

Leveraging **Battery Energy Storage** for Enhanced Efficiency in a Telecom Application



In the telecom sector, uninterrupted power supply is vital for maintaining reliable communication services. Battery energy storage systems (BESS) offer an innovative solution to address power outages and optimize backup power reliability. This use case explores the application of BESS in the telecom sector, focusing on its usage for enhanced backup power.

Scenario:

Consider a telecom service provider which operates a network of cell towers across a diverse geographic area. The company faces frequent power disruptions due to grid outages, extreme weather conditions, or infrastructure maintenance. These interruptions result in service downtime, customer dissatisfaction, and financial losses.

Challenge

Overcome the challenge of frequent power disruptions and improve their backup power reliability. Traditional backup solutions, such as diesel generators, are costly to maintain, require manual operation, and contribute to carbon emissions. A telecom company is in search of an efficient and sustainable alternative to enhance their backup power infrastructure.

Solution:

Implement battery energy storage systems across their cell tower sites. The BESS solution provides several advantages:

Uninterrupted Backup Power:

BESS can act as a reliable backup power source during grid outages. The stored energy in the batteries is readily available to power critical telecom equipment, ensuring uninterrupted communication services for customers.

Automated Operation:

BESS systems can be integrated with intelligent control systems that monitor power availability and switch seamlessly between the grid, battery power, and renewable energy sources. Automated operation reduces the need for manual intervention and improves system efficiency.

Fast Response Time:

BESS offers quick response times compared to traditional backup solutions. When a power outage occurs, the battery system activates within milliseconds, minimizing service disruption and preventing call drops or data loss.

Cost Savings:

Relying on battery storage for backup power reduces or eliminates the need for diesel generators. This leads to significant cost savings in fuel procurement, generator maintenance, and associated logistical expenses.

Scalability:

The BESS solution can be easily scaled to match the power requirements of different cell tower sites. A telecom company can deploy battery systems with varying capacities, ensuring optimal backup power for each location based on load demand.

Environmental Benefits:

BESS contributes to a greener telecom infrastructure by reducing carbon emissions associated with traditional backup power solutions.

Implementation & Results:

The BESS solution is seamlessly integrated into the existing power infrastructure, ensuring compatibility and efficient operation. Advanced monitoring systems are implemented to provide real-time data on battery performance, energy consumption, and system health.

The following positive outcomes are experienced as a result of the BESS implementation:

Improved Backup Power Reliability:

The battery systems provide uninterrupted power during grid outages, minimizing service disruptions and customer complaints, while achieving higher service availability and customer satisfaction.

Operational Efficiency:

The automated operation of BESS reduces the need for manual intervention and streamlines backup power management. The telecom personnel can focus on other critical tasks instead of constantly monitoring backup systems.

Cost Reduction:

Replacing or minimizing the use of diesel generators will achieve substantial cost savings in fuel expenses, generator maintenance, and logistical support. The total cost of ownership is significantly reduced over the long term.

Environmental Impact:

The use of battery energy storage systems aligns with sustainability goals. The reduction in carbon emissions contributes to a greener telecom infrastructure and improves the company's environmental footprint.

The implementation of battery energy storage systems in the telecom industry, specifically for enhanced backup power, offers a reliable, scalable, and environmentally friendly solution. By leveraging the benefits of BESS, telecom service providers can ensure uninterrupted communication services, achieve cost savings, and reduce the carbon footprint. This use case serves as an example for other companies in the telecom industry to explore the potential of battery energy storage for improved backup power reliability.

To get started on your BESS journey in the Telecom sector, connect with one of our experts:

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