NOMENCLATURE ON SHORE CONNECTION BOX.
1- CONNECT SHORE POWER CABLE AT SHIP FIRST.
2- DISCONNECT SHORE POWER CABLE AT SHORE OUTLET FIRST.

NAMEPLATE ON TRANSFORMER BEFORE CHANGING TAPS:
1- ENSURE SHORE POWER IS DISCONNECTED.
2- ENSURE SHORE CONNECTION BOX BREAKER IS OPEN.
3- WITHDRAW BREAKER IN MAIN SWBD.

460V-575V 400A DURAPLUG SHORE CONNECTION BOX

AWG NO 3 GND CONDUCTOR

S1 1c 400MCM X3

460V-575V

350KVA STEP DOWN AND ISOLATION TRANSFORMER

460V

S 1c 400 MCM X3

SHORE PWR

POWER AVAILABLE
BREAKER OPEN
BREAKER CLOSED

400A PHASE CHANGE OVER SWITCH

SHORE BREAKER INTERLOCKED WITH GEN'R BREAKERS WITH 5-30 SEC. DELAY FOR TRANSFER PURPOSES

AMPERE METER
PHASE SEQUENCE INDICATOR
VOLT METER
FREQUENCY METER

400A FRAME
3P 400AT

INTERLOCK TO ALLOW A MAXIMUM OF 1 G.S. GEN'R. TO BE PARALLELED WITH SHORE PWR TO LIMIT FAULT CURRENT.

800A FRAME

29 KA ASYM
25 KA SYM

PREFERENTIAL TRIP SYSTEM

CONTACT CIRCUIT FOR MIMIC LIGHTS

TO ALARM PNL

SHIPS SERVICE GENERATOR NO 1

450 KW 460V 3Ø 60~ 562 KVA 0.8 P.F. 707 A

SHIPS SERVICE GENERATOR NO 2

450 KW 460V 3Ø 60~ 562 KVA 0.8 P.F. 707 A

SHIPS SERVICE GENERATOR NO 3

450 KW 460V 3Ø 60~ 562 KVA 0.8 P.F. 707 A

GENERATOR CONTROLS TYPICAL FOR S.S. GENR. NO 1, 2 AND 3

OVER VOLTAGE RELAY 3Ø SENSING
START/STOP
DIESEL BLOCKING
DIESEL RUNNING
DIESEL READY TO START
MANUAL/AUTO

115 3/4 = 813 A
2 X 1c 400 MCM + 830 A @ 50°C
GENERATOR PWR CABLE
G1, G2, G3 - 1c 400 MCM X 6

SWITCHBOARD NO 1 SHIPS SERVICE

AMPERE METER
VOLT METER
KW METER
FREQUENCY METER
POWER FACTOR METER
ELAPSED TIME METER
POWER AVAILABLE
BREAKER OPEN
BREAKER CLOSED
REVERSE POWER

DRAW OUT AIR CIRCUIT BREAKER TYPICAL
3P 800A FRAME

SYNCHRONIZING RELAY
SYNCHRO-SCOPE

GROUND LIGHTS
TEST

EMERGENCY GENR. CONTROLS
AMPERE METER
VOLT METER
KW METER
FREQUENCY METER
G.N.V. SWITCH
HEATER
READY TO START
CLOSED
OPEN
RUNNING
PWR ON EMERGENCY GENERATOR
CLOSED
OPEN
CLOSED
OPEN
EMERGENCY TIE BREAKER

3P 800A FRAME

GENERATOR BREAKER TRIP SETTINGS:

	S.S. GENRS.	EMERGY GENR.
TRIP WITHIN 20-30 SECONDS:	1060 A	330 A
TRIP WITHIN A FINITE TIME:	810 A	250 A

NOTES.
1- PROVIDE INTERLOCK TO ALLOW A MAXIMUM OF 1 S.S. GENR. TO BE PARALLELED WITH THE EMERGENCY GENR.
2- BUS TIE SHALL TRIP.
- WHEN EMERGY GENR. LOAD IS 180 KW - 3 SEC. DELAY
- ON UNDERVOLTAGE
- WHEN EMERGY GENR. HAS STARTED ON PWR FAILURE (BACK UP TRIP)
3- WHEN EMERGENCY GENR. IS FEEDING BACK IT SHALL OPERATE INDEPENDENTLY. TRIP SYSTEM WHEN REQUIRED - SEE SPEC. FOR DETAILS.

R20 3/0 X 2

400A FRAME
3P 300AT
MAIN SWBD BUSTIE

FEED BACK BUS TIE BREAKER

29 KA ASYM
25 KA SYM

400A FRAME
3P 300AT
DEFEATABLE INTERLOCK

TO ALARM PNL

EMERGENCY GENERATOR NO 4

140 KW 460V 3Ø 60~ 175 KVA @ 80% P.F.

115% = 253 A
1c 0000 X 3

SWITCHBOARD NO 2 EMERGENCY

DIESEL BLOCKING
DIESEL RUNNING
DIESEL READY TO START
AMPERE METER
VOLT METER
KW METER
FREQUENCY METER
ELAPSED TIME METER

400A FRAME
3P 400A FRAME

460V 3Ø 3W 60~ EMERGENCY BUS

460V 3Ø 3W 60~ MAIN SWBD BUS

BUS LINE

| | | |