	VEDANTA LIMITED – VALUE ADDED BUSINESS	Document No:	VL/IMS/PID1/INST/WI/19
	INTEGRATED MANAGEMENT SYSTEM	Revision Date:	05/01/2022
	Work Instructions procedure for checking & backup of UPS System BF1,BF2 ,HBS1,HBS2, LAB & Bf2 Bag House	Revision No:	02
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Procedure for checking & backup of UPS System BF1, BF2, HBS1, HBS2 & LAB

Objective: checking and backup of UPS System in BF1,BF2 ,HBS1,HBS2 & LAB.

Scope: Applicable for UPS System in BF1,BF2 ,HBS1,HBS2 & LAB.

Reference: **RISK/INST/07 & HIRA /INST/07**

Performance Criteria : Healthiness of redundant ups system and online

Aspect for the Activity : NA

Identification of Hazards:

Physical: Electrical Shock.

Mechanical: Trip & Fall

Chemical: Dust

Ergonomics: Insufficient work practices

Hazard due to Human Behavior/Human error: Not adhering to WI/ PPE, Alcoholism , Use on non-certified tools/equipment.

Responsibility : Sr. Engineer Instrumentation/Associate / Inst Technician


Procedure:

All engineers and technicians shall follow this procedure whilst checking and changeover of APLAB make UPS System in BF1 & BF2

PROCEDURE FOR BF1 & BF2 APLAB UPS :

For checking and changeover of APLAB make UPS System in BF1 & BF2

- 1) In BF1 and BF2 for PLC system APLAB make 3KVA Hot Redundant UPS system is in place.
- 2) Each UPS has 15 nos of battery bank, each battery rated 12V, 26AH.
- 3) The O/P to PLC is going from UPS 1 and UPS 2 is always in standby mode.
- 4) The O/P of UPS 2 is connected in auxiliary bypass of UPS 1. In case UPS 1 fails to give O/P then O/P will go from UPS 2 through auxiliary terminal of UPS 1.
- 5) The incoming supply of UPS 2 is looped in auxiliary bypass of UPS 2. In case UPS 1 and UPS 2 both fail then auxiliary bypass supply of UPS 2 will feed power to PLC system through auxiliary bypass terminal of UPS 1.

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Change over and back up procedure

- Put off the mains of UPS1 and check the battery backup for minimum of 15 min.
- Put off the inverter of UPS 1, the load should changeover to UPS2
- Put off the mains of UPS 2 and check for battery backup for minimum of 15 min.
- Put on the mains of the UPS 2 and UPS 1 and inverter of UPS 1.
- For transferring the load back to UPS 1 need to press load transfer button of UPS 1. After pressing the load will be transferred from UPS 2 to UPS 1. Check the load at display of UPS 1

PROCEDURE FOR HBS1 & HBS2 HITACHI UPS:

For checking and changeover of HITACHI make UPS System in HBS1 & HBS2

- 1) In HBS1 and HBS2 for PLC system HITACHI make 7KVA parallel 2UPS system is in place.
- 2) Each UPS has 26 nos of battery bank, each battery rated 12V, 26AH.
- 3) O/P L1 & O/P L2 are short linked and O/P N1 & O/P N2 are short linked , ALT L1 & ALT L2 are short linked and ALT N1 & ALT N2 are short linked.
- 4) Main bypass supply is connected to UPS 2 ALT L2 & ALT N2 and Bypass supply is given to UPS 1 from UPS 2 ALT L2 & ALT N2
- 5) The O/P to PLC is going from UPS 2.
- 6) The O/P of UPS 1 is connected to UPS 2 O/P L1 & O/P N1
- 7) Incase if UPS2 Inverter fails the Load of UPS1 will get transferred to UPS1 and O/P to PLC will go from UPS2 O/P L2 & O/P N2, The Communication cable connected behind the UPS should be healthy.

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Change over and back up procedure

- Put off the mains of UPS1 and check the battery backup for minimum of 15 min.
- Put off the inverter of UPS 1, the load should changeover to UPS2
- Put off the mains of UPS 2 and check for battery backup for minimum of 15 min.
- Put on the mains of the UPS 2 and UPS 1 and inverter of UPS 1.
- For transferring the load back to UPS 1, One need to select the Parameter on Display and with UP/DOWN arrow go to Control in Control Inverter ON Option is there you need to Press Enter load will be transferred from UPS 2 to UPS 1. Check the load at display of UPS 1

Prepared By: Associate Manager – Electrical & Instrumentation PID1	Reviewed & Issued By: Management Representative	Approved By: Head – Electrical & Instrumentation PID1
Signature:	Signature:	Signature:
Date: 05/01/2022	Date: 05/01/2022	Date: 05/01/2022