AMT/NEWSLETTER

Energy

January, 2026

Regulations Concerning Battery Storage Business and Grid Connection

Eiji Kobayashi / Keita Shigematsu

Contents

1. Introduction

To achieve a decarbonized society, the Japanese government aims to reduce greenhouse gas emissions by 46% by fiscal year 2030 and has set itself ambitious targets of a 60% reduction by fiscal year 2035, a 73% reduction by fiscal year 2040, and carbon neutrality by 2050. To achieve these goals, further deployment of renewable energy sources is expected, as is the utilization of battery storage to serve as balancing resource for stable power supply. In fact, the government began supporting the deployment of grid-connected battery storage through subsidies in fiscal year 2021, and included battery storage among the eligible bidders in the long-term decarbonization power source auctions launched in fiscal year 2023, actively promoting their adoption.

Amid this, while the business environment for battery storage is being established, the applicable technical and legal regulations and issues are also becoming clear. Particularly when securing project financing, it is crucial for operators to ensure compliance with all necessary regulations from the perspective of long-term business stability and conducting legal due diligence is beneficial.

This newsletter discusses legal issues pertaining to battery storage businesses. It specifically

revisits the grid connection process, which has frequently hindered project progress in recent years, examining its current state of discussion and future outlook. Note that this newsletter does not intend to comprehensively cover all legal systems related to battery storage. When conducting due diligence for actual projects, it is important to carefully examine relevant laws and regulations, as well as ordinances and other rules of the competent local government, and to confirm whether the necessary permits and approvals have been obtained by making inquiries to the responsible parties.

2. Regulations under the Electricity Business Act

2.1. Overview

Previously, battery storage has been classified as one of the facilities constituting power plants, substations and similar facilities under the safety regulations of the Electricity Business Act. Consequently, regulations governing power plants, substations, demand facilities have incidentally extended to battery storage. On the other hand, the treatment of grid-connected battery storage installed independently and directly connected to the grid under the Electricity Business Act remained unclear. Against this backdrop, the amendment to the Electricity Business Act, effective April 1, 2023, designated the business of discharging electricity from large-scale battery storage as "power generation business." This aims to accurately grasp equipment capacity and utilize the supply capacity during times of tight supply and demand. Furthermore, to establish safety regulations for grid-connected battery storage, the "Cabinet Order Partially Amending the Order for Enforcement of the Electricity Business Act" and related regulations were promulgated on November 30, 2022. Consequently, grid-connected battery storage are now classified as "power storage facilities" [1] under the Electricity Business Act and are subject to the same legal regulations as solar power. On the other hand, battery storage installed alongside power generation facilities such as solar power (also known as co-located battery storage) will continue to be treated as ancillary equipment[2]. Below is an overview of the relevant safety regulations.

2.2. Notification for Power Generation Business

The 2023 amendment to the Electricity Business Act introduced the term "Electric Facilities for Power Generation" (Article 2, Paragraph 1, Item 5(b)), meaning "electric facilities for power generation and electric facilities for battery storage." The definition of a "Power Generation Business" (Item 14 of the same Paragraph) also includes "a business that generates or discharges electricity using electric facilities for power generation for the purpose of electricity retail, general

---

1 Defined as "a facility that stores electricity transmitted from outside the premises using power storage devices or other electric facility installed within the premises, and then transmits that stored electricity back outside the premises at the same voltage and frequency as the transmitted electricity (excluding facilities electrically connected to power generation equipment, power electric substation equipment, or demand facilities within the same premises)." (Article 1, Item 4 of the Ministerial Order for Establishing Technical Regulations for Electrical Equipment)

2 See pages 4 and 6 of "Approach to Safety Regulations for Power Storage Facilities" by the Electrical Safety Division, Industrial Safety Group, METI, April 15, 2022.

electricity transmission and distribution, electricity distribution, or specified electricity transmission and distribution businesses, and where the electrical facilities for power generation used for such businesses meet the requirements specified by the Ministerial Order of METI." Consequently, the grid-connected power storage facilities business may qualify as a "power generation business" under certain circumstances, requiring the operator to file a notification for a power generation business (Article 27-27, Paragraph 1 of the Electricity Business Act).
The requirements specified by the Ministerial Order of METI are defined as electric facilities for power generation meeting any of the following requirements, where the total of the maximum connection power for use in electricity retail, general electricity transmission and distribution, electricity distribution, or specified electricity transmission and distribution businesses exceeds 10,000 kW:

(i) Output of 1,000 kW or more
(ii) Maximum simultaneous received power under the wheeling agreement exceeds 50%
(iii) Annual reverse power flow (electricity volume) exceeds 50%

Typically, a project for a grid-connected power storage facility with an output of more than 10 MW is likely to be classified as a power generation business. If a business falls under the category of the "power generation business," the operator must submit a notification for a power generation business (and join and pay membership fees for OCCTO (the Organization for Cross-regional Coordination of Transmission Operators)) by the commencement of its business, as well as comply with certain regulations under the Electricity Business Act (Obligation to Generate Electricity (Article 27-28 of the Electricity Business Act), Supply Order (Article 31 of the same Act)), and ongoing/periodic notification and reporting obligations (change notifications, dissolution notifications, supply plan notifications, monthly generation/consumption reports, facility funding reports, annual generation/demand reports by municipality, etc.).

Furthermore, in the 2023 amendment to the Electricity Business Act, the notification obligation for a "Specified Person Installing Electric Facilities for Private Use" prescribed in Article 28-3 of the Electricity Business Act now also covers "electric facilities for private use for electricity storage" as well as certain battery storage businesses (output of 1000 kW or more; Article 45-27 of the Regulations for Enforcement of the Electricity Business Act). However, power generation businesses are exempt from the application of this article, and as mentioned above, when filing a notification of power generation business for grid-connected battery storage projects exceeding 10 MW in output, such projects are presumed to be exempt from the notification obligation for a Specified Person Installing Electric Facilities for Private Use.

2.3. Safety Regulations

2.3.1. Appointment of Chief Electricity Engineer

A person who installs electric facilities for business use, including power storage facilities, must appoint a chief engineer in order to have the person supervise the safety of the construction, maintenance, and operation of the facilities, and must notify the Minister of Ministry of Economy, Trade and Industry (METI) to that effect (Article 43, Paragraphs 1 and 3 of the Electricity Business Act). Since chief engineers were previously appointed on a power plant

basis and battery storage was positioned as ancillary equipment to power plants, it was not anticipated to appoint a chief engineer solely for battery storage. However, the amended Regulations for Enforcement of the Electricity Business Act now require the appointment of a chief engineer for each power storage facility when installing a power storage facility (Article 52, Paragraph 1 of the Regulations). Furthermore, for electric facilities for private use meeting certain requirements such as having an output below a specified threshold and outsourcing to contractors meeting specific criteria, the appointment of a chief engineer may be waived if the director of a regional office of METI determines that they would pose no safety risks (Article 52, Paragraph 2 of the Regulations for Enforcement of the Electricity Business Act; also known as the "outsourcing system"). It is explicitly stated that outsourcing is also possible for power storage facilities. Since factors such as ease of inspection are similar, the same standards as for solar power apply to the requirements for such outsourcing (the same Paragraph).

2.3.2. Construction Plan, Self-Inspection, and Safety Management Examination

A person intending to install electric facilities for business use, including power storage facilities, must notify its construction plan along with necessary documents such as construction plan documents (Article 48, Paragraph 1 of the Electricity Business Act; Article 66, Paragraph 1 of the Regulations for Enforcement of the Electricity Business Act). Furthermore, prior to commencing the use, such person is required to conduct a self-inspection on such electric facilities for business use, record and keep the results of such inspection (Article 51, Paragraph 1 of the Electricity Business Act). Furthermore, such person must undergo a pre-use safety management inspection by the Minister of METI regarding the system for conducting the pre-use self-inspection (Article 51, Paragraphs 3 and 4 of the Electricity Business Act). A construction plan notification is required for the installation of a power storage facility with an output of 10,000 kW or more, or a capacity of 80,000 kWh or more (Article 65 of the Regulations for Enforcement of the Electricity Business Act, Appendix 2 of the same Regulations). Furthermore, considering that power storage facilities have stand-alone power storage devices, and that a malfunction in a power storage device can immediately affect the overall functionality of the entire storage facility, pre-use self-inspection and safety management examination are required. This is to ensure, as with other power plants, that the overall construction quality of the facility is verified after installation[3].

2.3.3. Accident Reporting

Under the current Electricity Business Act, power storage facilities with a capacity of 80,000 kWh or more, or an output of 10,000 kW or more, are obligated to report breakage accidents[4] to the director of a competent regional office of METI for the location of the facility (Article 106, Paragraph 3 of the Electricity Business Act; Article 3 of the Rules on Electricity-Related Reports). On the other hand, the battery storage installed as ancillary equipment attached to a solar

3 See page 15 of "Approach to Safety Regulations for Power Storage Facilities."

4 Refers to "a situation where, due to deformation, damage, or destruction of electric facilities, fire, or deterioration or breakdown of insulation, the function of such electric facilities is impaired or lost, thereby immediately causing its operation to stop or necessitating its shutdown, or rendering its use impossible or requiring its cessation." (Article 1, Paragraph 2, Item 5 of the Rules on Electricity-Related Reports)

power facility is not subject to the "breakage accident" reports. Therefore, under current law, the accident reporting obligation applies only to grid-connected battery storage above a certain scale. Focusing on the thermal runaway and ignition risks specific to battery storage, METI is considering expanding the reporting scope to include battery storage installed alongside solar and other power plants, as well as broadening the reporting requirements for power storage facilities[5].

2.3.4. Technical Standards

A person who installs electric facilities for business use must maintain the electric facilities for business use in compliance with technical standards specified by the Ministerial Ordinance of METI (Article 39, Paragraph 1 of the Electricity Business Act). While the requirements to prevent public harm had previously been in place for solar and other power plants (Ministerial Order for Establishing Technical Regulations for Electrical Equipment), power storage facilities are now subject to equivalent regulatory standards. Specifically, new provisions have been added, including the following requirements:

- to take appropriate measures to prevent easy access into the facility (Article 38 of the Interpretation of Technical Standards for Electrical Equipment);
- to install devices that automatically disconnect the battery storage from the circuit in the event of overvoltage, etc. (Article 44 of the same); and
- a requirement regarding how to operate a facility when there are no technical personnel stationed to constantly monitor the storage facility equipment (Article 47-3 of the same).

3. Regulations under Fire Service Act

3.1. Overview

The Fire Service Act establishes necessary fire prevention and firefighting regulations for buildings and other structures to prevent and guard against fires. Since battery storage inherently carry risks of heat generation and ignition, they fall under the scope of this Act. The types of battery storage equipment subject to the Fire Service Act regulations and the specific regulatory requirements are defined by the Ministerial Order on Standards for Municipal Ordinances Concerning the Location, Structure, and Management of Target Fire Facilities, and Handling of Target Fire Equipment (the "Fire Equipment Order"). Based on this, specific regulatory requirements are prescribed in municipal fire prevention ordinances[6]. Since specific regulations of the Fire Service Act vary depending on the competent fire department, it is necessary to inquire with the relevant fire department.

---

5 See pages 4 and 5 of "Explosions and Fires in Power Storage Facilities and Countermeasures" by the Electric Power Safety Division, Industrial and Product Safety Policy Group, METI, September 10, 2024.

6 For a summary of relevant regulations, see "Reference Material: Relevant Regulations for Power Storage Facilities "by the Working Group on Risk-based Fire Safety Measures for Power Storage Facilities, the Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications, July 26, 2022.

3.2. Regulatory Requirements

The regulations prescribed in the Fire Equipment Order (as amended in 2024) are as follows:

- In addition to taking measures to prevent tipping-over, all battery storage must have a structure that is not easily cracked or damaged (Article 12, Main Paragraph).
- Open-type lead-acid batteries must be installed on acid-resistant flooring or platforms (Article 12, Item 8).
- Outdoor power storage equipment must have measures to prevent the ingress of rainwater and other liquids (Article 14, Item 5).
- To prevent the spread of fire, outdoor power storage facilities shall be located at least 3 meters away from buildings (Article 16, Item 4).
- Battery storage must be Installed in a location where water cannot infiltrate or permeate (Article 16, Item 5).

3.3. Amendment in January 2024

The above regulatory requirements reflect the January 2024 amendment to the Fire Equipment Order. The Fire Service Act prior to amendment was formulated assuming lead-acid batteries. However, as new types of battery storage, such as lithium-ion batteries, began to be used as large-capacity battery storage, the standards were revised to accommodate them.
Previously, batteries subject to the Fire Service Act regulations were defined as having a capacity of 4800Ah. However, even for the same 4800Ah cells, the electrical energy (kWh) differed depending on the battery type. Since the potential risk of battery storage depends on its kWh capacity, the regulations were reorganized to use kWh as the standard[7]. After the amendment, the regulated battery storage now excludes those with a capacity of 10kWh or less, and those with a capacity exceeding 10kWh but not exceeding 20kWh, determined by the Commissioner of the Fire and Disaster Management Agency as having fire prevention measures implemented (Article 3, Item 17 of the Fire Equipment Order).

4. Regulations under the Environmental Impact Assessment Act

The environmental impact assessment system under the Environmental Impact Assessment Act requires business operators to investigate, predict, and evaluate environmental impacts, and to publicly disclose this information, thereby incorporating the opinions of the public, local governments, and the national government into the creation of project plans. While the environmental impact assessment procedure itself does not constitute a permit or license, licensing authorities for permits such as Forest Land Development Permits (Article 10-2 of the Forest Act) are obligated to review whether the project gives due consideration to environmental conservation based on the contents of the assessment report and opinions submitted regarding it. Target projects are construction projects to install or modify a power generating structure

7 See pages 1 and 8 of the "Revision Concept for Regulations on Battery Storage Equipment" by the Prevention Division, Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications, January 2023.

which are electric facilities for business use as specified in Article 38 of the Electricity Business Act, which are large-scale and have a significant degree of environmental impact (Article 2, Paragraph 2, Item 1(e) of the Environmental Impact Assessment Act). As of the date of this newsletter, such projects do not include battery storage projects (Article 1, Appendix 1 of the Order for Enforcement of the Environmental Impact Assessment Act). However, as grid-connected battery storage projects that store and discharge electricity from the grid are classified as "Power Generation Business" under the Electricity Business Act[8], it cannot be ruled out that they may be designated as applicable projects in the future. Furthermore, since the operation of environmental impact assessment procedures vary by municipality, it is necessary to confirm the ordinances of the governing municipality when developing a project.

5. Regulations under the City Planning Act

Under the City Planning Act, making alterations to the shape and quality of land zoning primarily for the purpose of constructing "Buildings" or "Special Structures" requires development permission (Article 29 of the City Planning Act). The term "Buildings" here refers to that defined in Article 2, Paragraph 1 of the Building Standards Act. That paragraph defines "Buildings" as "structures fixed on the ground having roofs, and columns or walls; gates or fences attached thereto; structures used as grand-stands; or structures used as offices, stores, play houses, warehouses or other facilities similar thereto established in underground or elevated structures." Here, since a battery storage is often not fixed to the land and is typically a movable device, it is generally not considered to fall under the definition of "Buildings."

Furthermore, while it cannot be ruled out that a building or container housing a battery storage might be treated as "Buildings" if it is fixed to the land, according to a publication in 2013 of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), dedicated containers with only the minimum internal space necessary for the battery storage to function, which are unmanned and generally inaccessible during operation, are not considered "Buildings". However, it should be noted that stacking multiple containers of this type may constitute a building[9]. Furthermore, development activities concerning buildings necessary for certain public interests are exempt from development permits (Article 29, Paragraph 1, proviso and Item 3 of the City Planning Act). Buildings serving as facilities for installing electric facilities used for electric utilities (excluding electricity retail businesses and specified wholesale electricity supply businesses) are also exempt from this requirement (Article 21, Item 14 of the Order for Enforcement of the City Planning Act). Therefore, if a grid-connected battery storage business falls under the category of the "Power Generation Business", it may be exempt from development permits in all cases.

Furthermore, regarding "Special Structures," MLIT published the "Treatment of Grid-Connected Battery Storage under the Development Permit System (Technical Advice)" dated April 8, 2025, stating that grid-connected battery storage may be considered as category 1 special structures under the City Planning Act in certain cases. However, electric facilities used for electric utilities (excluding electricity retail businesses and specified wholesale electricity supply businesses) are

8 See page 5 of the "Current Status and Issues of Grid-Connected Battery Storage" by the Agency for Natural Resources and Energy, May 29, 2024.

9 See the "Treatment of Building Standards Act Regarding Dedicated Containers for Storing Battery Storage (Technical Advice)" by Building Guidance Division, Housing Bureau, MLIT, March 29, 2013.

excluded from the definition of "special structures" (Article 1, Paragraph 1, Item 3 of the Order for Enforcement of the City Planning Act). Therefore, if a grid-connected battery storage business constitutes a power generation business, it is unlikely to be classified as a "Special Structure." Regarding this point, projects with battery capacities of 10MW or more would generally constitute an electricity business (power generation business) under the Electricity Business Act and may not fall under the special structures under the City Planning Act. However, it is important to note that smaller-scale projects may require development permits under the City Planning Act.

6. Grid Access

6.1. Overview

When commencing a power generation business, including grid-connected battery storage projects, in addition to complying with the legal regulations described above, it is necessary to secure the appropriate rights to connect to the grid. To obtain grid access, a business operator must go through the following process:

(i) voluntary preliminary consultations,

(ii) submit an application for connection assessment to the general electricity transmission and distribution utility,

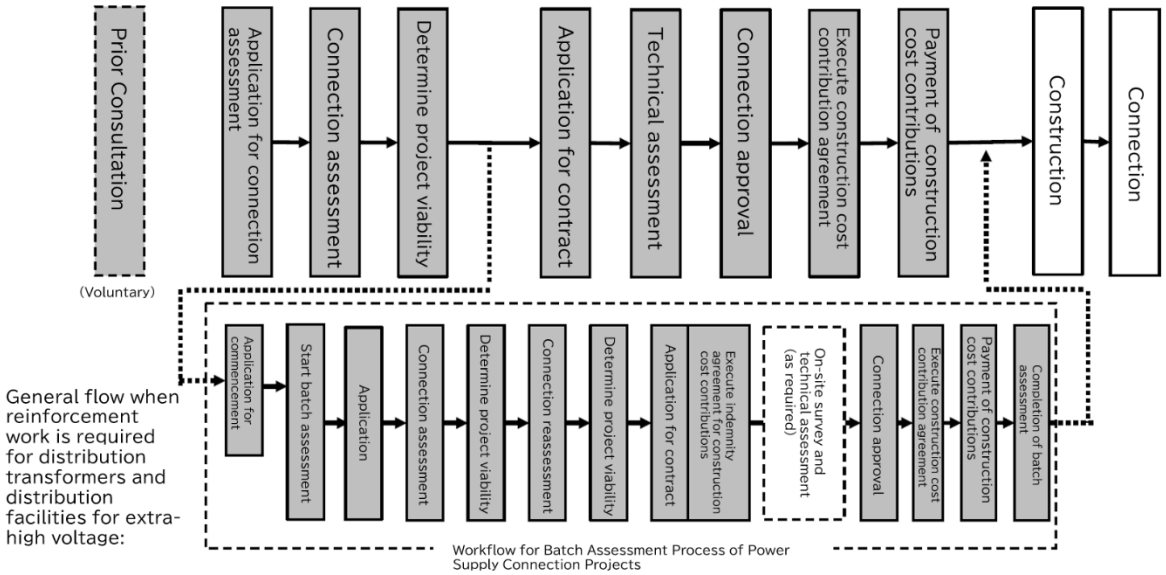
(iii) the general electricity transmission and distribution operator examines if there is an issue such as potential congestion and issues a response to an applied connection with an estimate of construction costs,

(iv) the business operator assesses the project's viability based on the response and applies to enter into a connection agreement,

(v) the general electricity transmission and distribution utility conducts technical assessments based on the various conditions of the grid at the time of the application and grants approval for the grid connection, and

(vi) pay a construction cost contributions and commence the construction work.

〔Flowchart of Grid Access for Power Generation Facilities〕



(Excerpted from page 5 of "Flowchart of Grid Access for Power Generation Facilities" by the Grid Planning Department, Organization for Cross-regional Coordination of Transmission Operators, JAPAN, August 2024)

6.2. Issues Concerning the Connection of Grid-Connected Battery Storage

In recent years, there has been a sharp increase in grid-connection assessments for grid-connected battery storage. As of the end of June 2025, the status of applications shows that grid-connection being assessed are approximately 143 million kW (about 2.4 times the level at the end of June 2024), and contract applications are approximately 18 million kW (about 4.0 times the level at the end of June 2024).[10] In principle, connection responses are expected within three months from the date of receiving an application for connection assessment.[11] However, as a result of the surge in connection assessments, the time required to respond to requests has become longer than anticipated, causing overall delays in grid access procedures and forcing some projects to revise their business plans. The surge in connection assessments stems primarily from: (i) increased demand for battery storage in recent years, and (ii) operators who are not conducting battery storage operations by themselves advance connection assessment procedures to secure grid connection rights and transfer these rights to battery storage operators for consideration and they are conducting dozens of grid connection procedures at locations unsuitable operation, (iii) since construction cost contributions are only disclosed once the connection response is provided, some operators are choosing to conduct a large number of connection assessments in advance despite low project certainty, and apply for contracts after identifying the grid connection points with low construction cost contributions[12].

Furthermore, when connecting grid-connected battery storage, connection feasibility is assessed not only from the reverse power flow side (generation side) but also from the forward power flow side (charging side). Cases have been observed where grid reinforcement is required for connection due to circumstances on the forward power flow side, significantly prolonging the time to grid connection[13]. To resolve the current challenges described above, establishing clear connection rules is an urgent priority.

6.3. Current Discussion Status and Future Outlook

To address the current increase in multiple applications for projects with low business viability, discussions within METI are advancing toward requiring the submission of land-related documents and setting an upper limit on the number of connection assessments. Specifically, requiring the submission of survey results and registry records for project sites at the time of an application for connection assessment aims to reduce the likelihood of connection assessment

---

10 See page 3 of "Toward Rapid Grid Connection of Grid-Connected Battery Storage," by the Agency for Natural Resources and Energy, September 24, 2025.
11 See page 8 of "Flowchart of Grid Access for Power Generation Facilities."
12 See page 17 of "Toward Rapid Grid Connection of Grid-Connected Battery Storage" by the Agency for Natural Resources and Energy, June 27, 2024.
13 See page 13 of "Toward Rapid Grid Connection of Grid-Connected Battery Storage" by the Agency for Natural Resources and Energy, June 27.

being conducted for land deemed infeasible for project implementation. In addition, setting an upper limit on the number of projects for which a general electricity transmission and distribution utility can conduct connection assessment, and not conducting assessment for portions that exceed the cap aims to prevent situations where the same operator submits multiple applications for connection assessment for projects with low viability[14].

Furthermore, regarding the connection rules for forward power flow, discussions are underway to enable connections under the premise of restricting charging during congestion in the medium- to long-term, similar to non-firm generation connections. However, since introducing such non-firm connections may take five years or more to develop the system, it is currently considered to construct the system by limiting the target grid and the scale of battery storage to a certain level or higher, or to introduce real-time control mechanisms[15][16].

14 See pages 12 and 13 of "Toward Rapid Grid Connection of Grid-Connected Battery Storage" by the Agency for Natural Resources and Energy, September 24.

15 When power flow is constantly monitored at the substation at a real-time supply-demand stage, if an operational capacity overload is detected, a signal is sent to the signal receiver installed in the battery control device, restricting charging until the charge level falls within the operational capacity range. If an overload occurs at a real-time supply-demand stage, sudden charging restrictions are implemented without prior notice to the operator. This prevents operators from preparing for the charging restriction, potentially impacting subsequent charge/discharge plans.

16 See page 17 of "Toward Rapid Grid Connection of Grid-Connected Battery Storage" by the Agency for Natural Resources and Energy, September 24.

- This newsletter is published as a general service to clients and friends and does not constitute legal advice. Should you wish to receive further information or advice, please contact the authors as follows:

- Authors:
  Eiji Kobayashi (eiji.kobayashi@amt-law.com)
  Keita Shigematsu (keita.shigematsu@amt-law.com)

- If you wish to unsubscribe from future publications, kindly contact us at General Inquiry.

- The back issues of the newsletter are available here.