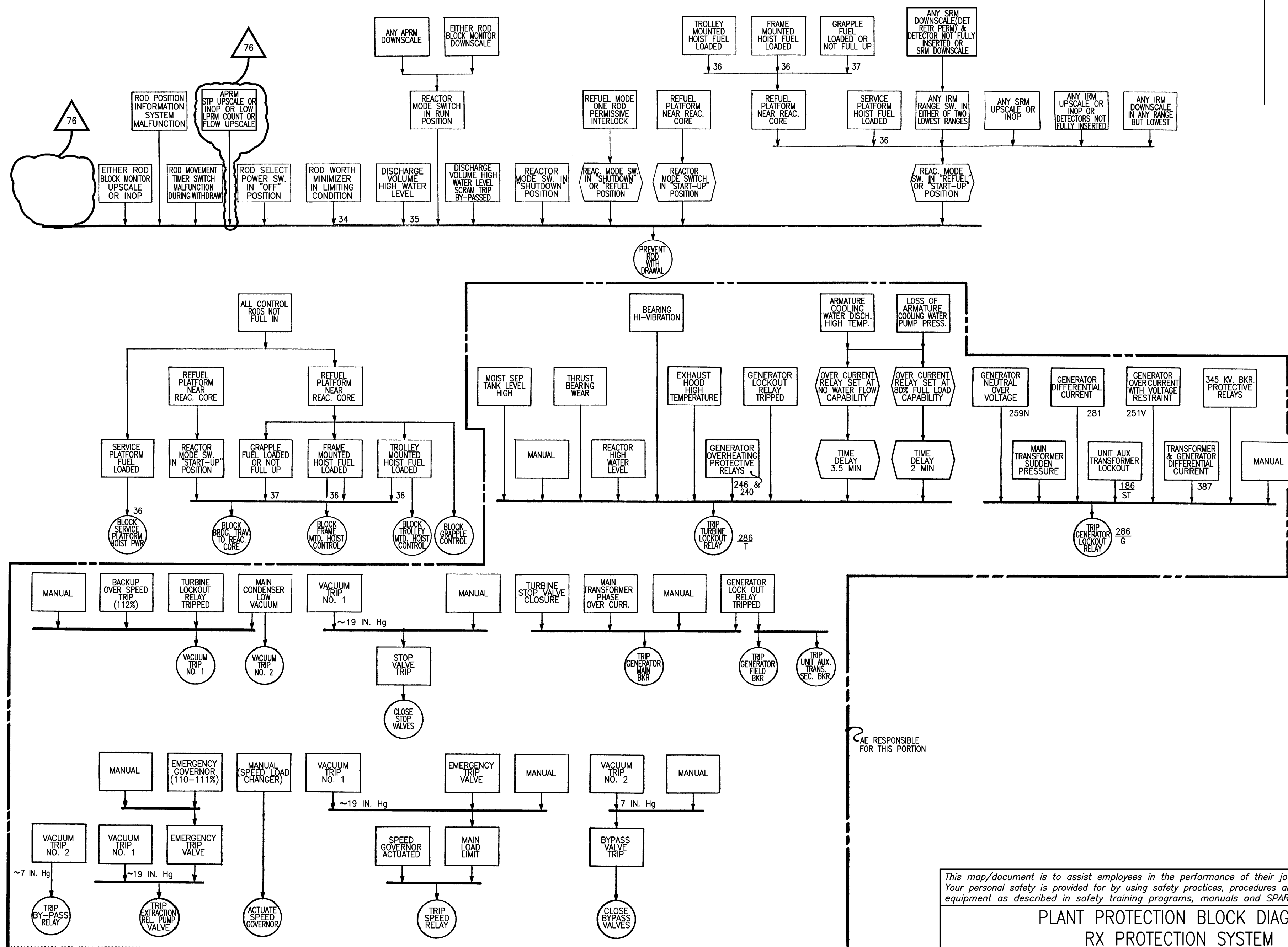




LINE NO.	CONDITION (DEVICE#)	SET POINT	REMARKS
1	17-251 A,B,C,D	$\geq 10 \times$ BACKGROUND	TRIP 1 OUT OF 2X2(DUAL BUS)
2	APRM 1,2,3,4	114% RATED PWR REF TO RECIRC FLOW	TRIP BOTH BUSES WHEN 2 OR MORE APRM CHANNELS TRIPPED
3	IRM 11,12,13,14,15,16,17,18	95% FULL SCALE	TRIP 1 OUT OF 4X2(DUAL BUS)
4	3-231 A,B,C,D	32 GALLONS	TRIP 1 OUT OF 2X2(DUAL BUS) BYPASS AVAILABLE
5	2-3-57 A,B 2-3-58 A,B	486.5 IN ABOVE VESSEL ZERO	TRIP 1 OUT OF 2X2(DUAL BUS)
6	2-3-55A,B,C,D	1090 PSIA	TRIP 1 OUT OF 2X2(DUAL BUS)
7	2-80 A,B,C,D 2-86 A,B,C,D	$\leq 10\%$ VALVE CLOSURE	TRIP BOTH BUSES WHEN 3 OUT OF 4 STM LINES ARE ISOLATED
8	5-12 A,B,C,D	2.0 PSIG	TRIP 1 OUT OF 2X2(DUAL BUS)
9	5-11 A,B,C,D	23 IN. HG	TRIP 1 OUT OF 2X2(DUAL BUS)
10	2-134 A,B,C,D	850 PSIG	TRIP 1 OUT OF 2X2(DUAL BUS) REFUEL & START-UP BYPASS
11	2-3-52 A,B	450 PSIG	
12	2-3-52 A,B	450 PSIG	
13A	2-121A,B,C,D-122A,B,C,D-123A,B,C,D-124A,B,C,D	200°F	TRIP 2 OUT OF 4 ANY STEAMLINE
13B	2-116A,B,C,D-117A,B,C,D-118A,B,C,D-119A,B,C,D	140% FLOW	TRIP 2 OUT OF 4 ANY STEAMLINE
14	2-3-57A,B,-58A,B	429.5 IN ABOVE VESSEL ZERO	TRIP 1 OUT OF 2X2(DUAL BUS) LEVEL BELOW SCRAM LEVEL
15	2-3-72A,B,C,D	429.5 IN ABOVE VESSEL ZERO	TRIP 1 OUT OF 2X2(DUAL BUS) LEVEL BELOW SCRAM LEVEL
16	APRM 1,2,3,4	VARIOUS	TRIP BOTH BUSES WHEN 2 OR MORE APRM CHANNELS TRIPPED
17	10-101A,B,C,D	2.0 PSIG	
18			
19			
20			
21	17-452A,B		
22	17-150A,B		
23			
24			
25			
26			
27	2-71 A,B,C,D,E F,G,H	1120 PSIG	
28			
29			
30			
31			
32			
33			
34	ROD WORTH MINIMIZER	N/A	BY-PASSED AT APPROX 10% POWER AND ABOVE
35	3-231E	16 GALLONS	
36	LOAD SWITCH	LOAD>400LBS	
37	LOAD SWITCH	LOAD>1000LBS	
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			

REF:
1. 22A1132 DESIGN SPECIFICATION PRIMARY CONTAINMENT ISOLATION SYSTEM

NOTES:
1. THIS DRAWING SHOWS ONLY PRIMARY INITIATION TRIPS WHICH PERFORM THE INDICATED FUNCTION. EACH SYSTEM HAS ADDITIONAL INITIATION AND/OR OPERATIONAL TRIPS & REFERENCE SHALL BE MADE TO INDIVIDUAL SYSTEM FUNCTIONAL CONTROL DIAGRAMS, INSTRUMENT ENGINEERING DRAWINGS OR DESIGN SPECIFICATIONS AS LISTED IN REF. 1 TO DETERMINE SPECIFIC DETAILS FOR DESIGN PURPOSES.



GENERAL  ELECTRIC

*This map/document is to assist employees in the performance of their jobs.
Your personal safety is provided for by using safety practices, procedures and
equipment as described in safety training programs, manuals and SPAR's.*

729E101

MONTI CAD DWG 'A

PLANT PROTECTION BLOCK DIAGRAM RX PROTECTION SYSTEM

MONTICELLO NUCLEAR GENERATING PLANT

SCALE: NONE

REV 76

Xcel EnergySM
NORTHERN STATES POWER COMPANY

NX-7865-7-2	
-------------	--

NOTES:

1. THE STACK GAS SAMPLE LINE BETWEEN THE ISOKINETIC PROBE AND THE FILTER ASSEMBLY SHALL BE 1" X .058 WALL THICKNESS SEAMLESS STAINLESS STEEL TUBING. THE TUBING MINIMUM BEND RADIUS SHALL BE 20". THE TUBING LENGTH SHALL BE JOINED WITH SWAGelok TYPE 1610-6-316 UNIONS. THE TUBING SHALL SLOPE SO THAT CONDENSATE WILL RUN TO THE DRAIN TEE.

2. THE DETECTOR FOR THE PRESSURE TRANSDUCER SHALL BE LOCATED AT THE TOP OF THE PRESSURE TRANSDUCER.
3. THE DETECTOR FOR THE TEMPERATURE TRANSDUCER SHALL BE LOCATED AT THE TOP OF THE TEMPERATURE TRANSDUCER.
4. ALWAYS IDENTIFIED BY "A" ARE ACTUATED BY DELAYS IN TRIP AUX. UNIT ASSEMBLY, PART 355.
5. ALL EQUIPMENT AND INSTRUMENTS ARE PREFIXED BY 17 WHICH IS PART 17 ON THE MASTER PARTS LIST.
6. THE MAIN STEAM LINE DETECTORS (200) SHALL BE LOCATED AT BRINE COLUMN 1-8, HIGH REACTOR BUILDING AT ELEVATION 954'-4" (23 1/2' FROM THE TUNNEL FLOOR). THE DETECTORS SHALL BE APPROPRIATE SUCH THAT EACH DETECTOR WILL VIEW ALL STEAM LINES WITH APPROPRIATELY THE SAME RESPONSE. THE DETECTOR OR DETECTOR ASSEMBLY MAY BE FASTENED TO A ROD OR PIPE & INSERTED INTO SEALED PIPE WELLS FROM OUTSIDE THE STEAM TUNNEL. CABLES SHALL BE ROUTED CAREFULLY TO AVOID EXCESSIVE HEAT EXPOSURE, AND LEAD SHELTERING IS REQUIRED.
7. CABLE PER C.D. SPEC. A.
8. ONE HIGH RADATION TRIP OUT OF TWO ON LOGIC CHANNEL A
B SHALL:
 - A. DELETED
 - B. DELETED
 - C. TRIP OUT MECHANICAL VACUUM PUMP AND CLOSE MECHANICAL VACUUM PUMP LINE VALVES.

- ANY ONE HIGH RADIATION SHALL ALARM (RAHM).
11. CUSTOMER REQUIRED YES/ COMPUTER INPUTS ARE NOT SHOWN ON THIS DWG. BUT ARE IDENTIFIED ON REF. 2.
12. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE MPL ITEM NUMBER 9-51.
13. THE SIGNAL FROM ONE UPSCALE TRIP TO THE DOWNSCALE TRIPPS SHALL:
 - A. SHUTDOWN REACTOR BUILDUP VENTILATION SYSTEM AND RELATE REACTOR BUILDUP.
 - B. INITIATE STANDBY GAS TREATMENT SYSTEM.
 - C. CLOSE PRIMARY CONTAINMENT PURGE AND VENT VALVES.ANY ONE UPSCALE TRIP SHALL ALARM (RAHM).
- ANY ONE DOWNSCALE TRIP SHALL ALARM (RDAL).
- UPSCALE TRIPPS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE REACTOR PROTECTION SYSTEM.
- D** 14. THE UPSCALE TRIP SHALL ARM AND CLOSE THE CONTROL ROOM AIR INTAKE. THE DOWNSCALE TRIP SHALL ALARM.

REF. ENGR. SPECS:

A. 22A1112 DESIGN SPECIFICATION FOR SPECIAL WIRE AND CABLE.

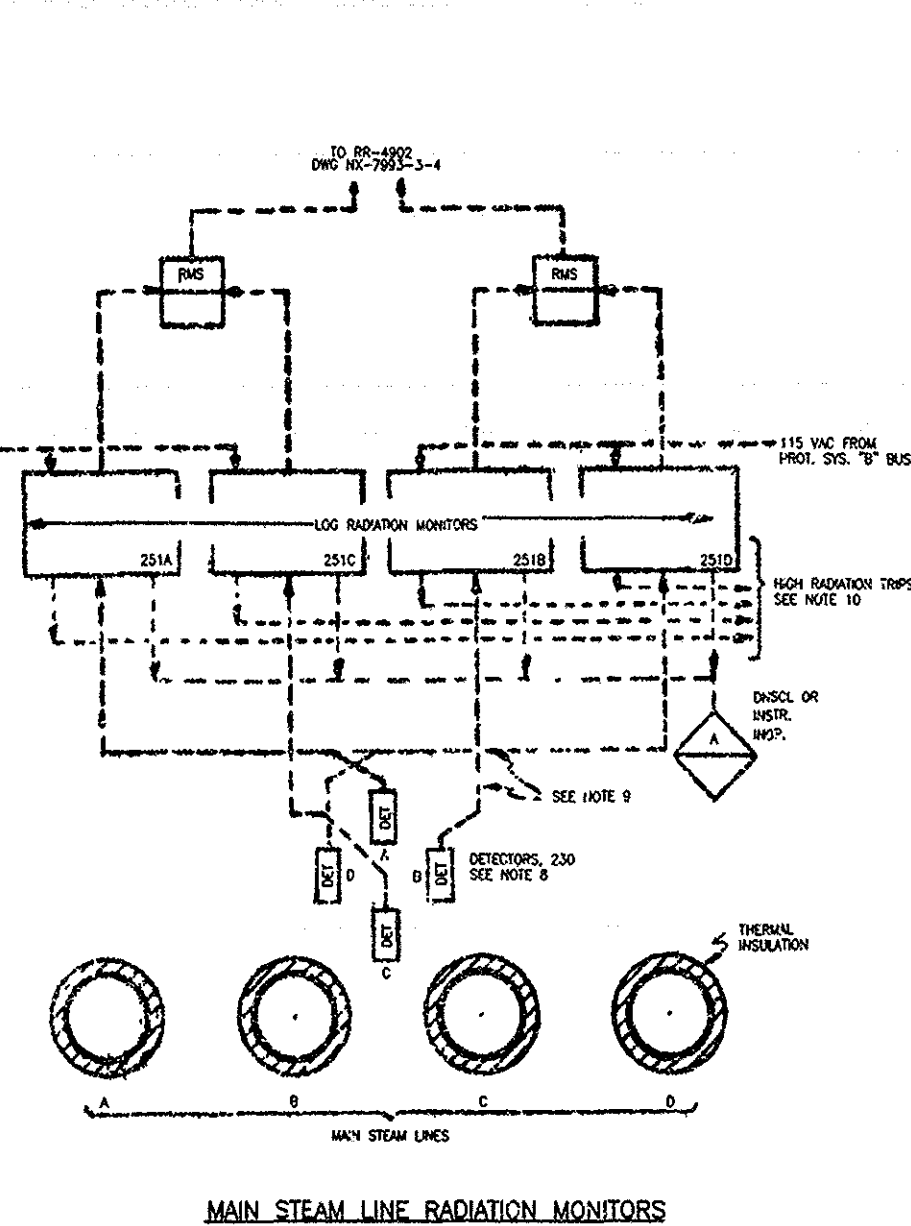
B. 257HA419AK DESIGN SPECIFICATION RADIATION MONITORING OF PROCESS FLUIDS & GASES.

REFERENCE DRAWINGS:

1. 9190E47 OFF-GAS SYS. FLOW DIAGRAM
2. 729E381 ELEM. DVG. PROCESS RADIATION MONITORING

NOTE:

GE STACK GAS RADIATION MONITORS HAVE BEEN REPLACED BY
GENERAL ATOMIC WIDE RANGE GAS MONITORS. SEE P&ID M-142
(NSP DWG No. MH-36159-2 AND MH-36159-3)



MAIN STEAM LINE RADIATION MONITORS



This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SOPs.

NSP MONTECELLO NUCLEAR GENERATING PLANT

RD

NORTHERN STATES POWER COMPANY
MINNEAPOLIS

SCALE: NONE

REV D

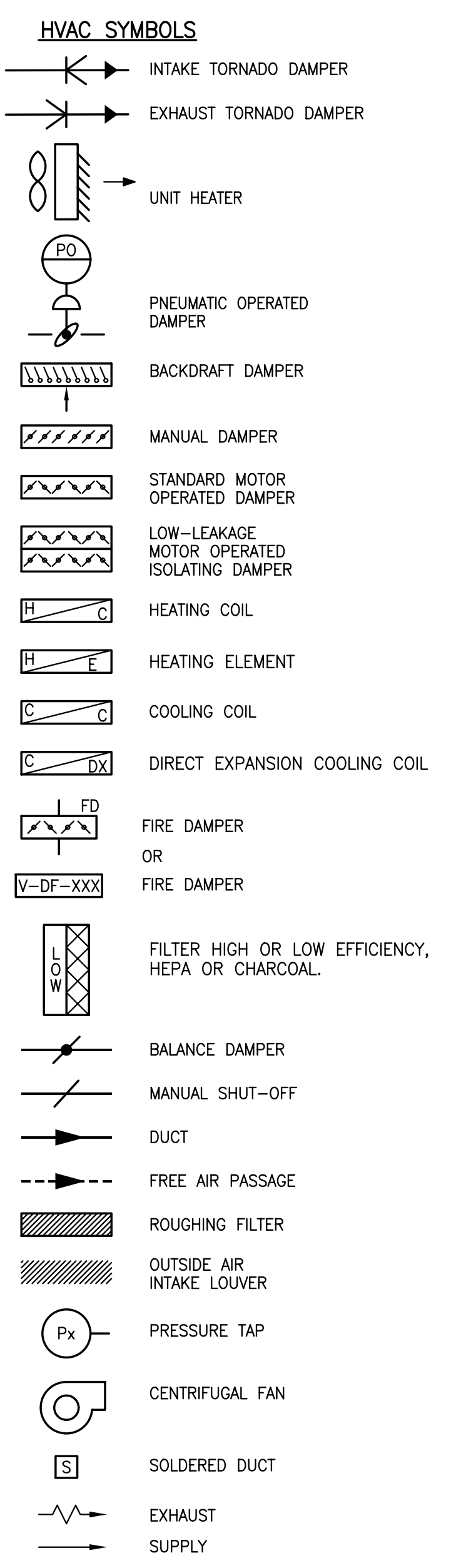
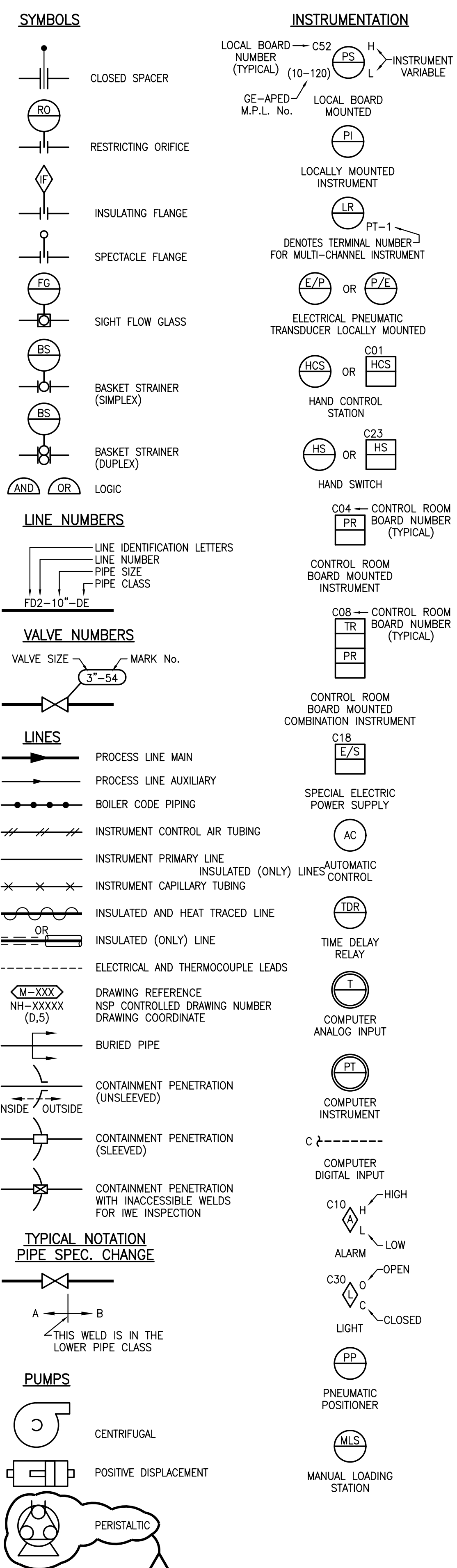
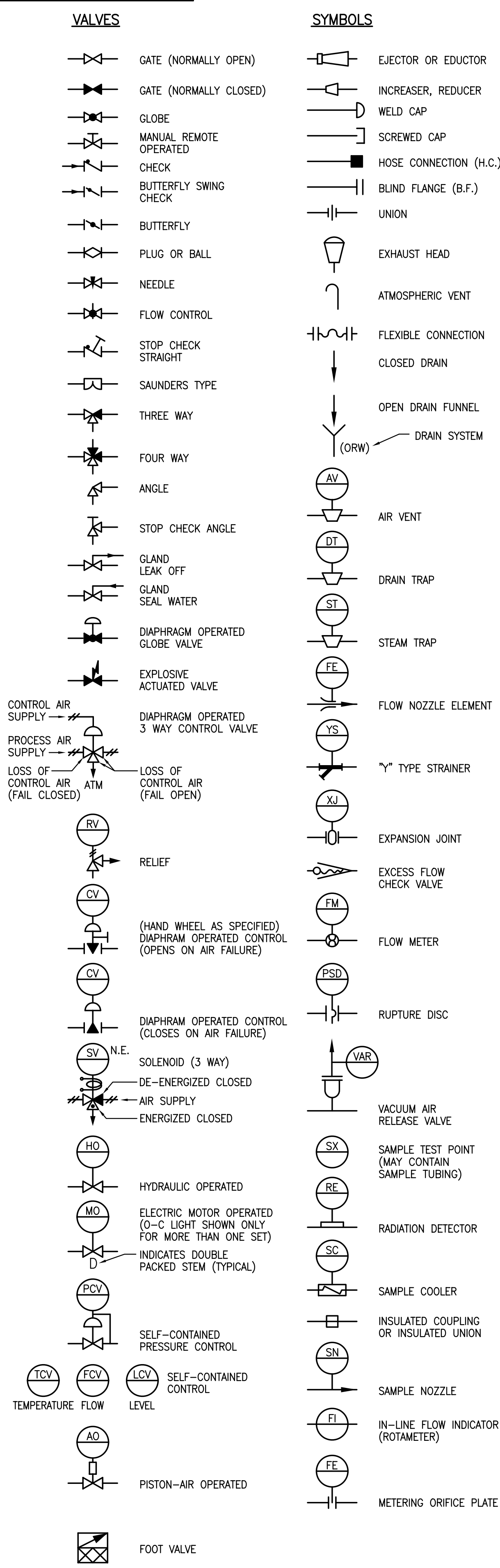
MONTH: 10 DAY: 06

TIME: 8:00 PM

GROUP: 1 2 3 4 5 6 7 8

MONTECELLO NUCLEAR GENERATING PLANT
PROCESS RADIATION MONITORING
SYSTEM

NX-7993-1-1



FUNCTION MEASURED VARIABLE	FUNCTION		METER		CONTROLLER				MISCELLANEOUS																				
	TYPE		INDICATOR	RECORDER	BLIND	INDICATING	RECORDING	INDICATING TRANSMITTER	TRANSMITTERS	ELEMENTS	SWITCH (HIGH)	SWITCH (LOW)	SWITCHES	INDICATING SWITCH	INDICATING TRANSMITTING SWITCH	AMPLIFIER	DRIVE	PERIOD OR RATE OF CHANGE	COMPUTING DEVICE	RELAY OR AUTO SELECTOR	TEST POINTS	MONITOR	COOLER	ISOLATOR	SUMMER	ANALYZER	ALARM	CONVERTER	
PRESSURE	P	PI	PR	PC	PIC	PRC			ADD SUFFIX "T" TO INSTRUMENT SYMBOL (eg FT, TT, LT) ADD SUFFIX "E" TO INSTRUMENT SYMBOL (eg FE, TE, LE)			PS	PIS				Pt	PCp		PX									
TEMPERATURE	T	TI	TR	TC	TIC	TRC						TS	TIS					Tt	TCp	Tr	TX					FY	FΣ		
FLOW	F	FI,FG	FR	FC	FIC	FRC					FSH	FSL	FS	FIS	FITS			Ft	FCp	Fre	FX								
LEVEL	L	LI,LG	LR	LC	LIC	LRC						LSH	LSL	LS	LIS	LITS			Lt	LCp		LX							
CONDUCTIVITY	C	CI	CR					CIT						CS									CM						
PRESSURE DIFFERENTIAL	dP	dPI	dPR	dPC	dPIC									dPS	dPIS										dPY				
HYDROGEN ION CONC	pH		pHR																										
MOISTURE	M	MI	MR											MS															
NEUTRON	N	NI	NR											NS		NA		Nt	NCp										
NEUTRON PERIOD	NP	NPI	NPR															NPt											
NEUTRON POWER	NWp																	NWp	NWpCp										
OXYGEN	O ₂	O ₂ I	O ₂ R											O ₂ S													O ₂ AN		
POSITION	Po	Pol		PoC		PoR								Pos															
POWER	Wa		WpR	WpC																									
RADIATION	R	Ri	RR		RIC	RRC								RS								RM							
SPEED	Sp	Spl		SpC										SpS				SpD	Spt										
DENSITY	D	DI	DR	DC																									
VIBRATION	V		VR											VS									VM						
SAMPLE	S																				Sx		Sc						
SEISMIC	Sm		SmR											SmS															
DISSOLVED OXYGEN	Do						DOIT																				DOAN		
TOTAL ORGANIC CARBON	A	AI																											
HYDROGEN	H ₂																										H ₂ AN		
LEVEL DIFFERENTIAL	dL													dLS															
TEMPERATURE DIFFERENTIAL	dT																											dTA	
VOLTAGE TO CURRENT																													E/I
CURRENT TO VOLTAGE																													I/E

	PRIMARY CONTROL PANEL NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	AUXILIARY PANEL OR RACK NORMALLY ACCESSIBLE TO OPERATOR	BEHIND PANEL INSTRUMENT OR NORMALLY INACCESSIBLE FUNCTION
SHARED DISPLAY, SHARED CONTROL, HMI	XXX XXXX	XXX XXXX	XXX XXXX	XXX XXXX
COMPUTER FUNCTION (INCLUDING DISTRIB. CNTRL. SYS.)	XXX XXXX	XXX XXXX	XXX XXXX	XXX XXXX
PROGRAMMABLE LOGIC CONTROLLER FUNCTION	XX XXXX	XX XXXX	XX XXXX	XX XXXX

VALVE LETTER DESIGNATIONS

- A = SERVICE INLET
- E = SERVICE OUTLET
- F = PRECOAT INLET / BACKWASH OUTLET
- K = SYSTEM DRAIN VALVE
- M = AIR INLET (PLANT AIR)
- N = BACKWASH SUPPLY VALVE
- P = PRECOAT TANK FILL VALVE
- Q = SLOW VENT VALVE
- R = RECYCLE, RETURN, RECOVERY, RINSE INLET
- U = VESSEL DRAIN VALVE
- V = FAST VENT
- W = BACKWASH INLET / PRECOAT OUTLET VALVE
- X = PRECOAT TANK RETURN
- Y = PRECOAT TANK OUTLET VALVE
- Z = AUXILIARY TANK OUTLET VALVE

FOLLOWING VALVE LETTER

A, B, C, D, E = VESSEL TAG LETTER

MISCELLANEOUS ABBREVIATIONS:

- A.L. - AIR LOCK
- A.P.E.D. - ATOMIC POWER EQUIP. DEPT. OF G.E. CO.
- A/S - AIR SUPPLY
- BD - BALANCE DAMPER
- BDD - BACKDRAFT DAMPER
- AW - ACID WASTE (CORROSIVE, CAUSTIC)
- CRW - EQUIPMENT (CLOSED) RADWASTE
- D. - INDICATED DOUBLE PACKED STEM
- F.A.I. - FAIL-AS-IS
- F.C. - FAIL CLOSED
- F.D. - FIRE DAMPER
- F.O. - FAIL OPEN
- INT - INTEGRATOR
- L.O. - LOCK OPEN
- L.C. - LOCK CLOSE
- M.A. - MECHANICAL ALTERNATOR
- N. - MEETS A.P.E.D. REQUIREMENTS FOR NUCLEAR SERVICE
- N.D. - DENOTES NORMALLY DE-ENERGIZED
- N.E. - DENOTES NORMALLY ENERGIZED
- NW - NORMAL WASTE (CONVENTIONAL)
- ORW - FLOOR (OPEN) RADWASTE
- OW - OILY WATER WASTE
- P.P.S. - PLANT PROTECTIVE SYSTEM
- R.M. - REMOTE MANUAL
- S. - SUMMER (CFM)
- S.P. - SET POINT
- SW - SANITARY WASTE
- TOT. - TOTAL
- tRS - TEMP ROOM SUMMER
- tRW - TEMP ROOM WINTER
- tSS - TEMP. SUPPLY SUMMER
- tSW - TEMP SUPPLY WINTER
- W. - WINTER (CFM)
- W.C.S.P. - WATER COLUMN STATIC PRESSURE
- * - FURNISHED WITH ASSOCIATED EQUIPMENT
- ⊗ - FURNISHED BY A.P.E.D.
- Ⓢ - CONNECTION NUMBER ON EQUIPMENT DRAWING

COLOR LEGEND	
■	ASME CLASS 1/QUALITY GROUP A
■	ASME CLASS 2/QUALITY GROUP B
■	ASME CLASS 3/QUALITY GROUP C
■	QUALITY GROUP D
■	SAFETY RELATED MECHANICAL
■	SAFETY RELATED ELECTRICAL
■	SPECIAL CONCERNS ITEM

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

M-100

MONTE CAD DWG "J"

P&ID - LEGEND

MONTECELLO NUCLEAR GENERATING PLANT

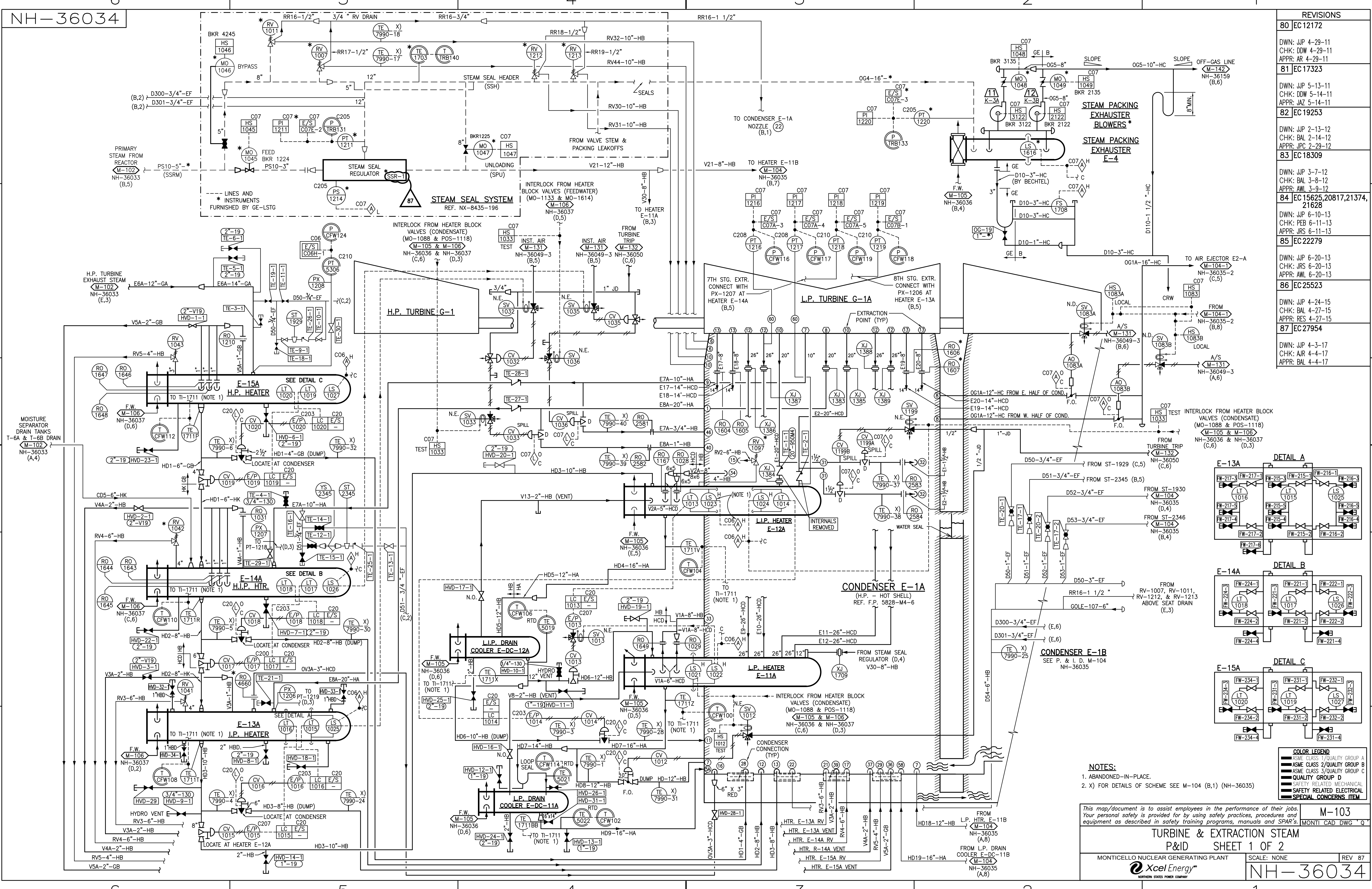
SCALE: NONE

REV 81

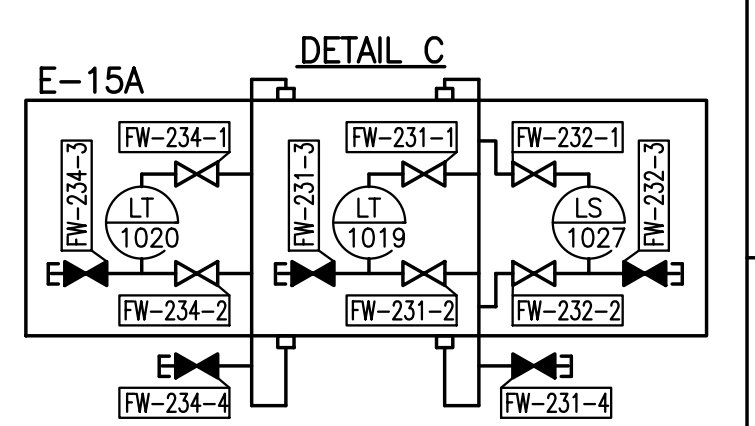
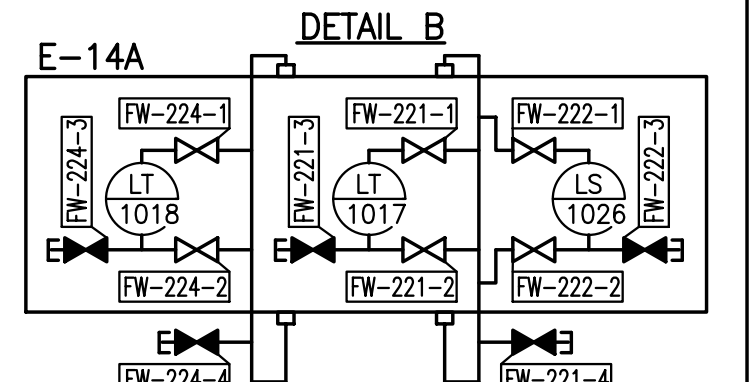
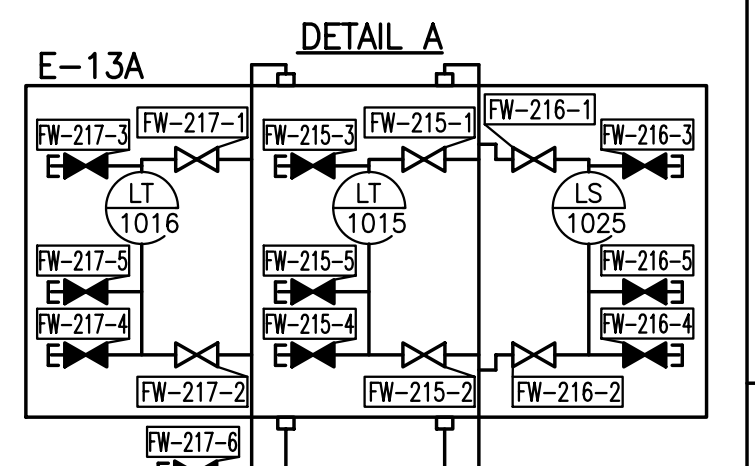
Xcel Energy

NORTHERN STATES POWER COMPANY

NH-36032



REVISIONS	
80	EC 12172
DWN: JJP 4-29-11 CHK: DOW 4-29-11 APPR: AR 4-29-11	
81	EC 17323
DWN: JJP 5-13-11 CHK: DOW 5-14-11 APPR: JAZ 5-14-11	
82	EC 19253
DWN: JJP 2-13-12 CHK: BAL 2-14-12 APPR: JPC 2-29-12	
83	EC 18309
DWN: JJP 3-7-12 CHK: BAL 3-8-12 APPR: AWL 3-9-12	
84	EC 15625, 20817, 21374, 21628
DWN: JJP 6-10-13 CHK: PEB 6-11-13 APPR: JRS 6-11-13	
85	EC 22279
DWN: JJP 6-20-13 CHK: JRS 6-20-13 APPR: AWL 6-20-13	
86	EC 25523
DWN: JJP 4-24-15 CHK: BAL 4-27-15 APPR: RES 4-27-15	
87	EC 27954
DWN: JJP 4-3-17 CHK: AJR 4-4-17 APPR: BAL 4-4-17	



NOTES:

- ABANDONED-IN-PLACE.
- X) FOR DETAILS OF SCHEME SEE M-104 (B,1) (NH-36035)

COLOR LEGEND

- ASME CLASS 1/QUALITY GROUP A
- ASME CLASS 2/QUALITY GROUP B
- ASME CLASS 3/QUALITY GROUP C
- QUALITY GROUP D
- SAFETY RELATED MECHANICAL
- SAFETY RELATED ELECTRICAL
- SPECIAL CONCERNS ITEM

TURBINE & EXTRACTION STEAM P&ID

SHEET 1 OF 2

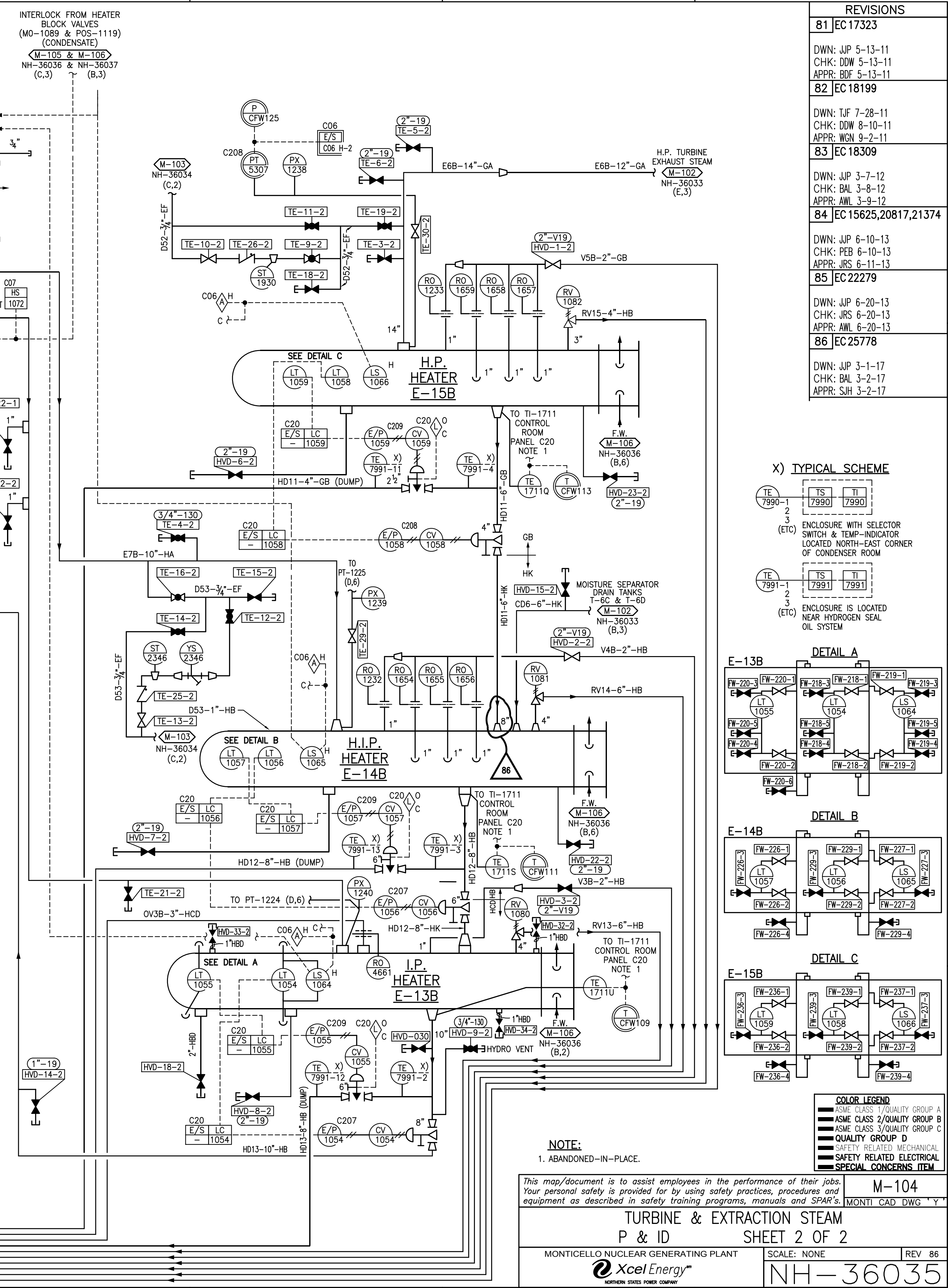
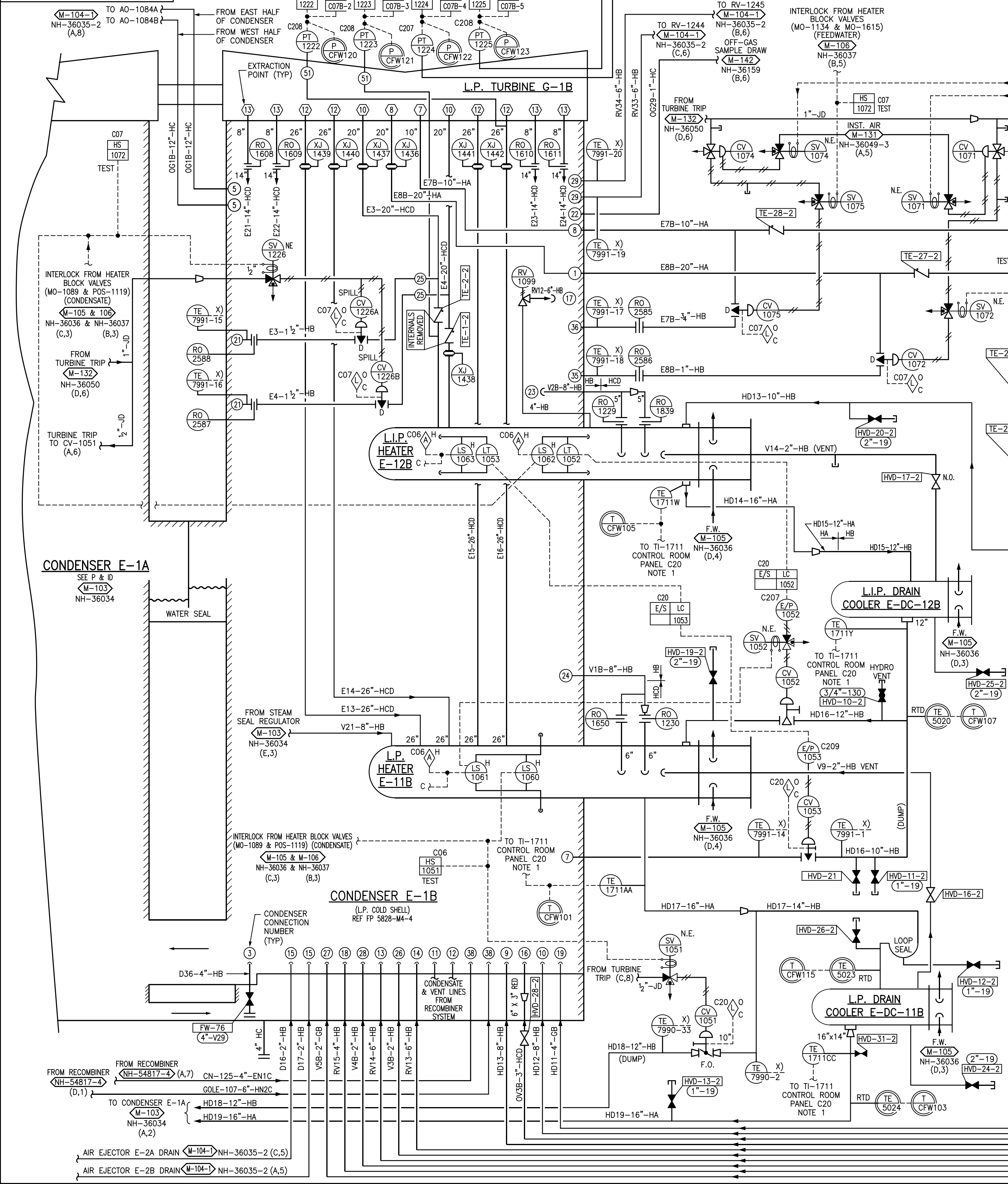
MONTICELLO NUCLEAR GENERATING PLANT

SCALE: NONE

REV 87

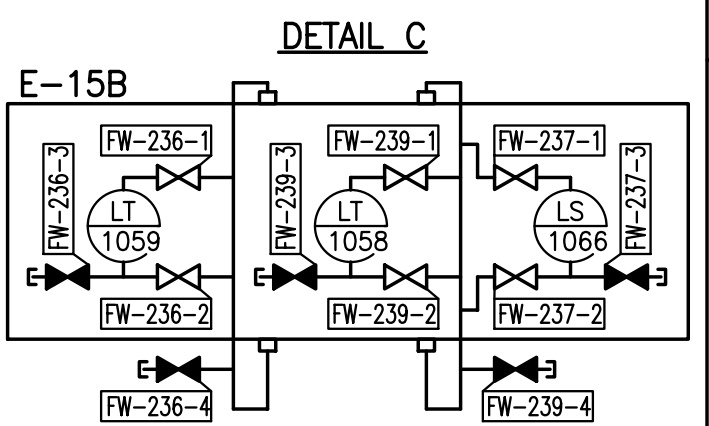
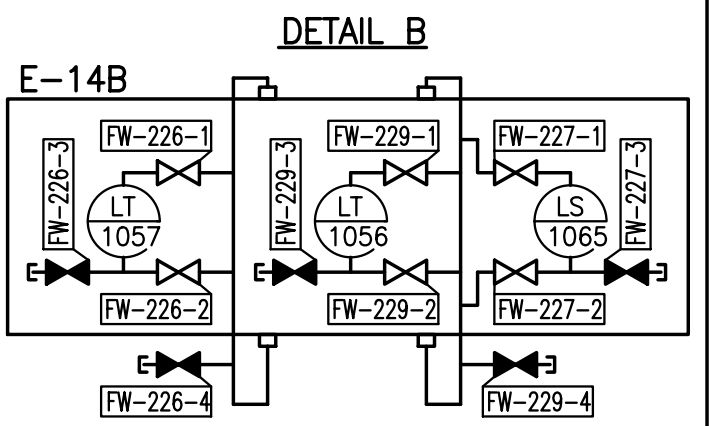
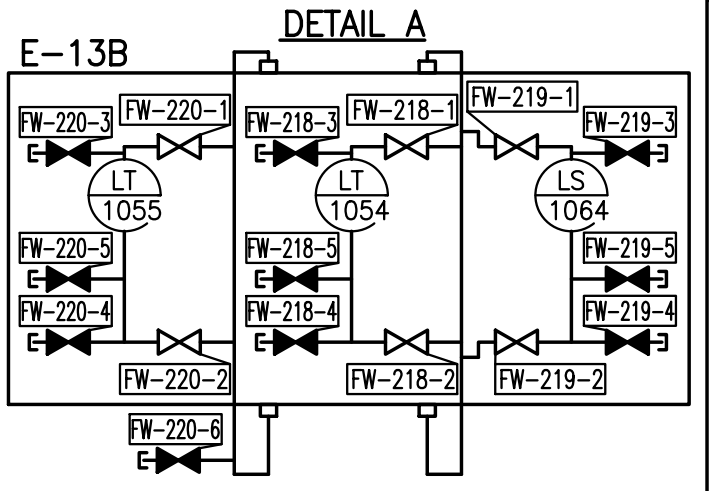
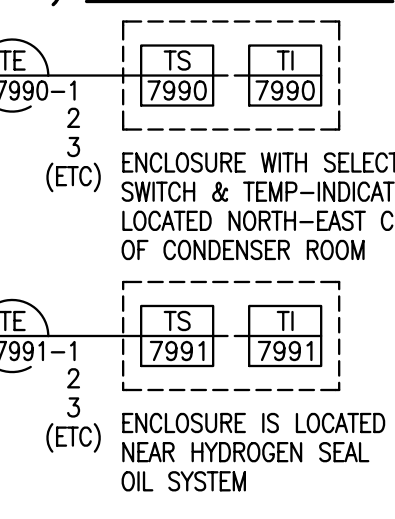
NH-36034

NH-36035



REVISIONS	
81	EC17323
DWN: JWP 5-13-11 CHK: DW 5-13-11 APPR: BDF 5-13-11	
82	EC18199
DWN: TJF 7-28-11 CHK: DW 8-10-11 APPR: WGN 9-2-11	
83	EC18309
DWN: JWP 3-7-12 CHK: BAL 3-8-12 APPR: AWL 3-9-12	
84	EC15625,20817,21374
DWN: JWP 6-10-13 CHK: PEB 6-10-13 APPR: JRS 6-11-13	
85	EC22279
DWN: JWP 6-20-13 CHK: JRS 6-20-13 APPR: AWL 6-20-13	
86	EC25778
DWN: JWP 3-1-17 CHK: BAL 3-2-17 APPR: SJH 3-2-17	

X) TYPICAL SCHEME



NOTE:
1. ABANDONED-IN-PLACE.

This map/document is to assist employees in the performance of their jobs.
Your personal safety is provided for by using safety practices, procedures and
equipment as described in safety training programs, manuals and SPAR's.

TURBINE & EXTRACTION STEAM
P & ID
SHEET 2 OF 2

MONTICELLO NUCLEAR GENERATING PLANT
Xcel Energy
NORTHERN STATES POWER COMPANY

COLOR LEGEND

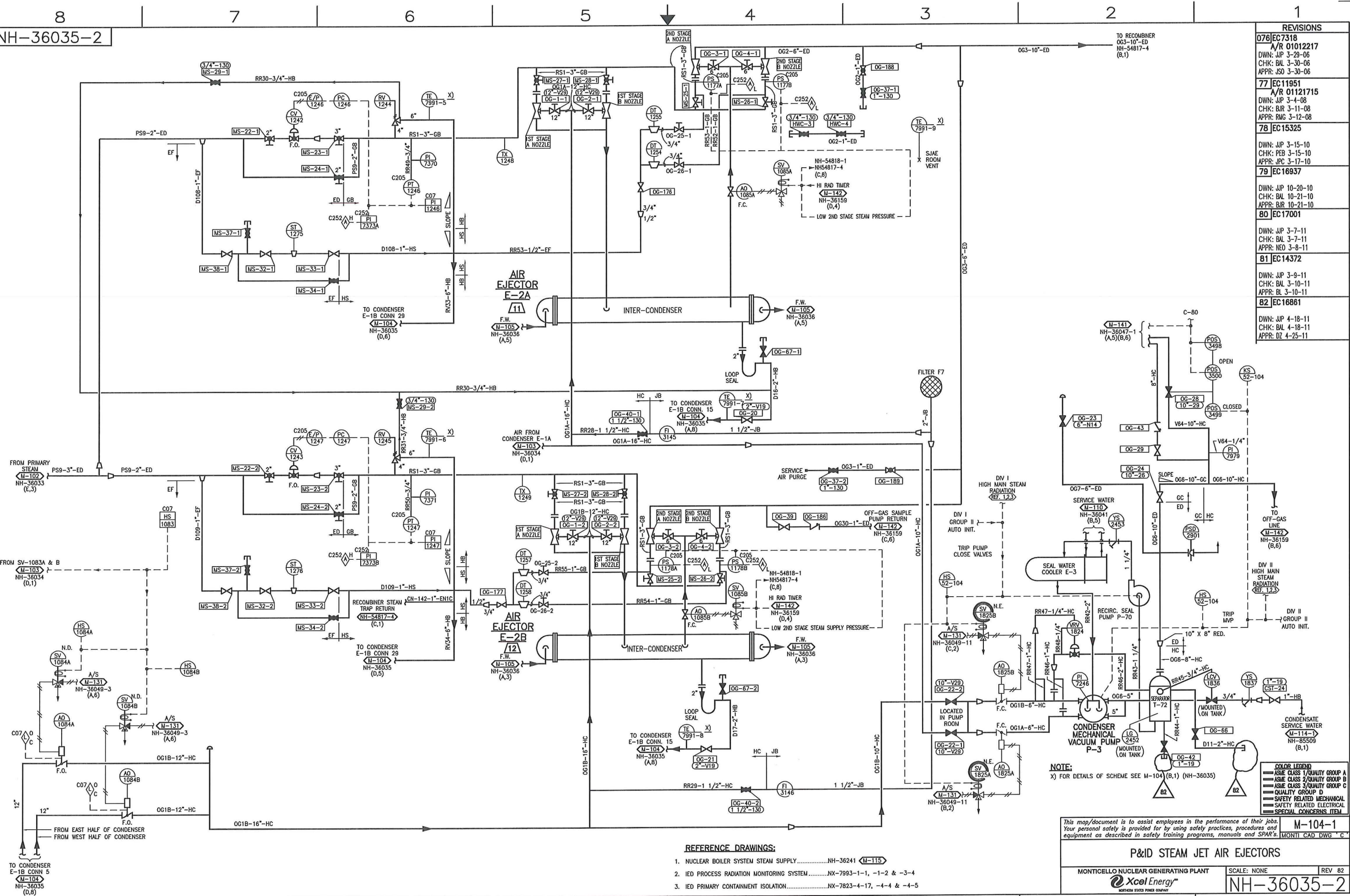
- ASME CLASS 1/QUALITY GROUP A
- ASME CLASS 2/QUALITY GROUP B
- ASME CLASS 3/QUALITY GROUP C
- QUALITY GROUP D
- SAFETY RELATED MECHANICAL
- SAFETY RELATED ELECTRICAL
- SAFETY CONCERNS ITEM

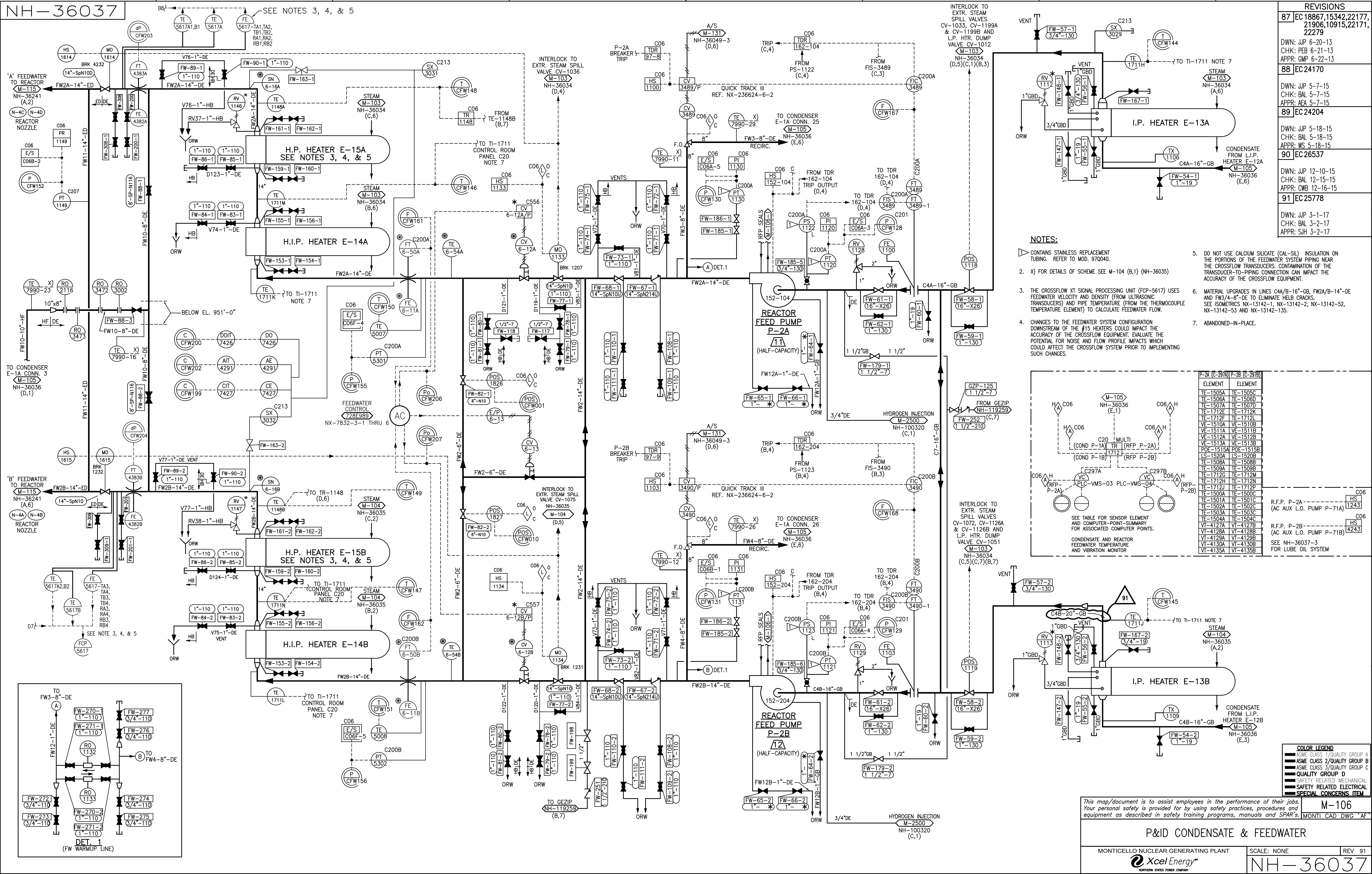
M-104
MONTI CAD DWG Y

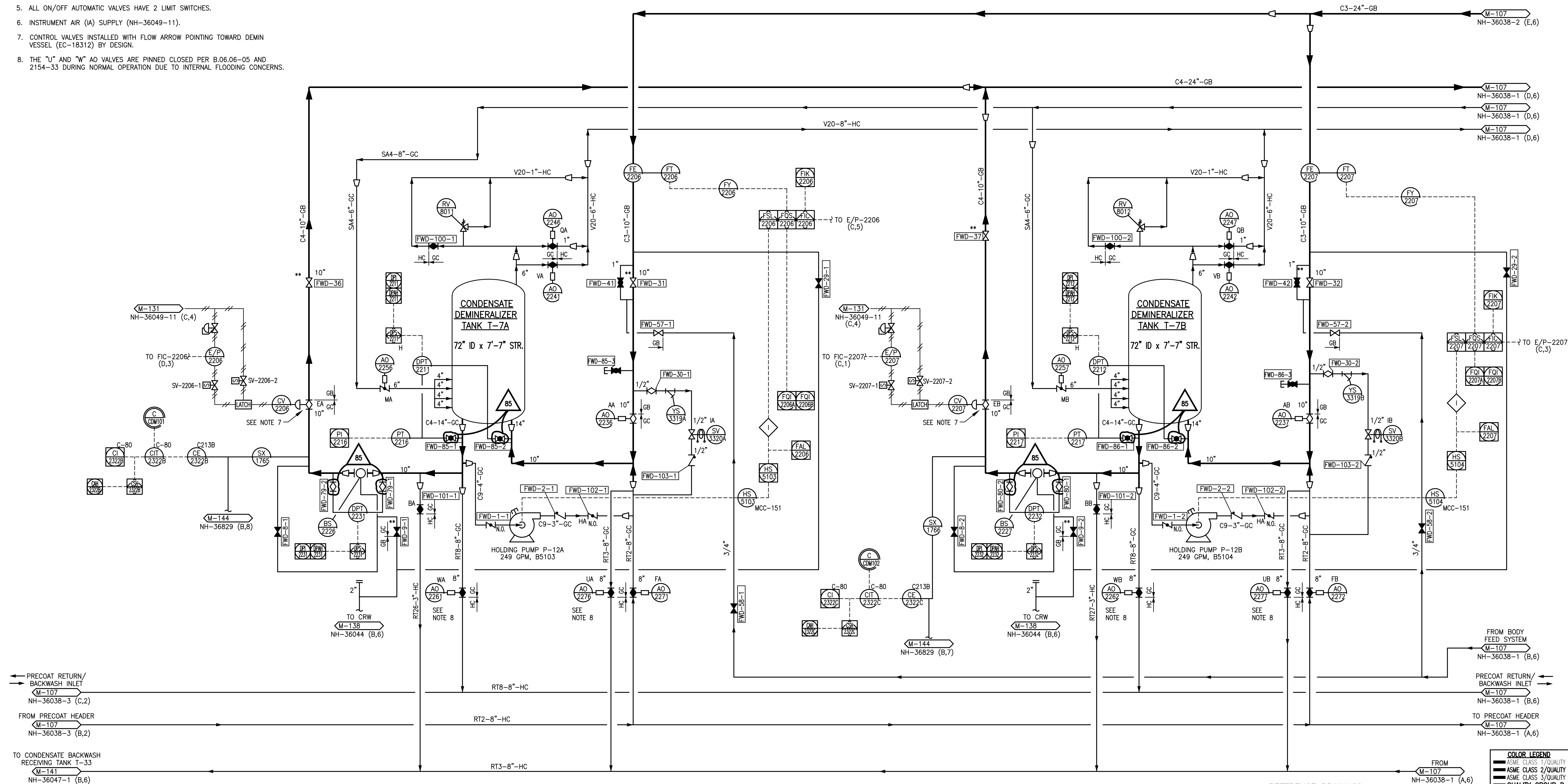
SCALE: NONE
REV 86

NH-36035

NH-36035-2







REFERENCE DRAWINGS:

*This map/document is to assist employees in the performance of their jobs.
Your personal safety is provided for by using safety practices, procedures and
equipment as described in safety training programs, manuals and SPAR's.*

M-107

MONTI CAD DWG 'T

P & ID
CONDENSATE DEMINERALIZER SYSTEM

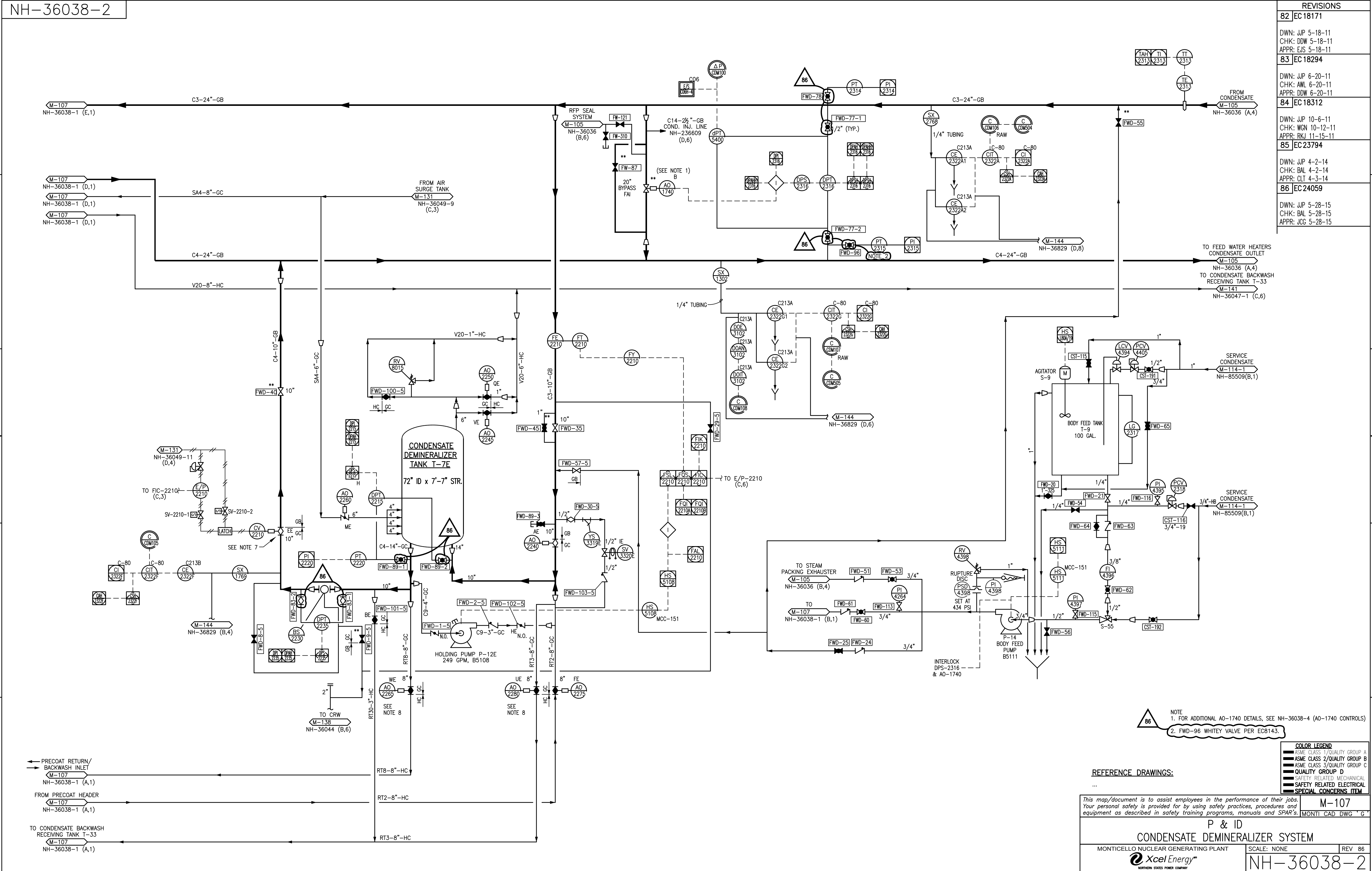
MONTICELLO NUCLEAR GENERATING PLANT

SCALE: NONE

REV 85

Xcel Energy
NORTHERN STATES POWER COMPANY

NH-36038



REVISIONS	
82	EC 18171
DWN: JJP 5-18-11 CHK: DW 5-18-11 APPR: EJS 5-18-11	
83	EC 18294
DWN: JJP 6-20-11 CHK: AWL 6-20-11 APPR: RKJ 11-15-11	
84	EC 18312
DWN: JJP 10-6-11 CHK: WGN 10-12-11 APPR: RKJ 11-15-11	
85	EC 23794
DWN: JJP 4-2-14 CHK: BAL 4-2-14 APPR: CLT 4-3-14	
86	EC 24059
DWN: JJP 5-28-15 CHK: BAL 5-28-15 APPR: JCG 5-28-15	

NOTE
1. FOR ADDITIONAL AO-1740 DETAILS, SEE NH-36038-4 (AO-1740 CONTROLS)
2. FWD-96 WHITEY VALVE PER EC8143.

REFERENCE DRAWINGS:
...

This map/document is to assist employees in the performance of their jobs.
Your personal safety is provided for by using safety practices, procedures and
equipment as described in safety training programs, manuals and SPAR's.

M-107
MONTICELLO CAD DWG "G"

P & ID
CONDENSATE DEMINERALIZER SYSTEM

MONTICELLO NUCLEAR GENERATING PLANT

SCALE: NONE

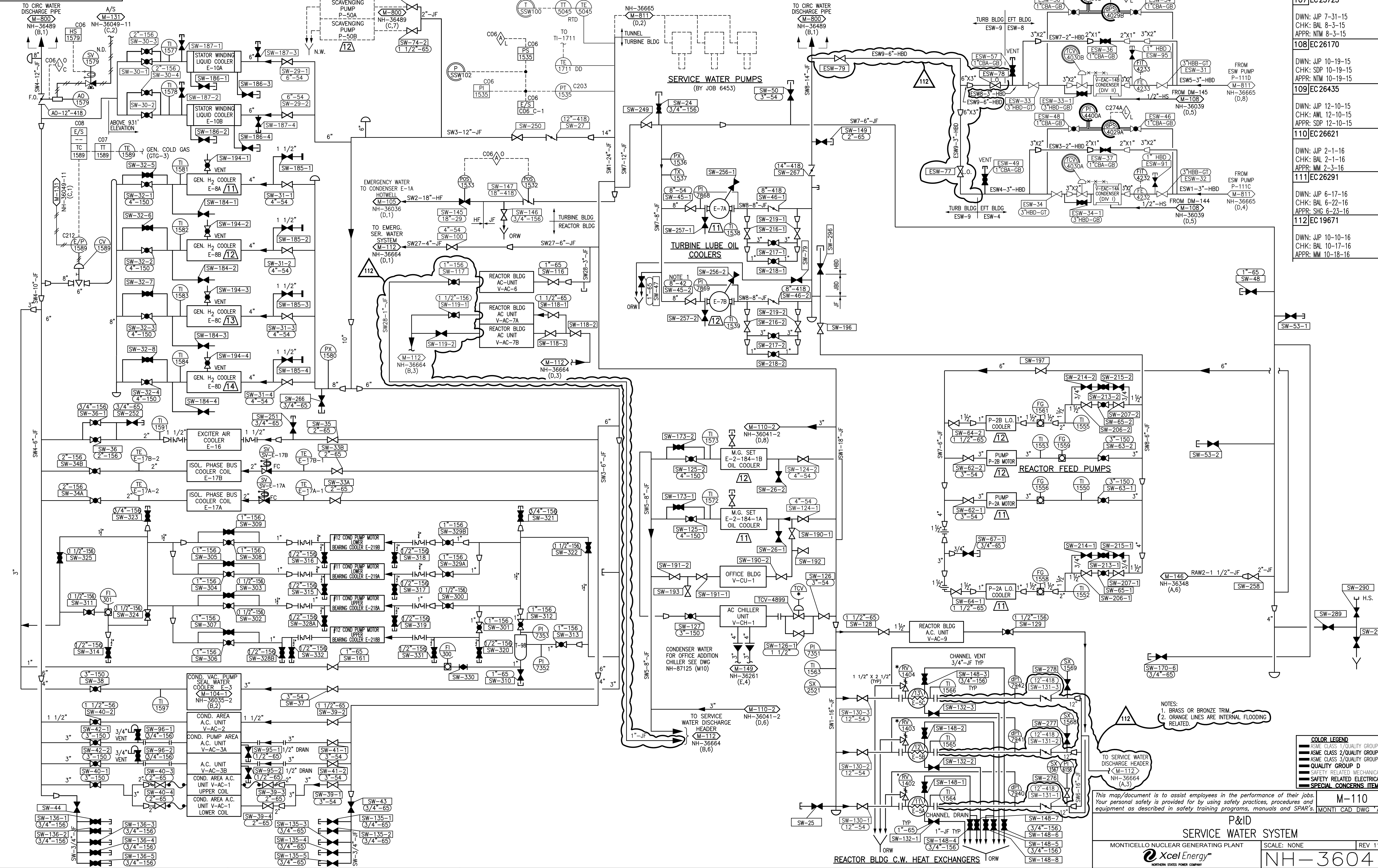
REV 86

Xcel Energy

NORTHERN STATES POWER COMPANY

NH-36038-2

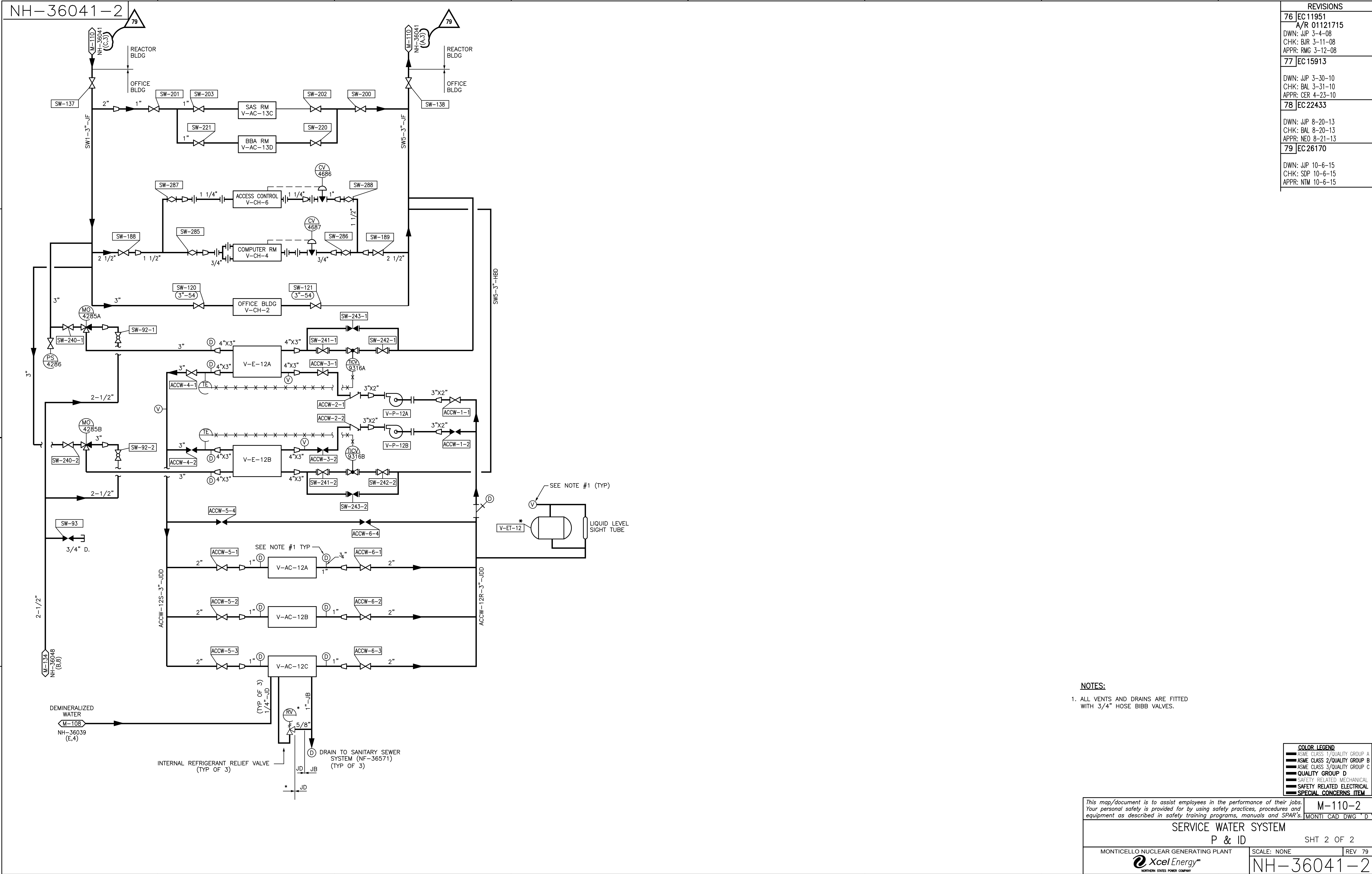
NH-36041



REVISIONS	
107	EC25725
DWN: JJP 7-31-15 CHK: BAL 8-3-15 APPR: NTM 8-3-15	
108	EC26170
DWN: JJP 10-19-15 CHK: SDP 10-19-15 APPR: NTM 10-19-15	
109	EC26435
DWN: JJP 12-10-15 CHK: AWL 12-10-15 APPR: SDP 12-10-15	
110	EC26621
DWN: JJP 2-1-16 CHK: BAL 2-1-16 APPR: MM 2-3-16	
111	EC26291
DWN: JJP 6-17-16 CHK: BAL 6-22-16 APPR: SHG 6-23-16	
112	EC19671
DWN: JJP 10-10-16 CHK: BAL 10-17-16 APPR: MM 10-18-16	

COLOR LEGEND — ASME CLASS 1/QUALITY GROUP A — ASME CLASS 2/QUALITY GROUP B — ASME CLASS 3/QUALITY GROUP C — QUALITY GROUP D — SAFETY RELATED MECHANICAL — SAFETY RELATED ELECTRICAL — SPECIAL CONCERNS ITEM	
This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPARs.	
P&ID SERVICE WATER SYSTEM MONTICELLO NUCLEAR GENERATING PLANT Xcel Energy NORTHERN STATES POWER COMPANY	
SCALE: NONE	REV 112
M-110 MONTI CAD DWG "AT"	

NH-36041-2



REVISIONS	
76	EC11951 A/R 01121715 DWN: JJP 3-4-08 CHK: BJR 3-11-08 APPR: RMG 3-12-08
77	EC15913 DWN: JJP 3-30-10 CHK: BAL 3-31-10 APPR: CER 4-23-10
78	EC22433 DWN: JJP 8-20-13 CHK: BAL 8-20-13 APPR: NEO 8-21-13
79	EC26170 DWN: JJP 10-6-15 CHK: SDP 10-6-15 APPR: NTM 10-6-15

NOTES:

1. ALL VENTS AND DRAINS ARE FITTED WITH 3/4" HOSE BIBB VALVES.

COLOR LEGEND

- ASME CLASS 1/QUALITY GROUP A
- ASME CLASS 2/QUALITY GROUP B
- ASME CLASS 3/QUALITY GROUP C
- QUALITY GROUP D
- SAFETY RELATED MECHANICAL
- SAFETY RELATED ELECTRICAL
- SPECIAL CONCERNS ITEM

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

M-110-2
MONTICAD DWG "D"

SERVICE WATER SYSTEM
P & ID

SHT 2 OF 2

MONTICELLO NUCLEAR GENERATING PLANT

XcelEnergy
NORTHERN STATES POWER COMPANY

SCALE: NONE

REV 79

NH-36041-2

TO NON-REGENERATIVE HEAT EXCHANGER
E-202 (12-3)

D

C

B

A

TO PAS SYSTEM COOLERS

REACTOR BLDG COOLING WATER HEAT EXCHANGERS

REACTOR BLDG
SAMPLE STATION

REACTOR BLDG COOLING
WATER PUMPS
(FULL CAPACITY - 3000 GPM)

REACTOR BLDG
COOLING WATER
SURGE TANK

FUEL POOL
COOLING WATER
HEAT EXCHANGERS
(HALF CAPACITY)

TURBINE BLDG
SAMPLE STATION

CHEMICAL
FEEDER

SC-1114 HAS BEEN
ABANDONED IN PLACE.
THE CONNECTING PIPES
HAVE BEEN CUT AND
CAPPED.

COLOR LEGEND	
 	ASME CLASS 1/QUALITY GROUP A
 	ASME CLASS 2/QUALITY GROUP B
 	ASME CLASS 3/QUALITY GROUP C
 	QUALITY GROUP D
 	SAFETY RELATED MECHANICAL
 	SAFETY RELATED ELECTRICAL
 	SPECIAL CONCERNS ITEM

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

P&ID
REACTOR BUILDING COOLING WATER SYSTEM

MONTICELLO NUCLEAR GENERATING PLANT

Xcel Energy

NORTHERN STATES POWER COMPANY

M-111

MONTI CAD DWG "S"

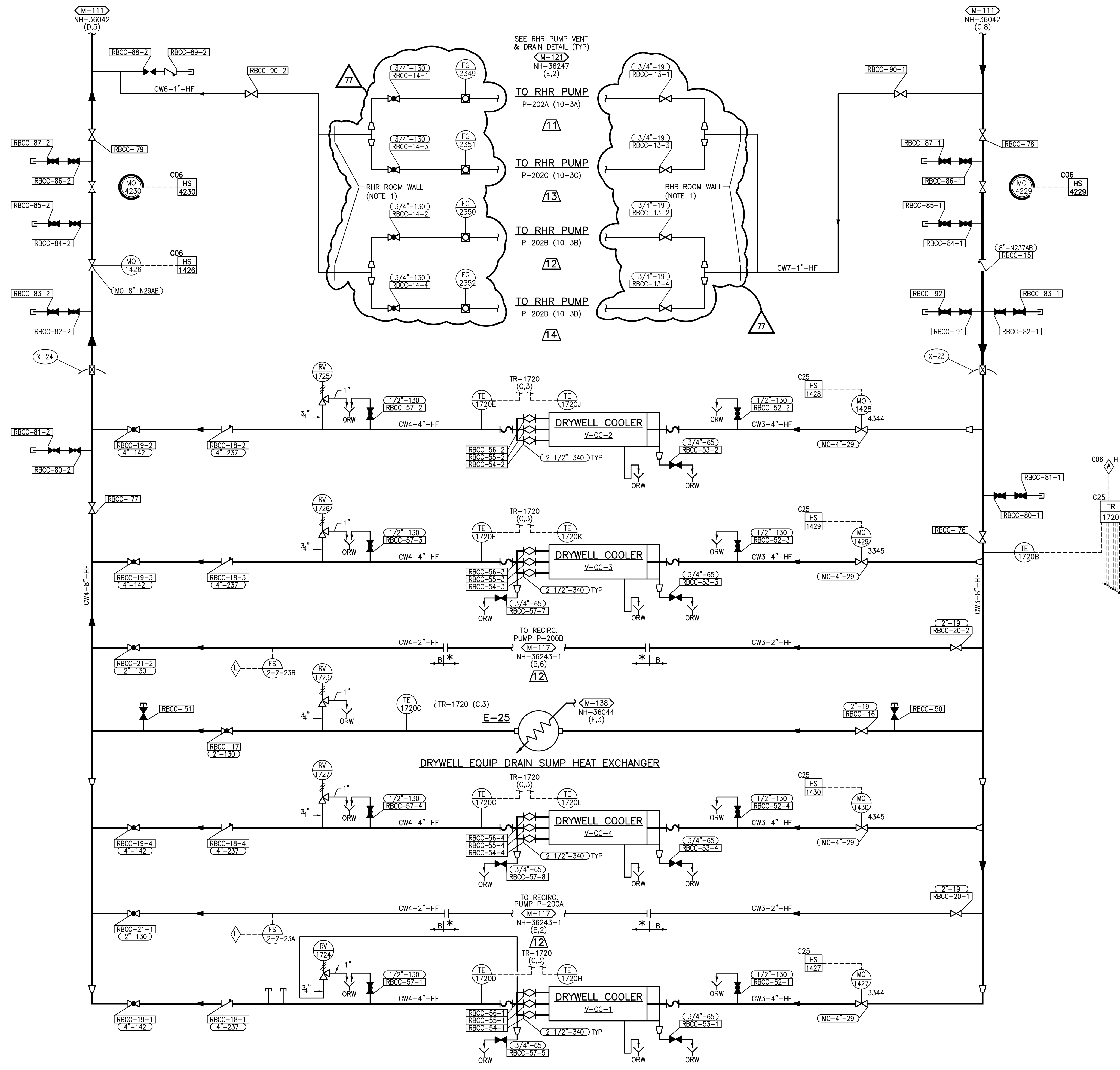
SCALE: NONE

REV 79

NH-36042

REVISIONS	
076	EC991 A/R 01011926 DWN: DN 2-28-06 CHK: BAL 2-28-06 APPR: JD 3-1-06
77	EC11951 A/R 01121715 DWN: JWP 3-4-08 CHK: BJR 3-11-08 APPR: RMG 3-12-08
78	EC12389 A/R 01129353 DWN: JWP 6-5-08 CHK: GEH 6-5-08 APPR: GEH 6-17-08
79	EC25632 DWN: JWP 7-20-15 CHK: BAL 7-21-15 APPR: JPC 9-8-15

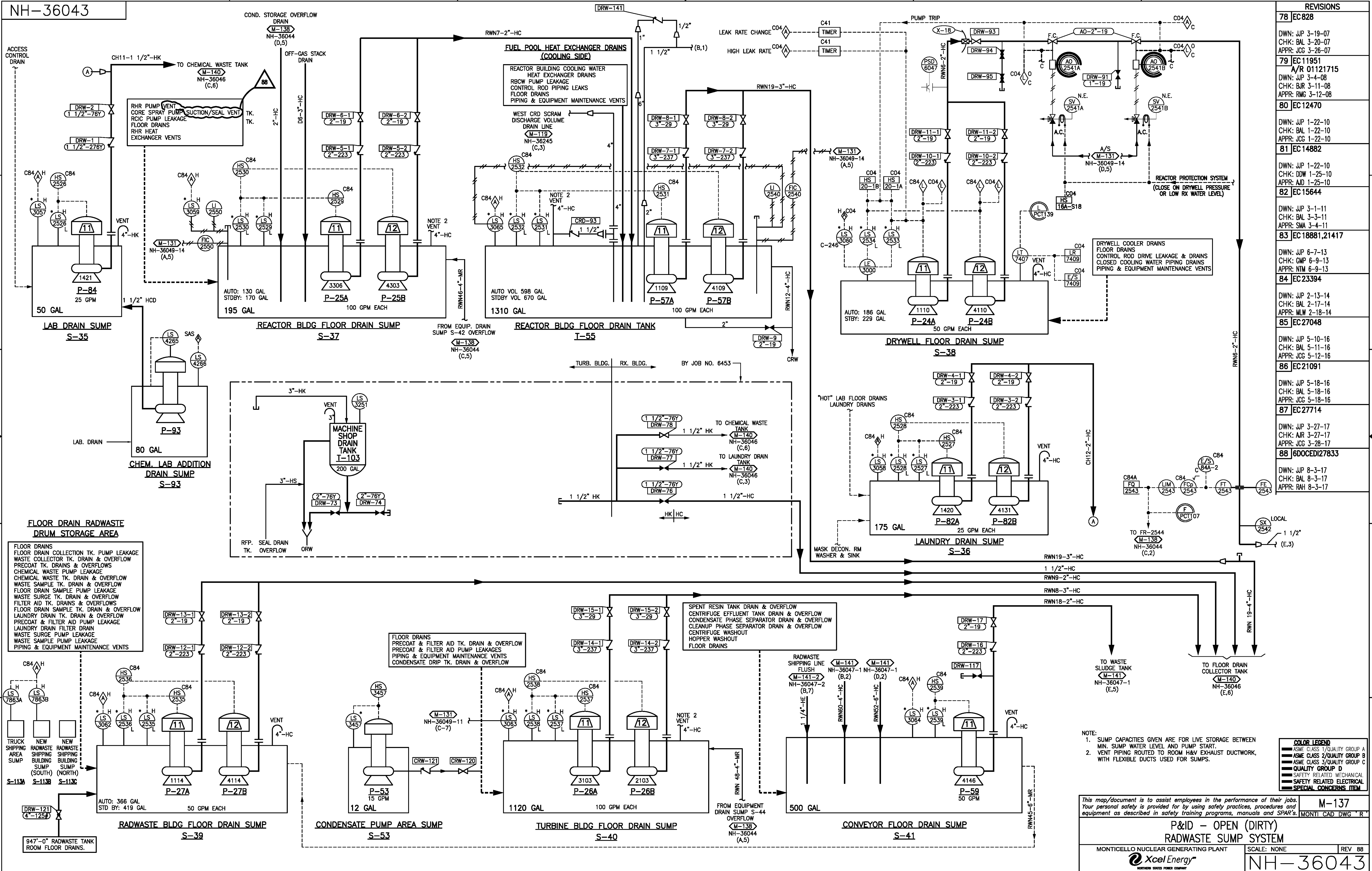
REVISIONS	
76	EC11951 A/R 01121715 DWN: JJP 3-4-08 CHK: BJR 3-11-08 APPR: RMG 3-12-08
77	EC19671 DWN: JJP 10-10-16 CHK: BAL 10-17-16 APPR: MM 10-18-16



NOTES:
1. INTERNAL FLOODING RELATED.

COLOR LEGEND	
ASME CLASS 1/QUALITY GROUP A	
ASME CLASS 2/QUALITY GROUP B	
ASME CLASS 3/QUALITY GROUP C	
QUALITY GROUP D	
SAFETY RELATED MECHANICAL	
SAFETY RELATED ELECTRICAL	
SPECIAL CONCERNS ITEM	

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.	
M-111-1 MONTICELLO CAD DWG 'A'	
P&ID REACTOR BUILDING COOLING WATER SYSTEM	
MONTICELLO NUCLEAR GENERATING PLANT Xcel Energy NORTHERN STATES POWER COMPANY	SCALE: NONE REV 77
NH-36042-2	



REVISIONS	
78	EC828
DWN: JIP 3-19-07 CHK: BAL 3-20-07 APPR: JCG 3-26-07	
79	EC11951
A/R 01121715 DWN: JIP 3-4-08 CHK: BUR 3-11-08 APPR: RMG 3-12-08	
80	EC12470
DWN: JIP 1-22-10 CHK: BAL 1-22-10 APPR: JCG 1-22-10	
81	EC14882
DWN: JIP 1-22-10 CHK: DDW 1-25-10 APPR: JCG 1-25-10	
82	EC15644
DWN: JIP 3-1-11 CHK: BAL 3-3-11 APPR: SMA 3-4-11	
83	EC18881,21417
DWN: JIP 6-7-13 CHK: CMP 6-9-13 APPR: NTM 6-9-13	
84	EC23394
DWN: JIP 2-13-14 CHK: BAL 2-17-14 APPR: MLW 2-18-14	
85	EC27048
DWN: JIP 5-10-16 CHK: BAL 5-11-16 APPR: JCG 5-12-16	
86	EC21091
DWN: JIP 5-18-16 CHK: BAL 5-18-16 APPR: JCG 5-18-16	
87	EC27714
DWN: JIP 3-27-17 CHK: AIR 3-27-17 APPR: JCG 3-28-17	
88	[6DOCED]27833
DWN: JIP 8-3-17 CHK: BAL 8-3-17 APPR: RAH 8-3-17	

- NOTE:
- SUMP CAPACITIES GIVEN ARE FOR LIVE STORAGE BETWEEN MIN. SUMP WATER LEVEL AND PUMP START.
 - VENT PIPING ROUTED TO ROOM H&V EXHAUST DUCTWORK, WITH FLEXIBLE DUCTS USED FOR SUMPS.

COLOR LEGEND	
	ASME CLASS 1/QUALITY GROUP A
	ASME CLASS 2/QUALITY GROUP B
	ASME CLASS 3/QUALITY GROUP C
	QUALITY GROUP D
	SAFETY RELATED ELECTRICAL
	SPECIAL CONCERNS ITEM

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

P&ID - OPEN (DIRTY) RADWASTE SUMP SYSTEM

MONTICELLO NUCLEAR GENERATING PLANT

Xcel Energy

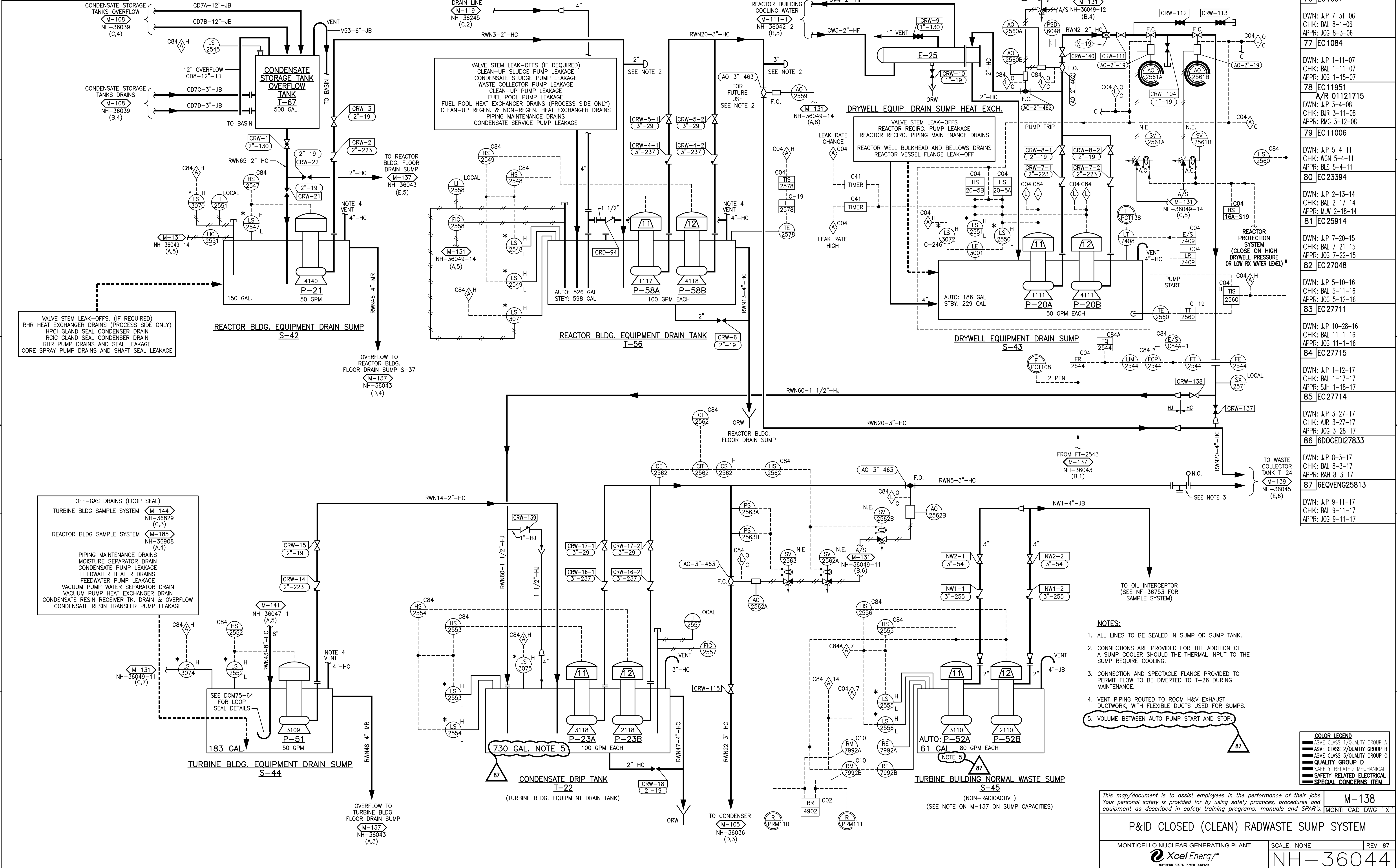
NORTHERN STATES POWER COMPANY

SCALE: NONE








REV 88

NH-36043

M-137
MONTI CAD DWG "R"

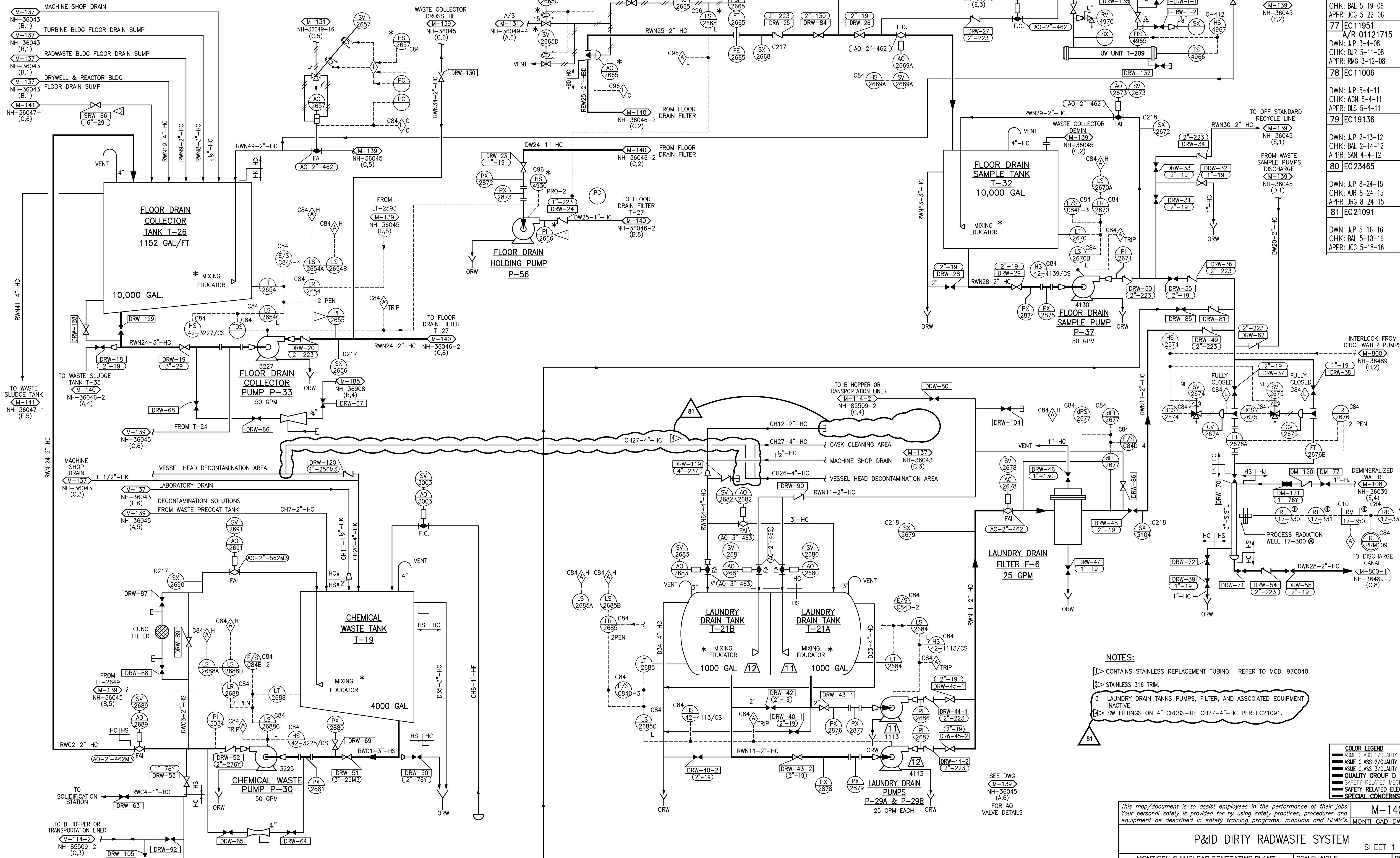




COLOR LEGEND	
	ASME CLASS 1/QUALITY GROUP A
	ASME CLASS 2/QUALITY GROUP B
	ASME CLASS 3/QUALITY GROUP C
	QUALITY GROUP D
	SAFETY RELATED MECHANICAL
	SAFETY RELATED ELECTRICAL
	SPECIAL CONCERNS ITEM

air jobs. res and SPAR's	M-139
	MONTI CAD DWG 'S

EM ONE	REV 86 -36045
-----------	------------------



REVISIONS	
76	EC8024
DWN: JJP 5-17-06 CHK: BAL 5-19-06 APPR: JCG 5-22-06	
77	EC11951
DWN: JJP 5-4-11 CHK: WGN 5-4-11 APPR: RMG 3-12-08	
78	EC11006
DWN: JJP 5-4-11 CHK: WGN 5-4-11 APPR: RMG 3-12-08	
79	EC19136
DWN: JJP 2-13-12 CHK: BAL 2-14-12 APPR: SAN 4-4-12	
80	EC23465
DWN: JJP 8-24-15 CHK: AJR 8-24-15 APPR: JRC 8-24-15	
81	EC21091
DWN: JJP 5-16-16 CHK: BAL 5-18-16 APPR: JCG 5-18-16	

NOTES:

1. CONTAINS STAINLESS REPLACEMENT TUBING. REFER TO MOD. 97Q040.

2. STAINLESS 316 TRIM.

3. LAUNDRY DRAIN TANKS PUMPS, FILTER, AND ASSOCIATED EQUIPMENT INACTIVE.

4. SW FITTINGS ON 4" CROSS-TIE CH27-4"-HC PER EC21091.

COLOR LEGEND	
ASME CLASS 1/QUALITY GROUP A	
ASME CLASS 2/QUALITY GROUP B	
ASME CLASS 3/QUALITY GROUP C	
QUALITY GROUP D	
SAFETY RELATED MECHANICAL	
SPECIAL CONCERNS ITEM	

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

M-140
MONTICELLO CAD DWG "P"

P&ID DIRTY RADWASTE SYSTEM

MONTICELLO NUCLEAR GENERATING PLANT

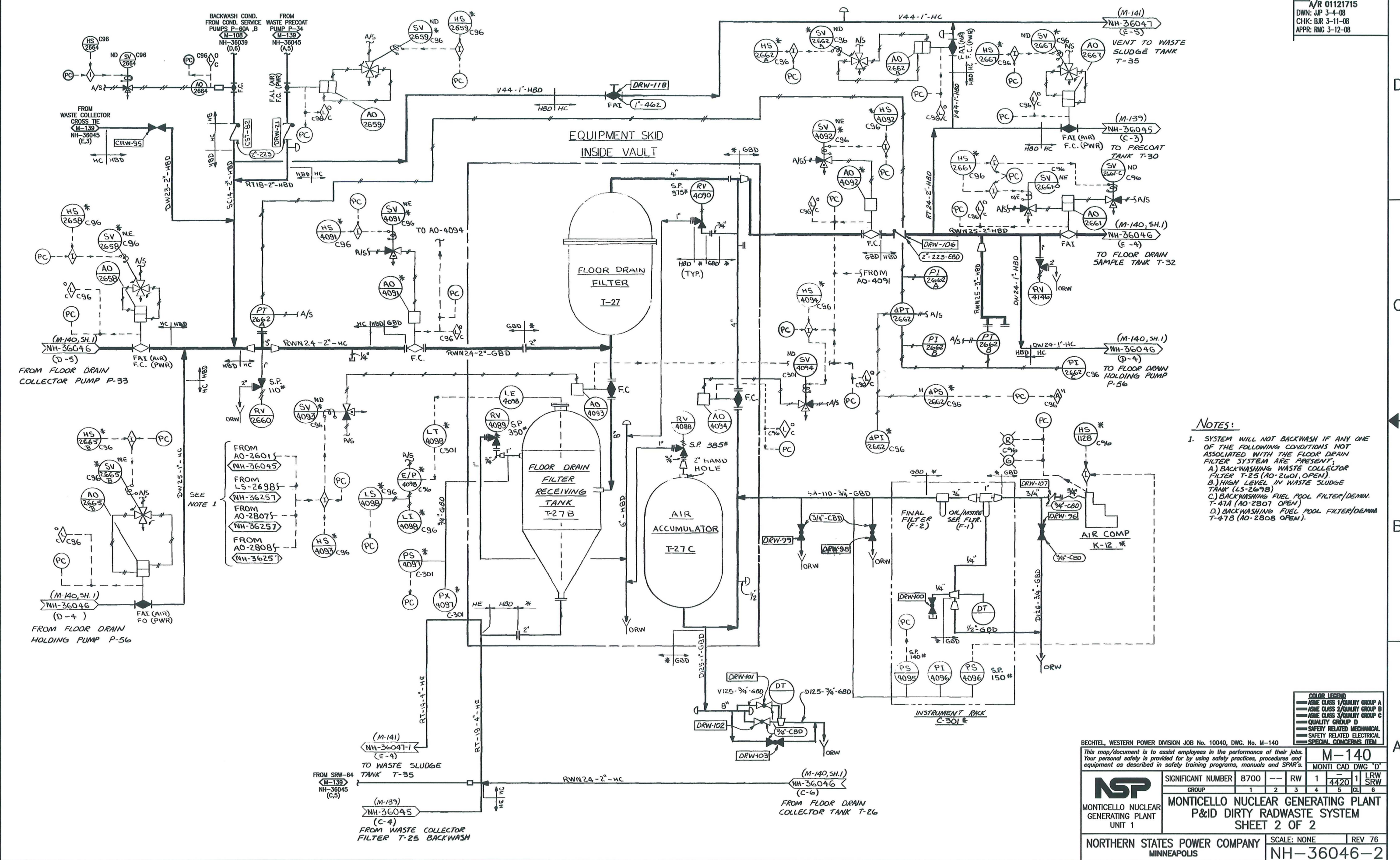
SCALE: NONE

SHEET 1 OF 2

REV 81

NH-36046

REVISIONS	
76	EC 11951
A/R 01121715	
DWN: JIP 3-4-08	
CHK: BJR 3-11-08	
APPR: RMG 3-12-08	



- NOTES:
- SYSTEM WILL NOT BACKWASH IF ANY ONE OF THE FOLLOWING CONDITIONS NOT ASSOCIATED WITH THE FLOOR DRAIN FILTER SYSTEM ARE PRESENT:
A) BACKWASHING WASTE COLLECTOR FILTER T-25 (AO-2601, OPEN).
B) HIGH LEVEL IN WASTE SLUDGE TANK (LS-2698).
C) BACKWASHING FUEL POOL FILTER/DEMIN. T-47A (AO-2807 OPEN).
D) BACKWASHING FUEL POOL FILTER/DEMIN. T-47B (AO-2808 OPEN).

COLOR LEGEND	
—	ASME CLASS 1/QUALITY GROUP A
- - -	ASME CLASS 2/QUALITY GROUP B
...	ASME CLASS 3/QUALITY GROUP C
- · - ·	QUALITY GROUP D
—	SAFETY RELATED MECHANICAL
—	SAFETY RELATED ELECTRICAL
—	SPECIAL CONCERNS ITEM

BECHTEL, WESTERN POWER DIVISION JOB No. 10040, DWG. No. M-140

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

NSP

MONTICELLO NUCLEAR GENERATING PLANT UNIT 1

SIGNIFICANT NUMBER

8700

GROUP

1 2 3 4 5 6

M-140

MONTI CAD DWG "D"

1

4420

1

LRW

SRW

MONTICELLO NUCLEAR GENERATING PLANT P&ID DIRTY RADWASTE SYSTEM

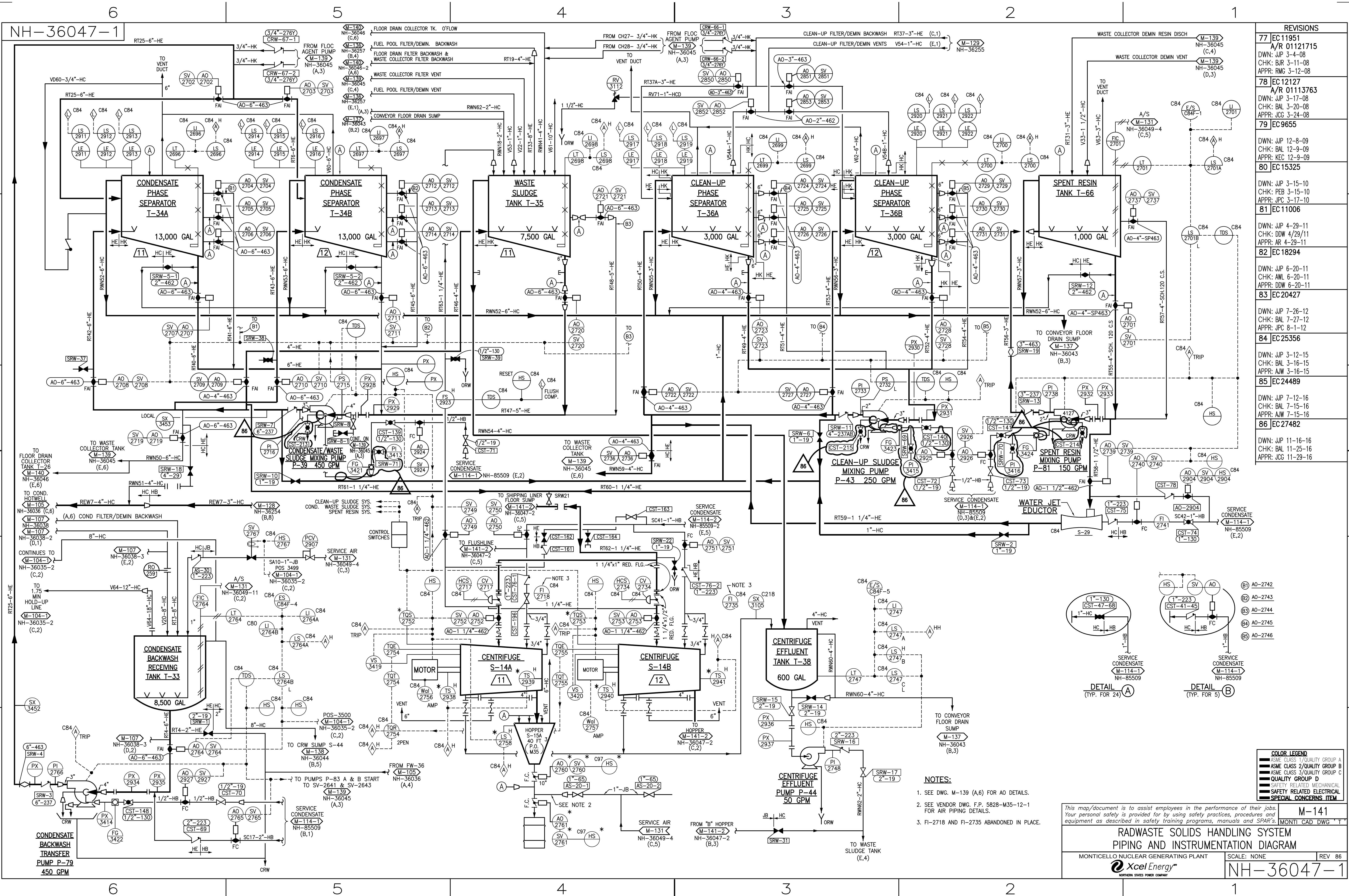
SHEET 2 OF 2

NORTHERN STATES POWER COMPANY

SCALE: NONE

REV 76

NH-36046-2



REVISIONS	
77	EC11951 A/R 01121715 DWN: JWP 3-4-08 CHK: BJR 3-11-08 APPR: RMG 3-12-08
78	EC12127 A/R 01113763 DWN: JWP 3-17-08 CHK: BAL 3-20-08 APPR: JCG 3-24-08
79	EC9655 DWN: JWP 12-8-09 CHK: BAL 12-9-09 APPR: KEC 12-9-09
80	EC15325 DWN: JWP 3-15-10 CHK: PEB 3-15-10 APPR: JPC 3-17-10
81	EC11006 DWN: JWP 4-29-11 CHK: DW 4/29/11 APPR: AR 4-29-11
82	EC18294 DWN: JWP 6-20-11 CHK: BAL 6-20-11 APPR: JPC 6-20-11
83	EC20427 DWN: JWP 7-26-12 CHK: BAL 7-27-12 APPR: JPC 8-1-12
84	EC25356 DWN: JWP 3-12-15 CHK: BAL 3-16-15 APPR: AJW 3-16-15
85	EC24489 DWN: JWP 7-12-16 CHK: BAL 7-15-16 APPR: AJW 7-15-16
86	EC27482 DWN: JWP 11-16-16 CHK: BAL 11-25-16 APPR: JCG 11-29-16

COLOR LEGEND	
ASME CLASS 1/QUALITY GROUP A	
ASME CLASS 2/QUALITY GROUP B	
ASME CLASS 3/QUALITY GROUP C	
QUALITY GROUP D	
SAFETY RELATED MECHANICAL	
SPECIAL CONCERNS ITEM	

- NOTES:
- SEE DWG. M-139 (A,6) FOR AO DETAILS.
 - SEE VENDOR DWG. F.P. 5828-M35-12-1 FOR AIR PIPING DETAILS.
 - FI-2718 AND FI-2735 ABANDONED IN PLACE.

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

RADWASTE SOLIDS HANDLING SYSTEM
PIPING AND INSTRUMENTATION DIAGRAM

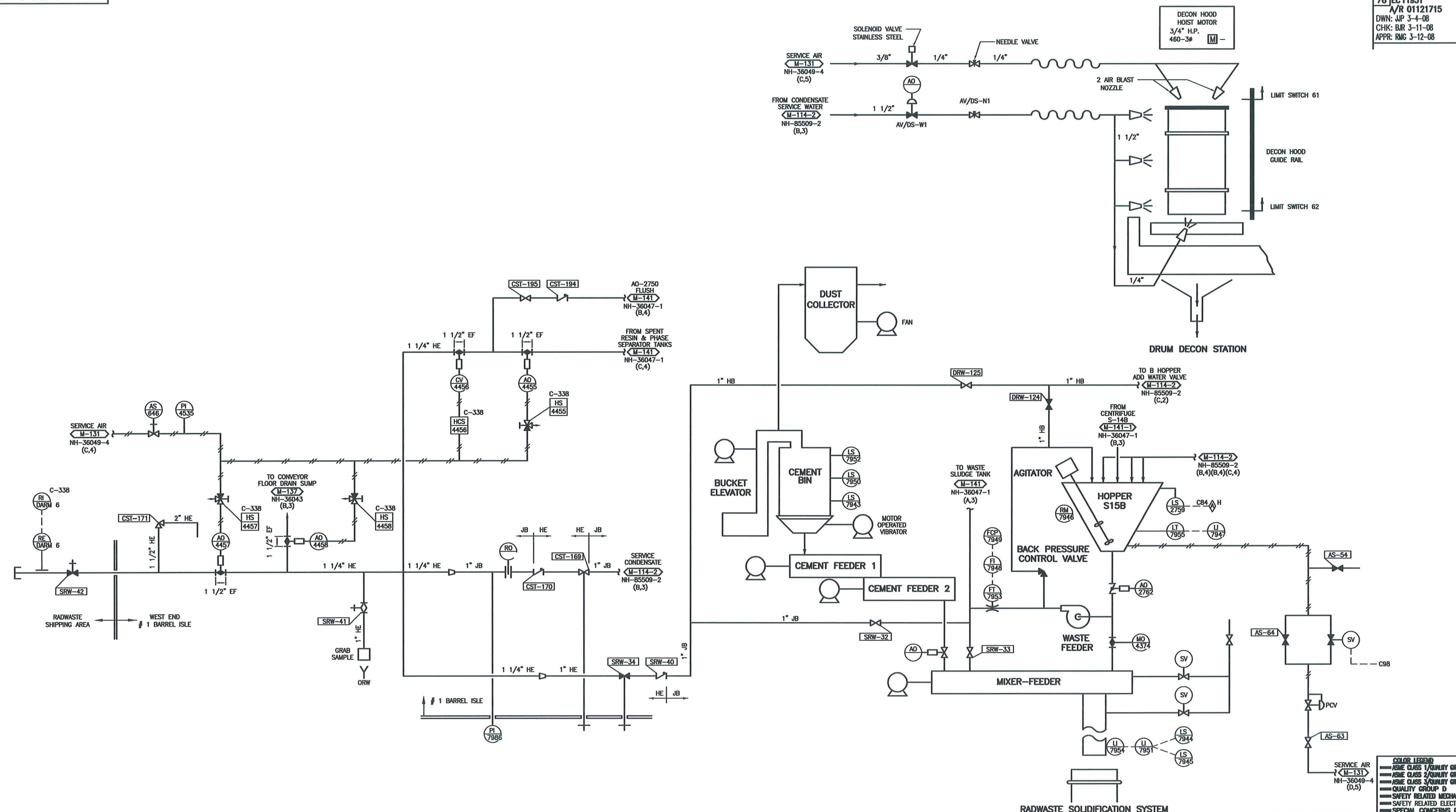
MONTICELLO NUCLEAR GENERATING PLANT

Xcel Energy
NORTHERN STATES POWER COMPANY

SCALE: NONE

REV 86

NH-36047-1



This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

NSP
MONTICELLO NUCLEAR
GENERATING PLANT
UNIT 1

NORTHERN STATES POWER COMPANY
MINNEAPOLIS

REVISIONS

76	EC11951	A/R 01121715
DWN: JIP 3-4-08		
CHK: BJR 3-11-08		
APPR: RMG 3-12-08		

COLOR LEGEND

- ASME CLASS 1/QUALITY GROUP A
- ASME CLASS 2/QUALITY GROUP B
- ASME CLASS 3/QUALITY GROUP C
- QUALITY GROUP D
- SAFETY RELATED MECHANICAL
- SAFETY RELATED ELECTRICAL
- SPECIAL CONCERNS ITEM

M-141-2
MONTI CAD DWG 'G'

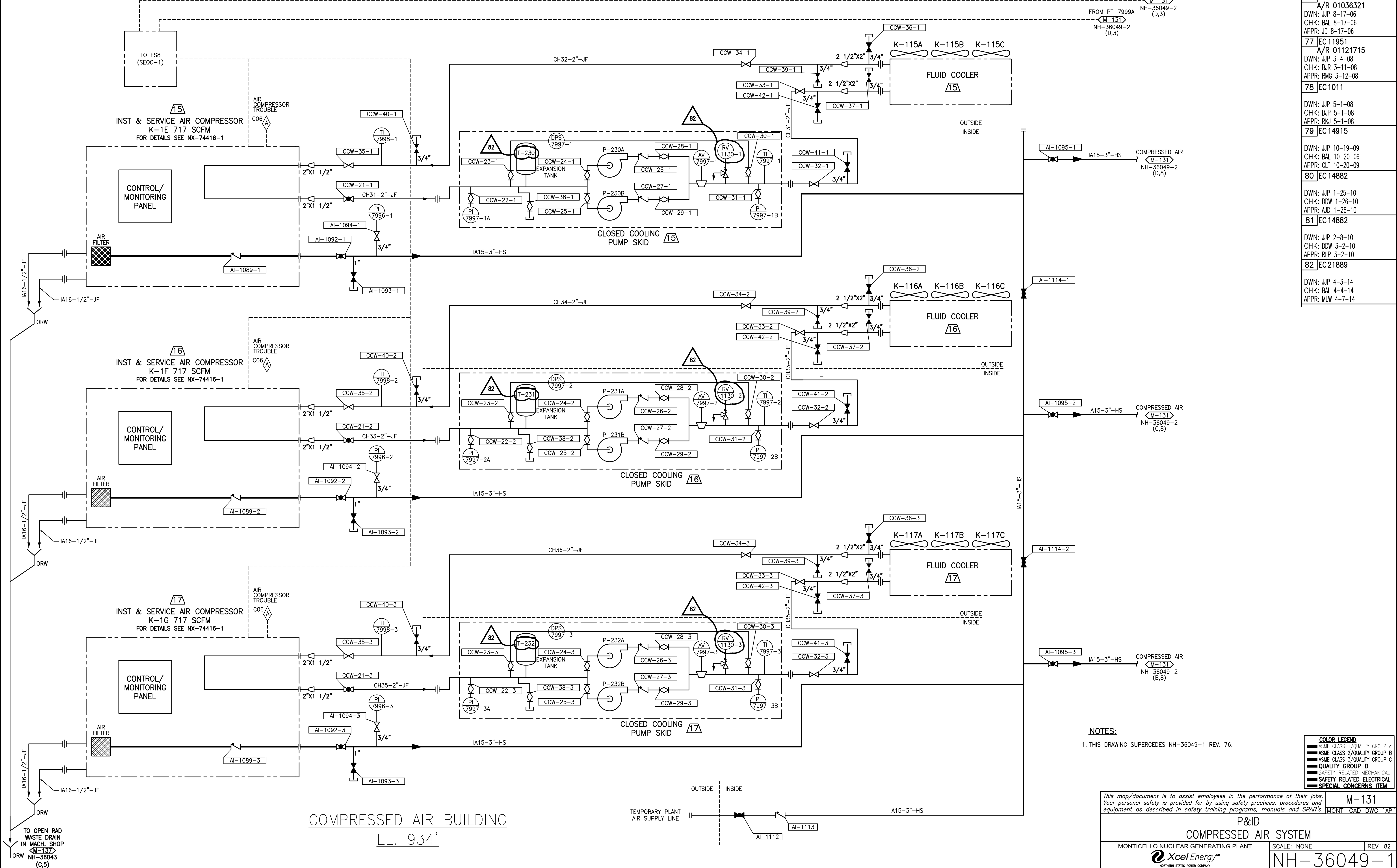
SIGNIFICANT NUMBER	8700	RW	1	4420	1	SRW
GROUP	1	2	3	4	5	6

MONTICELLO NUCLEAR GENERATING PLANT
P&ID
RADWASTE SOLIDS HANDLING SYSTEM

SCALE: NONE	REV 76
-------------	--------

NH-36047-2

NH-36049-1



REVISIONS	
76	EC8773 A/R 01036321 DWN: JWP 8-17-06 CHK: BAL 8-17-06 APPR: JD 8-17-06
77	EC11951 A/R 01121715 DWN: JWP 3-4-08 CHK: BJR 3-11-08 APPR: RMG 3-12-08
78	EC1011 DWN: JWP 5-1-08 CHK: DJP 5-1-08 APPR: RWJ 5-1-08
79	EC14915 DWN: JWP 10-19-09 CHK: BAL 10-20-09 APPR: CLT 10-20-09
80	EC14882 DWN: JWP 1-25-10 CHK: DWJ 1-26-10 APPR: AJD 1-26-10
81	EC14882 DWN: JWP 2-8-10 CHK: DWJ 3-2-10 APPR: RLP 3-2-10
82	EC21889 DWN: JWP 4-3-14 CHK: BAL 4-4-14 APPR: MLW 4-7-14

NOTES:
1. THIS DRAWING SUPERCEDES NH-36049-1 REV. 76.

COLOR LEGEND	
ASME CLASS 1/QUALITY GROUP A	
ASME CLASS 2/QUALITY GROUP B	
ASME CLASS 3/QUALITY GROUP C	
QUALITY GROUP D	
SAFETY RELATED MECHANICAL	
SAFETY RELATED ELECTRICAL	
SPECIAL CONCERNS ITEM	

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

M-131
MONTICELLO CAD DWG "AP"

P&ID
COMPRESSED AIR SYSTEM

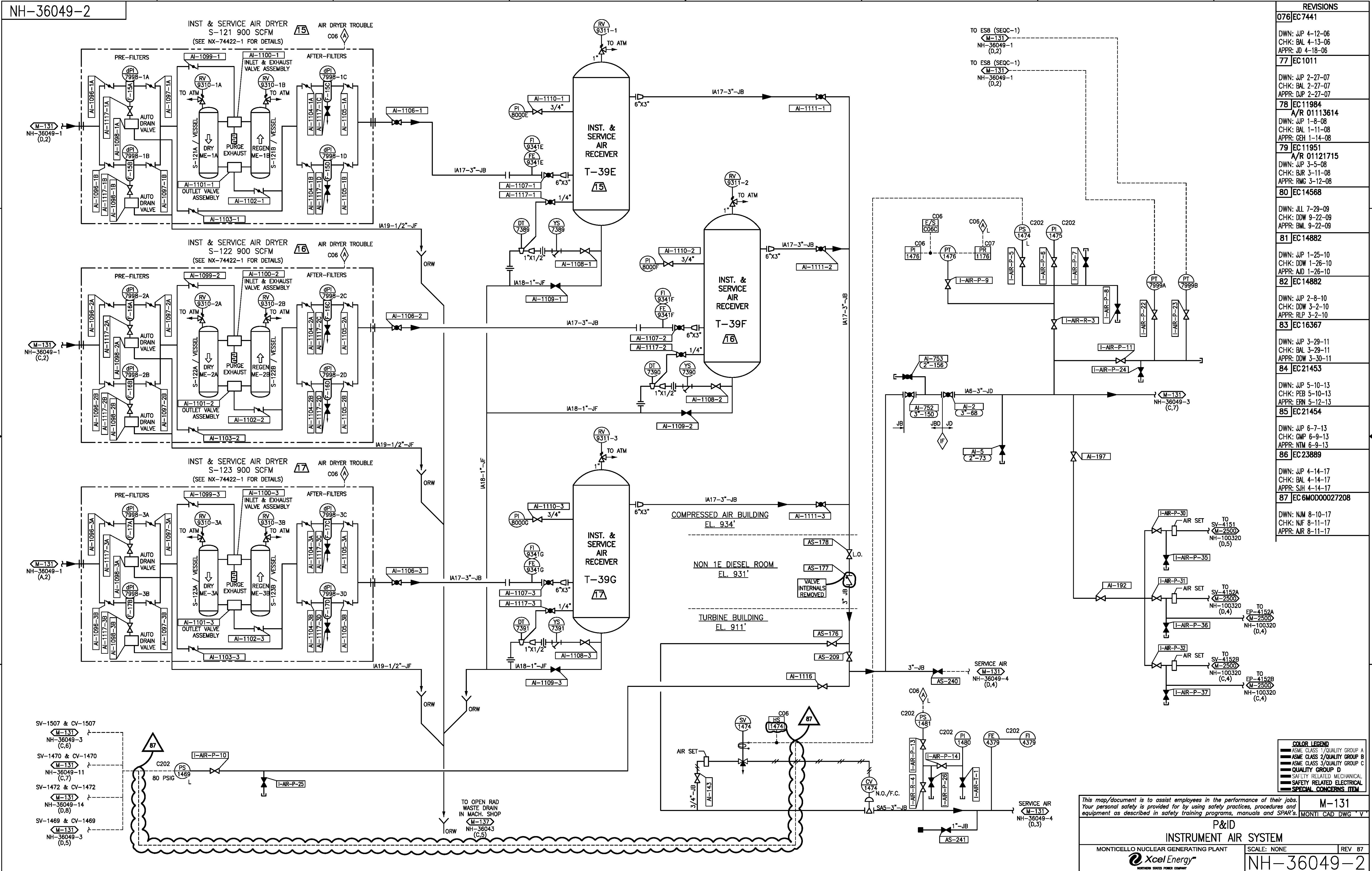
MONTICELLO NUCLEAR GENERATING PLANT

Xcel Energy
NORTHERN STATES POWER COMPANY

SCALE: NONE

REV 82

NH-36049-1



REVISIONS	
076	EC7441
DWN: JJP 4-12-06 CHK: BAL 4-13-06 APPR: JD 4-18-06	
77	EC1011
DWN: JJP 2-27-07 CHK: BAL 2-27-07 APPR: DJP 2-27-07	
78	EC11984
A/R 01113614 DWN: JJP 1-8-08 CHK: BAL 1-11-08 APPR: GEH 1-14-08	
79	EC11951
A/R 01121715 DWN: JJP 3-5-08 CHK: BUR 3-11-08 APPR: RMG 3-12-08	
80	EC14568
DWN: JLL 7-29-09 CHK: DDW 9-22-09 APPR: BML 9-22-09	
81	EC14882
DWN: JJP 1-25-10 CHK: DDW 1-26-10 APPR: AJD 1-26-10	
82	EC14882
DWN: JJP 2-8-10 CHK: DDW 3-2-10 APPR: RLP 3-2-10	
83	EC16367
DWN: JJP 3-29-11 CHK: BAL 3-29-11 APPR: DDW 3-30-11	
84	EC21453
DWN: JJP 5-10-13 CHK: PEB 5-10-13 APPR: ERN 5-12-13	
85	EC21454
DWN: JJP 6-7-13 CHK: GMP 6-9-13 APPR: NTM 6-9-13	
86	EC23889
DWN: JJP 4-14-17 CHK: BAL 4-14-17 APPR: SJH 4-14-17	
87	EC6MOD00027208
DWN: NJM 8-10-17 CHK: NJF 8-11-17 APPR: AJR 8-11-17	

This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.

P&ID
INSTRUMENTING AIR SYSTEM

MONTICELLO NUCLEAR GENERATING PLANT

SCALE: NONE **REV:** 87

NH-36049-2

COLOR LEGEND

- ASME CLASS 1/QUALITY GROUP A
- ASME CLASS 2/QUALITY GROUP B
- ASME CLASS 3/QUALITY GROUP C
- QUALITY GROUP D
- SAFETY RELATED MECHANICAL
- SAFETY RELATED ELECTRICAL
- SPECIAL CONCERNS ITEM

M-131
MONTI CAD DWG "V"