SWITCHYARD SYSTEM RATINGS AND CONSTRUCTION OF COMPONENTS

Breakers	- 345 kV Nominal
	- 3,000 A Continuous
	- 63,000 A Momentary
Insulators	- 1,050 kV BIL
Main Bus	- 3,000 A
Bay Bus	- 2,000 A
Disconnect Switches	- 345 kV Nominal
	- 2,000 A Continuous
	- 70,000 A Momentary

4,160 VOLT SYSTEM RATINGS AND CONSTRUCTION OF COMPONENTS

Bus	- 2,000 A Continuous Ratings
Incoming Breakers	- 2,000 A, 350 MVA Interrupting
Feeder Breakers	- 1,200 A, 350 MVA Interrupting
Station Power Transformer 1-1 3-Winding Connected Delta-Wye-Wye	- 21-4.16-4.16 kV, 22.5/25.2 MVA, 55°/65°C
Start-Up Transformers 1-1, 1-3, 4-Winding Connect Wye-Wye-Wye With a Delta Tertiary	- 345-13.2-4.16-4.16 kV, 22.5/25.2 MVA, 55°/65°
Station Power Transformer 1-3, 4-Winding Connected Wye-Wye-Wye With a Delta Tertiary	- 345-2.4-4.16-4.16 kV, 22.5/25.2 MVA,55°/65°C

2,400 VOLT SYSTEM RATINGS AND CONSTRUCTION OF COMPONENTS

Safeguard Transformer 1-1 2-Winding, Wye Grounded-Delta Automatic Load Tap Changer	-	354-2.52 kV, 3 Ph, 60 Hz, 10.5 OA, 13.125 Future FA, 65°/65°C
Station Power Transformer 1-2 2-Winding, Delta-Delta	-	21-2.4 kV, 3 Ph, 60 Hz, 8/9 MVA OA, 55°/65°C
Start-Up Transformer 1-2 2-Winding, Wye Grounded-Delta Automatic Load Tap Changer	-	345-2.52 kV, 3 Ph, 60 Hz, 10.5 MVA ONAN, 55°C
Bus	-	2,000 A Continuous Rating
Incoming Breakers	-	1,200 A Continuous, 250 MVA Interrupting
Feeder Breakers	-	1,200 A Continuous, 150 MVA Interrupting
Safeguard Bus	-	3,000 A Continuous Rating
Incoming Breakers	-	3,000 A Continuous, 350 MVA Interrupting

480 VOLT SYSTEM RATINGS AND CONSTRUCTION OF COMPONENTS

480 V Load Centers 11, 12, 13, 14, 15, 16	
Transformers	- 750 kVA AA, 3 Ph, 60 Hz, 2,400-480 V
Bus	- 1,000 A Continuous, 50,000 A RMS Symmetrical (Load Centers 11, 12, 13, and 14)
	- 1,200 A Continuous, 25,000 A Asymmetrical (Load Centers 15 and 16)
Load Center Feeder Breakers - Interrupting Current	- 22,000 A RMS Symmetrical (Load Centers 11, 12, 13 and 14) - 18,000 A RMS Symmetrical (Load Centers 15 and 16)
480 V Motor Control Centers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Horizontal Bus	- 600 A Continuous, 25,000 A RMS Symmetrical
Vertical Bus	- 300 A Continuous, 25,000 A RMS Symmetrical
Molded Case Breakers - Interrupting Current	- 14,000 A RMS Symmetrical
480 V Load Center 17	
Transformer	- 2,000 kVA AA, 3 Ph, 60 Hz, 4,160-480/277 V
Bus	- 3,200 A Continuous, 65,000 A RMS Symmetrical
Load Center Feeder Breakers - Interrupting Current	- 50,000 A RMS Symmetrical
480 V Load Centers 19, 20	
Transformer	- 750/1,000 kVA AA/FA, 3 Ph, 60 Hz, 2,400-480 V
Bus	- Equal to Capacity of Largest Breaker

480 VOLT SYSTEM RATINGS AND CONSTRUCTION OF COMPONENTS

Load Center Feeder Breakers - Interrupting Current	- 14,000 A RMS Symmetrical (MCC 21 and 23) 22,000 A RMS Symmetrical (MCC 22 and 24)
480 V Motor Control Centers 21, 22, 23, 24	
Horizontal Bus	- 600 A Continuous, 42,000 A RMS Symmetrical
Vertical Bus	- 300 A Continuous, 42,000 A RMS Symmetrical
Molded Case Breakers - Interrupting Current	- 10,000 A RMS Symmetrical
480 V Motor Control Centers 25, 26	
Horizontal Bus	- 600 A Continuous, 42,000 A RMS Symmetrical
Vertical Bus	- 600 A Continuous, 42,000 A RMS Symmetrical
Molded Case Breakers - Interrupting Current	- 25,000 A RMS Symmetrical
480 V Load Centers 77, 78	
Transformers	- 500 kVA, 3 Ph, 60 Hz, 2,400-480 V
Bus	- Equal to Capacity of Largest Circuit Breaker
Load Center Feeder Breakers - Interrupting Current	- 22,000 A RMS Symmetrical
480 V Motor Control Centers 79, 80, 81, 82, 87	
Horizontal Bus	- 600 A Continuous, 25,000 A RMS Symmetrical (MCC 79, 80, 81, 82)
Vertical Bus	- 300 A Continuous, 25,000 A RMS Symmetrical (MCC 79, 80, 81, 82) - 600 A Continuous, 35,000 A RMS Symmetrical (MCC 87)

480 VOLT SYSTEM RATINGS AND CONSTRUCTION OF COMPONENTS

Molded Case Breakers - Interrupting Current	- 14,000 A RMS Symmetrical (MCC 79, 80, 81, 82) - 35,000 A RMS Symmetrical (MCC 87)
480 V Load Centers 71, 72, 73, 74, 75, 76 (Cooling Towers)	
Transformers	- 1,500 kVA, 3 Ph, 60 Hz, 4,160-480 V
Bus	- 2,000 A Continuous, 42,000 A RMS Symmetrical
Load Center Feeder Breakers - Interrupting Current	- 42,000 A RMS Symmetrical
480 V Load Centers 90, 91, 200	
Transformers	- 750 kVA, 3 Ph, 60 Hz, AA, 2,400-480 V
Bus	- 1,200 A Continuous, 50,000 A RMS Symmetrical (Load Center 200) - 1600 A Continuous (Load Centers 90 and 91)
Load Center Feeder Breakers - Interrupting Current	- 22,000 A RMS Symmetrical Momentary (Load Centers 90 and 91) - 30,00 A RMS Symmetrical Interrupting (Load Centers 90 and 91) - 50,000 A RMS Symmetrical (Load Center 200)
480 V Motor Control Centers 92, 93, 94, 95, 96, 97, 99	
Horizontal Bus	- 600 A Continuous, 42,000 A Symmetrical
Vertical Bus	- 300 A Continuous, 42,000 A Symmetrical
Molded Case Breakers -	- 14,000 A RMS Symmetrical

480 VOLT SYSTEM RATINGS AND CONSTRUCTION OF COMPONENTS

Interrupting Current	- 22,000 A RMS Symmetrical (Motor Control Center 99)

DC AND PREFERRED AC SYSTEMS
RATINGS AND CONSTRUCTION OF COMPONENTS

Main Bus (D-10, D-20)	
Horizontal Bus	Continuous: 600 amps Short Circuit: 22,000 RMS symmetrical amps
Vertical Bus	Continuous: 300 amps Short Circuit: 22,000 RMS symmetrical amps
Main Bus Breakers (D-10, D-20)	Minimum Interrupting Current of 20,000 amps at 125 Vdc
DC Panel Fuses w/Disconnects (D-11-1, D-11-2, D-21-1 D-21-2, D-11A, D-21A)	Minimum Interrupting Current of 20,000 amps at 125 Vdc
AC Panel Breakers (Y-10, Y-20, Y-30, Y-40)	Minimum Interrupting Current of 10,000 RMS symmetrical amps at 120 Vac
Battery Chargers (D-15, D-16, D-17, D-18)	200 A Continuous Output
Inverters (E-6, E-7, E-8, E-9)	6 kVA Continuous Output

DIESEL 1-1 SEQUENCE START

Time(c) (Seconds)	Service	Nameplate hp
10	Miscellaneous 480 V Loads(a)	290 KVA
12	Boric Acid Pump P56B	30
	Charging Pump P55C	75
	Containment Cooler Recirc Fan V4A	75
	Containment Spray Pump P54B	250
16	HP Safety Injection Pump P66B	400
20	Service Water Pump P7B	350
23	LP Safety Injection Pump P67B	400
29(d)	Containment Spray Pump P54C	250
33	Component Cooling Pump P52A	300
50	Component Cooling Pump P52C (If Pumps P52A and P52B fail to start)	
55(b)	Auxiliary Feedwater Pump P8A	450
65	Control Room Air Handling Unit Fan V95	25

(a) Per EA-ELEC-LDTAB-005 Rev. 10, Table E.1 @ Time Zero.

(b) Sequencer set point does not include five-second delay due to Auxiliary Feedwater Initiation Control Logic (Section 7.4).

(c) These times include 10 seconds for diesel start and generator breaker closing.

(d) Sequencer set point does not include nominal fifteen-second delay of pump automatic start following receipt of Containment High Pressure Signal (Section 6.2.2.3).

DIESEL 1-2 SEQUENCE START

Time(c) (Seconds)	Service	Nameplate hp
10	Miscellaneous 480 V Loads(a)	276 KVA
12	Boric Acid Pump P56A	30
	Charging Pump P55A	100
	Containment Cooler Recirc Fan V3A	75
	Containment Spray Pump P54A	250
16	HP Safety Injection Pump P66A	400
20	Service Water Pump P7A	350
23	LP Safety Injection Pump P67A	400
29	Containment Cooler Recirc Fans V1A and V2A	150
	Charging Pump P55B (If Pumps P55A and P55C fail to start)	75
33	Component Cooling Pump P52B	300
36	Service Water Pump P7C	350
55(b)	Auxiliary Feedwater Pump P8C (If Pump P8A fails to provide sufficient flow)	400
65	Control Room Air Handling Unit Fan V96	25

(a) Per EA-ELEC-LDTAB-005 Rev. 10, Table E.2 @ Time Zero.

(b) Sequencer setpoint does not include delays due to Auxiliary Feedwater Initiation Control Logic (Section 7.4).

(c) These times include 10 seconds for diesel start and generator breaker closing.