MITSUBISHI GENERATOR SERIES

MOVE THE WORLD FORWARD MITSUBISHI HEAVY INDUSTRIES GROUP

Bohol Tagbilaran City Aerial Shot / Adobe Stock Images / Upscayl

Powering Resilience:

Strengthening Energy Security for an Island Province

MGS2500R's S16R2-PTA Engines

Who:
One of the Philippines' Leading Independent Power Producers (IPP)

What:
Delivering Reliable Grid-Connected Power with
42 Units of Mitsubishi Generator Series

Where:
Bohol, Philippines

Nestled in the heart of Visayas region, a new power facility was developed to strengthen energy security for one of the Philippines' most promising island provinces. Designed to provide stable and efficient electricity to support both local industries and growing communities, the facility stands as a crucial step toward achieving energy independence and resilience.

For an island long challenged by limited grid connectivity and vulnerability to supply interruptions, this project represents more than just infrastructure, it is a foundation of progress. Built to deliver reliable power under demanding conditions, the plant underscores the importance of resilience generation systems in driving regional development and supporting the livelihoods that depends on consistent energy supply.

Engineering Resilience: Delivering Reliable Power to an Island Community

Building a dependable power generation facility on an island presents a unique and demanding set of challenges, spanning everything from **complex logistical constraints** to **stringent environmental compliance** in a sensitive coastal location. To ensure the new plant could deliver the consistent, high-quality energy required to support communities, businesses, and essential services, the project team first had to address these critical questions:

- ? **Grid Stability:** How do we ensure stable, isolated power generation where limited grid connectivity means a single outage could isolate entire communities?
- ? **Efficiency & Environment:** How do we design a system that expertly balances high operational efficiency with environmental responsibility while operating within a geographically constrained location?
- ? **Resilience & Safety:** How do we deliver a facility that can operate continuously and safely, reliably handling both fluctuating power demands and extreme weather conditions?

KILTON MOTOR CORPORATION

MITSUBISHI GENERATOR SERIES

MOVE THE WORLD FORWARD MITSUBISHI HEAVY INDUSTRIES GROUP

The Solution: Partnership with Proven Expertise

To overcome these complex challenges, the project engaged **Kilton Motor Corporation**, the trusted business partner of the **Mitsubishi Generator Series**. With nearly 40 years of expertise in engineered power solutions, Kilton brought proven experience in designing, installing, and maintaining mission-critical systems. By leveraging the unmatched reliability of the Mitsubishi Generator Series, Kilton ensured that the island's new power facility would stand as a resilient and reliable cornerstone for the entire community it serves.

Key implementation highlights included:

- **Early technical assessments** conducted by Kilton's engineering team to evaluate site conditions, optimize system layout, and confirm structural readiness prior to installation.
- **Deployment of seasoned engineers** to develop a conventional synchronization and grid integration plan, ensuring smooth coordination between all generators and the local grid.
- **Design and installation of 42 units of Mitsubishi Generator Series,** each configured for Prime Rating operation to deliver continuous, efficiency power under topical island conditions.
- **Containerized generator units,** engineered and pre-assembled off-site to enhance weather protection, reduce on-site setup time, and mitigate installation days. A configuration that ensured faster commissioning while maintaining system integrity.
- **Comprehensive system testing and commissioning,** validating load performance, synchronizing accuracy, and grid stability under full operating conditions. Thought a combination of precision design and proven reliability from the Mitsubishi Generator Series, Kilton delivered a power solution capable of sustaining island's energy backbone but also showcased innovation in deployment efficiency and operational resilience.

The Core Power Architecture

Array of containerized MGS2500R that powers Bohol during power outages.

At the heart of the new facility is a massive generation network anchored by **42 units of the Mitsubishi Generator Series (MGS)**. Each MGS unit is configured at its **Prime Rating** to guarantee continuous and highly dependable power for the island's demanding grid. The entire system was meticulously engineered to thrive in tropical conditions, achieving an optimal balance of **reliability, scalability, and long-term serviceability.**

Full product light-up installed:

- **1 unit of MGS1000B** – 960 kW Prime Rated
- **6 units of MGS1200B** – 1,080 kW Prime Rated
- **12 units of MGS1200C** – 1,080 kW Prime Rated
- **1 unit of MGS1400B** – 1,420 kW Prime Rated
- **7 units of MGS1500B** – 1,550 kW Prime Rated
- **6 units of MGS1500C** – 1,470 kW Prime Rated
- **3 units of MGS2000C** – 1,624 kW Prime Rated
- **2 units of MGS2500B – 1,820 kW Prime Rated**
- 4 units of MGS2500R – 1,810 kW Prime Rated

This modular, synchronized architecture provides a resilience power backbone capable of meeting the island's long-term energy needs while maintaining operational efficiency and adaptability for future expansion.

KILTON MOTOR CORPORATION

All 42 units were synchronized and integrated through an advanced control system engineered by Kilton Motor Corporation, enabling seamless load sharing, dynamic frequency control, and stable grid interaction. Each unit was housed in a containerized enclosure, a design developed and pre-assembled off-site by Kilton to protect against harsh weather, minimize installation time, and streamline commissioning. Execution with Precision The installation and testing phases were executed with rigorous planning and coordination to ensure reliable performance of all 42 units of Mitsubishi Generator Series.

MGS2500R's S16R2-PTA Engine, the legendary powerhouse.

Every step was conducted under strict safety and engineered protocols, ensuring that the system met both operational and compliance standards. Key execution milestones included: • Off-site pre-assembly and containerization, allowing faster deployment and protection against weather exposure during installation. • 100% load testing for one hour using a load bank during the first synchronization test, verifying system stability and seamless load sharing across all 42 units.

"Kilton's technical expertise and Mitsubishi Heavy Indusries' proven reliability gave us complete confidence in the system's performance. The success of this project reinforces our trust in continuing the partnership for the next phase of development"

The Outcome: Powering Confidence and Progress

The successful implementation of the 42-unit Mitsubishi Generator Series system marked a major milestone in strengthening the island's power infrastructure. Through precise engineering, seamless synchronization, and efficient deployment of containerized units, the new facility now delivers reliable and continuous energy to homes, businesses, and critical services across the province.

The achievement further deepened the partner between the client and Kilton Motor Corporation, setting the foundation for continued collaboration in the Phase 2 expansion project, which will enhance capacity and long-term energy resilience for the province.