

EIGHTH SESSION OF THE INTERNATIONAL SOLAR ALLIANCE ASSEMBLY

27 - 30 OCTOBER 2025 | BHARAT MANDAPAM | NEW DELHI



SITE VISIT: INDIA'S FIRST COMMERCIALLY APPROVED & SOUTH ASIA'S LARGEST UTILITY-SCALE STANDALONE BATTERY ENERGY STORAGE SYSTEM

30 October 2025 | 09:00 - 15:00 hours

Project Details

- BSES Rajdhani Power Limited (BRPL), Battery Energy Storage System (BESS) to serve as a template for similar initiatives across the country, ushering in a new era of smart, distributed energy storage
- BRPL's BESS Kilokri is India's 1st Commercially Approved & South Asia's Largest Utility-Scale Standalone BESS
- BRPL's Kilokri BESS is a landmark in Urban Energy Storage
- 20 MW (40 MWh) BESS installed at BRPL's 33/11 kV Kilokri substation in South Delhi
- BESS project at Kilokri capable of providing upto four hours of power every day
- To improve power supply for over 1,00,000 residents
- Project implemented in collaboration with Kilokari BESS Pvt. Ltd. (Consortium of Indogrid Pvt. Ltd & Amperehour Pvt. Ltd.) and Global Energy Alliance for People & Planet (GEAPP)

Multiple benefits such as improve power supply, enhance grid stability, optimize power purchase costs, peak shaving and reduce overloading of network and renewable power integration

Reinforcing its commitment to pioneering innovative energy solutions, BSES Rajdhani Power Limited (BRPL) marked a historic milestone on May 29, 2025 with the inauguration of India's first commercially approved and South Asia's largest utility-scale standalone Battery Energy Storage System (BESS). Strategically located at the 33/11 kV

Kilokri substation, the BESS is poised to deliver up to four hours of reliable daily power—two hours each during the day and night—directly benefiting over 1,00,000 residents in the densely populated Kilokri area in South Delhi. This initiative significantly enhances grid reliability, especially during peak demand periods, setting a new standard for urban energy management.

Rapid Execution and Advanced Technology

- Completed within an exceptional 10–12 month period, the Kilokri BESS leverages advanced Lithium Iron Phosphate (LFP) technology, renowned globally for its superior safety, thermal stability, and durability. The system's temperature-controlled containers ensure optimal operations under Delhi's diverse weather conditions, making it ideally suited for dense urban locations.
- The Kilokri BESS holds the distinction of being India's first commercial standalone battery storage project at the distribution level to receive regulatory approval for a capacity tariff from the Delhi Electricity Regulatory Commission (DERC). This groundbreaking approval not only represents significant regulatory innovation but also provides a scalable and replicable template for other State Electricity Regulatory Commissions (SERCs) and utilities nationwide.
- The BSES' BESS at Kilokri not only transforms power reliability for over One lakh residents, but also provides a scalable blueprint and regulatory template for discoms and regulators across India. This project underscores the immense potential for urban energy storage solutions beyond BSES and Delhi, setting a new national benchmark.
- With the commissioning of the Kilokri BESS, BSES continues to lead the way in innovation, sustainability, and customer-centric energy solutions, affirming its role as a frontrunner in India's evolving energy landscape

Impactful Collaboration and Global Standards

Implemented through a robust collaborative effort, the project combines BRPL's operational expertise with IndiGrid's infrastructure capabilities, GEAPP's sustainable energy vision, amperehour's technical expertise, and TERI's research insights. Together, these partners have ensured rapid deployment, innovative financing, and adherence to global sustainability standards.

Multi-faceted Benefits for a Sustainable Future

- The BRPL's Kilokri BESS is a game-changer in urban energy management, delivering comprehensive benefits:
- The Kilokri BESS project delivers multifaceted value through (i) effective peak load management, relieving network stress and deferring costly infrastructure upgrades; (ii) being India's first utility-scale project eligible to participate in Secondary Reserve Ancillary Services (SRAS), with Grid India as a stakeholder; (iii) cost-effective power procurement by storing surplus or low-cost off-peak power for peak use; (iv) facilitating renewable energy integration by managing intermittent solar and wind generation to support grid stability; (v) enabling energy arbitrage via participation in Day-Ahead and Real-Time Markets; (vi) rapid deployment within 12 months and high replicability in congested urban settings; (vii) establishment of an affordable tariff structure, with a levelized tariff—55% lower than earlier benchmarks; (viii) creation of a regulatory model for capacity tariff approval, offering a template for future BESS initiatives; and (ix) implementation of a comprehensive Monitoring, Evaluation, and Learning (MEL) framework to facilitate knowledge sharing among discoms, regulators, and stakeholders.

To register for the visit. Please write to:

Mr P.C. Sharma

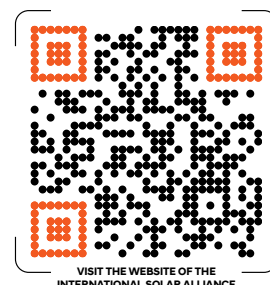
Distributed Solar Specialist, ISA

pcsharma@isa.int

Mr Sudhanshu Mishra

Distribution and Solar Mini-Grid Specialist, ISA

sudhanshumishra@isa.int



@isolaralliance



internationalsolaralliance



internationalsolaralliance



internationalsolaralliance