ONE LINE DIAGRAM

- ELECTRICAL CONNECTION OR WIRING TERMINATION
- GAP RATING — SURGE LIGHTNING CAP
- LIGHTNING ARRESTER VALVE OR FILM ELEMENT
- MULTICELL BATTERY
- CAPACITOR
- VARIABLE CAPACITOR
- CAPACITOR BUSHING FOR CIRCUIT BREAKER OR TRANSFORMER
- CIRCUIT BREAKER ACTUATED DEVICE * INDICATES DEVICE NO.
- FRAM SIZE / TRIP SETTING / LSI — CIRCUIT BREAKER DRAWOUT TYPE 600VOLT
  L = LONG TIME
  S = SHORT TIME
  I = INSTANTANEOUS
- AMP RATING / VOLTAGE RATING — CIRCUIT BREAKER DRAWOUT TYPE ABOVE 600 VOLTS * INDICATES DEVICE
- FRAME SIZE / TRIP SETTING — CIRCUIT BREAKER WITH MAGNETIC OVERLOADS
- FRAME SIZE / TRIP SETTING — CIRCUIT BREAKER WITH THERMAL AND MAGNETIC OVERLOADS
- HEATER SIZE — HEATER
- WELDING RECEPTACLE
- INDICATING OR PILOT LIGHT * INDICATES COLOR BY LETTER
- QUANTITY — METER * INDICATES TYPE
- MOTOR * INDICATES MOTOR HORSEPOWER
- EXCITER FIELD — SYNCHRONOUS MOTOR * INDICATES MOTOR HORSEPOWER
- THERMAL OVERLOAD — CT_RATNG / QUANTITY / PT VOLTGE_RATING / KVA_RATING / EQUIP_NO.
- POLARITY MARK
- CABLE TERMINATOR ABOVE 600 VOLTS
- RECTIFIER
- QUANTITY — RELAY * INDICATES TYPE
- QUANTITY — DUAL FUNCTION RELAY * INDICATES TYPE 1 ** INDICATES TYPE 2

ONE LINE DIAGRAM

- RESISTOR
- QUANTITY — METER SWITCH * INDICATES SWITCH TYPE
- CT RATING / QUANTITY — CURRENT TRANSFORMER
- CT RATING / QUANTITY — GROUNDING ZERO SEQUENCE CURRENT TRANSFORMER
- SWITCH RATING — FUSED CUT-OUT
- SWITCH RATING — FUSED DISCONNECT SWITCH
- SWITCH RATING — DISCONNECT SWITCH
- SIZE — MAGNETIC CONTACTOR
- VACUUM CONTACTOR
- SIZE — MAGNETIC STARTER
- MECHANICAL DISCONNECT
- MAGNETIC BLOWOUT COIL
- ONE TIME FUSE
- CURRENT LIMITING FUSE * INDICATES RATING
- XDCR — TRANSDUCER
- GENERATOR, SINGLE PHASE
- GENERATOR, 3 PHASE DELTA
- GENERATOR, 3 PHASE WYE UNGROUNDED
- CT RATING / QUANTITY — MULTI-RATIO CURRENT TRANSFORMER BUSHING TYPE
- CPT / VOLTAGE RATING / QUANTITY — POTENTIAL TRANSFORMER
- CPT / VOLTAGE RATING — POTENTIAL TRANSFORMER
- KVA RATING / VOLTAGE RATING * — POWER TRANSFORMER * WINDING CONFIGURATION DESIGNATION
- KVA RATING / VOLTAGE RATING * — DISTRIBUTION TRANSFORMER * WINDING CONFIGURATION DESIGNATION

ONE LINE DIAGRAM

- TRANSFORMER DELTA WINDING CONFIGURATION
- TRANSFORMER WYE WINDING CONFIGURATION
- AMPERE RATING / TIME RATING — TRANSFORMER WYE WINDING CONFIGURATION RESISTANCE GROUND
- AC/DC CONVERTER
- DC/AC CONVERTER
- AC/DC REGENERATIVE DRIVE CONTROLS

ONE LINE DIAGRAM

DEVICE NO.	FUNCTION DESCRIPTION Note 1
1	MASTER ELEMENT
2	TIME-DELAY STARTING OR CLOSING RELAY
3	CHECKING OR INTELOCKING RELAY
4	MASTER CONTACTOR
5	STOPPING DEVICE
6	STARTING CIRCUIT BREAKER
7	ANODE CIRCUIT BREAKER
8	CONTROL POWER DISCONNECTING DEVICE
9	REVERSING DEVICE
10	UNIT SEQUENCE SWITCH
11	MALFUNCTION DEVICE
12	OVERSPEED DEVICE
13	SYNCHRONOUS-SPEED DEVICE
14	UNDERSPEED DEVICE
15	SPEED OR FREQUENCY-MATCHING DEVICE
16	RESERVED FOR FUTURE APPLICATION
17	SHUNTING OR DISCHARGE SWITCH
18	ACCELERATING OR DECELERATING DEVICE
19	STARTING-TO-RUNNING TRANSITON CONTACTOR
20	ELECTRICALLY OPERATED VALVE
21	DISTANCE RELAY
22	EQULIZER CIRCUIT BREAKER
23	TEMPERATURE CONTROL DEVICE
24	VOLTS PER HERTZ RELAY
25	SYNCHRONIZING OR SYNCHRONISM-CHECK DEVICE
26	APPARATUS THERMAL DEVICE
27	UNDERVOLTAGE RELAY
28	FLAME DETECTOR
29	ISOLATING CONTACTOR
30	ANNUNCIATOR RELAY
31	SEPARATE EXCITATION DEVICE
32	DIRECTIONAL POWER RELAY
33	POSITION SWITCH
34	MASTER SEQUENCE DEVICE
35	BRUSH-OPERATING OR SLIP-RING SHORT-CIRCUIT DEVICE
36	POLARITY OF POLARIZING VOLTAGE DEVICE
37	UNDERCURRENT OR UNDERPOWER RELAY
38	BEARING PROTECTIVE DEVICE
39	MECHANICAL CONDITION MONITOR
40	FIELD RELAY
41	FIELD CIRCUIT BREAKER
42	RUNNING CIRCUIT BREAKER
43	MANUAL TRANSFER OR SELECTOR DEVICE
44	UNIT SEQUENCE STARTING RELAY
45	ATMOSPHERIC CONDITION MONITOR
46	REVERSE-PHASE OR PHASE-BALANCE CURRENT RELAY
47	PHASE-SEQUENCE OR PHASE-BALANCE VOLTAGE RELAY
48	INCOMPLETE SEQUENCE RELAY
49	MACHINE OR TRANSFORMER THERMAL RELAY
50	INSTANTANEOUS OVERCURRENT RELAY
51	AC TIME OVERCURRENT RELAY
52	AC CIRCUIT BREAKER
53	EXCITER OR DC GENERATOR RELAY
54	TURNING GEAR ENGAGING DEVICE
55	POWER FACTOR RELAY
56	FIELD APPLICATION RELAY
57	SHORT-CIRCUITING OR GROUNDING DEVICE
58	RECTIFICATION FAILURE RELAY
59	OVERVOLTAGE RELAY
60	VOLTAGE OR CURRENT BALANCE RELAY
61	DENSITY SWITCH OR SENSOR
62	TIME-DELAY STOPPING OR OPENING RELAY
63	PRESSURE SWITCH
64	GROUND DETECTOR RELAY
65	GOVERNOR
66	NOTCHING OR JOGGING DEVICE
67	AC DIRECTIONAL OVERCURRENT RELAY
68	BLOCKING RELAY
69	PERMISSIVE CONTROL DEVICE
70	RHEOSTAT
71	LEVEL SWITCH
72	DC CIRCUIT BREAKER
73	LOAD-RESISTOR CONTACTOR
74	ALARM RELAY
75	POSITION CHANGING MECHANISM
76	DC OVERCURRENT RELAY
77	TELEMETERING DEVICE
78	PHASE-ANGLE MEASURING OR OUT-OF-STEP PROTECTIVE RELAY
79	AC RECLOSING RELAY
80	FLOW SWITCH
81	FREQUENCY RELAY
82	DC LOAD-MEASURING RECLOSING RELAY
83	AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY
84	OPERATING MECHANISM
85	CARRIER OR PILOT-WIRE RECEIVER RELAY
86	LOCKOUT RELAY
87	DIFFERENTIAL PROTECTIVE RELAY
88	AUXILIARY MOTOR OR MOTOR GENERATOR
89	LINE SWITCH
90	REGULATING DEVICE
91	VOLTAGE DIRECTIONAL RELAY
92	VOLTAGE AND POWER DIRECTIONAL RELAY
93	FIELD-CHANGING CONTACTOR
94	TRIPPING OR TRIP FREE RELAY
95 TO 99	USED ONLY FOR SPECIFIC APPLICATIONS AND INDIVIDUAL INSTALLATIONS IF NONE OF THE FUNCTIONS ASSIGNED TO THE NUMBERS FROM 1 TO 94 ARE SUITABLE.

CABLE TAG NUMBER

2300 VOLT MOTOR

POWER

M - XXX - MVS - XXX - XX
- XX — MCC COMPT. NO.
- XXX — MCC NO.
- MVS — MEDIUM VOLTAGE STARTER
- XXX — SUBSTATION NO./AREA NO.
- M — MOTOR POWER CABLE

CONTROL

C - XXX - MVS - XXX - XX X
- X — SEQUENTIAL (1 THRU ____) IF REQUIRED
- XX — MCC COMPT. NO.
- XXX — MCC NO.
- MVS — MEDIUM VOLTAGE STARTER
- XXX — SUBSTATION NO./AREA NO.
- C — CONTROL CABLE

575 VOLT MOTOR

POWER

M - XXX - XXXX - XX
- XX — COMPT. NO.
- XXXX — MCC NO.
- XXX — SUBSTATION NO./AREA NO.
- M — MOTOR POWER CABLE

CONTROL

C - XXX - XXXX - XX X
- X — SEQUENTIAL (1 THRU ____) IF REQUIRED
- XX — COMPT. NO.
- XXXX — MCC NO.
- XXX — SUBSTATION NO./AREA NO.
- C — CONTROL CABLE

NOTES:

1. STANDARD DEVICE FUNCTION NUMBERS FOR SWITCHGEAR APPLICATION ARE LISTED BELOW. FOR DETAILED DESCRIPTION OF EACH DEVICE AND FUNCTION, AND THE PROPER USE OF SUFFIX LETTERS AND NUMBERS, REFER TO ANSI STANDARD C37. 2-1970

No.	DATE	BY	DESCRIPTION	CHKD.

REVISIONS

DWG. No. | TITLE

REFERENCE DRAWINGS

- ☐ PRELIMINARY - NOT FOR CONSTRUCTION
- ☐ APPROVED FOR CONSTRUCTION
- ☐ SUPERSEDES ALL PREVIOUS ISSUES

BY _____ DATE _____

DESIGNED	DRAWN RJA
CHECKED	DATE
DESIGN / DRAFTING	SCALE NTS
PROJECT MANAGER	SPECIFICATION No.
PROJECT TECHNICIAN	

E&I ENGINEERING LTD.
Fredericton, NB

AREA NAME

SYMBOLOGY FOR ONE-LINE DIAGRAMS

JOB No. | CONSULTANT DWG. No.

DWG. No. EI-STD-S-003 REV A