UPS PREVENTATIVE MAINTANANCE

## Authorization

## Training/Certification

## Equipment/Information

## Policies

## Related Procedures

# Security Considerations

|  |  |  |
| --- | --- | --- |
| device source informatioin | | |
| Site/Pod: | CM#: | |
| Technician: | Date: | |
| Start time: | End time: | |
| device Information | | |
| Manufacturer: | | Model #: |
| Serial #: | Assed ID: | |

# Prestart checks

1. Verify lock out tags are properly placed and secured.
2. Verify all parts and tools needed to perform work are available and on-site.
3. Verify all involved personnel have been notified of evolution.

# Visual Inspection

1. Inspect all printed circuit board connections for cleanliness, swab contacts if necessary.
2. Inspect all power connections for sign of overheating.
3. Inspect the resistors and CTs.
4. Inspect every low voltage line verifying they are not in contact with sharp edges or 480 volt cables or terminations.
5. Inspect all subassemblies, bridges and legs for signs of component defects or stresses.
6. Inspect all DC capacitors for signs of leakage.
7. Inspect all AC capacitors for signs of leakage.
8. Inspect for and perform as required any open engineering changes.
9. Inspect and inventory all customer owned spare parts.

# Internal Operating Parameters

1. DC Ground Detection Offset (if applicable).
2. Inverter leg current average balance (if applicable).
3. Output filter current average phase balance.
4. Rectifier bridge current average leg balance.
5. AC Protection settings checked.
6. DC Protection settings checked.
7. Input and Output Frequency and Voltage Bandwidth settings are checked.
8. Verify DC filter capacitance.
9. Verify AC tank and trap filter capacitance.
10. Power Supply voltages and waveforms.

# External Operating Parameters

1. System input voltages (all phases).
2. System input currents (all phases).
3. DC Charging Voltages (float and equalize), record settings, adjust to nominal.
4. Rectifier phase on and walk up.
5. Inverter phase on and walk up.
6. Adjust all panel meters to measured values.
7. System Bypass Voltages (all phases).
8. Manual and UV Transfer Testing, verify uninterrupted transfer waveform (if applicable).
9. Outage simulation, and battery capability testing, and verify charger current limit.
10. Generator operation and interface verification (if applicable).

# Environmental Parameters

1. UPS ambient temperature and condition of ventilating equipment.
2. General Cleanliness of UPS Power Module.
3. General Cleanliness of UPS area.
4. Replace all air filters.
5. Clean control panel CRT screen.
6. Flywheel only: Drain and change oil and filters. One (1) oil and filter change per year.

# Battery Cabinet Checks

1. General appearance of Battery System (all types).
2. General cleanliness of Battery System area (all types).
3. Inspect cells for physical abnormalities.
4. Battery System area ambient temperature and condition of ventilating equipment.
5. For internal batteries only, measure and record:
   1. Overall battery float voltage.
   2. Charger output current and voltage.
   3. Negative terminal temperature of one cell/battery per battery cabinet shelf or rack tier.

# Monitoring System Parameters

1. Alarm archive review and printing.
2. Alarm lamp test-local and remote (if applicable).
3. Replace all open monitor bulbs.
4. Review battery Test in history (if applicable).

# Upon Completion of Service

1. Reset all controls to automatic.
2. Review findings and measurements taken during PM.
3. Review recommendations from Service Technician.
4. Check all covers for proper installation.
5. Check area to make sure all tools and debris have been removed from location.
6. Verify load is normal.
7. Following the PM inspection, a written report will be provided detailing the results of the inspection, and making specific recommendations toward future remedial action, upgrades, or suggested spare parts.

Corrective actions recommended or taken: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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## Document Properties

|  |  |
| --- | --- |
| **Property** | **Value** |
| Site Code | DCA |
| Filename | dca\_dceo\_pm\_ups |
| Title | UPS Preventative Maintenance |
| Version number/Date version published | Draft |
| Doc Type | PM |
| Zone | Region |
| Technical Owner | swilleye@ |
| Technical Writer | beelliot@ |
| Affected Equipment | UPS |
| Sensitivity rating | Amazon Confidential |
| Origin | Commercial version |
| URL | TBD |
| Physical location | TBD |
| Audience | EOP |
| Renewal date | 1/1/15 |

## Status

|  |  |  |
| --- | --- | --- |
| **Status** | **Date mm/dd/yy** | **Approver/Reviewer Name** |
| Original filed |  | NA |
| Writer sent to SME for review |  | NA |
| SME sent to Writer |  | NA |
| Writer sent to SME for approval |  | NA |
| SME approved |  |  |
| Writer copy edited |  | NA |
| Site Manager approved |  |  |
| Regional Manager approved |  |  |
| Writer published |  | NA |