



## Title: Operation of Uninterrupted Power Supply

<b>SOP No.:</b>		<b>Revision No.:</b>	00
<b>Effective Date:</b>		<b>Supersedes No.</b>	Nil
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### 1.0 OBJECTIVE:

To lay down a procedure for Operation of Uninterrupted Power Supply.

### 2.0 SCOPE:

This SOP is applicable for Operation of Uninterrupted Power Supply during power failure.

### 3.0 RESPONSIBILITY:

**Operator/Officer/Executive:** Engineering

### 4.0 ACCOUNTABILITY:

**Head** - Engineering.

### 5.0 ABBREVIATIONS:

DC	Direct Current
ID No.	Identification Number
LED	Light emitting Diode
Ltd.	Limited
No.	Number
QA	Quality Assurance
SOP	Standard Operating Procedure
UPS	Uninterrupted Power Supply

### 6.0 PROCEDURE:

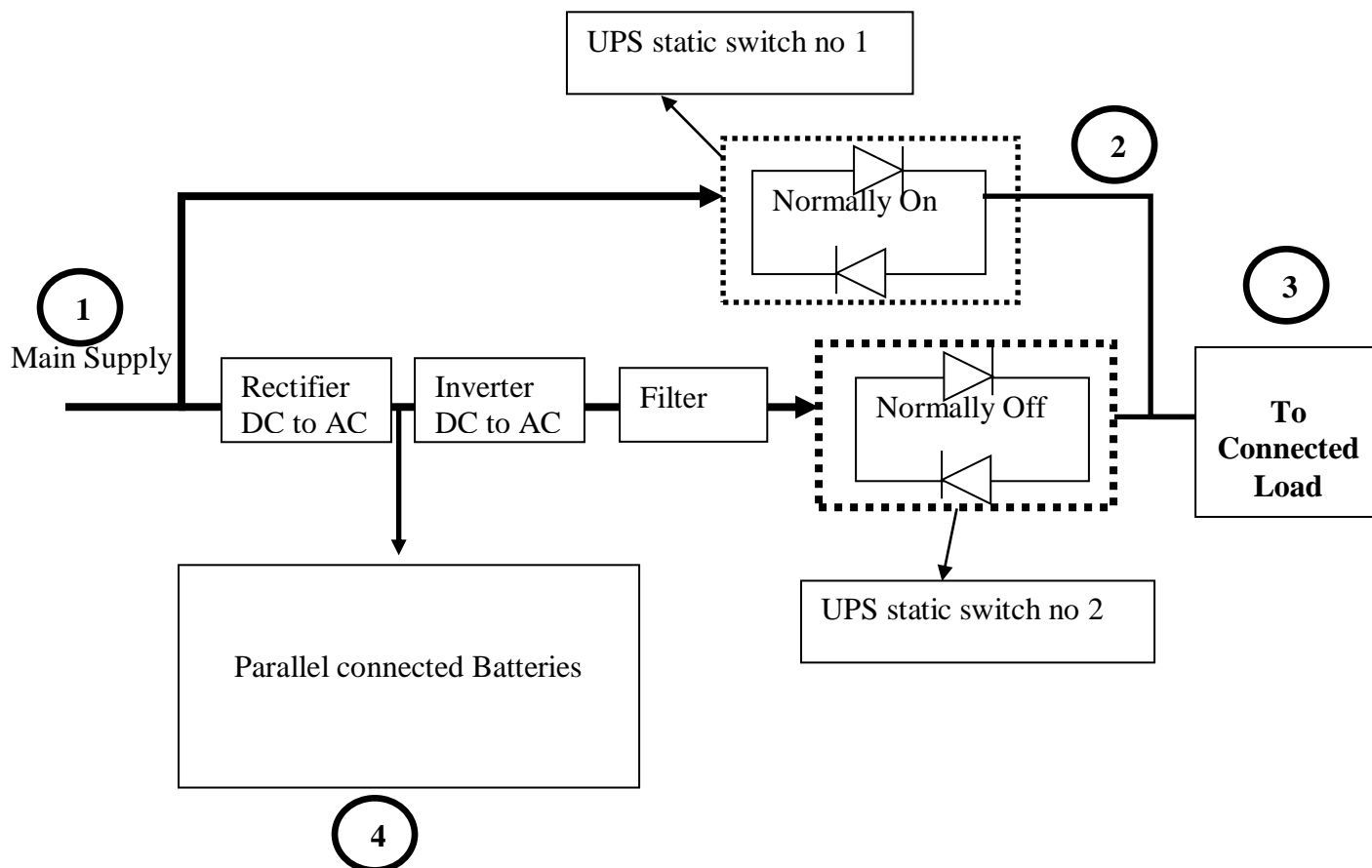
#### 6.1 Operation Procedure of Uninterrupted Power Supply:

**6.1.1** UPS means Uninterrupted Power Supply. It has a rectifier circuit, a battery bank and an inverter circuit. The battery bank is connected in parallel to the circuit joining rectifier and inverter. Normally the battery will be charging, when power fails, dc power from battery is inverted to AC and supplied to the load without interrupted.



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### 6.2 Operation of UPS during Normal Mode :

6.2.1 Main supply from ..... goes to connected load as well as for charging of connected battery.

6.2.2 During normal mode static switch no. 1 remains ON and another static switch no. 2 remains OFF.

### 6.3 Operation of UPS during UPS Mode :

6.3.1 When main supply from ..... goes OFF then UPS mode automatically operated and supply electric power to connected load.

6.3.2 During UPS mode static switch no. 2 remains ON and another static switch no. 1 remains OFF.

6.4 Check and ensure that electrical supply is continuously on either it is from ..... or from UPS.

6.5 Check and ensure that all the batteries are connected properly.

6.6 Check the Physical condition of UPS unit including intactness of unit.

6.7 Check for proper indication of LED light provided.

6.8 Check the load distributed by the UPS on every phase it should be uniform/ equivalent.



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- 6.9** Check the input & output connection of UPS and re-tight if found any loose.
- 6.10** Clean the battery of UPS after every week with the help of air blower.
- 6.11** Details of all UPS's shall be updated in **Annexure – II** and load distribution from UPS shall be updated as per **Annexure – III**.
- 6.12** During installation of new UPS or deletion/modification in existing UPS impacted **Annexure-II & III** shall be revised accordingly.
- 6.13** During change in configuration of load distribution impacted **Annexure – III** shall be revised accordingly.
- 6.14** All the check point (6.4 to 6.10) should be covered during preventive maintenance. Preventive maintenance of UPS shall be carried out as per SOP with a frequency of Quarterly  $\pm$  07 days.
- 6.15** All the connected battery of UPS shall be checked during preventive maintenance, if any battery found faulty then replace the battery and record the same in preventive maintenance checklist.

**7.0 ANNEXURES:**

<b>ANNEXURE No.</b>	<b>TITLE OF ANNEXURE</b>	<b>FORMAT No.</b>
Annexure-I	Process Flow Diagram of UPS	
Annexure-II	Detail of UPS	
Annexure-III	Load Distribution from UPS	

**ENCLOSURE:** SOP Training Record

**8.0 DISTRIBUTION:**

- Controlled Copy No. 01                      Quality Assurance
- Controlled Copy No. 02                      Engineering
- Master Copy                                      Quality Assurance

**9.0 REFERENCES:**

Operation Manual

**10.0 REVISION HISTORY:**

**CHANGE HISTORY LOG**

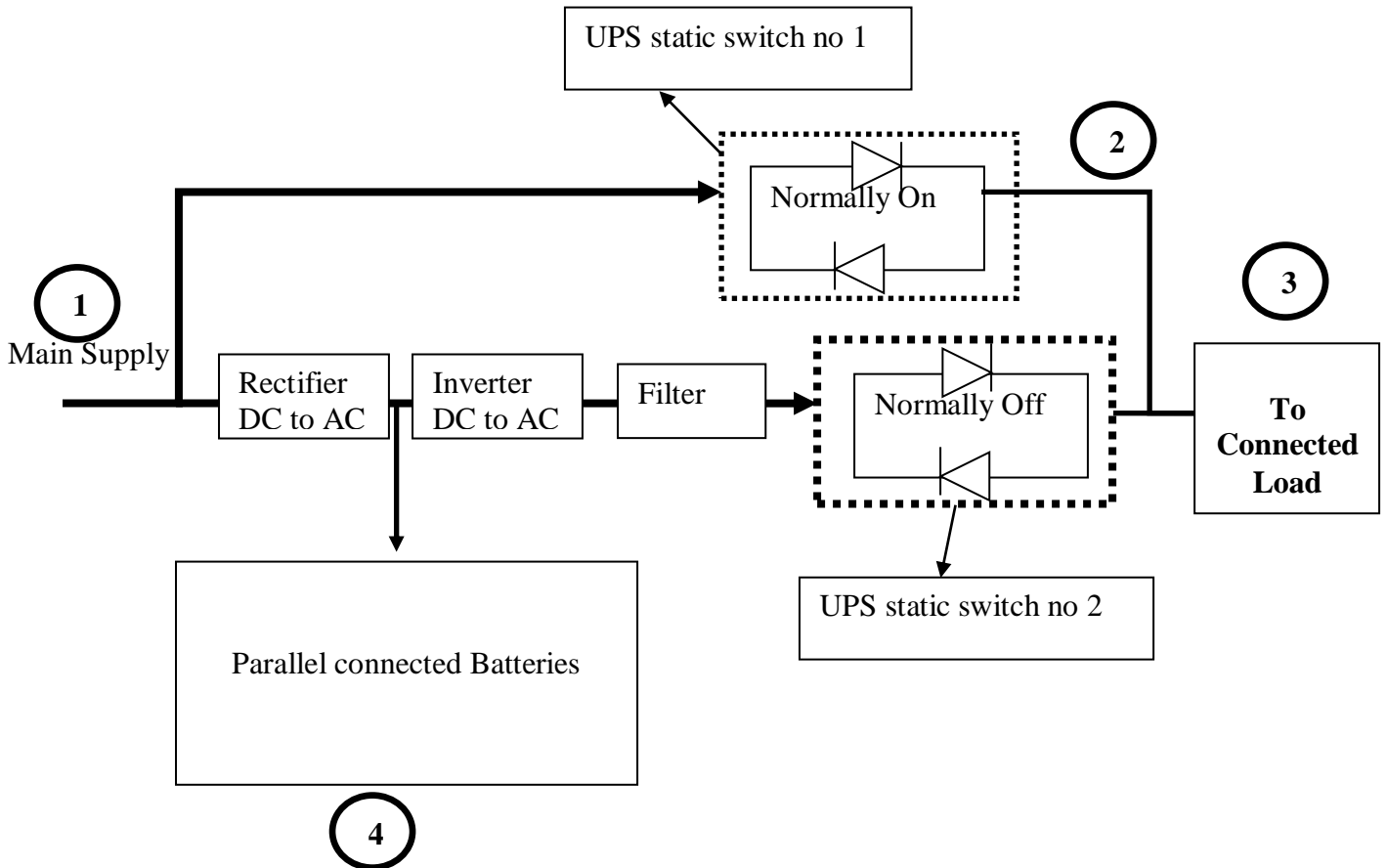
<b>Revision No.</b>	<b>Change Control No.</b>	<b>Details of Changes</b>	<b>Reason for Change</b>	<b>Effective Date</b>	<b>Updated By</b>



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**ANNEXURE – I  
PROCESS FLOW DIAGRAM OF UPS**





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## ANNEXURE – II DETAIL OF UPS

**Block:**

**Date:**

S.No	Description	Observation
1.	Equipment ID	
2.	Make	
3.	Model	
4.	Capacity	
5.	Installation Location	
6.	Output Voltage	
7.	Total no of batteries connected	
8.	AH of battery	
9.	Voltage of battery	
10.	Total load connected from UPS	

**Prepared By:**  
**Sign & Date**

**Review By:**  
**Sign & Date**



# PHARMA DEVILS

ENGINEERING DEPARTMENT

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## ANNEXURE – III LOAD DISTRIBUTION FROM UPS

**Block:**

**Date:**

**UPS ID:**

**UPS Capacity:**

S.No	Connected Equipment			Load on Phase			Remarks
	Name	ID	Location	R	Y	B	

**Total Load Capacity of UPS:**

**Total load Connected:** R Phase -  
Y Phase -  
B Phase -

**Prepared By:**  
**Sign & Date**

**Review By:**  
**Sign & Date**