

# BATTERY PREVENTIVE MAINTENANCE

Preventive Maintenance



## BENEFITS

### Protect Power System Availability

Arguably the weakest links in the power chain, batteries are historically a leading root cause of data center downtime. A single bad cell in a string can put your entire backup power system at risk.

Whether you use vented lead-acid (VLA), valve-regulated lead-acid (VRLA), nickel-cadmium (NiCad), or lithium-ion (Li-ion), adhering to best practices for maintenance and testing is essential for increasing mean time between failures (MTBF). Often, it is also a requirement for maintaining a valid product warranty.

A proper battery maintenance program that identifies system anomalies and trends end-of-life allows you to repair or replace batteries before they fail.

### Benefits

- Achieve greater availability and reliability of your UPS system
- Have better insight to battery health
- Experience less unplanned downtime
- Improve battery performance
- Extend the useful service life of your batteries



## Maximize service life and eliminate battery-related downtime with regular and comprehensive preventive maintenance

Batteries are one of the least technical components in your UPS, yet one of the most critical. They are electrochemical devices that require regular checks to ensure safe and proper operation.

From the moment they are placed into service, batteries begin to deteriorate due to use and environmental conditions. The best way to ensure high availability is through a comprehensive preventive maintenance program. When this program is executed by a team that performs millions of battery transactions a year, while adhering to all manufacturer and Institute of Electrical and Electronics Engineers (IEEE) standards, you'll maximize service life and minimize downtime.

Our battery preventive maintenance services include:

- Complete visual inspection
- Battery measurement
- Corrective maintenance and replacement
- Comprehensive report

## Complete Visual Inspection

During preventive maintenance visits, Vertiv™ works to minimize battery-related UPS failures by performing a complete visual inspection in which our technicians do the following:

- Look for evidence of corrosion
- Check appearance and cleanliness of battery, rack/cabinet, and battery room
- Remove dirt accumulation on the top of jars
- Inspect for cracks, leaks, or bad cells, and check connection torques
- Re-tighten battery connections per manufacturer's specifications (if needed)

## Battery Measurement

A variety of critical battery parameters are measured and recorded during preventive maintenance visits. These measurements include:

- Total float voltage and charging current
- Overall AC ripple voltage and current
- Ambient temperature
- Temperatures and float voltage of all individual jars
- Connection resistances
- All internal ohmic readings

## Corrective Maintenance & Replacement

Visual inspection can identify the need to have cell connections refurbished. This corrective maintenance will be performed during the regular maintenance visit. Additionally, essential or preferred contract customers may require the replacement of defective lead-acid batteries. When the battery string meets Vertiv's defined conditions, technicians will perform replacement as needed.

## Comprehensive Report

Measurement and test results are compiled into a detailed report. This report notes any deficiencies, as well as corrective action needed, taken and/or planned.

## Summary

Batteries are one of the least technical components in your UPS, making it easy to overlook their importance in providing backup power. As a result, UPS battery failure is the most common cause of unplanned outages.

From the moment they are placed into service, batteries begin to deteriorate due to use and environmental conditions. The best way to ensure high availability is through a comprehensive preventive maintenance program.

As part of a proactive battery management strategy, preventive maintenance optimizes battery performance and reliability to ensure business continuity.

## Ordering Information

To learn more about this service and other Vertiv solutions, visit [VertivCo.com](http://VertivCo.com) or call 1-800-543-2378.