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Press Release

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இலங்கை மின்சார சபை
CEYLON ELECTRICITY BOARD

අංකය / எண் / No. CEB/2025/MR/002

දිනය / திகதி / Date February 18, 2025

Chief Editor/News Editor
Director (News) / News Manager
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Dear Sir/Madam,

Ceylon Electricity Board Implements Immediate and Long-Term Measures to Strengthen Grid Stability following the Nationwide Power Failure on February 9, 2025

Colombo, Sri Lanka – February 18, 2025 – The Ceylon Electricity Board (CEB) acknowledges the nationwide power failure that occurred on February 9, 2025, at 11:13 AM and assures the public that immediate and long-term corrective actions are underway to prevent future occurrences.

Cause of the Power Failure

A system-wide failure was triggered by a disturbance at the 33kV Panadura Grid Substation, leading to a sudden voltage drop across the network. At the time of the incident, over 50% of national electricity demand was met by 800 MW of solar photovoltaic (PV) generation, with additional supply from Lakvijaya Power Plant at Norochcholai (470 MW) and hydropower plants (130 MW).

Due to the high penetration of non-synchronous solar PV generation, the grid had a low system inertia, making it vulnerable to faults. The disturbance resulted in an imbalance between generation and demand, leading to cascading disconnections and a total power failure.

Key Factors Contributing to the Outage:

- The High Solar PV Penetration & Low Inertia: A lack of synchronous generation made the grid more vulnerable to voltage and frequency disturbances.
- Solar PV Disconnection: A sharp voltage drop caused multiple solar PV systems to disconnect, worsening the imbalance and further destabilizing the grid.
- The Norochcholai Power Plant Tripping: This was an automatic protective response by this plant to the system instability, not due to an internal plant failure. The measure prevented catastrophic damage to the power plant and prolonged outages.

Additionally, the outage was influenced by the "Sunny Sunday" effect—a condition where low weekend demand combined with high generation from solar PV creates grid instability. With most industrial and commercial customers offline, the grid was operating with reduced demand and reduced inertia, making it more susceptible to sudden disturbances.

Immediate Corrective Actions

CEB has implemented urgent measures to stabilize the national grid and prevent similar failures, including:

- Maintaining more synchronous generators at minimum generation and operating selected gas turbines in synchronous condenser mode at key locations to enhance grid stability and voltage support.
- Curtailing ground-mounted solar PV generation (only when necessary) during low-demand periods to mitigate instability risks.

Medium-Term Strategies

To further strengthen grid reliability, CEB was in the process of implementing the following measures, which will be accelerated:

- Adjusting rooftop solar PV inverter settings to prevent unnecessary disconnections during minor disturbances/faults, ensuring grid resilience.
- Introducing special industrial tariffs for weekends and holidays to encourage industries to shift operations to low-demand periods, thereby assisting grid stability.
- Promoting solar installations with appropriate BESS capacities over solar PV installations without BESS and to introduce a tariff for the Solar PV customers with Battery Energy Storage Systems (BESS) and the relevant hardware

Long-Term Grid Stability Solutions

CEB is committed to long-term investments to modernize the national power grid to integrate more renewable energy while maintaining stability. These include:

- Deploying grid-forming inverters with BESS to provide synthetic inertia and frequency stabilization.
- Installing emergency backup generators at Norochcholai Power Plant to ensure rapid reconnection and continued operation of critical systems in case of future disconnections.
- Accelerating the Maha Oya Pumped Hydro Project (Water Battery) – a 600 MW storage facility that will enhance grid flexibility and energy security.
- Advancing Smart Grid investments to improve real-time monitoring and control of renewable energy integration.

CEB's Commitment to a Reliable Power Supply

CEB acknowledges the inconvenience caused to the public and remains fully committed to ensuring a resilient, reliable, and future-ready electricity grid. As Sri Lanka continues to transition towards a renewable energy-driven power system, CEB is proactively implementing both immediate and long-term solutions to strengthen grid stability.

We appreciate the understanding and cooperation of the public, renewable energy service providers and investors, as we work towards a more stable, secure, and sustainable national power grid.

Yours faithfully,
CEYLON ELECTRICITY BOARD

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Chief Engineer (Kelanitissa Combined Cycle Power Station)
Media Spokesman for CEB