Business Plan FY 2023 of Organization for Cross-regional Coordination of Transmission Operators, Japan

The Organization for Cross-regional Coordination of Transmission Operators, Japan (hereinafter, "this Organization"), as an Organization for Cross-regional Coordination of Transmission Operators, Japan specified in Article 28-4 of the Electricity Business Act (hereinafter, "the Act"), will carry out the following business with an aim to secure stable electricity supply nationwide and promote effective utilization of transmission and distribution facilities through cross-regional operation of the electricity business.

1. Transitioning to next-generation networks that will help make renewable energy a primary energy source and boost the resilience of electric power

The Organization will engage in the following three initiatives with a view to transitioning to next-generation networks and proper management of demand and supply that will help make renewable energy a primary power source and boost the resilience of electric power toward achievement of carbon neutrality by 2050:

- Establish rules related to the use of grid facilities in order to realize a society in which renewable energy is a primary power source, and study and prepare measures to contribute to the establishment of grid facilities through the effective utilization of electric network systems and effective investments.
- Even when the composition of power sources and the use rules of grid facilities change along with transitioning of renewable energy to a primary power source, assess the balance of supply and demand appropriately and study and prepare measures to secure supply of the stable electricity at reasonable cost.
- Forecast demand properly and manage supply capacity with a focus on medium- to long-term changes in societal structures.

1-1. Aggregation, examination, and submission of electricity supply plans to the Minister of Economy, Trade and Industry (Item 4 of the Paragraph 1, Article 28-40 of the Act)/ Promotion of securing of supply capacity, grant of subsidies for cross-regional electric network development, and drawing-up of cross-regional electric network development plan (Items 5, 5-2, 5-3 of paragraph 1 of Article 28-40 of the Act)/ Provision of relevant information and liaise and coordination with respect to the services for electricity transmission and distribution (Item 8 of Paragraph 1 of Article 28-40 of the Act)

(1) Building up facilities for the management of demand and supply and the construction

of next-generation networks through electricity supply plans

Supply reliability assessments will be deepened by considering changes in the composition of power sources and the use of electric networks and the opening of capacity market schemes. In addition to evaluating the balance of supply and demand in Japan through supply plans by different utilities, we will verify the suitability of the development, suspension, and decommissioning of power sources and transmission lines and submit domestic matters that should be appropriately addressed along with feedback from the standpoint of stable supply to the Minister of Economy, Trade, and Industry. And, we will examine matters that include the necessity of coordination for improvement of demand and supply balance and of measures on supply capacity based on the progress of suspension and decommissioning of power sources, then enhance the information sharing in the Organization so as to identify signs of deterioration of demand-supply situation at an early stage and establish systems to implement measures on supply capacity flexibly.

(2) Operations related to demand forecasts

Demand forecasts constitute information that serves as a starting point for evaluations of the balance between demand and supply, evaluations of supply reliability, and the capacity market scheme. Since the accuracy, basis, and transparency of such forecasts are essential for a stable supply, we will continue to identify issues on the method of demand forecasts and improve it by analyzing data, conducting interviews, and researching the literature about power demand and the economy. In particular, we will evaluate changes in socioeconomic structures and their influence on power demand while utilizing the results of the data analysis of smart meter introduction that has been promoted, then we will incorporate our findings into future demand forecasts and study the necessity and the entire concept of the long-term supply-demand scenario for more than a decade in cooperation with the national government and other institutions.

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

Regarding the evaluation method of demand and supply verification that contributes to decisions on the national government's request to conserve electricity, we will reorganize the evaluation method in demand and supply verification based on the study of issues of the calculation method of necessary reserve capacity in the probability theory, then will compile and publish reports. In addition to that, we will use records of electricity demand and supply to make a review and make the method of evaluation more sophisticated.

Regarding the confirmation of demand and supply (kW (supply capacity) monitoring, kWh (supply energy) monitoring, kWh reserve energy margin management by fuel stock),

in addition to the monitoring of demand and supply in the previously established method, we will identify and correct the issues in responding to the situation where the demand and supply balance is tight based on the result of the monitoring and implement measures for demand and supply in cooperation with the relevant organizations, if necessary.

(4) Grand design for the development of next-generation networks

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.

(i) Cross-regional electric network development plan

In order to steadily realize the development of an environment for cross-regional trading of electricity and the stable power supply, 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. In addition to that, we will carry out initiatives that include the deciding of the basic requirements in the planning process of Eastern and Central-West regions by aiming at early realization of the cross-regional electric network development plan based on the long-term prospects on cross-regional electric network development envisioned in the Master Plan. Along with these initiatives, we will develop an environment for enforcement of the plan by companies that include the operation of subsidies for cross-regional electric network development and the establishment of networks in cooperation with the national government.

(ii) 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 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 envisioned in the Master Plan.

(iii) Rules related to the use of electric networks

In order to maintain the balance between prompt interconnection of new power sources, such as renewable energy, and a decrease in the costs necessary for development and maintenance of electricity networks, we will appropriately examine the validity of the operation costs for the N-1 inter trip, which will be applied in full-scale from fiscal year 2023, pertaining to Japanese Connect & Manage, which is a scheme to utilize the existent grid facilities effectively.

By December 2023, subject to S+3E, we will prepare for the proper implementation of a redispatch system that controls the output of power supply in a certain order at the time of grid congestion as a method to manage grid congestion along with non-firm operation of the main networks to minimize power generation costs.

In addition, while we start accepting applications for the non-firm access targeting at local electrical networks from fiscal year 2023, we will study the method of enhancement of networks to prepare for grid congestion on local electrical networks in future by referencing the collective study process for generator interconnections, and will amend regulations, if necessary.

Because there are concerns about influence on supply capacities and balancing capacities associated with grid congestion in normal times due to the changes related to the use of electric networks, we will study the forecasting method of influence of grid congestion for evaluation of supply capacities and balancing capacities on congested networks.

(5) 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. 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, when the Organization changes the rules related to the use of electric networks that include the start of acceptance of application for non-firm access targeting at local electrical networks, we will explain and inform companies precisely.

(6) Reviewing grid codes

Development of appropriate grid codes that are series of regulations related to network

interconnections of power sources that include the development of technical requirements of network interconnection will not only stabilize the grid upon the large-scale adoption of renewable energy but also contribute to making renewable energy a primary source of power, and it is important to develop in phases along with the expansion of introduction of renewable energy. Therefore, we have already completed the preparation for enforcement of the technical requirements of network interconnection with regard to the technical requirements (phase 1) that are considered to be necessary to be mandated in the short term for the start of application in April 2023.
In fiscal year 2023, we will proceed with the examination of the technical requirements on the assumption that the introduction rate of renewable energy as of fiscal year 2030 would be 36% to 38% as specified in the sixth energy master plan (requirements contributory to the proper output control and countermeasures against the output fluctuation, expansion of application to the power voltage and the types of power sources required during these terms) (phase 2) toward revision of technical requirements on network interconnections in April 2025.
In addition to the above, we will examine the technical requirements on the assumption that the introduction rate of renewable energy would be 50% to 60%, which is a reference value toward achievement of carbon neutrality in 2050 (phase 3), and the technical requirements by taking the types of power sources of which introduction is expected to be expanded and new technologies and structures into account (phase 4).

1-2. Provision of relevant information and liaise and coordination with respect to the services for electricity transmission and distribution, etc. (Item 8 of the Paragraph 1, Article 28-40 of the Act)

(1) Management of Interconnection Lines between Regions
In order to complete the development of an environment for supply-demand balancing market scheme and cross-regional supply-demand adjustments inclusive of primary and secondary balancing capacities by fiscal year 2024, we will carry out the following initiatives.

- We will proceed with the study of operational issues of the primary balancing capacity and the secondary balancing capacity to be added to the commodities for the supply-demand balancing market scheme in fiscal year 2024 and of the contents of the upgrading of the cross-regional organization system.
- We will ensure smooth calculation and publication of the cross-regional reserve margin and the index for calculation of adjusted charge that are required for the charge system related to the adjustment of the differences (hereinafter “imbalance”) between the

plans of power-generation and demand submitted by power generation companies and retail electric companies and the actual performance. Furthermore, we will proceed with the upgrading of cross-regional organization systems toward the integration of the cross-regional reserve margin and the index for calculation of the adjusted charge that is scheduled to start from fiscal year 2024.

In addition to the above, we will carry out the following operations related to the publication of actual power generation, management of plans for transitional measures, acceptance and examination of applications for approved power sources, and calculation and publication of operational capacity and margin of interconnection lines.

- We will coordinate with each general transmission and distribution company that holds data on actual power generation so that the system development will proceed properly based on the decision by the National Council that the actual power generation shall be published by the cross-regional organization during fiscal year 2023. Furthermore, after the completion of the system development, we will publish and operate the system smoothly.
- 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 review companies subject to those plans to assess whether operations, such as acceptance and management of applications for the delisting of issues and bidding conducted in accordance with the purpose of the system, are being carried out, and we will encourage the remediation of any inappropriate conduct that is discovered.
- 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.
- Given the need to evaluate and confirm the stability of the electric network in setting the operating 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 of alternating current loop in Central Region based on the Master Plan compiled in fiscal year 2022.

(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 necessary to strike a balance between the proper maintenance of distribution and power supply facilities and the securing of power supply capacity upon long-term scheduled maintenance work, and it is important to promote the coordination of interests among companies and comprehensively realize optimal maintenance work coordination.
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, such as solar power, and publicly announce the scheduled maintenance plans at the appropriate time.
In addition, we will continue to proceed with the study of a smooth and efficient method of coordination related to the scheduled outage plans and the capacity suspension plans based on the fact that a capacity suspension plan related to suspension or output decrease along with periodic repair work has been prepared two years prior to the actual demand and supply with respect to the power sources being sold by bidding under the capacity market scheme since fiscal year 2022.
Furthermore, in addition to the redispatch system (introduced in December 2022), which coordinates the power flow with regulated power supply upon congestion, the redispatch system that eliminates congestion by output control of power supply in a certain order will be introduced within 2023; therefore, we will reorganize the concept of congestion management upon maintenance work on transmission and distribution facilities and operate them properly.

(3) Study Related to the Proper Securing of the Necessary Reserve Capacity and Balancing Capacity

Stable supply on a daily basis is maintained through the securing of a proper supply reserve capacity, the securing of a balancing capacity for frequency control and others, and through such securing of the proper amounts of capacities, electricity rates and the risk of blackouts are both being reduced. We calculate the accurate required amount of

supply reserve capacity and balancing capacity by analyzing data concerning, among other factors, the present state of operations of power generators. We also review the concept of calculation of required amount in line with changes in circumstances, such as transition of the way of procurement of balancing capacity from a public call for balancing capacity to the supply-demand balancing market scheme, opening of capacity market scheme, and the current supply-demand trend.

In addition to that, compatible realization of carbon neutrality and stable power supply will be led by an advanced preparation through forecasts of the supply reserve capacity and balancing capacity (including balancing capacity for frequency control, inertial power, synchronizing capacity, and voltage balancing capacity) that will be required in future toward conversion of renewable energy into a primary power source. We will forecast the future supply and demand situation and proceed with the study toward establishment of methods of management and procurement of balancing capacity and inertial power in future through forecasts of future demand, capacities of facilities for renewable energy, and other matters.

Based on the above, we will engage in the following initiatives in fiscal year 2023.

- As for proper securing of supply reserve capacity, we will proceed with the study as necessary based on the supply plan of FY 2023, the auction results of capacity market scheme toward fiscal year 2027 and the trend of demand and supply among other factors.

We also proceed with establishment of the tools for examination, study, and evaluation by aiming at establishment of an evaluation method of supply reliability on the assumption of grid congestion.

- As for the proper securing of balancing capacity, we will confirm the situation of securing of balancing capacity based on the result of public call for balancing capacity and the coordination of work for regulated power supply by general transmission and distribution companies and proceed by the first half of 2023 with the review of the necessary scale of public calls in the Okinawa area where the public calls for balancing capacity will continue.

  We will also study the method of securing of balancing capacity in the mid and long term based on the increase of necessary amount of balancing capacity and the progress of suspension and decommissioning of thermal power generator.

  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.

(4) Balancing Market

Upon proceeding with conversion of renewable energy into a primary power source, the securing of a stable supply of electricity on a daily basis and the quality of electricity by general transmission and distribution companies will contribute to the stable business operations by companies that buy and sell electricity and is important for the realization of an environment where consumers can purchase electricity with peace of mind. To this end, it is necessary, from the perspective of the provision of the merits for all companies and consumers who utilize the electric network system, to widen the areas, improve transparency through the adoption of market mechanisms, and establish a competitive environment for DR (demand response) companies and new power companies with respect to the procurement and operations of balancing capacity that will be required in order to realize rationalization and reduction of the costs of procurement and operation of balancing capacity.

We have subdivided the trade of balancing capacity into five commodities in a supply-demand balancing market scheme that is a platform to procure efficiently these balancing capacities and brought together detailed system designs for each of these products. In the future, we will make preparations related to opening a market of primary balancing capacity and secondary balancing capacities [1] and [2] in fiscal year 2024 and will pursue the required detailed system design work based on trading conditions of tertiary balancing capacity [1] and [2] of which markets have been already opened.

Based on the above, the following initiatives will be implemented in fiscal year 2023:

- Proceed with preparations related to primary and secondary balancing capacities [1] and [2] for opening a market in fiscal year 2024
- We will proceed with the study regarding a review of the necessary rules depending on the trading conditions of tertiary balancing capacities [1] and [2] of which markets have been already opened and proceed with the study toward optimization of the necessary amounts of balancing capacities that includes improvement in the accuracy of weather forecasts and joint procurement.
- We will proceed with the study regarding a procurement method of balancing capacities under the supply-demand balancing market scheme in view of grid congestion. Currently, Δ(delta) kW (balancing capacity) is traded under the demand and supply balancing market scheme, and kWh is traded under the wholesale electricity market scheme, and the start of power generators and its preparation are not always conducted in an optimal way, and in addition to that, a congruous study is necessary between the several systems, such as the wholesale electricity market scheme,

balancing market scheme, and practical business of submission of plans; therefore, the national government started the study of a market scheme where ΔkW and kWh are procured simultaneously (simultaneous market scheme). We will also proceed with the study regarding the cross-regional, efficient procurement method based on the viewpoint of contiguity with the current balancing market scheme as well by looking ahead to an ideal electricity market scheme.

(5) Network Information Disclosure

We will disclose information on cross-regional interconnection lines and nationwide electricity supply and demand on our website in accordance with the Guidelines on Network Information Disclosure (revised in September 2021) as defined by the government.

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

We will proceed with the upgrading of the cross-regional organization system by looking ahead to the start of operation of all commodities under the balancing market scheme from fiscal year 2024 and reinforcement of the Sakuma frequency conversion facility (FC) and Higashi Shimizu FC in fiscal year 2027 from the standpoint of making the maximum use of new and augmented interconnection lines and promoting cross-regional operations inclusive of electricity transactions through interconnection lines.

Based on the above, we will carry out the following initiatives in fiscal year 2023.

- We will develop the existing systems so that they can be operated properly and efficiently toward the system changes and reinforcement of FCs that are under consideration for the years after fiscal year 2024. As particular initiatives in fiscal year 2023, we will upgrade the system to treat the registration of capacities to interconnection lines between regions similarly with the existent commodities to address the primary and the secondary balancing capacities [1] and [2] that will be operated under the supply-demand balancing market scheme from fiscal year 2024. In addition to that, we will consider upgrading of the systems in response to the change of index, which is used for calculation of imbalance by the central calculation system to the cross-regional margin ratio, and new structures and revision of rules, inclusive of a response to alternating current loop in the Central Region.
- Because the existing systems have been upgraded repeatedly since the start of operation in 2016, their functions and compositions became complicated, and such complications started to have an influence on further development and operation and maintenance. Because the maintenance of the system will become impossible both from the tangible and intangible aspects by the end of fiscal year 2030, we will proceed

with the study regarding system replacement so that we can start the replacement in full-scale from fiscal year 2025. As the particular initiative in fiscal year 2023, we will review the structure from tangible and intangible aspects with a view to reducing costs and improving functions and proceed with the specific detailed study inclusive of the evaluation of feasibility from the technical aspect and preparation of the launch of development. At the same time, we will decide on the necessary requirements, including with respect to a development roadmap through cooperation with the development of next term central supply system by general transmission and distribution companies and technical surveys.

- As for the operation and maintenance of the existent systems, we will maintain normal operation by implementing the minimum necessary marginal measures of hardware maintenance based on the study of system replacement and will manage maintenance work and the maintenance of performance.

We will carry out initiatives to improve efficiency by having costs as well as maintenance management reviewed by the CIO adviser (system development expert), reinforcing the project management, and confirming the appropriateness of the scope of systemization with experts prior to system development while we take fitness for purpose in terms of system development into sufficient account.

(7) Supplier Switching Support for Customers

To support consumers in switching their retail electricity companies smoothly, it is required to maintain stable operation of the switching support system. Thus, we will proceed with the study and development regarding the reinforcement of the system maintenance structure for an immediate recovery response upon the occurrence of accidents. We will also operate a liaison structure for system users and the relevant parties properly. Furthermore, in fiscal year 2022, we made an updated plan for aging facilities after extending the maintenance support period for an aging system infrastructure. In fiscal year 2023, we will proceed with the countermeasures based on this updated plan.

2. Securing of a supply capacity and evaluation of demand-supply balance for stable power supply

In order to definitely and efficiently secure the supply capacity necessary for the stable power supply, we will properly evaluate the supply-demand balance through proper operation of the capacity market scheme, as well as supply plans and reviews of them. With this effort, we will stabilize electricity transaction prices and improve consumer benefits, such as stable operations by electric power companies, the stabilization of

electricity rates, and a reduction in the risk of blackouts over the medium to long term.

2-1. Business regarding solicitation of persons who keep and operate electrical facilities for power generation through safeguard and other measures for generator procurement and regarding promotion of installment of other electrical facilities for power generation (Item 5 of the Paragraph 1, Article 28-40 of the Act)

(1) Detailed design and operations of the capacity market

As actual demand and supply operations will start in fiscal year 2024 under the capacity market scheme, in addition to the annual main auction, we will continuously carry out initiatives, such as the inspection of system designs based on the result of an auction, make an alignment with revision of other relevant systems, make preparations toward operation during actual supply and demand operation, and initiate operations related to incremental auction based on the supply and demand situation. Furthermore, we will securely prepare for detailed system designing and operations toward implementation of the long-term decarbonized energy auction.

Based on the above, we will carry out the following initiatives in fiscal year 2023.

- As for the main auction and the operations preceding the actual supply and demand operation (such as capacity verification test and coordination of capacity suspension plans, etc.) after fiscal year 2023, we will inspect the system designs and other factors and study the necessary system based on the result of an auction and proceed with making reflections in the market rules, operational structures, and systems.
- We will develop the operational structure and securely make preparations inclusive of rehearsal so as to enable proper operations during the actual demand and supply operation (assessment, invoice, grant of subsidies, verification, etc.), which will start in fiscal year 2024.
- As for the incremental auction to be implemented in fiscal year 2023, we will make advance preparation toward the enforcement decision and enforcement based on the review of the demand and supply forecast and change in situation of the secured supply capacities. Furthermore, we will inspect the system design regarding the incremental auction in fiscal year 2024 if necessary.
- In addition to the inspection of system details and business designs toward introduction of long-term decarbonized energy auction in fiscal year 2023, we will conduct administrative work, such as the establishment of terms and conditions and bidding outlines, and various registrations and examination that will be required upon bidding and will develop systems toward execution of auction bidding.

(2) Evaluating the balance of supply and demand through supply plans and examining

the need for power supply bidding

We will compile data that will become a basis for the national demand and supply through compilation of supply plans submitted by each company, evaluate the supply reliability, and examine the need for measures to address supply capacity. When we consider that the measures to address supply capacity is required, we will work on particular measures immediately while providing opinions to the national government inclusive of opinions regarding measures necessary for securing of supply capacity.

Recently, the demand and supply balance of electricity has been continuously tight because of the further suspension and decommissioning of power generators; therefore, we will adjust the timing of repairs based on supply plans where needed in fiscal year 2023 as well, as a measure regarding supply capacity with a view for the coordination of capacity suspension plans that have been implemented since fiscal year 2022. As for bidding for power supply, we will take the fact that the operation of supply capacity under the capacity market scheme will start in fiscal year 2024 and that the national council proceeds with the discussion regarding reserve capacity into account and we will perform necessary study within these frameworks for measures on supply capacity.

3. Monitoring of demand and supply situation of electricity (Item 1 of the Paragraph 1, Article 28-40 of the Act)

(1) Monitoring the Situations of Supply and Demand of Electricity

We will issue appropriate instructions and requests upon the worsening of the situation with respect to supply and demand by operating a twenty-four-hour-a-day, 365-day-ayear system for the monitoring and management of the state of securing of supply capacity based on demand plans submitted by members, the state of supply capacity, such as in terms of demand in supply areas and the state of the operations of key power plants on the day of operations, and the state of the operations of interconnection lines connecting supply areas to one another.

In addition to that, we will check the imbalance energy of each electric power company, and properly call for attention to the electric power companies as needed, so that the various plans are submitted with correct contents in light of Network Codes of the Organization (revised in April 2023). We will also request for reports on causes and recurrence prevention measures and improvement from the electric power companies who repeatedly submits inconsistent plans or creates significant imbalanced energy and will instruct them as needed to ensure their improvement.

(2) Operational Measures against Major Blackout Risk

From the standpoint of reducing the risk of large-scale blackouts and shortening the time

required to recover from a blackout whenever a large-scale blackout occurs, we will proceed with the review of the standards and concepts needed for the foregoing in collaboration with general transmission and distribution companies. Specifically, we will sort out our thinking concerning appropriate load interruptions in cross-regional interconnection networks (avoidance of blackout by load interruptions across the whole synchronized area) and grid-separation measures (selection of points of grid separation and a decision method of separation [avoidance of separation in a case blackout does not occur]) in order to avoid wide-area blackouts even when large-scale disasters strike. We will also sort out the requirements for black-start power sources and reflect them on the bidding outlines in order to enhance the effectiveness of recovering from a blackout.

4. Instructions to members when supply and demand situations become worse (Item 2 of Paragraph 1 of Article 28-40 of the Act)

We will make supply and demand adjustments on a nationwide scale to ensure the stable supply of electricity both during normal times and in the event of an emergency. Specifically, we will proceed with the collection of information in cooperation with relevant organizations as needed regarding the tightness of supply and demand of kilowatt electricity due not only to the worsened balance of demand and supply of kW electricity due to a disaster or power supply issue but also to kWh electricity shortages because of the lack of fuel and operation of pumped-up water that has become evident in recent years and will issue the necessary instructions to the members for the accommodation of supply and demand tightness in order to improve the supply and demand situation, while also taking market utilization into account, and will also review and solve the issues that might become evident during actual operation for advanced management with improved cross-regional reserve margin. 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 make long-cycle cross-regional frequency control in accordance with the Network Codes.

Since cross-regional supply and demand adjustments based on cross-regional reserve margin started from fiscal year 2022, we will establish a secure system and an operational method so that supply and demand adjustments can be smoothly made not only under normal conditions but also when supply and demand tightness is experienced. We will conduct training in cooperation with general transmission and distribution companies to address such operation of demand and supply precisely and immediately.

Furthermore, in the event that a general transmission and distribution company suppresses output of renewable energy for the purpose of maintaining the balance

between supply and demand, we will verify the validity of an order of output suppression in light of the Enforcement Regulations for the Act on Special Measures Concerning Promotion of Utilization of Electricity from Renewable Energy Sources (Ordinance of the Ministry of Economy, Trade and Industry, No. 46, 2012), the Guidelines for Ensuring the Fairness of Output Controls (revised in April 2022), and the Network Codes of the Organization, and will confirm the number of times output suppressions were applied during the year after the end of each fiscal year and verify and disclose the results thereof in accordance with the Guidelines for Ensuring Fairness of Output Control from the standpoint of the question of whether the suppression of renewable energy was fairly implemented from the perspective of the power generation operator.

5. Appropriate operations of businesses related to subsidies for FIT and FIP/ management of reserve funds for the cost of abolition of solar panel and operation of FIT and FIP bidding business (Item 8-2 and Item 8-3 of Paragraph 1, Item 2 of Paragraph 2 of Article 28-40 of the Act)

As the national government instructs that the environmental development toward transition of renewable energy into the main power source shall be proceeded while maintaining the balance between the maximum introduction of the renewable energy and the public financial burden, we will operate properly and efficiently the businesses related to FIT and FIP schemes and accumulation of the cost of abolition of solar panel. We will also correspond to the reform of systems and other matters swiftly and properly. Based on the above, we will carry out the following initiatives in fiscal year 2023.

- 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 and solid risk management.
- Although different systems have been established and operated with regard to the FIT and FIP schemes as the subjects of subsidies and the calculation method of subsidies are different, we will consider integration of those systems from the viewpoint of efficiency and internal governing.
- We will conduct a study toward necessary business designing and system modification based also on the discussion on reinforcement of business discipline and promotion of establishment of storage battery under the FIP scheme at the national council.
- Although we have been responding to a number of inquiries from companies regarding FIT and FIP schemes, we will enrich our website and its FAQ section as inquiries

regarding the calculation of subsidies for the FIP scheme and transition from the FIT scheme are increasing.

6. Handling of complaints or inquiries from the electricity supply companies and conflict resolution (Item 7 of the Paragraph 1, Article 28-40 of the Act)

(1) Handling of Complaints or Inquiries

When a request or consultation pertaining to a complaint or dispute concerning the transmission or distribution of electricity or otherwise about our operations is received from an electricity supply company, we will promptly respond and otherwise implement the initial measures in order to minimize the opportunity loss for the company and endeavor to resolve the matter as soon as possible by organizing the points in dispute and proposing solutions based on each company's request.

Even where further action is needed in a situation where a resolution could not be reached with the implementation of initial measures, we will endeavor to resolve issues by implementing the necessary measures, such as by utilizing alternative procedures for resolving disputes or otherwise issuing guidance or recommendations to the electricity supply company.

In order to improve the operations of electricity supply companies as based on Network Codes and other rules, we will periodically compile the requests and consultations tied to complaints and disclose and widely disseminate cases on our website in hopes of expanding business opportunities for companies.

(2) Conflict Resolution

To resolve conflicts between electricity supply companies regarding the electricity transmission and distribution business, approved as a dispute resolution institution based on the Act on Promotion of Use of Alternative Dispute Resolution (Act no. 151, 2004), we mediate reconciliation (mediation and arbitration) by establishing a conflict resolution panel comprising academic experts and lawyers other than personnel of the Organization.

7. Instructions and recommendation for electricity supply companies (Item 6 of the Paragraph 1, Article 28-40 of the Act)

We give instructions or make recommendations to electricity supply companies when it is necessary to secure smooth conduct of business such as transmission and distribution or stable supply of electricity according to the Operational Rules.

8. Incidental operations as provided for in 1 through 7 above and disaster response-

related operations (item 9 of paragraph 1 of Article 28-40 of the Act, item 4-2 of paragraph 1 of Article 28-40 of the Act, and item 1 of paragraph 2 of Article 28-40 of the Act)

(1) Preparation and Publication of Reports

We will analyze information collected by the Organization and information provided by members on the state of the supply of and demand for electricity and the electric network system and accordingly compile and release a report that offers information beneficial to stakeholders. In fiscal year 2023, we will prepare and release reports in accordance with the Operational Rules as concerns the following: the supply of and demand for electricity (including an evaluation and analysis of the quality of electricity in terms of frequency, voltage, and blackouts for each supply area), the state of the electric network system, the performance of grid access operations, an outlook on the issues concerning the supply of and demand for electricity and the state of the electric network system for the next fiscal year and over the medium to long term, and an evaluation and verification and, if necessary, a review of the appropriate levels of reserve capacity and balancing capacity in each supply area. In addition to that, in order to enhance the function of collection and transition of information, we will organize and publish data recorded on respective report as data collection so that it can be utilized for data analysis.

(2) Response to Disasters, etc.

In an emergency, we will endeavor to communicate and coordinate closely with the national government to prepare for the occurrence of large-scale disasters, which have become increasingly severe in recent years, and tight supply-demand balance under a response system in accordance with the Operational Rules and an emergency disaster action plan and reinforce our ties and commitment to working with the country's disaster-prevention operations.

During normal times, we will continue to engage in disaster-response drills in order to fortify our ability to respond to disasters, and we will confirm the effectiveness of the practice of response drills for staff members and of support service for planning of transfer and lodging of staff members, inclusive of operation confirmation actions for a system at our backup operations base in western Japan to ensure that we will be able to carry out priority continuity operations in accordance with a business continuity plan in the event that the occurrence of a disaster were to cause our facility or any member of our headquarter to sustain damage or injuries.

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).
We will also take the necessary actions when a disaster coordination plan is submitted by a member constituting a general power transmission and distribution company (Item 4-2 of Paragraph 1 of Article 28-40), and will set the total amounts of contributions and the amount of funding requirement to mutual aid system for the disaster recovery costs which will be burdened and collected across the nation, claim for contribution, accept applications for the mutual aid system, define the amount of subsidies and grant subsidies.

9. Business necessary to accomplish aims of the Organization (Item 10 of the Paragraph 1, Article 28-40 of the Act)

(1) Public Information
We will increase the transparency of our operations and endeavor to proactively disseminate information and enhance and reinforce public relations concerning the importance and the necessity on our operations and the cross-regional operations of the electricity business in order to gain the understanding of society, not to mention the members.
In addition, we introduce our business correctly and clearly through responses to the press. In particular, we will endeavor to provide advance information on tightness of demand and supply balance and disseminate information swiftly when the demand and supply balance becomes tight.
(2) Investigation and Utilization of Overseas Examples
We will endeavor to examine and collect information on overseas examples and establish collaborative relationships with overseas organizations because it is beneficial to use the overseas knowledge for our operation. In particular, we aim to establish relationships in which continuous opinion exchange is possible through proactive creation of opportunities for participation in International Science Council and technical and other discussions with international organizations, then give feedback of the knowledge we gained to the discussion on system designs and other matters in Japan.
(3) Continuous review of organizational management structure
Based on the grand policy of the Action Plan for the Organizational Structure made in June 2021, we will endeavor to reinforce organizational management and governance, secure and train human resources, and improve the functions of collection and dissemination of information continuously in fiscal year 2023 as well. Especially as for the organizational structure, we will consider the reinforcement of structure which can secure and manage supply capacities precisely and will review the organizational

structure as needed.

(4) Securing and Education of Personnel

We have worked on a variety of issues while we expand the scope of our duties to steadily fulfill our roles since establishment of the Organization. As a result, the types of human resources that we should secure have become more diversified than at the time of our establishment, and securing of highly skilled personnel became an important issue, regardless of whether they are proper personnel or loaned employees.

In particular, the securing and training of proper personnel are important when we take into account our organizational missions, continuity of businesses, and the existence of departments that handle individual company information; therefore, we will increase the number of mid-career recruitment personnel and support their skill improvement through training at the time of employment, internal and external training, and the secondment and dispatch of younger personnel to other organizations (relevant ministries and agencies, and electricity companies) in fiscal year 2023 as well.

While we respond to the increase in our duties for the present, we will continuously aim to decrease the rate of employees loaned out to major electricity companies in an organized way in the medium term from the standpoint of ensuring organizational neutrality and fairness.

We will also develop work environment necessary for promotion of business of our personnel based on the review of organizational structure and work style inclusive of normalization of remote work.

(5) Security Measures for Information System

In our operations as carried out to facilitate the stable supply of electric power and in our collaborations with electric power companies, we will enhance information security and cybersecurity measures implemented by the Organization and electric power companies and continuously aim to reduce the occurrence of security incidents that can induce large-scale blackouts to zero in order to enable consumers to use electric power at low costs and with peace of mind.

We will continuously enhance the precautions against cyberattacks and promote drills and education regarding the attacks by considering that handling of subsidies for renewable energy has been started from fiscal year 2022.

(6) Monitoring based on internal audits

We will conduct internal audits with a focus on the neutrality and fairness of operations, the appropriateness of financial reporting, and the appropriateness of the management of documents and information to assess whether our operations are being properly carried out in accordance with the relevant laws and regulations. In this connection,

information security will be subject to auditing by an outside party given that our information systems are of high societal importance, thus necessitating the expertise and objectivity of a third party. In addition to that, as management business of huge amount of funds of subsidies for FIT and FIP schemes is expected to increase, we will conduct an audit with a focus on adequacy of accounting and fund management related to new business.

(7) Additional Business

We will respond in a timely and suitable manner in the event that we are called upon to carry out certain operations based on the implementation of various system revisions under investigation by the government and on the results of verification actions undertaken in response to supply and demand tightness.

10. Establishment and amendment of Network Codes (Item 3 of the Paragraph 1, Article 28-40 of the Act)

We will proceed with investigation of the revision of the Articles of Organization, Operational Rules, and Network Codes to address properly to various system revisions under consideration by the national council.