

Business Plan FY 2024 of Organization for Cross-regional Coordination of Transmission Operators, Japan

The Organization for Cross-regional Coordination of Transmission Operators, Japan (hereinafter, “the Organization”) will carry out the following business with the aim of achieving the objectives specified in Article 28-4 of the Electricity Business Act (Act number 107 of 1968).

1. Accurate management of nationwide demand and supply

Upon proceeding with the large-scale integration of renewable energy toward achievement of carbon neutrality by 2050, it becomes more and more important to secure supply capacities and balancing capacities efficiently and securely from medium to long-term standpoints. Therefore, we will secure a stable electricity supply by compiling the supply plans of electric power companies, unitarily grasping and evaluating the nationwide demand and supply balance from the medium to long-term period, and studying the necessary measures, even though it is getting more difficult to newly establish, expand, upgrade, and maintain power generators because of an unclear future. In addition, we will engage in the following initiatives while we coordinate each business to make the management methods of supply capacities and balancing capacities more sophisticated based on the start of business during actual supply and demand operation under the capacity market scheme from fiscal year 2024 and on the transition to the supply-demand balancing market scheme for procurement of all balancing capacities.

1-1. Securing of stable supply

(1) Monitoring and management related to demand-supply situation of members

We will operate a twenty-four-hour-a-day, 365-day-a-year system for the monitoring and management of the forecasts of demand and supply and the cross-regional reserve margin based on various plans submitted by members, the state of demand on the day of operations, the state of operations of key power plants, and the state of operation of interconnection lines connecting supply areas to one another.

In addition to that, we will confirm that various plans are submitted with correct contents in light of the Network Codes of the Organization (revised in April 2023), and if the plans are not submitted with the correct contents, we will instruct the electric power companies as needed, inclusive of calling for attention or improvement.

(2) Instructions to members when supply and demand situations become worse

We monitor demand and supply across the nation for stable supply and give instructions to accommodate electricity for improvement of the demand and supply situations, if necessary. Furthermore, we will carry out initiatives sequentially for secure procurement and more effective amounts of procurement of balancing capacities and will start an operation based on an agreement for the utilization of reserved energy since general transmission and distribution companies procure all balancing capacities across the regions through demand-supply balancing market scheme from fiscal year 2024. An imbalance fee system to promote proper measures against the situation where the demand and supply balance is tight (a fee system to adjust the difference between the plans for power generation and demand submitted by power generation companies and retail electric companies and the actual performance) is applied by referring to the cross-regional reserve margin.

Based on the above, we will carry out the following initiatives in fiscal year 2024.

- While we focus on demand and supply management based on the cross-regional reserve margin, we will make supply and demand adjustments on a nationwide scale to ensure the stable electric supply both during normal times and in the event of an emergency and will quickly issue instructions for the accommodation of electricity if it is necessary for the improvement of the demand and supply situation.
- We will ensure the smooth calculation and publication of the cross-regional reserve margin inclusive of additional updating of the cross-regional reserve margin of two days later (with respect to the maximum demand and the minimum reserve margin). Along with the start of actual demand and supply operation under the capacity market scheme, we will strengthen the measures against the tight balance between demand and supply by issuing a notice for preparation for provision of supply capacities in the case of a decrease in the cross-regional reserve margin or a notice for provision of supply capacities along with a decrease in the cross-regional reserve margin to companies who have executed capacity contracts (hereinafter “capacity resource provider”) as well as by assessing fulfilment of requirements and imposing a penalty for failure of fulfilment by such companies.
- While we consider procurement in the markets based on the cross-regional reserve margin published by companies and the fulfilment of requirements under the capacity market scheme, we will proceed with the study and improvement comprehensively toward more sophisticated demand and supply management. We will also carry out drills in an organized way in cooperation with general transmission and distribution companies to address the operation of demand and supply precisely and promptly.
- In addition, if there is a surplus of supply capacity relative to demand in a supply area

because of the increased output of renewable energy, we will coordinate the supply energy and the supply duration for long-cycle cross-regional frequency control across the supply regions. If there is still a surplus even after such a measure and the ability to reduce the power supply might be insufficient, we will issue an instruction to compensate the insufficient ability to reduce the power supply.

- In addition, we will study the operation method and start operation sequentially of measures leading to the suppression of the output control volume in terms of demand (such as grid-scale battery), supply (such as a decrease in output from thermal power generators in other areas that have not been reserved as balancing capacities beforehand), and network reinforcement based on the comprehensive package toward suppression of output control for renewable energy organized by the national government.

(3) Verification at the time of suppression of output of renewable energy

Regarding the suppression of output of renewable energy implemented by general transmission and distribution companies to maintain the demand and supply balance, it is important to secure the validity of the ordinance and fairness of implementation of such suppression.

We will verify the validity based on the Operational Rules in light of the Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources by Electricity Utilities (Ordinance of the Ministry of Economy, Trade and Industry, No. 46, 2012) and the Network Codes, and publish the results of such verification on the last date of the following month or in the following quarter by compiling the results of verification on output suppression quarterly.

We will also verify fairness based on the Operational Rules in light of the Guidelines for Ensuring the Fairness of Output Controls (revised in April 2022) and the Network Codes and publish the results of such verification after the end of fiscal year.

(4) Verification and confirmation of demand and supply of electricity in summer and winter times

We will verify the demand and supply of electricity in summer and winter that will become the basis of decisions on the national measures for demand and supply and will compile and publish the results as a report on verification of demand and supply. Regarding the evaluation method of demand and supply verification, we will reorganize the evaluation method for the demand and supply verification, including a review of the issues of the calculation method of the necessary reserve capacity in the probability theory, or the review in accordance with actual situations to improve the accuracy of calculation method of supply capacity with regard to variable renewable energy with the

aim to reflect them in the demand and supply verification in fiscal year 2024. In addition, we will carry out ex post facto reviews of demand and supply forecasts by using the records of actual demand and supply of electricity and will study for a more sophisticated evaluation method.

We will collect information in cooperation with relevant organizations regarding not only the insufficient energy supply due to disasters, problems with power generators, and other reasons, but also the possibility of insufficient electric energy supply due to insufficient fuel inventories and other reasons, and we will encourage the relevant parties to prepare and address properly by providing clear information on results of kW (supply capacity) monitoring, kWh (supply energy) monitoring, and kWh (supply energy) reserve margin (management by fuel stock). Based on the results of such monitoring, we will identify issues and improve methods to provide information or to confirm the demand and supply.

Considering the recent situations, tightness of the supply-demand balance has not always occurred during high demand periods but also occurred from the temporary increase in demand overlapping with accidents or scheduled outage of power generators; therefore, we will confirm the risk of the tightness of the demand-supply balance during transitional periods as well and carry out additional coordination of scheduled outage plans according to the necessity. In fiscal year 2022, we made a long-term policy for a cross-regional electric network (hereinafter “Master Plan”), which is a grand design of the second-generation network development based on the Act of Partial Revision of the Electricity Business Act and Other Acts for Establishing Resilient and Sustainable Electricity Supply Systems (Act no. 49, 2020) and the sixth energy master plan (cabinet decision on October 22, 2021). In fiscal year 2023, we will engage in the following initiatives toward the achievement of the Master Plan.

1-2. Medium-term management of supply capacities

(1) Management of demand and supply through supply plans

We will grasp the basic information on domestic demand and supply through a aggregation of supply plans submitted by each company and will verify the suitability of the development, suspension, and decommissioning of power generators as well as the suitability of the maintenance and upgrading of transmission lines, and we will evaluate the supply-demand balance and the supply reliability. After that, we will submit a report on matters that should be appropriately addressed by the national government along with our opinions from the standpoint of stable supply, including the securing of supply capacities to the Minister of Economy, Trade and Industry, and we will also collaborate

and cooperate with the national government according to the necessity.

Since demand forecasts constitute information that serves as a starting point for evaluations of the supply-demand balance, evaluations of supply reliability, and calculations of target procurement amounts under the capacity market scheme, we will keep improving the accuracy of the forecasts while utilizing the analysis results of data from smart meters by considering changes in socioeconomic structures.

As for the supply capacities, we will keep verifying the transition of the new establishment, expansion, suspension, and decommissioning of individual power generators from the mid-to-long-term perspective by taking the aggregated supply plans and the results of auction of capacity market scheme into account. Furthermore, from fiscal year 2024, we will gain more detailed information on maintenance plans of each individual power generator and plan on the supply capacities and balancing capacities in the supply plans. Based on the above, we will advance the management method of supply capacities and balancing capacities. For example, we will adjust the maintenance schedule based on the supply plans according to the necessity while we also coordinate the capacity maintenance plans with capacity resource providers.

(2) Study of multiple scenarios of future supply-demand management

In order to secure the supply capacities necessary for the stable supply under the circumstances where it is getting more difficult to newly establish, expand, upgrade, and maintain power generators because of the uncertainty about future demand and supply and the business environment, including the transition to the carbon neutral society, it is important to invest in power generators in a planned manner based on lead times for construction of power generators.

The National Council has pointed out that it is essential to prepare long-term forecasts of demand and supply of electricity that can cover longer than 10 years and serve as a basis for the support of planned investment in power generators to secure supply capacities necessary for the stable supply in future. In response to this, we newly established a study group on future electricity supply-demand scenarios and started studying mainly from the subject of demand forecasts in November 2023.

Based on the above, we will engage in the following initiatives in fiscal year 2024.

- Based on the study of demand forecasts in fiscal year 2023, we aim to sort out issues and develop multiple scenarios after studying the supply capacity forecasts, energy(kWh) balance, capacity(kW) balance, and other matters.
- We will study the supply capacity forecasts by taking the decarbonization of the entire energy supply into account.
- Although we studied the demand forecasts in fiscal year 2023 after considering the

key economic indicators, demographics, changes in society and industrial structures, and other matters, we will review the result of such a study, if necessary, based on discussions on the supply capacity forecasts in fiscal year 2024 and other matters.

- As for the balance of kilowatt hours (kWh) and kilowatts (kW), we will study the cross-regional reserve margin for year 2040 and 2050 based on the demand forecasts and the supply capacity forecasts. First of all, we will study the balance of kilowatt hours (kWh) and forecast a load curve which takes the demand items having significant influence on the load factors into account, then we will study the balance of kilowatts (kW).
- We will analyze issues indicated from the study of supply-demand scenarios (such as presence of kilowatt insufficiency), then we will organize further scenarios and carry out detailed simulations according to the necessary.
- We will share developed scenarios with the national government and the parties involved such as relevant companies. As we assume that these scenarios will be referred for a smooth conduct of auction for long-term decarbonized power generators or for a planned development of power generators by companies according to the necessity, we will also share issues of the scenarios with our departments involved and proceed with the study in cooperation with others.

1-3. Initiatives to promote securing of supply capacity

(1) Capacity market scheme, long-term decarbonized energy auction

It is important to operate the capacity market scheme properly in order to secure the supply capacities required for the stable electricity supply effectively and securely. To this end, in addition to the main auction held annually four years before the actual demand and supply operation and an incremental auction held one year before the actual demand and supply operation under the capacity market scheme, it is necessary to smoothly and surely implement the operations preceding the actual supply and demand operation, such as the long-term decarbonized energy auction held from fiscal year 2023, capacity verification test and coordination of scheduled maintenance plans, and the operations during actual supply and demand operation, such as assessment of requirements that will be carried out from fiscal year 2024 for the first time, and invoice and grant of subsidies.

In addition to that, it is important to carry out initiatives continuously to inspect system designs based on the results of auctions and to make an alignment with revisions of other relevant systems.

Based on the above, we will carry out the following initiatives in fiscal year 2024

- We will verify system designs, operation designs, and other designs based on the situations of each auction held recently and their results, situation of operations preceding the actual supply and demand operation that has been conducted before, and the situation of operations during the actual supply and demand operation to be held from fiscal year 2024 for the first time. Furthermore, we will conduct study and review required to make them align with revisions of other relevant systems.
- We will smoothly and surely carry out each auction to be held this year, operations preceding the actual supply and demand operation, and operations during the actual supply and demand operation by following the systems and rules that have been established until today. Along with that, we will engage in organizing a system for risk management against extraordinary events in the operations during the actual demand and supply operation.
- As for the long-term decarbonized energy auction, we will study the detailed operation designing and system organization toward implementation of operations prior to and during the period of system application.
- We will add the functions of various systems and tools, such as capacity market system and agreement processing tools, based on changes in market rules, improvement of methods of business operation, and other factors.
- As for the capacity market scheme, we will continuously make power generation companies, retail electricity companies, general transmission and distribution companies, and other companies aware and understand the details of systems and the measures required from them and will provide information with precise explanations of the significance and the necessity of the systems for the general public.

(2) Study and operation of the scheme for strategic reserve power generators (power supply bidding, etc.)

We will proceed with the examination in coordination with the national government toward the start of a scheme for strategic reserve power generators that makes power generation companies maintain suspended power generators that can be restarted (rebooted) within a certain period of time, so that the necessary supply capacities are secured at the time of an emergency, including major disasters as well. Since the Organization is an implementing entity of processes for bidding, we will proceed with the business related to bidding outlines necessary for procurement of suspended power generators, a method of confirmation of repair of reserved power generators or state of continuous suspension, and the invoice and grant of necessary funds in coordination with the national government to establish systems toward the start of operations without delay.

A scheme for strategic reserve power generators will be implemented as one type of framework for power supply bidding, and such a system is prepared by using the frameworks for an invoice of contributions and a grant of compensations for power supply bidding. As for the power supply bidding, except for the scheme for strategic reserve power generators, we will carry out the necessary study based on the compiled contents of supply plans as well as on the fact that the operations during the actual demand and supply operation under the capacity market scheme is started from fiscal year 2024 and on the discussion on measures to secure supply capacities by the national government.

1-4. Initiatives to secure balancing capacity, etc.

(1) Study of the proper securing of necessary reserve capacity and balancing capacity

While it becomes necessary to secure balancing capacities for an appropriate supply reserve capacity or frequency control (including balancing capacity for frequency control, inertial power, synchronizing capacity, and voltage balancing capacity) to ensure a stable supply on a daily basis, it is important to reduce both the electricity rates and the risk of blackouts by securing the proper volume of such balancing capacities. Proper amounts of balancing capacities are calculated based on an analysis of the present state of operations of the power generators, as well as changes in the situation of the full transition of the way of procurement of balancing capacity from a public call for to the supply-demand balancing market scheme from fiscal year 2024, and changes in the operation period to the actual demand and supply operation period under the capacity market scheme.

In addition, in order to make renewable energy a primary energy source, it is important to proceed with the study toward more sophisticated methods of management and procurement of the supply reserve capacity and the balancing capacity, while supposing those capacities to be required in the future.

Based on the above, we will carry out the following initiatives in fiscal year 2024.

- As for the proper securing of the supply reserve capacity, we will proceed with the study of calculation methods of more proper amounts of the supply reserve capacity to be secured based on supply plans of fiscal year 2024, results of auctions under the capacity market scheme toward fiscal year 2028, trends of demand and supply, and other matters.
- We will investigate and study the trends of technologies in foreign countries and will proceed with the establishment of evaluation tools by aiming at the establishment of an evaluation method for supply reliability on the assumption of grid congestion.
- As for the proper securing of balancing capacities, we will study on the advancement

of confirmation methods and will confirm the state of securing of balancing capacities based on the changes in the method of procurement of balancing capacities by general transmission and distribution companies from public auction to the procurement under the demand-supply balancing market scheme.

- We will try to optimize the state of sufficient balancing capacities for the medium-to-long term period by carrying out the study for improvement in the accuracy of the calculation methods for the necessary amounts of balancing capacities and the number of facilities to be secured for the medium-to-long term period based on an increase in renewable energy and the trend of the suspension and decommission of thermal power generators.
- We will proceed with the study of the necessary scale of public calls in the Okinawa area where the public calls for balancing capacity will continue by the first half of 2024.
- As for the proper securing of inertial power, we will proceed with the refinement of calculation method of necessary amount of inertial power and the study of management method of the current state of securing and other matters based on the estimated results of future state of securing of the inertial power and other factors.

(2) Study of the demand-supply balancing capacity scheme

As for the secure procurement and the effective operation of the necessary balancing capacities, while we pay attention to initiatives to widen the areas, improve transparency through the adoption of market mechanisms, and establish a competitive environment for DR (demand response) companies that include new power companies from the perspective of the provision of merits for all companies and consumers who utilize the electric network system, we will proceed with the preparation for the demand-supply balancing market scheme and will start operation of all commodities from fiscal year 2024.

It is also important to proceed with the necessary review toward a more effective and secure operation of the demand-supply balancing market scheme.

Based on the above, we will carry out the following initiatives in fiscal year 2024.

- We will proceed with the study regarding a review of the necessary rules depending on the trading conditions under the demand-supply balancing market scheme and proceed with the study toward optimization of the necessary amounts of balancing capacities inclusive of a reduction in procurement amounts through improvement of the accuracy of weather forecasts and changes in procurement methods.
- We will proceed with the study of measures that can procure the necessary balancing capacities securely from the demand-supply balancing market scheme in the actual demand and supply operation by considering the grid congestion occurrence in future.

(3) Study of the simultaneous market scheme

Currently, trading platforms are established under the demand supply balancing market scheme as for ΔkW electricity (balancing capacities) and under the wholesale electricity market scheme as for electric energy, and it has been pointed out that the optimization of start and stop of power generators under the both market schemes, and the collection of proper costs will become even more important along with the expansion of the integration of variable renewable energy for the medium-to-long term period. Because of the above, in addition to the perspective aiming at more stable and sustainable demand and supply operation and market systems, it is important to continuously proceed with the study of the simultaneous market scheme that can procure ΔkW and electric energy simultaneously, while we pay attention to the perspective of consistency with multiple systems and actual operations of the wholesale electricity market, demand-supply balancing market, and submission of power generation sales plans.

Based on the above, we will carry out the following initiatives in fiscal year 2024.

- As for the logics of the start of power generators and output allocation, we will evaluate feasibility and validity of them under the third-party verification system that shall include experts because advanced calculations become necessary.
- We will compare and verify multiple calculation methods of price that includes the price that takes marginal cost, average cost, and ΔkW of electricity into account to confirm the average market price and volatility under the simultaneous market scheme.
- As for the cost-benefit analysis along with the transition to the simultaneous market scheme, we will conduct the quantitative calculation of the cost and benefit that includes the reduced cost of balancing capacities, reduced cost by cross-regional dealing with congestion, and system introduction cost and will carry out qualitative analysis of changes in behavior of companies and other entities.
- As for the necessity, commodity categories, calculation method of the necessary amounts of balancing capacities, and reserve capacities under the simultaneous market scheme, we will proceed with the technical study based on the difference with the current demand-supply balancing market scheme.

2. Establishment of next-generation networks

In the development and operation of the electric network system, it is also important to engage in initiatives that contribute to the expansion of utilization of decarbonized power source and the stable and inexpensive energy supply as well as effective network operation toward the achievement of carbon neutrality in 2050.

Therefore, we will engage in the following initiatives by coordinating each business toward the implementation and promotion of cross-regional electric network development plans, rationalization of procurement of the necessary costs for network development, effective utilization of existing network facilities, and establishment of proper rules for the expansion of the integration of renewable energy based on the long-term policy for a cross-regional electric network (master plan of cross-regional interconnection of networks) (drawn-up in March 2023) with the aim to establish next-generation networks that will help make renewable energy a primary energy source and boost the resilience of electric power.

2-1. Development of cross-regional electric networks

(1) Promotion of cross-regional electric network development plans

To realize environmental development for cross-regional electricity trading and stable electricity supply, we will engage in the following initiatives related to the implementation and promotion of development plans based on the long-term prospects for cross-regional electric network development specified in the long-term policy for a cross-regional electric network.

- We will engage in initiatives toward the drafting of development plans inclusive of the solicitation of operating companies and operation proposals, and the examination of the operation proposals based on the basic requirements defined in the planning process of eastern and central-west regions by aiming at early implementation of the cross-regional electric network development plans based on the long-term prospects on cross-regional electric network development.
- We will periodically check the state of construction progress of the cross-regional electric network development plan currently under way (interconnection facilities between Hokkaido and Honshu (the Japanese main island), interconnection lines between Tohoku and Tokyo, and interconnection facilities between Tokyo and the Chubu area) and will verify the construction cost of cross-regional electric network development during the implementation phase from the perspective of reducing the allocated cost on the public associated with network development.

(2) Improvement of business environment for electric network development

It is important to improve the business environment that includes the rationalization of funding to actualize cross-regional electric network development plans for companies to develop electric networks based on the plans because such development requires a large amount of funds and involves considerable risk.

In addition to a grant of subsidies for electric network installation and for cross-regional

electric network development based on the provisions of the Act, it has become possible from fiscal year 2024 to grant specified network installation subsidies that can be granted from the start of construction work for development plans authorized by the Minister of Economy, Trade and Industry as development plans of especially important transmission lines and to lend profits from the price difference to authorized companies from the perspective of securing of a stable supply. As the Organization becomes a main organization to carry out business related to a grant of subsidies and others, it will proceed with the examination of actual performance and the development of systems necessary for such business in coordination with the discussion regarding operation of national systems.

(3) Update of aging facilities

In order to upgrade the "guidelines for updating aging facilities" (established in December 2021) aiming at the maintenance of credibility of supply from transmission and distribution facilities and the minimization of the social costs, we will continuously expand the scope of facilities subject to the risk calculation and consider the refinement of risk calculation.

Furthermore, for aging cross-regional interconnection networks, we will consider an efficient establishment of facilities that include the update of facilities in line with the long-term prospects on cross-regional electric network development specified in the long-term policy for a cross-regional electric network.

2-2. Proper operation of transmission and distribution lines

(1) Management of interconnection lines between regions

To precisely manage the interconnection lines between regions and main networks that constitute the core of cross-regional electric network operation, the Organization will carry out the following businesses related to the calculation and publication of total transfer capacity and margin of interconnection lines, reception and examination of applications for approved power source management of transitional plans, and publication of information on electric networks.

- Given the need to evaluate and confirm the stability of the electric network in setting the total transfer capacity of interconnection lines, we will endeavor to improve the operational quality through the analysis of the power flow performed with electric network analysis tools in order to help facilitate highly reliable management. In addition, we will proceed with the study of specific operational method and operational capacity after AC loop operation in the central region and reinforcement of interconnection lines between Tohoku and Tokyo based on the long-term policy for a cross-regional electric network compiled at the end of fiscal year 2022.

- In order to enable electric network users to make maximum use of the electric power infrastructure constituting the social infrastructure, we will calculate and publicly announce limits for interconnection lines that can be operated upon ensuring the reliability of the supply of electricity and margin values needed to supply electricity and procure cross-regional balancing capacity in the event of abnormalities, including the events of accidents of interconnection lines or unplanned work suspension where immediate response is required.
- We will accept and periodically examine new and changed applications for approved power sources in response to the reviews of the rules related to the use of interconnection lines conducted for the realization of cross-regional merit orders (introduction of indirect auctions). Likewise, with respect to plans for transitional measures that have been introduced as provisional measures until fiscal year 2025, we will periodically monitor companies subject to such provisional measures to assess whether operations, such as acceptance and management of applications for the delisting of issues and bidding activities in accordance with the purpose of the system, are being carried out, and we will encourage the remediation if necessary.
- We will disclose information on interconnection lines between regions and nationwide electricity supply and demand in accordance with the Guidelines on Network Information Disclosure (revised in April 2023) as defined by the national government.

(2) Coordination of scheduled outage plans

While the long-term scheduled maintenance work is expected to increase because of the systematic update of existing distribution facilities to fortify the power transmission and distribution networks, it is important to promote the coordination among companies and realize overall optimal maintenance work coordination to strike a balance between the proper maintenance of transmission and distribution facilities and power supply facilities and the securing of the power supply capacity.

Therefore, we will compile plans concerning the scheduled maintenance work of the cross-regional interconnection network in yearly, monthly, unplanned, and emergency contexts, coordinate with respect to scheduled maintenance plans for power facilities that affect the operational capacity total transfer capability of interconnection lines by considering the changes in supply structure attributed to increase of renewable energy, and publicly announce the scheduled maintenance plans at the appropriate time.

In addition, we will continue to proceed with the study of more smooth and efficient implementation method and business flow with regard to coordination related to the relations between the scheduled outage plans of transmission and distribution facilities and the capacity suspension plans of power supply facilities based on the fact that

capacity resource providers under the capacity market scheme draft capacity suspension plans related to the suspension or output decrease along with periodic repair work two years prior to the actual demand and supply operation.

(3) Advancement of network usage

To strike a balance between the early interconnection of new power sources like renewable energy and the reduction of the costs necessary for development and maintenance of electricity networks, we will engage in the following initiatives related to the connect and manage operation of transmission lines, which is a system to utilize existing network facilities effectively.

- We will proceed with the study regarding development of rules in the case of grid congestion on the side of forward power flow along with grid connections of a grid-scale battery in order to promote further integration of a grid-scale battery for which the number of applications for the system impact study is rapidly increasing.
- In preparation for grid congestion that may occur in normal times other than times of maintenance work, we will study methods to evaluate the influence of such grid congestion on supply capacities and balancing capacities.
- When general transmission and distribution companies control the output of renewable energy to solve grid congestion on the main networks and local networks during normal times, we will verify the validity of such control based on the Operational Rules and publish the result in terms of the fact whether the output control has been conducted in the predetermined output control order (a certain order) of redispatch system in light of the newly revised Network Codes.
- When power generation is suppressed promptly by a protective relay in the event of N-1 trouble in connection with expansion of total transfer capacities during normal times along with the introduction of the N-1 inter trip, we will study the validity of such suppression based on the Operational Rules in terms of the settlement of expenses in light of the Network Codes.

(4) Efficient access operations

We will confirm that the procedure and operation of the collective study process for generator interconnections that will be continued for distributing substations are conducted properly and will instruct general transmission and distribution companies to proceed with the process without delay.

And, as for an application for access study received by the Organization, we will respond without delay through proper confirmation of validity from a professional viewpoint.

Furthermore, we will ensure smooth implementation of the network reinforcement process requested by applicants for congestion mitigation of which the operation will be

started from fiscal year 2024 by explaining and informing companies precisely based on the start of acceptance of applications for non-firm connections on local networks.

(5) Reviewing grid codes

Proper development of the grid codes that include technical requirements of network interconnection, which are a series of regulations related to network interconnection of power sources, is important for promotion of the integration of renewable energy as well. Therefore, we will review the technical requirements (phase 3) that become necessary when the integration rate of renewable energy is assumed to be 50% to 60%, which is a reference value, toward the achievement of carbon neutrality by advancing the schedule with respect to the requirements that are necessary to be mandated in the early stage with the aim of completion by around 2030.

Furthermore, we will proceed with the study of technical requirements in taking the types of power sources, and new technologies and systems where the introduction is assumed to be expanded into account (phase 4) in terms of feasibility by setting the timing with respect to the requirements that are necessary to be mandated.

As for the technical requirements that have been studied on the assumption that the integration rate of renewable energy as of fiscal year 2030 would be 36% to 38% in the sixth energy master plan (phase 2), we will revise the application form for the system impact study based on the fact that such integration rate will be reflected in the technical requirements of network interconnection in April 2025 by general transmission and distribution companies.

(6) Disaster coordination plan, mutual aid

Upon the amendment of disaster coordination plans of general transmission and distribution companies, we will study the amendments in light of knowledge gained in the course of business of the Organization and implement the necessary measures from the nationwide perspective inclusive of sending plans with its opinions, if any, to the Minister of Economy, Trade and Industry.

In addition, as for the mutual aid system for the disaster recovery costs that will be allocated and collected across the nation for temporary restoration, we will set the total amounts of contributions and the amount of funding requirement, claim for contributions, accept applications, define the amount of subsidies, grant subsidies, and verify the system afterward.

3. Promotion of integration of renewable energy

We are supporting the integration of decarbonized power source by FIT/FIP system and auctions for long-term decarbonized capacity towards achievement of carbon neutrality

in 2050. In addition, we are promoting the development of networks and of usage rules of networks based on a policy for cross-regional electric network development to provide such electricity to consumers.

It is necessary to proceed with the environmental development to make renewable energy the main power source while balancing the maximum integration and the mitigation of cost allocation on people. Therefore, it is important to implement properly and effectively the FIT/FIP system that supports the integration of renewable energy while introducing the bidding system. In addition, we will engage in the following initiatives because it is also important to engage in initiatives to coordinate with local community and environment when the integration of renewable energy is proceeding.

To establish an electricity supply system toward the achievement of business related to FIT/FIP bidding and the grant of subsidies, the reservation of decommissioning costs, measures to have companies in breach reserve subsidies, and carbon neutrality, the Act on Special Measures Concerning Promotion of Utilization of Electricity from Renewable Energy Sources (Act No. 108 of 2011) is amended by the Act to partially amend the Electricity Business Act (GX Decarbonization Electricity Act) (Act No. 44 of 2023) to establish an electricity supply system toward the achievement of a decarbonized society for the purpose of strengthening business discipline to integrate renewable energy together with the local community, and the amended Act will be enforced in April 2024. Based on the above, we will carry out the following initiatives in fiscal year 2024.

- As businesses related to the FIT and FIP schemes have a direct influence on the business operations of authorized business operators, purchase obligor, and retail electricity companies, and charges as capital of the businesses are funded by the public, we will implement proper and efficient business operation. We will also thoroughly implement fair and proper bidding operations by placing information under strict control.
- We will properly implement the business related to reserve funds for disposal of solar panels and properly operate the system that collectively receives reserve funds for the expansion of solar panels from companies who are authorized to expand or upgrade solar panels because such a system will start from fiscal year 2024.
- We will ensure the withholding of subsidies against authorized companies who are confirmed to be in breach of business plans based on an ordinance of the Minister of Economy, Trade and Industry to strengthen business discipline of authorized companies from fiscal year 2024.
- Since the long-term management of huge amounts of funds will be required for the renewable energy account, we will prepare an estimate of income and expenditures

and manage the financial performance of each month under the sound risk management based on market trends and other matters. On the other hand, the Electricity Business Act regulates borrowing of funds, utilization of government guarantee, and other matters since the income and expenditure will be offset in several years in this account from the viewpoint of the purpose of the Act on Special Measures Concerning Promotion of Utilization of Electricity from Renewable Energy Sources; therefore, we will handle the account properly in coordination with the national government.

- We will respond accurately to inquiries from many companies regarding business related to renewable energy and will provide information that is easy to understand by fulfilling our website and FAQ contents.

4. Development and stable operation of systems

It is necessary to proceed with the development of information system which achieves secure and effective business conduct and improves convenience for members and other electricity supply companies. To this end, while we will implement planned measures to maintain stable operation of aging systems and make development based on the amendment of national system and development contributing to streamlining of business from the viewpoint of users, we will also proceed with the initiatives to maintain stable operation of the system.

In addition, we will proceed with the initiatives for the confirmation of the appropriateness of the scope of systemization, review of the costs, reinforcement of project management, and the comprehensive coordination of plans with mid- and long-term prospects by utilizing the knowledge of expert CIO advisers to improve further the quality and effectiveness of development and upgrading of the system.

(1) Streamlining the development of and maintenance management for the cross-regional organization system

It is important to proceed steadily and systematically with the development, management, and maintenance of cross-regional organization system to promote cross-regional operation by making the most of newly installed or expanded interconnection lines.

Based on the above, we will carry out the following initiatives in fiscal year 2024.

- We will make development to address the change in the points to be published regarding the plan for two days later to 48 times (2 points in fiscal year 2024) and the change in the duration of procurement block of tertiary balancing capacities [2] under the demand-supply balancing market scheme to 30 minutes (previously 3 hours) to

improve the accuracy of demand and supply management by the cross-regional reserve margin from fiscal year 2025. Furthermore, we will consider and start without delay the development based on a review of new systems inclusive of an alternating current loop in Central Region, procurement on the previous day to address the lack of bids for weekly commodities under the demand-supply balancing market scheme.

- As for the existing systems, we have proceeded with the study on the assumption of the start of full-scale development in fiscal year 2025 toward replacement at the end of 2030, which is a maintenance deadline. On the other hand, it has become apparent that it is necessary to have a clear picture of the development trend of next-term central load dispatching system to be connected and the discussion on systems in progress for overall optimization of the scope of development and the costs, and for risk management in transition, we will proceed with the review of schedules inclusive of the extension of the maintenance deadline and postponement of replacement timing. In fiscal year 2024, we will deepen the study and coordination with respect to cooperation with the development of the next-term central load dispatching system and the division of functions in order to avoid unnecessary duplicate investment in the same functions and to mitigate social costs by overall optimization among systems as a measure to fulfill our roles. In parallel with this, we will proceed with the review of structures of the existing systems from both the soft and hard aspects, and with the technical evaluation of feasibility of the reviewed structures.
- For preservation management and maintenance of the existing systems, we will ensure normal and stable operation by implementing the minimum necessary marginal measures of hardware maintenance while we maintain consistency with system replacement.

(2) Capacity market scheme, business related to renewable energy, switching support system, etc.

It is imperative to maintain stable operation of each system for proper and effective operation of business related to capacity market scheme, renewable energy, and support for smooth change (switching) of retail electricity companies for consumers.

Based on the above, we will carry out the following initiatives in fiscal year 2024.

- For the capacity market scheme, we will develop systems for addition of requirements for inefficient coal-fired power sources for which the system will be amended from actual demand and supply operation period in fiscal year 2025, and for proper and effective operation of business during the actual demand and supply operation period. In addition, we will study the system development that will be necessary for the long-term decarbonized capacity auction in future.

- For the system related to renewable energy, we will develop systems to handle matters based on the study of system revisions at the National Council inclusive of grid charging of storage battery by FIT and to operate business properly and effectively.
- In addition to the above, we will systematically conduct improvement, operation, and maintenance of the switching support system, cross-regional reserve margin Web publication system, publication system of actual power generation of each unit that has been started to be developed and operated in fiscal year 2023, as well as member information management system, accounting system, and OA system, etc.

(3) Security measures for information system

As for each system which is the business foundation of the Organization and responsible for stable electricity supply, we will improve measures for information security and cybersecurity of the Organization and electricity companies, and maintain zero security incidents that lead to major power outages.

In fiscal year 2024, while we continuously reinforce the preparations against cyberattacks, monitor security logs, and implement audit information security, we will proceed with the initiatives to conduct drills in preparation for the occurrence of security incident and to raise awareness of security among the personnel of the Organization.

5. Reinforcement of governance which support business

In addition to general meeting, board of directors, and board of councilors based on the Electricity Business Act and the Articles of Incorporation of the Organization, as well as regulations and authorization of government, our governance, which conducts multilayered checks, is established by verification working group of the Organization for Cross-regional Coordination of Transmission Operators, Japan (hereinafter “verification WG”), steering committee and others in the Organization.

Furthermore, we will introduce accounting audits by an audit corporation to improve the transparency and reinforce the governance of the accounting process in order to address the recent expansion of business and the increase of funds to handle based on information compiled by verification WG.

After introduction of accounting audit by an audit corporation, in addition to the previous 1) audit by an auditor, and 2) internal audit by the audit office, 3) accounting audit by an audit corporation will be implemented. We will improve the effectiveness of governance by taking advantage of the coordination of these three types of audits and improve the transparency and accountability of business and financial accounting further.

(1) Introduction of accounting audit by an audit corporation

Toward the introduction of accounting audits by an audit corporation from settlement in fiscal year 2024, we are proceeding with the establishment of systems and schemes inclusive of the selection of accounting standards complying with previous audits, revision of accounting rules, and reinforcement of vulnerable aspects of current practices and systems.

In fiscal year 2024, we will prepare for the smooth introduction of external accounting audits from the settlement in fiscal year 2024 by reviewing the settlement schedule through the settlement in fiscal year 2023, preparing financial statements complying with the corporate accounting standards, and concurrently selecting an audit corporation based on the experience of the trial audit conducted in fiscal year 2023 for the settlement in fiscal year 2022.

(2) Audit and monitoring

Among the three types of audits, an internal audit by the audit office is conducted from the view of the conduct of business, financial reporting, document management, information management, information security, and others to confirm whether the business of the Organization is conducted in a proper, neutral and fair manner.

In particular, with respect to a financial report, we conduct an audit focusing on the evaluation of internal control related to the business that handles the management of huge amounts of funds, and on monitoring of appropriateness of accounting process and fund management.

With respect to secure information security, we will conduct internal monitoring, in a timely manner, related to information management in the ordinary course of business for more thorough information management aiming at neutrality and fairness, in addition to the professional and objective audits inclusive of the use of third-party audit.

6. Development of foundation and organizational management which support other business

It becomes important to address the environmental change surrounding electric systems, disseminate information effectively to stakeholders that include consumers and develop systems, secure and train highly skilled human resources, improve the efficiency of budget and business, and reinforce countermeasures in an emergency, such as major disasters, along with the expansion and complication of our business. We will handle these cross-sectional issues systematically and quickly and will reinforce initiatives to support the foundation of organizational management.

(1) Reinforcement of information dissemination and publication

We will actively disseminate information that is easy to understand regarding the importance of the cross-regional operation of the electricity business, roles and business of the Organization, and our neutral, fair and transparent operation and fulfil and reinforce publication that includes a press response so that the information is understood not only by members but also by society. In particular, we will engage further in prompt and comprehensive information dissemination related to demand and supply trends inclusive of providing advance information regarding tight balance of demand and supply.

Furthermore, we will prepare and publish an annual report on the demand and supply of electricity, state of electric network system, grid access business, forecasts and issues related to demand and supply of electricity for the next fiscal year and the medium-to-long term period, evaluation and verification of reserve capacity and balancing capacity, and other matters.

In addition, we will aim to give feedback to the domestic debate by establishing relations with relative organizations in foreign countries, providing information on initiatives, and expanding knowledge through participation in international academic conferences related to the business of the Organization, or through technical discussions and oversea study.

(2) Continuous review of organizational management structure

We will continuously engage in the initiatives comprehensively with regard to organizational management, reinforcement of governance, securing and training of human resources, and other matters based on the Action Plan for the Organizational Structure and the Management Philosophy (missions, visions, values) enacted for the first time by the Organization in fiscal year 2023.

Furthermore, we will review the necessary business, response, and organizational structures timely and appropriately based on the environmental changes surrounding electricity systems and on the review of system revision at the national council.

(3) Securing and education of personnel

It has become more important to secure personnel with various high skills regardless of whether they are proper personnel or loaned employees because our business has expanded and become more complicated and diversified.

In particular, the securing and training of proper personnel are issues of top priority when we take into account our organizational missions as a neutral professional organization that pursues the maximization of public benefit, continuity of business, and existence of departments that handle individual company information; therefore, we will reinforce recruitment activities not only for mid-career recruitment personnel but also for new graduates and will adopt stratified training corresponding to the growth of

personnel, in addition to the training at the time of recruitment. Furthermore, we will promote the utilization of skill-up support systems that we introduced in fiscal year 2023 to support personnel with licenses or other certifications in a wide range of areas.

On the assumption that neutrality and fairness in business will be fully secured in terms of both systems and business operations in future as well, we need loaned employees who have advanced knowledge of the issues and practical skills related to the expansion and complication of business as work-ready personnel to deal with such expansion and complication, we also continuously aim to gradually decrease the ratio of loaned employees from major electricity companies (ratio of loaned employees from major electricity companies shall be less than 50% in fiscal year 2025).

(4) Budget and financial management

Operation of the Organization basically consists of a membership fee and a special membership fee of members as electricity companies, and the effective and efficient business operation and budget execution are strongly desired.

Because of the above, we will examine the needs, efficiencies, and priorities of the budget when we prepare a budget and will try to reduce expenditures by selecting proper measures that include bidding as a basic measure and fulfill accountability upon procurement.

Upon settlement, we will compile financial results in financial statements through a strict and accurate accounting process that will utilize a financial accounting system complying with corporate accounting standards as generally recognized as fair and reasonable and will publish the statements with a business report to secure transparency. Furthermore, we will develop systems for the proper management of funds and finance by considering the compliance with corporate accounting standards and the introduction of external audit because we will need not only to operate surplus money but also to lend or procure funds along with increase and diversification of funds that we handle.

(5) Response to disasters, etc.

In an emergency, such as disasters, we will reinforce cooperation with the national government and general transmission and distribution companies under the response system in accordance with the Operational Rules and an emergency disaster action plan and will secure demand and supply promptly and flexibly.

During normal times, we will develop a response system and conduct disaster-response drills, and we will engage in initiatives to fortify our ability to respond to disaster inclusive of response drills at our backup operations base that we established in western Japan to ensure that we will be able to carry out prioritized continuous operations in accordance with a business continuity plan in the event that damage is incurred by our

offices or any of our members.

Furthermore, we will continuously prepare for contingencies as we are a designated public corporation based on Act on Special Measures Concerning Novel Influenza Virus (Act no. 31, 2012), and Act concerning the Measures for Protection of the People in Armed Attack Situations (Act no. 112, 2004).

(6) Handling of complaints or inquiries and dispute resolution

When we receive complaints or inquiries concerning the business related to the transmission and distribution of electricity from electricity supply companies or other companies, we will promptly respond and otherwise implement the initial measures in order to avoid the opportunity loss for the companies and endeavor to resolve the matters as soon as possible by organizing the points in dispute and proposing solutions based on each company's request.

If further action is needed, we will explain and implement alternative procedures for resolving disputes (mediation and arbitration) and issue guidance or recommendations to the electricity supply companies.

Furthermore, we will periodically compile, publish, and widely disseminate the requests and consultations tied to complaints so as to contribute to improvement of the business of electricity supply companies.

(7) Development of rules such as the Network Codes

We will proceed properly with the development of rules inclusive of revision of the Articles of Organization, Operational Rules, Network Codes, and other regulations related to the Organization to address various system revisions considered by the national council in an appropriate manner.