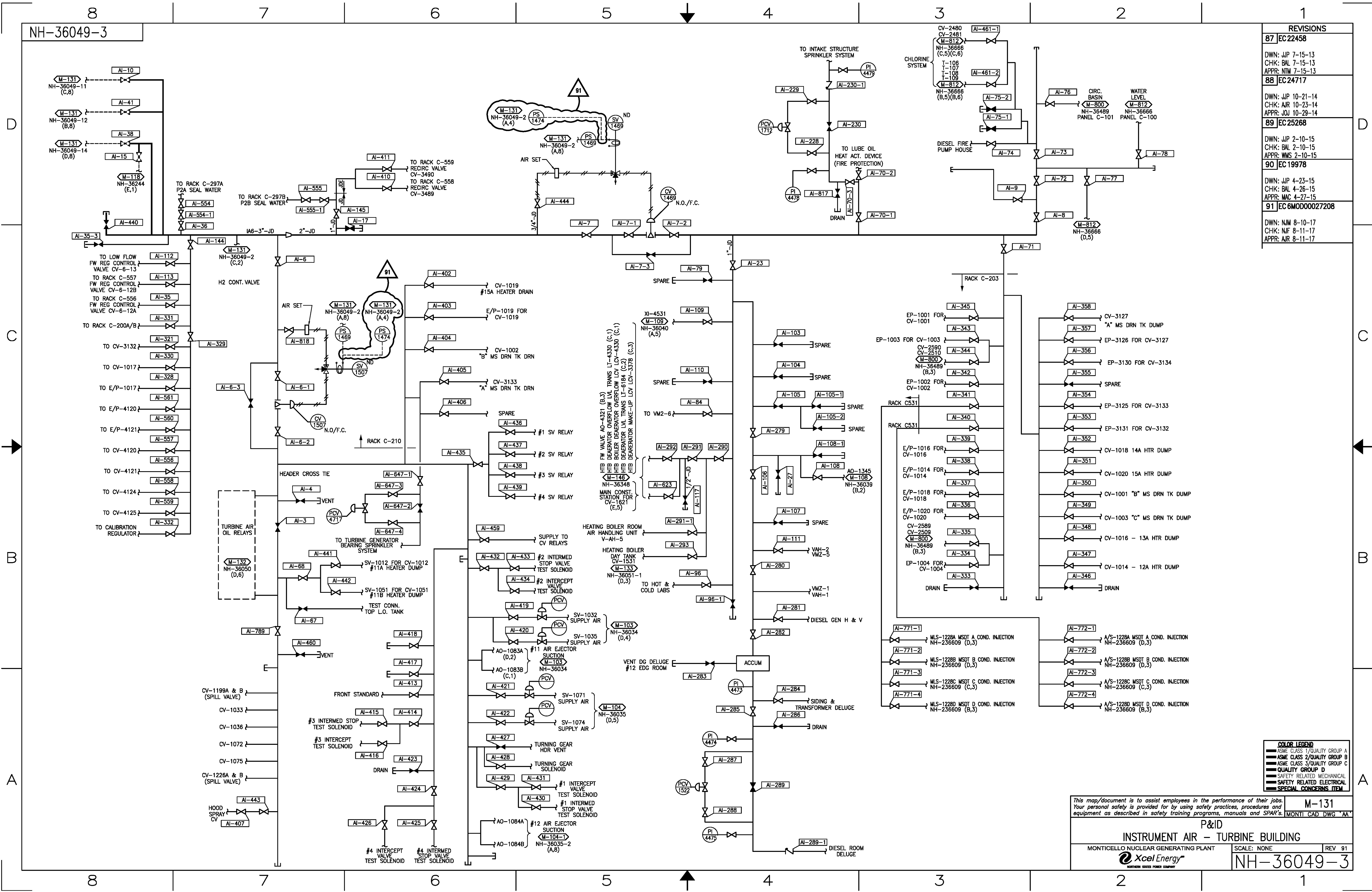
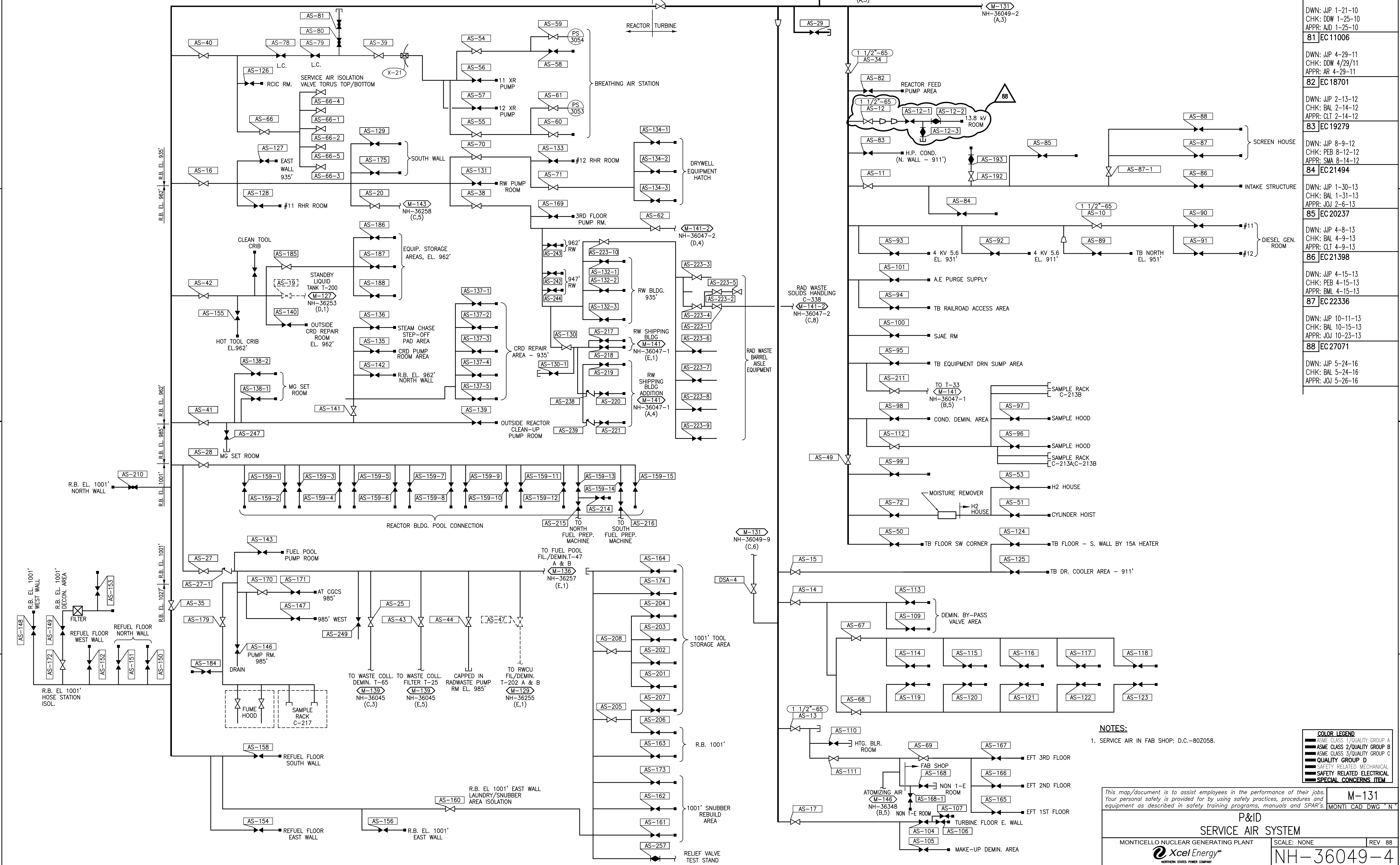






REVIEWS	
80	EC 14882
DWN: JUP 1-21-10 CHK: DWJ 1-25-10 APPR: AJD 1-25-10	
81	EC 11006
DWN: JUP 4-29-11 CHK: DWJ 4/29/11 APPR: AR 4-29-11	
82	EC 18701
DWN: JUP 2-13-12 CHK: BAL 2-14-12 APPR: CLT 2-14-12	
83	EC 19279
DWN: JUP 8-9-12 CHK: PEB 8-12-12 APPR: SMA 8-12-12	
84	EC 21494
DWN: JUP 1-30-13 CHK: BAL 1-31-13 APPR: JOJ 2-6-13	
85	EC 20237
DWN: JUP 4-8-13 CHK: BAL 4-9-13 APPR: BML 4-15-13	
86	EC 21398
DWN: JUP 4-15-13 CHK: PEB 4-15-13 APPR: BML 4-15-13	
87	EC 22336
DWN: JUP 10-11-13 CHK: BAL 10-15-13 APPR: JOJ 10-23-13	
88	EC 27071
DWN: JUP 5-24-16 CHK: BAL 5-24-16 APPR: JOJ 5-26-16	

NOTES:
1. SERVICE AIR IN FAB SHOP: D.C.-802058.

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

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**P&ID
SERVICE AIR SYSTEM**

MONTICELLO NUCLEAR GENERATING PLANT

Xcel Energy
NORTHERN STATES POWER COMPANY

M-131

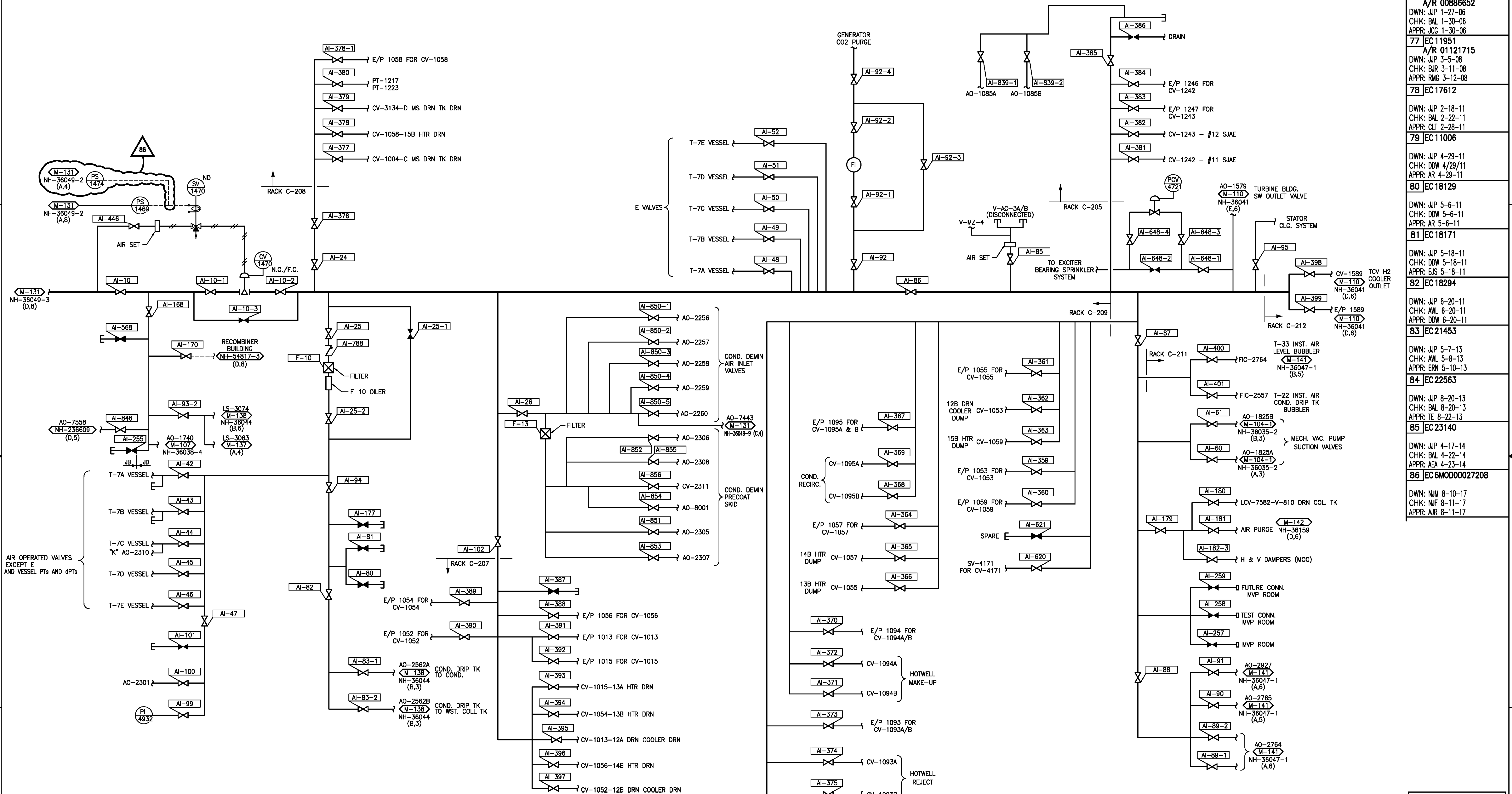
MONTI CAD DWG "N"

SCALE: NONE

REV 88

NH-36049-4

NH-36049-11



REVISIONS	
076	EC000000829 A/R 00886652 DWN: JJP 1-27-06 CHK: BAL 1-30-06 APPR: JCG 1-30-06
77	EC11951 A/R 01121715 DWN: JJP 3-5-08 CHK: BJR 3-11-08 APPR: RMG 3-12-08
78	EC17612 DWN: JJP 2-18-11 CHK: BAL 2-22-11 APPR: CLT 2-28-11
79	EC11006 DWN: JJP 4-29-11 CHK: DW 4/29/11 APPR: AR 4-29-11
80	EC18129 DWN: JJP 5-6-11 CHK: DW 5-6-11 APPR: AR 5-6-11
81	EC18171 DWN: JJP 5-18-11 CHK: DW 5-18-11 APPR: EJS 5-18-11
82	EC18294 DWN: JJP 6-20-11 CHK: AWL 6-20-11 APPR: DDW 6-20-11
83	EC21453 DWN: JJP 5-7-13 CHK: AWL 5-8-13 APPR: ERN 5-10-13
84	EC22563 DWN: JJP 8-20-13 CHK: BAL 8-20-13 APPR: TE 8-22-13
85	EC23140 DWN: JJP 4-17-14 CHK: BAL 4-22-14 APPR: AEA 4-23-14
86	EC6MOD00027208 DWN: NJM 8-10-17 CHK: NUF 8-11-17 APPR: AJR 8-11-17

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	

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M-131
MONTI CAD DWG "B"

P&ID
INSTRUMENT AIR - TURBINE BUILDING

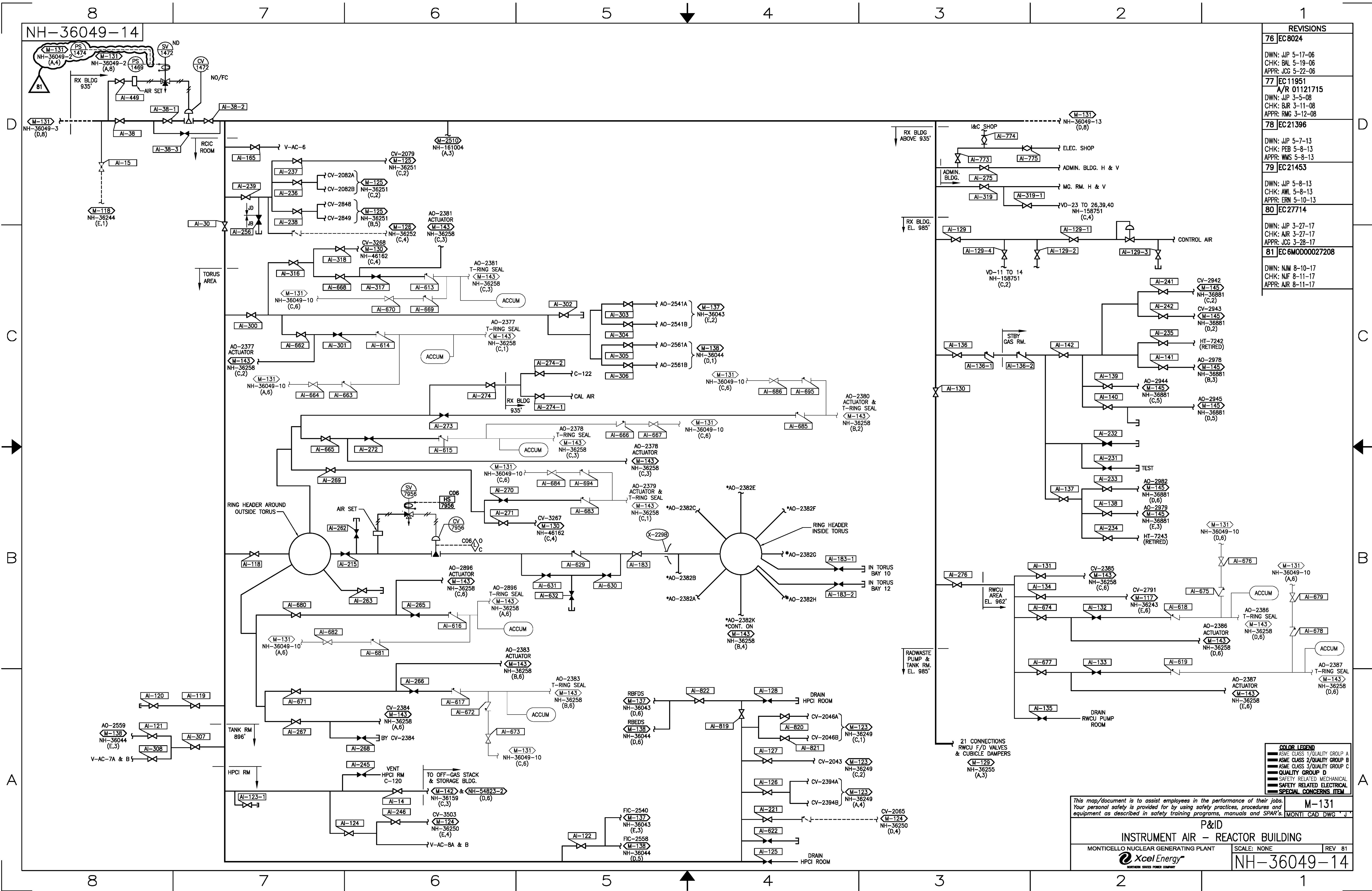
MONTICELLO NUCLEAR GENERATING PLANT

Xcel Energy
NORTHERN STATES POWER COMPANY

SCALE: NONE

REV 86

NH-36049-11



NH-36049-15

REVISIONS

76 EC9488

A/R 01045154

DWN: JIP 11-17-06

CHK: BAL 11-17-06

APPR: JH 11-21-06

77 EC11951

A/R 01121715

DWN: JIP 3-5-08

CHK: BJR 3-11-08

APPR: RMG 3-12-08

78 EC13054

DWN: JIP 8-25-08

CHK: BAL 8-25-08

APPR: MH 8-26-08

79 EC13600

DWN: JIP 12-30-08

CHK: BAL 1-6-09

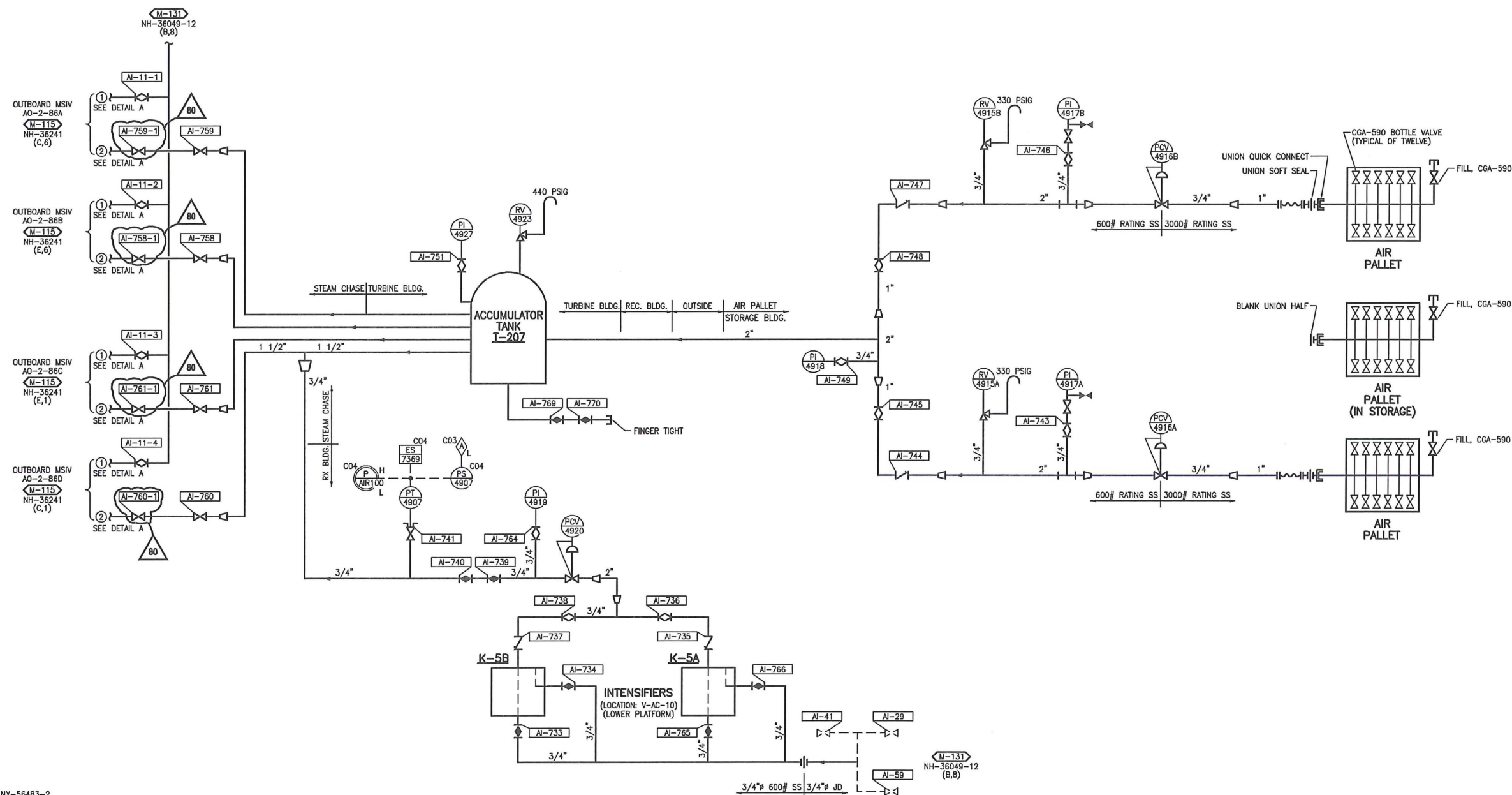
APPR: GEH 1-7-09

80 EC17025

DWN: JIP 3-17-11

CHK: BAL 3-17-11

APPR: DM 3-18-11



DETAIL A

① PILOT AIR TO MSIV
SOLENOID MANIFOLD② MAIN AIR TO MSIV
PISTON VIA MANIFOLD
AIR VALVE ASSEMBLY

SEE NX-56483-2

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

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M-131

MONTI CAD DWG "A"

P&ID

AIR SUPPLY TO OUTBOARD MSIV'S

MONTICELLO NUCLEAR GENERATING PLANT

SCALE: NONE

REV 80

Xcel Energy
NORTHWEST POWER GROUP

NH-36049-15

Security-Related Information

Security-Related Information

Security-Related Information

Security-Related Information

Security-Related Information

Security-Related Information

Security-Related Information

Security-Related Information

Security-Related Information

Security-Related Information

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Security-Related Information

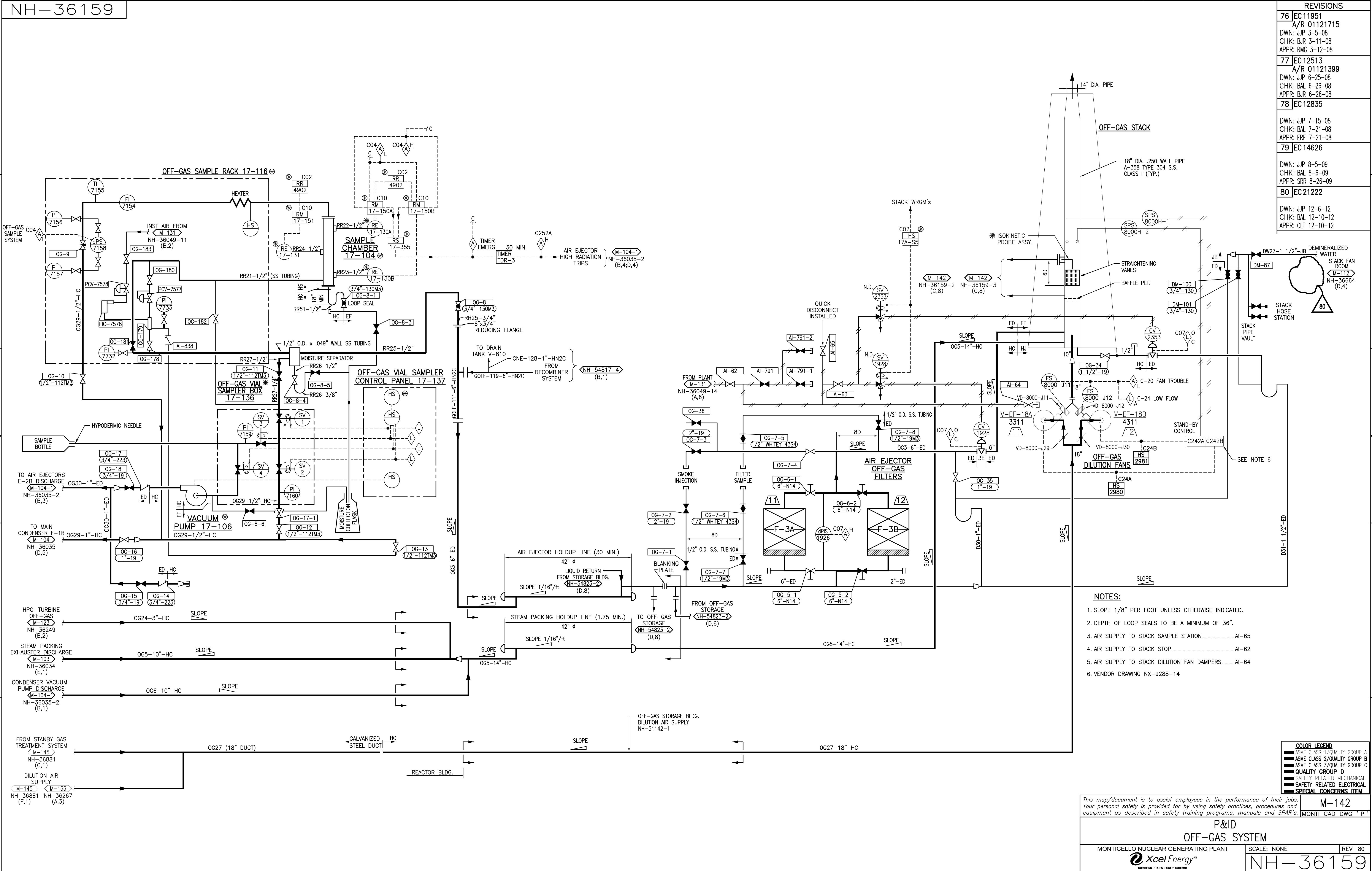
Security-Related Information

Security-Related Information

Security-Related Information

Security-Related Information

Security-Related Information



REVISIONS	
76	EC 11951 A/R 01121715 DWN: JJP 3-5-08 CHK: BJR 3-11-08 APPR: RMG 3-12-08
77	EC 12513 A/R 01121399 DWN: JJP 6-25-08 CHK: BAL 6-26-08 APPR: BJR 6-26-08
78	EC 12835 DWN: JJP 7-15-08 CHK: BAL 7-21-08 APPR: ERF 7-21-08
79	EC 14626 DWN: JJP 8-5-09 CHK: BAL 8-6-09 APPR: SRR 8-26-09
80	EC 21222 DWN: JJP 12-6-12 CHK: BAL 12-10-12 APPR: CLT 12-10-12

- NOTES:**
- SLOPE 1/8" PER FOOT UNLESS OTHERWISE INDICATED.
 - DEPTH OF LOOP SEALS TO BE A MINIMUM OF 36".
 - AIR SUPPLY TO STACK SAMPLE STATION.....AI-65
 - AIR SUPPLY TO STACK STOP.....AI-62
 - AIR SUPPLY TO STACK DILUTION FAN DAMPERS.....AI-64
 - VENDOR DRAWING NX-9288-14

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	

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**P&ID
OFF-GAS SYSTEM**

MONTECELLO NUCLEAR GENERATING PLANT

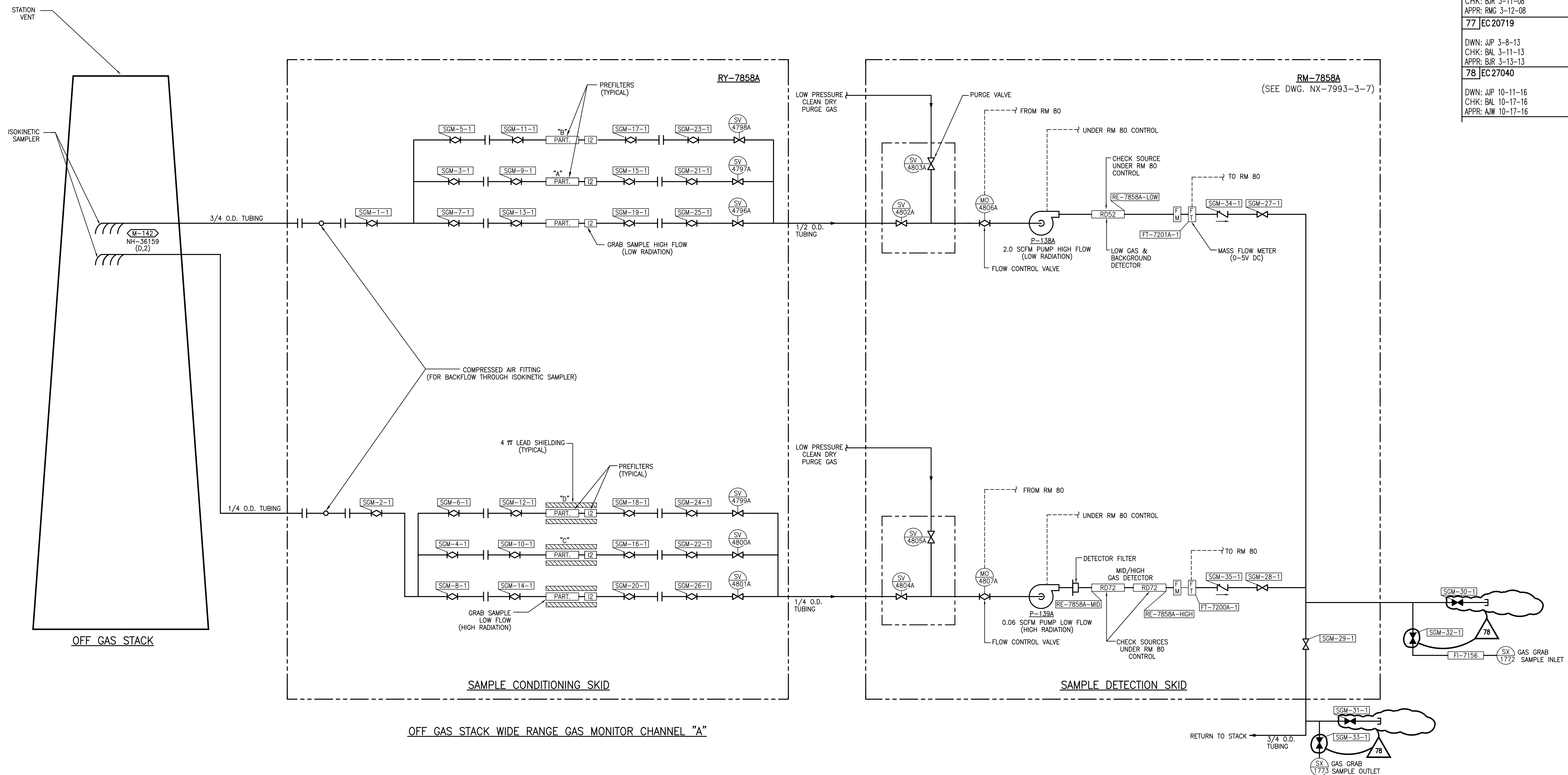
SCALE: NONE

REV 80

Xcel Energy
NORTHERN STATES POWER COMPANY

NH-36159

M-142
MONTI CAD DWG "P"



COLOR LEGEND

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

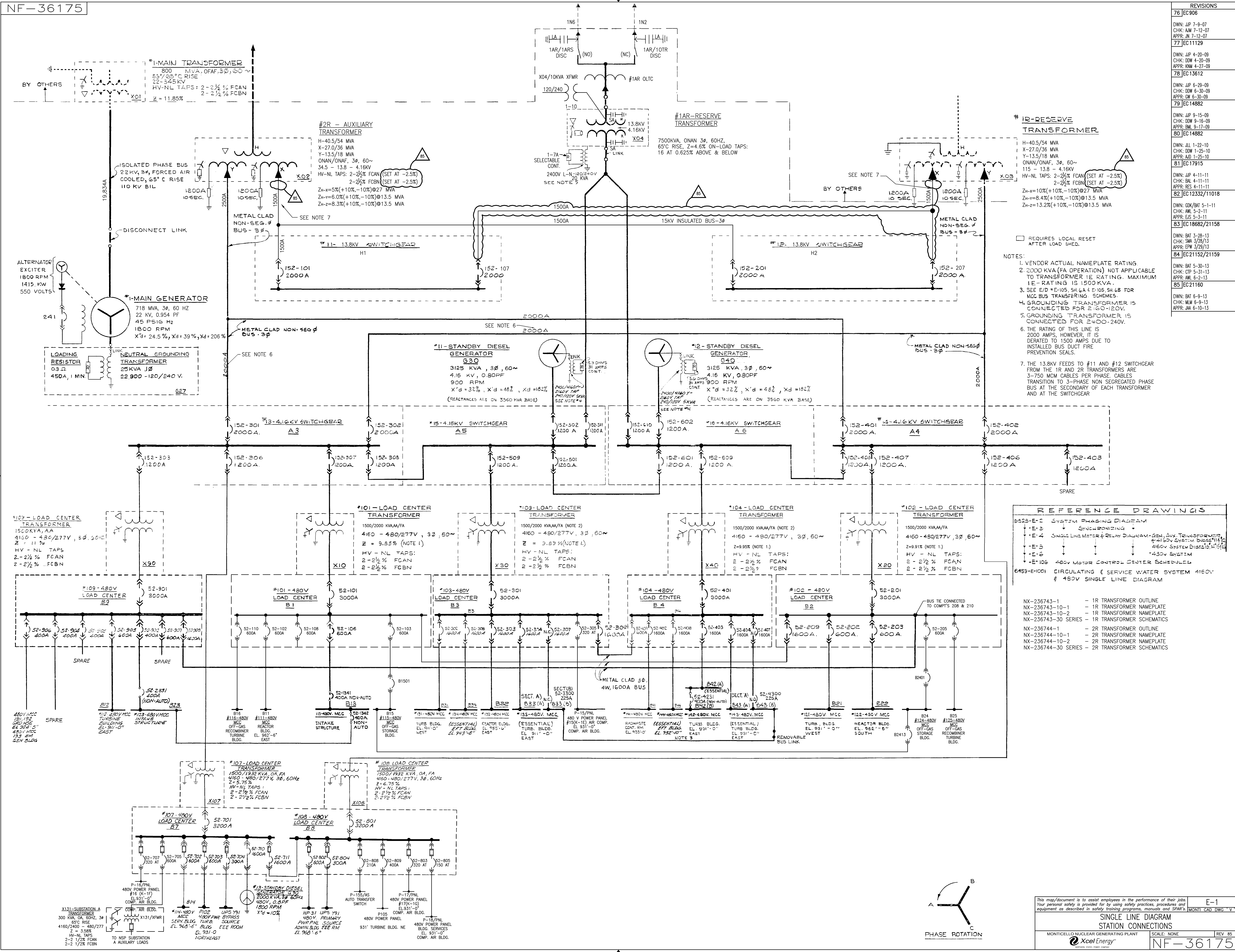
<i>This map/document is to assist employees in the performance of their jobs. Your personal safety is provided for by using safety practices, procedures and equipment as described in safety training programs, manuals and SPAR's.</i>	M-142
	MONTECAD.DWG 'B'

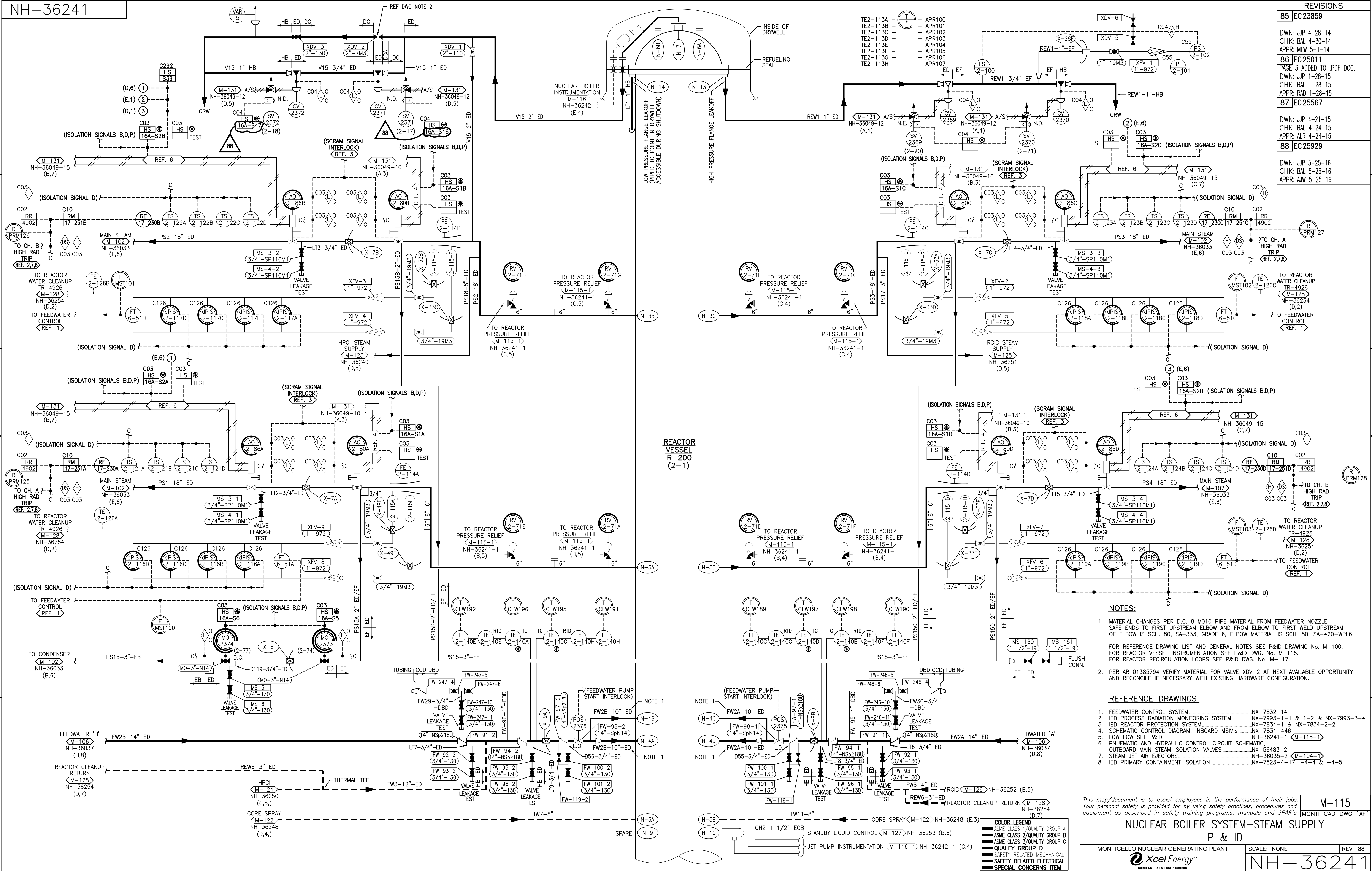
OFF GAS STACK
GAS MONITOR CH. 'A'

MONTICELLO NUCLEAR GENERATING PLANT

SCALE: NONE	REV 78
NH-36159-2	

REVISONS	
76	EC906
DWN: UP 7-7-07/ CHK: AM 12-12-07/ APPR: 7-12-07	
77	EC11129
DWN: UP 4-20-09 CHK: DOW 4-20-09 APPR: KM 4-27-09	
78	EC13612
DWN: UP 2-28-09 CHK: DOW 3-30-09 APPR: 6-30-09	
79	EC14882
DWN: UP 8-15-09 CHK: DOW 8-15-09 APPR: 12-17-09	
80	EC14882
DWN: JL 1-22-10 CHK: DOW 1-25-10 APPR: ADJ 1-25-10	
81	EC17951
DWN: UP 4-11-11 CHK: DAL 4-11-11 APPR: RSC 4-11-11	
82	EC12332/11018
DWN: GOK/ATP 5-1-11 CHK: MAL 5-1-11 APPR: LSC 5-3-11	
83	EC18682/21158
DWN: BT 3-28-13 CHK: SMC 3-28-13 APPR: TSW 3/29/13	
84	EC21152/21159
DWN: BT 3-30-13 CHK: CPJ 3-31-13 APPR: MAL 6-2-13	
85	EC21610
DWN: BT 6-10-13 CHK: MUM 6-10-13 APPR: JA 6-10-13	





REVISIONS	
85	EC23859
DWN: JIP 4-28-14 CHK: BAL 4-30-14 APPR: MLW 5-1-14	
86	EC25011
PAGE 3 ADDED TO .PDF DOC. DWN: JIP 1-28-15 CHK: BAL 1-28-15 APPR: RAD 1-28-15	
87	EC25567
DWN: JIP 4-21-15 CHK: BAL 4-24-15 APPR: ALR 4-24-15	
88	EC25929
DWN: JIP 5-25-16 CHK: BAL 5-25-16 APPR: AJW 5-25-16	

- NOTES:**
- MATERIAL CHANGES PER D.C. 81M010 PIPE MATERIAL FROM FEEDWATER NOZZLE SAFE ENDS TO FIRST UPSTREAM ELBOW AND FROM ELBOW TO FIRST WELD UPSTREAM OF ELBOW IS SCH. 80, SA-333, GRADE 6, ELBOW MATERIAL IS SCH. 80, SA-420-WPL6.
 - FOR REFERENCE DRAWING LIST AND GENERAL NOTES SEE P&ID DRAWING No. M-100. FOR REACTOR VESSEL INSTRUMENTATION SEE P&ID DWG. No. M-116. FOR REACTOR RECIRCULATION LOOPS SEE P&ID DWG. No. M-117.
- REFERENCE DRAWINGS:**
- FEEDWATER CONTROL SYSTEM NX-7832-14
 - IED PROCESS RADIATION MONITORING SYSTEM NX-7993-1-1 & 1-2 & NX-7993-3-4
 - IED REACTOR PROTECTION SYSTEM NX-7834-1 & NX-7834-2-2
 - SCHEMATIC CONTROL DIAGRAM, INBOARD MSIV's NX-7831-446
 - LOW LOW SET P&ID NH-36241-1 (M-115-1)
 - PNEUMATIC AND HYDRAULIC CONTROL CIRCUIT SCHEMATIC, OUTBOARD MAIN STEAM ISOLATION VALVES NX-56483-2
 - STEAM JET AIR EJECTORS NH-36035-2 (M-104-1)
 - IED PRIMARY CONTAINMENT ISOLATION NX-7823-4-17, -4-4 & -4-5

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NUCLEAR BOILER SYSTEM-STEAM SUPPLY
P & ID

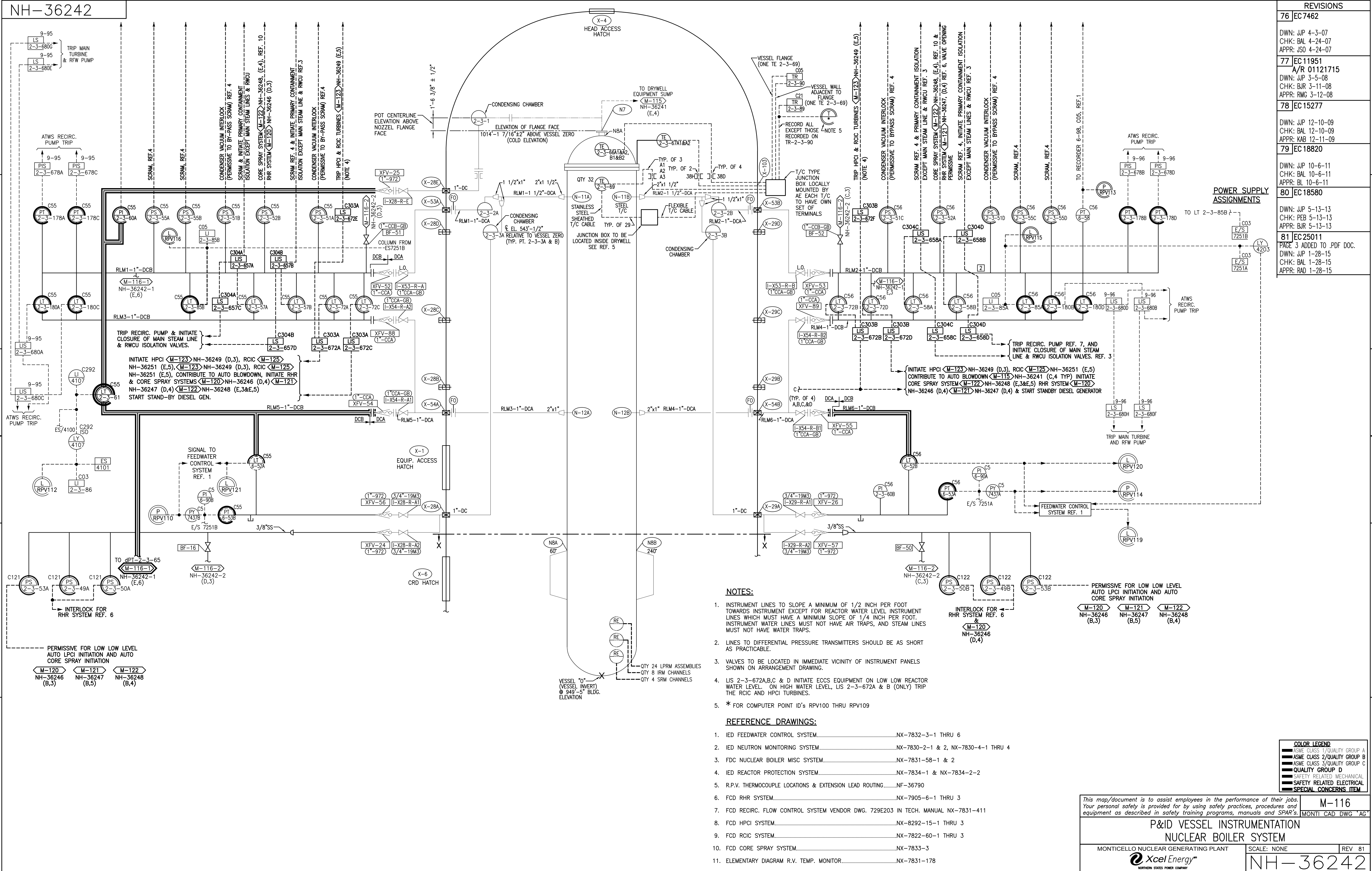
MONTICELLO NUCLEAR GENERATING PLANT

SCALE: NONE

REV 88

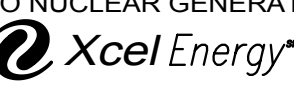
NH-36241

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	



REVISIONS	
76	EC 7462 DWN: JWP 4-3-07 CHK: BAL 4-24-07 APPR: JSO 4-24-07
77	EC 11951 A/R 01121715 DWN: JWP 3-5-08 CHK: BUR 3-11-08 APPR: RMG 3-12-08
78	EC 15277 DWN: JWP 12-10-09 CHK: BAL 12-10-09 APPR: BL 10-6-11
79	EC 18820 DWN: JWP 10-6-11 CHK: PEB 5-13-13 APPR: BUR 5-13-13
80	EC 18580 DWN: JWP 5-13-13 CHK: PEB 5-13-13 APPR: BUR 5-13-13
81	EC 25011 PAGE 3 ADDED TO .PDF DOC. DWN: JWP 1-28-15 CHK: BAL 1-28-15 APPR: RAD 1-28-15

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

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M-116 MONTICELLO CAD DWG "AG"	
P&ID VESSEL INSTRUMENTATION NUCLEAR BOILER SYSTEM	
MONTICELLO NUCLEAR GENERATING PLANT 	SCALE: NONE REV 81
NH-36242	

76 EC7462

DWN: JJP 4-3-07
CHK: BAL 4-24-07
APPR: JSO 4-24-07

77 EC11951

A/R 01121715

DWN: JJP 3-5-08
CHK: BJR 3-11-08
APPR: RMG 3-12-08

78 EC15557

DWN: BAT 4-3-11
CHK: DDW 4-6-11
APPR: VJK 4-7-11

79 EC12331

DWN: JJP 6-12-12
CHK: PEB 6-21-12
APPR: EPW 8-2-12

80 EC21613

DWN: JJP 3-1-13
CHK: SLM 3-1-13
APPR: PEB 3-1-13

81 EC25011

PAGE 3 ADDED TO .PDF DOC.

DWN: JJP 1-28-15
CHK: BAL 1-28-15
APPR: RAD 1-28-15

--- SPARE SOCKET
--- SPARE SOCKET
--- SPARE SOCKET
--- TO dPT 2-3-65 (D,6)
--- TO dPT 2-3-62 (C,5)

C19
E/S
2-3-88

TO FT 2-3-64L
TO FT 2-3-64M
TO FT 2-3-64N
TO FT 2-3-64P
TO FT 2-3-64R
TO FT 2-3-64S

--- SPARE SOCKET
--- TO FT 2-3-63D
--- TO FT 2-3-63C
--- TO FT 2-3-63B
--- TO FT 2-3-63A

TYPICAL OF 4

2-3-77B-64 S,T,U,V,W
2-3-77C-64 A,B,C,D,E
2-3-77D-64 F,G,H,J,K

E/S 2-3-77A E/S 2-3-77E

POWER SUPPLY ASSIGNMENTS

NOTES:

- INSTRUMENT LINES TO SLOPE A MINIMUM OF 1/2 INCH PER FOOT TOWARDS INSTRUMENT EXCEPT FOR REACTOR WATER LEVEL INSTRUMENT LINES WHICH MUST HAVE A MINIMUM SLOPE OF 1/4 INCH PER FOOT. INSTRUMENT WATER LINES MUST NOT HAVE AIR TRAPS, AND STEAM LINES MUST NOT HAVE WATER TRAPS.
- LINES TO DIFFERENTIAL PRESSURE TRANSMITTERS SHOULD BE AS SHORT AS PRACTICABLE.
- VALVES TO BE LOCATED IN IMMEDIATE VICINITY OF INSTRUMENT PANELS SHOWN ON ARRANGEMENT DRAWING.
- ALL INSTRUMENT LINES FROM JET PUMPS 1 TO 10 EXIT THRU PENETRATIONS N8A & X-40AB, LINES 11 TO 20 EXIT THRU PENETRATIONS N8B & X-40CD. SEE PLAN X.
- FT 2-3-63A -- COMPUTER POINT REC142
FT 2-3-63B -- COMPUTER POINT REC143
FT 2-3-63C -- COMPUTER POINT REC144
FT 2-3-63D -- COMPUTER POINT REC145
- X PREFIX IS NOT SHOWN FOR PENETRATIONS ON PLAN X

REFERENCE DRAWINGS:

- IED FEEDWATER CONTROL SYSTEM..... NX-7832-3-1 THRU 6
- IED NEUTRON MONITORING SYSTEM..... NX-7830-2-1 & 2, NX-7830-4-1 THRU 4
- FDC NUCLEAR BOILER MISC SYSTEM..... NX-7831-58-1 & 2
- IED REACTOR PROTECTION SYSTEM..... NX-7834-1 & NX-7834-2-2
- R.P.V. THERMOCOUPLE LOCATIONS & EXTENSION LEAD ROUTING..... NF-36790
- FCD RHR SYSTEM..... NX-7905-6-1 THRU 3
- FCD RECIRC. FLOW CONTROL SYSTEM VENDOR DWG. 729E203 IN TECH. MANUAL NX-7831-411
- FCD HPCI SYSTEM..... NX-8292-15-1 THRU 3
- FCD ROIC SYSTEM..... NX-7822-60-1 THRU 3
- FCD CORE SPRAY SYSTEM..... NX-7833-3
- ELEMENTARY DIAGRAM R.V. TEMP. MONITOR..... NX-7831-178

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 CONCERN ITEM

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M-116-1

MONTI CAD DWG 'A'

P & ID JET PUMP INSTRUMENTATION
NUCLEAR BOILER SYSTEM

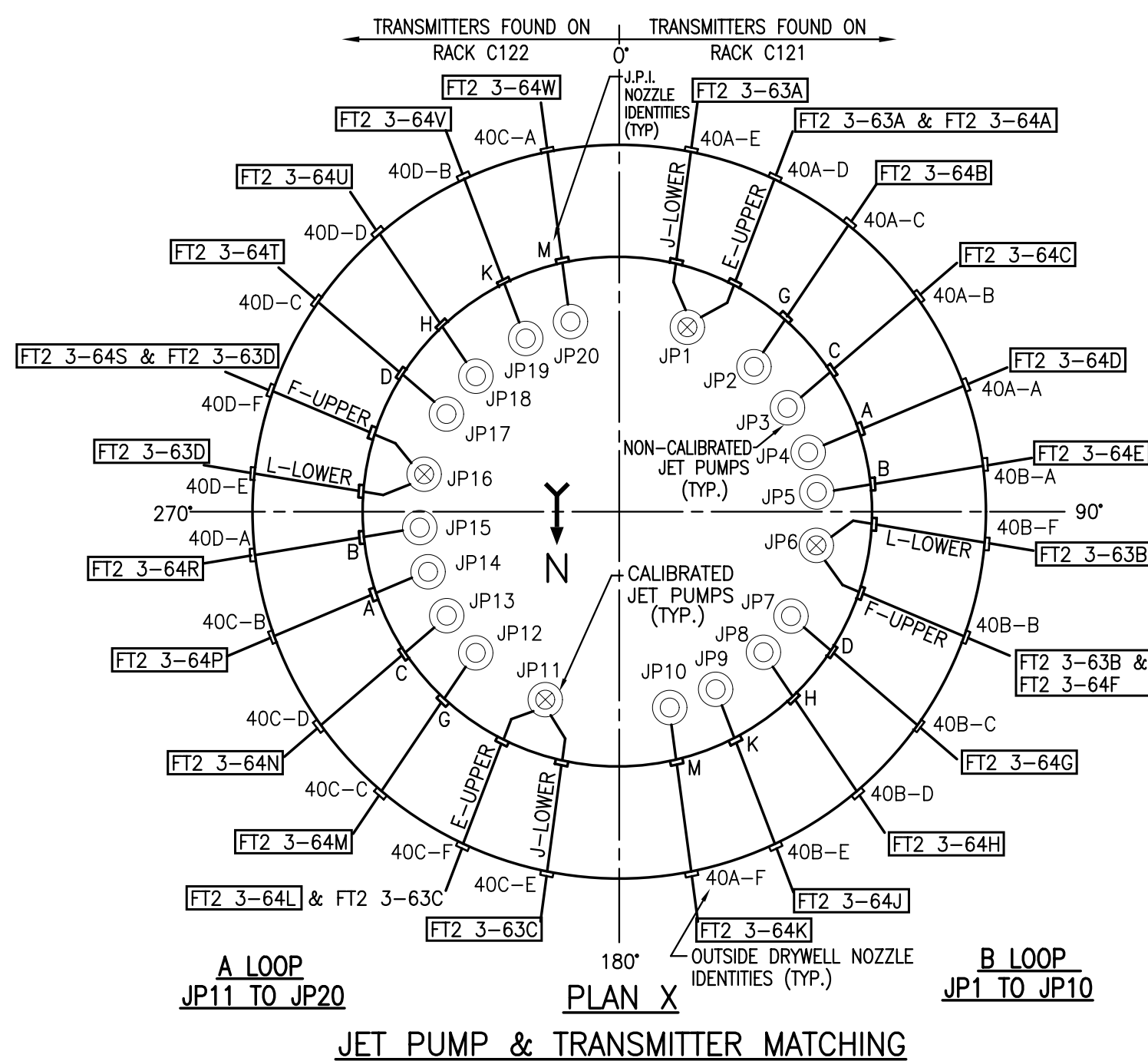
MONTICELLO NUCLEAR GENERATING PLANT

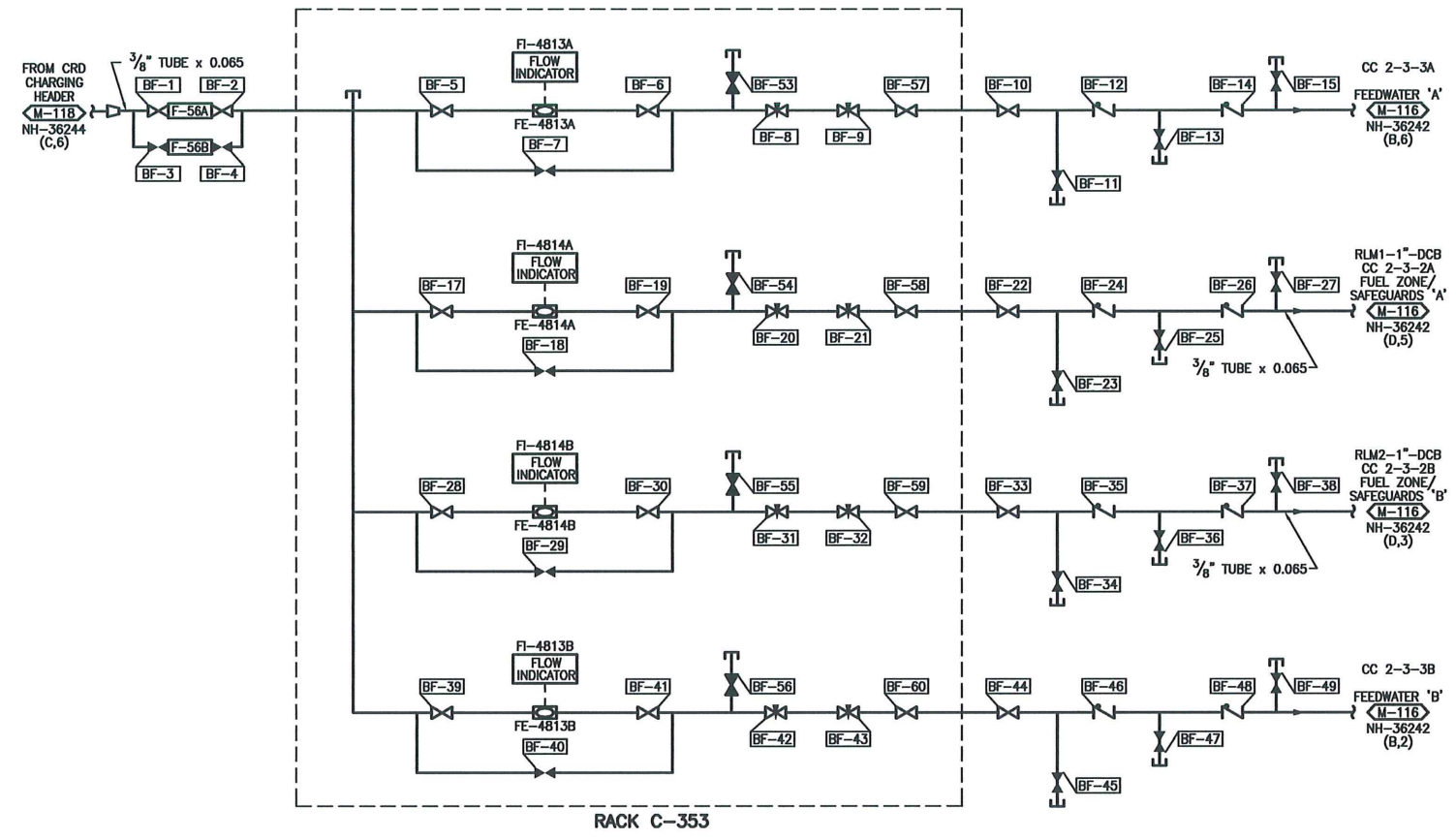
SCALE: NONE

REV 81

XcelEnergy
NORTHERN STATES POWER COMPANY

NH-36242-1





- NOTES:**
- INSTRUMENT LINES TO SLOPE A MINIMUM OF 1/2 INCH PER FOOT TOWARDS INSTRUMENT EXCEPT FOR REACTOR WATER LEVEL INSTRUMENT LINES WHICH MUST HAVE A MINIMUM SLOPE OF 1/4 INCH PER FOOT. INSTRUMENT WATER LINES MUST NOT HAVE AIR TRAPS, AND STEAM LINES MUST NOT HAVE WATER TRAPS.
 - LINES TO DIFFERENTIAL PRESSURE TRANSMITTERS SHOULD BE AS SHORT AS PRACTICABLE.
 - VALVES TO BE LOCATED IN IMMEDIATE VICINITY OF INSTRUMENT PANELS SHOWN ON ARRANGEMENT DRAWING.
- REFERENCE DRAWINGS:**
- IED FEEDWATER CONTROL SYSTEM.....NX-7832-3-1 THRU 6
 - IED NEUTRON MONITORING SYSTEM.....NX-7830-2-1 & 2, NX-7830-4-1 THRU 4
 - FDC NUCLEAR BOILER MISC SYSTEM.....NX-7831-58-1 & 2
 - IED REACTOR PROTECTION SYSTEM.....NX-7834-1 & NX-7834-2-2
 - R.P.V. THERMOCOUPLE LOCATIONS & EXTENSION LEAD ROUTING.....NF-36790
 - FCD RHR SYSTEM.....NX-7905-6-1 THRU 3
 - FCD RECIRC. FLOW CONTROL SYSTEM VENDOR DWG. 729E203 IN TECH. MANUAL NX-7831-411
 - FCD HPCI SYSTEM.....NX-8292-15-1 THRU 3
 - FCD ROCI SYSTEM.....NX-7822-60-1 THRU 3
 - FCD CORE SPRAY SYSTEM.....NX-7833-3
 - ELEMENTARY DIAGRAM R.V. TEMP. MONITOR.....NX-7831-178

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

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M-116-2
MONTICAD DWG 'A'

GROUP	SIGNIFICANT NUMBER	8700	--	RX	1	4420	1	--
	1	2	3	4	5	6		

MONTICELLO NUCLEAR GENERATING PLANT
P & ID REFERENCE LEG BACKFILL SYSTEM
NUCLEAR BOILER SYSTEM

NORTHERN STATES POWER COMPANY MINNEAPOLIS	SCALE: NONE	REV 76
	NH-36242-2	