SCALING RULES

SIZE E

INSTRUMENT AC & UNINTERRUPTIBLE AC DISTRIBUTION SYSTEMS
(SCHEME - Y1)

DCR-1044

FROM 480V MCC 1B32 (SEE SCHEME B32I6)

FROM 480V MCC 1B42 (SEE SCHEME B42D3)

FROM 480V MCC 1B32 (SEE SCHEME B32S4)

INSTRUMENT AC TRANS. IX1
37.5 KVA, 1Ø 60HZ
480V - 120/240V

INSTRUMENT AC TRANSFORMER IX2
37.5 KVA, 1Ø 60HZ
480V - 120/240V

UNINTERRUPTIBLE AC M-G SET SEE DWG E-112, SH. 3

SCHEME Y2132

IC218A (S) X,U (2-10) IC218A

SCHEME Y113.3 (TYP FOR Y2-33)

IC24 (B) X,U (12-06) IC25

SCHEME Y1107 (TYP FOR Y2107)

IY1101 (A) X,U (SEE TABLE) IC04

SCHEME Y1101 (TYP FOR ALL Y11XX SCHEMES)

IY2101 (A) X,U (SEE TABLE) IC04

SCHEME Y2101 (TYP FOR ALL Y21XX SCHEMES)

52-110 (KA) 225A 225 — MAIN & TIE BREAKERS IY10

52-111 225A 125 N.O.

52-211 225A 125 N.O.

52-210 (KA) 225A NOTE 1 225 — MAIN & TIE BREAKERS IY20

(MA) NOTE 1

TRANSFER SWITCH IY22
2P-250V-150A (AUTO)

STANDBY

FOR DETAIL WIRING SEE ITE DWG. MC-1A-1A (FF 1B84, E30-3)

INSTRUMENT AC DISTR. PANEL IY11 — FOR DETAIL OF CKT. NOS. & BKR RATING SEE PANEL SCHEDULE.

INSTRUMENT AC DISTR. PANEL IY21 — FOR DETAIL OF CKT. NOS. & BKR RATING SEE PANEL SCHEDULE

UNINTERRUPTIBLE AC DISTR. PANEL IY23 — FOR DETAIL OF CKT. NOS. & BKR RATING, SEE PNL SCHEDULE.

ALARM (SEE DWG E-36) 27 Y25 3A

(TYP. FOR PNL IY11 & IY21)

COMPUTER SHIELDED ISOLATION TRANS. IC6 240:120/240 V 10KVA, 1Ø, 60Hz

TO IC303A DRUM CABINET (NOTE 3)

ANNUNCIATOR ALARM (SPARE) — BY FIELD (312) — T.V. MONITOR (SPARE) — BY FIELD (312) — J1620 — X,U (2-06) — (A) IY2132

INSTRUMENT AC DISTRIBUTION PANEL IY11
(120/240V AC, 1Ø, 3W)

SCHEME NO.	CKT NO.	BKR RATING FRAME AMP.	BKR RATING TRIP AMP.	LOAD DESCRIPTION	LOC.	CABLE CODE
Y1101	1	100	30	REACT. WATER CLEAN-UP & RECIRC. BENCH BOARD	IC04	2-06
Y1102	2			AREA RADIATION MONITOR CABINET	IC11	
Y1103	3			PROCESS INSTRUMENT EQUIP. VERT. BOARD	IC19	
Y1104	4			REACTOR CONTROL BENCH BOARD	IC05	
Y1105	5			GEN. & PLANT AUX. RELAY VERT. BOARD	IC31	
Y1106	6			DIVISION I RHR RELAY VERT. BOARD	IC32	
Y1107	7			DRYWELL COOLING SYSTEM A PANEL	IC25	
Y1108	8			CRD ACCUMULATOR MONITOR PNL BANK 1 & 2	IC54	
Y1109	9			TIP (REACT NEUTRON MAPPING) CONT. CAB.	IC13	
Y1110	10			METEOROLOGICAL PANEL	IC22	2-06
Y1111	11			AREA & PROCESS RADIATION RECORDING VERT. BOARD	IC02	2-06
Y1112	12			NUCLEAR STEAM SUPPLY TEMP RECORDING VERTICAL BOARD, CIV. I	IC21	
Y1113	13			FEEDWATER & CONDENSATE BENCH BOARD	IC06	
Y1114	14			TURBINE PLANT INSTRUMENT VERT. BOARD	IC20	
Y1115	15			REACT. CORE COOLING SYSTEM BENCH BD.	IC03	
Y1116	16			READY RECIRC. PP MG SET 1B201A AUX. RELAY CUBICLE	IC13A	
Y1117	17			OFF GAS SYSTEM BENCH BD.	IC24	
	18			SPARE		
Y1119	19			TURBINE BLDG & CONTROL RM HVAC A PANEL	IC26	2-06
Y1120	20			REACTOR WTR. CLEAN UP FILTER/DEMIN. SYSTEM FILTER A & B	IC82	2-06
Y1121	21			FEED WTR & RECIRC. EQUIP VERT. BOARD	IC16	
Y1122	22			REACT. RECIRC. PP MG SET 1B201B SCOOP TUBE POSITIONER ACTUATOR	1B210	
Y1123	23			READY RECIRC. PP MG SET 1B201A AUX RELAY CUBICLE WINDING OVERTEMP. RELAYS	IC13A	
Y1124	24			CAD SYSTEM VERTICAL BOARD	K.S.(A)	2-10
Y1125	25		50	TURBINE BENCH BOARD	IC07	2-02
Y1126	26		50	RAD WASTE PANEL	IC84	2-06
	27		30	SPARE		
	28		30			
	29		30			
	30		30			
Y1131	31		15	INSTRUMENT EXCESSIVE FLOW	IC29	2-10
Y1132	32		15	HVAC CONTROL PANEL IC23(A)	IC23	2-10
Y1133	33		30	SPARE		
Y1134	34		15	SHUTDOWN OUTSIDE CONT. RM. INST. RACK	IC208	2-10
	35		20	SPARE		
	36		20			
	37		20			
	38		20			
Y1139	39		15	CONTROL TRANSFER UNIT & CENTRAL MULTIPLEX TERMINAL	IMC41	2-10
Y1140	40		30	O2 & H SAMPLING & DRYWELL RAD MON.	IC41A	2-06
	41		30	SPACE		
	42		30			

INSTRUMENT AC DISTRIBUTION PANEL IY21
(120/240V AC, 1Ø, 3W)

SCHEME NO.	CKT NO.	BKR RATING FRAME AMP.	BKR RATING TRIP AMP.	LOAD DESCRIPTION	LOC.	CABLE CODE
Y2101	1	100	30	REACT. WTR CLEANUP & RECIRC. BENCH BOARD	IC04	2-06
	2			SPARE		
	3					
	4					
	5					
Y2106	6			DIVISION II RHR RELAY VERTICAL BOARD	IC33	2-06
Y2107	7			DRYWELL COOLING SYSTEM B PANEL	IC28	
Y2108	8			CRD ACCUMULATOR MONITOR BANK 3&4	IC78	
Y2109	9			CRD TEMP RECORDER PANEL	IC69	
Y2110	10			JET PUMP INST. VERTICAL BOARD	IC38	
Y2111	11			AREA & PROCESS RADIATION RECORDING VERTICAL BOARD	IC02	
Y2112	12			REACT RECIRC PP MG SET 1B201B AUX RELAY CUBICLE WINDING OVERTEMP. RELAYS	IC13B	
Y2113	13			NUCLEAR STEAM SUPPLY TEMP RECORDING VB DV II	IC21	
	14			SPARE		
Y2115	15			REACT. CORE COOLING SYSTEM BENCH BD.	IC08	2-06
Y2116	16			REACT RECIRC PP MG SET 1B201A AUX. RELAY CUBICLE	IC13B	
Y2117	17			SRM-IRM DRIVE CONTROL RELAY RACK	IC64	
	18			SPARE		
Y2119	19			TURBINE BLDG & CONTROL RM HVAC B PANEL	IC26	
Y2120	20			CRD SELECTION RELAY VERTICAL BOARD	IC28	2-06
Y2121	21			FEED WTR & RECIRC. EQUIP VERT. BOARD	IC16	
Y2122	22			REACT RECIRC PP MG SET 1B201B SCOOP TUBE POSITIONER ACTUATOR	1B210	
Y2123	23			CAD SYSTEM VERTICAL BOARD	IC35B	2-10
Y2124	24			GEN. AUX. POWER BENCH BOARD	IC08	2-06
	25		50	SPARE		
Y2126	26		30	REACTOR BLDG 120V AC INST. FUSE PNL	IY21A	2-06
Y2127	27		15	CONTAINMENT ATMOSPHERE CONTROL	IC142	2-10
Y2128	28		15	INSTRUMENT EXCESSIVE FLOW VALVES	IC29	2-10
	29		15	SPARE		
Y2130	30		15	HVAC CONTROL PANEL IC23(B)	IC23	2-10
Y2131	31		15	HVAC CONTROL PANEL IC23(C)	IC23	2-10
Y2132	32	100	20	VHF RADIO, CLOSED CKT. TV, CTLN CMT	1B620	2-06
Y2133	33		30	O2 & H2 SAMPLING & DRYWELL RAD MON	IC218B	2-06
Y2134	34		20	DRYWELL & TORUS ABS PRESS (NOTE 4)	IN2134	2-10
	35		20	SPARE		
	36		20			
Y2137	37		15	COMPUTER ALTERNATE SOURCE TIMER	IC309	2-10
	38		30	SPARE		
	39		30			
	40					
	41					
	42					

DISTRIBUTION PANEL IY30 BUS-A
(120V, 1Φ)

SCHEME NO.	CKT NO.	BKR RATING FOLES	BKR RATING FRAME AMP.	BKR RATING TRIP AMP.	LOAD DESCRIPTION	LOC.	CABLE CODE
IY301	1	1	100	100	TRIP SYSTEM - "A"	IC16	2-20
IY302	2	1		30	POWER RANGE NEUTRON MONITOR CABINET "A"	IC31	2-06
	3			15	SPARE		
IY304	4	1		15	INBOARD VALVE RELAY VERTICAL BOARD	IC4	2-10
IY305	5	1		15	RADIATION MONITORS CABINET "A"	IC33	2-10

DISTRIBUTION PANEL IY30 BUS-B
(120V, 1Φ)

SCHEME NO	CKT NO	BKR RATING FOLES	BKR RATING FRAME AMP.	BKR RATING TRIP AMP.	LOAD DESCRIPTION	LOC.	CABLE CODE
2Y301	1	1	100	100	TRIP SYSTEM - "B"	IC17	2-20
2Y302	2	1		30	POWER RANGE NEUTRON MONITOR CABINET "B"	IC37	2-06
2Y308	3	1		15	PROCESS RADIATION MONITORS VERT. BOARD	IC10	2-10
2Y304	4	1		15	OUTBOARD VALVE RELAY VERTICAL BOARD	IC4A	2-10
2Y305	5	1		15	RADIATION MONITOR CABINET "B"	IC33	2-10

DIVISION I — IY301 (A) X,U (SEE TABLE) IC15

SCHEME IY301 TYP FOR ALL IY3OX SCHEMES

DIVISION II — IY301 (A) X,U (SEE TABLE) IC17

SCHEME 2Y301 TYP FOR ALL 2Y3OX SCHEMES

IY2314 X,U (12-01) IC316C (S) BY FIELD IC315

SCHEME Y23A

CONTACTS	POSITION ALT. A	NORM	ALT. B
1-4	X		
2-4		X	
1-3			X

POWER SOURCE SELECT SWITCH SI GE TYPE SBM MAINTAINED CONTACTS

SCHEME IC30B

IY301 (B) X,U (SEE TABLE) IC18 — X,Y (2-04) X1,Y1 (2-04) IY318 (A) IY3 (B) IC309A

SCHEME Y23B

SCHEME Y23D (TYP FOR ALL Y23XX EXCEPT Y2318, Y2305)

UNINTERRUPTIBLE AC DISTRIBUTION PANEL IY23
(120/240V AC, 1Ø, 3W)

SCHEME NO.	CKT NO.	BKR RATING FRAME AMP.	BKR RATING TRIP AMP.	LOAD DESCRIPTION	LOC.	CABLE CODE
Y2301	1	1	100	30	EMERGENCY POWER BD. FOR INSTRUMENTATION	IC18	2-06
	2						
Y2303	3			40	CONTROL ROD POSITION INDICATION SYSTEM	IC27	2-01
Y2304	4	1		30	OFF GAS VENT PIPE RADIATION MONITOR FEC & HEATING	IC02	2-06
Y2308	5	1		30	IC05 FEEDER #1	IC08	2-06
Y2305	6	1		40	ELECTRO-HYDRAULIC CONTROL CABINET	IC49	2-08
	7	1		30	SPARE		
Y2306	8	1			IC05 FEEDER #2	IC08	2-06
	9	1			SPARE		
Y2310	10	1		20	COMPUTER PERIPHERAL STATION PA-1	IB615	2-10
Y2311	11	1		15	WAKE UP DEMIN & DEMIN WTR TRANS LEVEL SWITCHES (120V 1Φ)	IC81	2-10
Y2312	12	1		15	P.A. SYSTEM	IN2312	2-08
	13	1		15	SPARE		
Y2314	14	1		15	COMPUTER PERIPHERAL STATION PA-2	IC316C	2-10
Y2315	15	1		15	COMPUTER PERIPHERAL STATION PC-1	IC316B	
	16	1		15	SPARE		
	17	1		15	SPARE		
Y2318	18	2		40	COMPUTER - SHIELDED ISOLATION TRANS	IY3	2-06
Y2319	19	2		20	OFF GAS VENT PIPE RAD MON VACUUM PUMP SEC. AND HEATING	IC09	2-06
	20	2		20	SPARE		
	21	2					
	22	2					
	23	1		15	SPARE		
	24	1					
	25			20			
	26			20			
	27			30			
	28						
	29	1		30			

REACTOR BLDG. 120V A.C. INST. FUSE PANEL IY21A

SCHEME CABLE NO.		LOAD DESCRIPTION	LOC.	CABLE CODE	WIRE NO.
Y2126	B	FUEL POOL DEMINERALIZER A	IC136	2-10	X1,U
	C	FUEL POOL DEMINERALIZER B	"		X1,U
	D	REACTOR WATER DEMIN. MAINT. VALVE PNL.	IC145		X3,U
	E	WASTE DEMINERALIZER INST. RACK	IC70	2-12	X4,U
	F	CLEANUP PHASE SEP. INST. RACK	IC127		X5,U
	G	REACTOR WATER CLEANUP SYS. INSTR RACK	IC82		X6,U
	H	FLOOR DRAIN FILTER INST. RACK	IC73		X7,U
	J	CONDENSATE PHASE SEP. INST. RACK	IC79		X8,U
	K	GLYCOL COOLER PANEL	IC172	Y	X9,U
	L	WASTE COLLECTOR & FLOOR DRAIN FILTER PANEL	IC96	2-10	X10,U
	M	OFF-GAS SYSTEM INST. RACK	IC177	2-12	X11,U
	N	OFF-GAS SYSTEM INST. RACK	IC178	2-10	X12,U
		SPARE			
Y2126	G	REACTOR BLDG FLOOR DRAIN PANEL	IC147	2-12	X19,U
Y2126	R	RADWASTE EVAPORATOR CONTROL PANEL	IC173	2-06	X15,U
		SPARE			

SCHEME Y23C

SCHEME Y23B

NOTES

1. FOR INST. AC DISTR. PANEL MAIN BKR'S & TIE BKR'S INTERLOCKS.
   KA KEY CAN BE REMOVED ONLY WHEN BREAKER IS OPEN
   MA PERMITS CLOSING 52-211 BY EITHER KA KEY. KEY CAN BE REMOVED ONLY WHEN BREAKER IS OPEN.
2. TRANSFORMERS FIELD PURCHASED PER DWG. E-506, LIGHTING NOTES & DETAILS.
3. TRANSFORMER IY3 SECONDARY CENTRAL TAP GROUND AT IC309A TERM 2
4. FOR IN2134 SEE E-506 ITEM 17

FOR INFORMATION ONLY

FOR DCR 1044 USE ONLY

REV	PREPARED BY	VERIFIED BY
0	DG 10-5-81	
1		

TERA APERTURE CARD 8201110667

REACTOR PROTECTION AC DISTRIBUTION SYSTEM
(SCHEME Y3C)

REACTOR PROTECTION SYSTEM MG SET A (M-G) — MOTOR: 50HP, 1150V, 3Ø, 60HZ; GENERATOR: 10KVA, 120/240V, 1Ø, 60HZ — FOR WIRE NO'S, WIRING SEE GE DWG. 530D181HHH3 & FP 7884-A(EL)-071-67

REACTOR PROTECTION SYSTEM MG SET B (M-G) — MOTOR: 50HP, 1150V, 3Ø, 60HZ; GENERATOR: 10KVA, 120/240V, 1Ø, 60HZ — FOR WIRE NO'S, WIRING SEE GE DWG. 530D181HHH3 & FP 7884-A(EL)-071-67

SCHEME Y1 (U SYST. 17)

SCHEME Y30 S.U. SYST 5B

SCHEME Y2310

RPS DISTRIBUTION PANEL - IY30 (SEE PANEL SCHEDULE THIS SHEET E FOR INTERNAL WIRING SEE GE DWG 1150 6002R5 (FP 7884-071-2))

BUS-A — CKT-1 CKT-2 CKT-3 CKT-4 CKT-5

BUS-B — CKT-1 CKT-2 CKT-3 CKT-4 CKT-5

FUSE PANEL IY21A (SCHEME Y21G) (SUPPLIED BY FIELD) SEE E-506 ITEM 81

IY21A (B) FOR WIRE NO'S & CABLE CODE SEE TABLE IC136

SCHEME Y2126B (TYP FOR ALL CABLES IN PNL IY21A)

POOR ORIGINAL

REV	DATE	REVISION	CHK	E	S	M
2	8/6/82	REV PER DCR 982				
1	4/8/82	ADDED IC04 (2-06) (IY-A-30) & (IC04 40A2) P.3				
0	10-1-81	ISSUED FOR CONSTRUCTION				

BECHTEL — SAN FRANCISCO

DUANE ARNOLD ENERGY CENTER - UNIT NO 1
IOWA ELECTRIC LIGHT AND POWER COMPANY
CEDAR RAPIDS, IOWA

INSTRUMENT AC & UNINTERRUPTIBLE AC & RPS AC DISTRIBUTION SYSTEM

DRAWING NO. 7884-E 30 13

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