



PHARMA DEVILS

ENGINEERING DEPARTMENT

STANDARD OPERATING PROCEDURE

Department: Engineering	SOP No.:
Title: Operation of 750 KVA DG	Effective Date:
Supersedes: Nil	Review Date:
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1.0 OBJECTIVE

To lay down procedure for the operation of 750 KVA DG.

2.0 SCOPE

This SOP is applicable for Operation of 750 KVA DG.

3.0 RESPONSIBILITY

Engineering Supervisor/technician will operate the 750 KVA DG and maintained the daily log sheet
Executive Engineering will check the daily log sheet
Manager Engineering will verify the daily log sheet

4.0 PROCEDURE

4.1 STARTING OF 750 KVA DG SET

- 4.1.1 Check the oil pressure indicators, temperature indicators, warning lights and pressure gauges are on operational condition.
- 4.1.2 Make sure that the battery connections to the ECP are of correct polarity. Turn the key switch to the 'ON' position the display shows '0000' to '9999' sequentially.
- 4.1.3 Check engine oil level and make sure that is near H level mark.
- 4.1.4 Switch on CT Fan motor MCCB of Sub Utility Panel no 12 Feeder C-3.
- 4.1.5 Switch on CWP1/2 Drive MCCB of Sub Utility Panel no 12 Feeder C1 / C2.
- 4.1.6 Switch on CWP1 or CWP 2 of DG cooling tower from DG Drive Panel no 18 and make sure cooling water minimum pressure (3 kg/cm²).
- 4.1.7 Set throttle in idle position.
- 4.1.8 Switch ON priming pump from Sub Utility Panel no 18 Feeder E-3 for 2to3 minute.
- 4.1.9 Switch OFF priming pump from Sub Utility Panel no18 AFTER 3 minute.
- 4.1.10 Check all parameters on ECP no 14 in DG.
- 4.1.11 Turn the key switch to the START position.
- 4.1.12 Idle the engine 3 to 5 minutes at approximately 1000 RPM before Putting Full load on DG.
- 4.1.13 Set throttle in RUN position at approximately 1500 RPM and check R Y B Indicator, Voltage (440 VAC) & Frequency 50Hz.
- 4.1.14 Ensure HPSEB 3Ph Supply (410-420 VAC) OFF.
- 4.1.15 Select PLC Selector Switch 1S1and3S1 to ' OFF' position.
- 4.1.16 Select Selector Switch 1S2, 2S1, 3S2 & 4S1 in Manual position.
- 4.1.17 Rotate Rotary Switch of incomer (I/C) ACB DG-1 to CLOSE position from LT panel no 03 Feeder 7F1 Ensure ACB ON Indicator glow red.
- 4.1.18 Rotate Rotary Switch of Bus Coupler ACB to CLOSE position from LT panel no 3 Feeder 8F1 & Bus Coupler ACB ON Indicator glow red in LT panel no 03 Feeder 8F1.
- 4.1.19 Switch ON Chiller Feeder MCCB from LT panel no 03 Feeder 11F1.
- 4.1.20 Switch ON Utility Panel MCCB from LT panel no 03 Feeder12F3.
- 4.1.21 Switch ON External lighting Panel MCCB from LT panel no 03 Feeder 11F3.
- 4.1.22 Ensure 3Ph Supply (410-420 VAC) available and R, Y, B, ACB ON Indicator glow of PDP no 04 Feeder A-1.



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- 4.1.23 Switch ON Production Equipment Panel MCCB from PDP no 04 Feeder B-1.
- 4.1.24 Switch ON AHU Classified MCCB from PDP no 04 Feeder B-3.
- 4.1.25 Switch ON AHU Non Classified MCCB from PDP no 04 Feeder C-2.
- 4.1.26 Switch ON General Power Panel MCCB from PDP no 04 Feeder B-2.
- 4.1.27 Switch ON Internal Lighting Panel MCCB from PDP no 04 Feeder C-3.

4.2 STOPPING OF 750KVA DG SET

- 4.2.1 Ensure HPSEB 3Ph Supply (410-420VAC) available & RYB Indicator glow of Feeder 16F-1 in LT Panel no 03
- 4.2.2 Rotate Rotary Switch of Bus Coupler ACB to TRIP position
- 4.2.3 Switch OFF Chiller Feeder MCCB from Main LT Panel no 03 Feeder 11F1
- 4.2.4 Switch OFF Utility Feeder MCCB from Main LT Panel Feeder 13F4
- 4.2.5 Switch OFF External lighting Panel Feeder MCCB from Main LT Panel Feeder 11F3
- 4.2.6 Rotate Rotary Switch of DG ACB to TRIP position
- 4.2.7 Changeover the Supply on HPSEB Ref. SOP.
- 4.2.8 Allow the engine to idle 3 to 5 minutes after a full load operation before shutting it off
- 4.2.9 Turn the ignition key from ON to OFF position

5.0 SAFETY AND PRECAUTIONS

As per Instruction on the manual.

6.0 REVISION HISTORY

Revision No.	Reason for Revision	Superseded from & date
00	New	_____

7.0 REFERENCES

Operation & Maintenance Manual.

8.0 ABBREVIATIONS

SOP:	Standard Operating Procedure
ACB	Air Circuit Breaker
PDP	Power Distribution Panel
CT	Cooling Tower
CWP	Cooling Water Pump
ChWP	Chilled Water Pump
F	Feeder in LT Panel



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A to E Feeder in other Panels
ECP Electronic Control Panel
A/M Auto/Manual
No Number

9.0 ANNEXURE

Annexure I: ACB, Selector Switch MCCB details
Annexure II: Daily Log Sheet of 750 KVA DG
Annexure III: Panel Details



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Annexure I ACB, Selector Switch MCCB details

DETAILS	DESCRIPTION	PANEL NO	FEEDER NO
1S1	PLC ON/OFF Selector switch	03	7F1
1S2	DG -1 ACB A/M Selector Switch	03	7F1
1S3	DG-1 stop A/M Selector Switch	03	7F1
2S1	Bus Coupler ACB A/M Selector Switch	03	8F1
2S1	Bus Coupler ACB A/M Selector Switch	03	8F1
3S1	PLC ON/OFF Selector switch	03	9F1
3S2	DG-2 ACB A/M Selector Switch	03	9F1
3S3	DG-2 stop A/M Selector Switch	03	9F1
4S1	Main ACB Selector switch	03	16F1
4S2	A/M Changeover Selector switch	03	16F1
ACB-1	DG-1 ACB	03	7F2
ACB-2	Bus Coupler ACB	03	8F2
ACB-3	DG-2 ACB	03	9F2
ACB-4	Main ACB (HPSEB)	03	16F2
ACB-5	Power Distribution Panel ACB	03	6F2
ACB-6	MCC Room PDP ACB	04	A-2



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24.00															
1.00															
2.00															
3.00															
4.00															
5.00															
6.00															
7.00															

Running Hrs			KWH				HSD CONSUMPTION /DAY					
Intial	Final	Total	Intial	Final	Total	Opening Blance	Recived	Closing in gBlance	Consumptio n / day	Intial Dip	Final Dip	Balance
REMARKS:										SHIFT	NAME	

EXECUTIVE ENGINEER

MANAGER ENGINEERING



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Annexure III Panel Details

PANEL No.	DESCRIPTION	AREA	LOCATION
01	Vacuum Circuit Breaker Panel	Utility	VCB Room
02	Remote Tap Changer Panel	Utility	Sub Station
03	LT/PCC Panel	Utility	Sub Station
04	Power Distribution Panel	Service Floor	MCC Room
05	Production Equipment Panel	Service Floor	MCC Room
06	AHU Classified Panel	Service Floor	MCC Room
07	AHU Non Classified Panel	Service Floor	MCC Room
08	General Power Panel	Service Floor	MCC Room
09	Internal Lighting Panel	Service Floor	MCC Room
10	External Lighting Panel	Utility	Sub Station
11	Utility / Chiller Panel	Utility	Utility Room
12	Sub Utility Panel	Utility	Utility Room
13	Street Light Panel	Utility	Utility Room
14	Electronic Control Panel	Utility	DG
15	ChWP Drive Panel	Utility	Utility Room
16	CWP for Chiller Drive Panel	Utility	Utility Room
17	CWP for DG Drive Panel	Utility	Sub Station
18	CWP for Process Drive Panel	Utility	Utility