

Taiho Bosai Co., Ltd. — Part 1: Choosing a Fully Off-Grid Headquarters

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Overview

Rather than adding an emergency-only power source, Taiho Bosai operates solar generation, battery storage, LPG generation and utility power as one system in normal times. This case documents the same operating model for normal and disaster conditions, rooftop outdoor constraints, and post-installation improvements.

Case Answer

Do not add an emergency-only power system; operate the same power system every day

For Taiho Bosai Co., Ltd. ' s new headquarters, the starting point was not to add a power source used only during outages. Solar generation, battery storage, LPG generation and utility power were instead treated as one power system in normal operation. The requirement was to avoid separating normal and disaster operations and, especially during emergencies, to avoid adding decisions or switching procedures for onsite staff.

A conventional office building may use utility power as the primary source and configure receiving equipment and an emergency generator as separate systems. This project prioritized a different question: not “ how do we switch during an emergency? ” but “ how can business continue under the same conditions and the same procedures in both normal and disaster situations? ” Solar was therefore used as the primary source, combined with LPG generation and utility power.

Building constraints required the off-grid equipment to be installed outdoors on the rooftop. During construction, crane weight limits also required the equipment to be disassembled and assembled onsite. After operation began, Asian dust, high humidity, ambient temperatures around 50 ° C and lightning became actual operating conditions. Cooling, sealing, components and lightning protection have therefore been updated in stages.

First-party monitoring data from May 15, 2026 show approximately 10 hours of operation with utility power at 0 kW, from 07:25 to 17:23. The system is maintained not only by its original configuration, but by continuing to improve it in response to the actual environment and operating data, preserving one operating model for normal and disaster conditions.

Scope

- Building-wide power BCP and off-grid operation for a corporate headquarters
- Business sites that do not want separate operating procedures for normal and disaster

conditions

- Facilities integrating solar, battery storage, generation and utility power in normal operation

Constraints

- Do not add human judgment or special switching procedures during emergencies
- Operate rooftop outdoor equipment under heat, Asian dust, high humidity and lightning exposure
- Combine solar, battery storage, LPG generation and utility power within normal operation
- Keep the system open to improvement after completion as real environmental and operating data accumulate

Evidence / References

Kei Communication Technology Inc. construction and operation records (this case study)

Supports: Power architecture operated under the same conditions in normal and disaster situations, rooftop outdoor installation, and post-installation environmental countermeasures and improvements

URL: <https://www.ieee802.co.jp/cases/case-001-taiho-bousai-part1.php>

Kei Communication Technology Inc., “ Why Emergency Power Often Fails When It Is Needed ”

Supports: First-party operating data showing utility power at 0 kW for approximately 10 hours from 07:25 to 17:23 on May 15, 2026

URL: <https://www.ieee802.co.jp/articles/article-209-emergency-power-supply.php>

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