

Outline of Electricity Supply-Demand Measures in Summer Time (Draft)

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Electricity Supply-Demand Emergency Response Headquarters

Introduction

Due to the effects of the unprecedented earthquake, there has been a large reduction in electricity supply capacity in the jurisdiction of Tokyo Electric Power Company (TEPCO) and Tohoku Electric Power Co., Inc. (Tohoku EPCO). To cover the supply-demand gap, these electric companies implemented rolling blackouts as unavoidable emergency measures. Thanks to such rolling blackouts and efforts to save electricity by electricity users in their areas, large-scale outages have been avoided so far.

Though the supply-demand balance is expected to improve from now on, it will become tighter again as the summer approaches. Without any fundamental measures for dealing with both supply and demand, the continuation of rolling blackouts and their adverse effects may be unpreventable. If the current situation continues, people's daily lives and, in particular, industrial activity will be hampered. As industrial activity is crucial to the country's vitality, if it is affected, we cannot hope for reconstruction from the earthquake and the restart of Japan's economy.

Thus, in order to overcome these difficulties, through creative measures taken by both the government and the private sector, through the common sense, ideas and understanding of the people and industrial sectors in the jurisdiction of the above electric companies, your cooperation in studying the following measures and information is greatly appreciated.

1. Electricity supply and demand forecast this summer

(1) TEPCO supply and demand balance this summer

• TEPCO's electricity supply capacity decreased to about 31 million kW immediately after the earthquake, but was restored to about 36 million kW at the end of March. Capacity will be gradually increased by the restoration of power plants and the restart of some plants after periodic inspection. At present, the electricity supply capacity is expected to be about 45 million kW before the peak of demand in summer.

(Note) The power obtained by pumped storage generation is not included in the supply capacity because pumping at night would be insufficient due to worse balance of supply and demand. In addition, the daily electricity supply capacity can vary because of supply from other electric companies or under the influence of the weather.

• Peak demand this summer is expected to decrease because of the growing widespread awareness of the need to save electricity, but about 55 million kW is assumed as the maximum peak at present (the maximum peak last summer was about 60 million kW because of the remarkably hot summer weather).

• For the time being, there is a low possibility that rolling blackouts will be implemented. In summer, however, the gap between electricity supply and demand will increase again. According to the

supply-demand forecast at present, to meet peak demand, there will be a deficiency of about 10 million kW. If peak demand reaches the same as last year (about 60 million kW), there will be a deficiency of about 15 million kW.

(2) Tohoku EPCO supply-demand balance this summer

▪ Tohoku EPCO's electricity supply capacity decreased to about 9 million kW immediately after the earthquake, but was restored to about 11 million kW at the end of March. With the restoration of thermal power stations that had been stopped as part of Japan's long-term planning, Tohoku EPCO's electricity supply capacity is expected at present to recover to about 11.5 million kW before summer.

▪ Peak summer demand is expected to decrease because of the impact of the earthquake and the growing widespread awareness of the need to save electricity, but about 13 million to 13.8 million kW is assumed at present (if the maximum peak is assumed to be at the same level as last summer's, which was remarkably hot, the peak will be about 14.8 million kW).

▪ In the Tohoku EPCO area, there is only a low possibility of the actual implementation of rolling blackouts for the time being. However, recovery from the earthquake and increased demand for air conditioning will clearly lead to a gap between supply and demand in the summer. According to the supply-demand forecast at present, there is concern about the possibility of a shortfall of about 1.5 million kW to 2.3 million kW at time of peak demand, or about 3.3 million kW could be insufficient if this summer is as hot as last year's. Peak power consumption of 14.8 million kW is assumed.

2. Basic electricity supply/demand policy this summer

(1) Breaking away from rolling blackouts and the future plan.

▪ Rolling blackouts were adopted as unavoidable emergency measures to prevent unexpected large-scale outages when there were a large gap between supply and demand due to the earthquake.

▪ Thanks to the efforts to save electricity by both people and industry, the supply-demand balance has been improved. As the supply-demand balance is recovering, we will be able to move from a situation where rolling blackouts are "implemented in principle" to a situation where they are "not implemented in principle" if efforts to save electricity are maintained and enhanced. This means a change to a status of "electricity is continuously supplied in principle".

▪ On the other hand, the gap between supply and demand will largely increase in summer. To maintain the status where the rolling blackouts are "not implemented in principle" under such a situation, it is necessary to take all possible measures to increase the electricity supply capacity and further take fundamental measures to limit demand while reviewing both business practices and lifestyles.

▪ For this purpose, it is important to show in advance how power consumption can be reduced at peak times so that consumers can systematically and creatively adjust shifts and operational hours, and stagger holidays. It is essential to prepare schemes that do not trouble consumers or, in particular, that minimize the impact on the production and operation of companies, which are the source of the country's vitality and the foundation of recovery.

(Note) Rolling blackouts will be considered as a safety net when the gap between supply and demand cannot be settled by measures for both supply and demand sides.

(2) Size of the supply and demand gap when measures are required

▪ According to the supply and demand forecast at present, there will be a gap of about 10 million kW in TEPCO area and a gap of about 1.5 million to 2.3 million kW in Tohoku EPCO area. Further, if a heat wave the same level as that of last summer is assumed, the gap will be about 15 million kW (Tokyo) and 3.3 million kW (Tohoku).

▪ Therefore, measures for both supply and demand sides aiming at elimination of the gap of about 15 million kW for Tokyo and about 3.3 million kW for Tohoku at most are needed.

▪ On the other hand, the supply and demand gap forecast will vary depending on the electricity supply capacity secured in the future demand forecast. Therefore, we will review supply and demand forecast as well as the required measures from time to time and will appropriately provide information so that the burden on the people and their economic activities would not be excessive under the suppression of demand.

(Note) The demand forecast, in particular, depends on the recovery situation, weather, electricity-saving consciousness etc. It is necessary to check the changes in the situation in the future.

(Note) “Collection of Reports” under the Electricity Business Act will be ordered to TEPCO and Tohoku EPCO in order to have them submit the supply and demand forecasts.

(3) Participation of the people

▪ Rolling blackouts should not be relied on, where the supplier only adjusts the gap between supply and demand. The aim is to establish a public movement where all users including both the people and the industrial world take creative measures to reduce the gap.

3. Supply side measures

(1) Short-term measures for this summer

The aim is an increase in electricity supply capacity of about 5 million kW in the TEPCO area and about 500,000 kW in the Tohoku EPCO area.

▪ Restoration and launch of thermal power stations (including joint stations)

Thermal power stations will be checked for damage and the possibility of their restoration considered.

▪ Installation of emergency power supply equipment (such as gas turbines)

The aim is to introduce all types of emergency power supply equipment to the utmost limit. For this purpose, efforts in improving various conditions will be made. For example, installation of thermal power generating equipment to cover the electricity supply capacity lost in the earthquake will be exempted from the assessment obligation under the Environment Impact Assessment Act if it is considered as a disaster reconstruction project.

▪ Use of private power generator

Private power generators in the TEPCO and Tohoku EPCO areas will be explored to secure purchase of power by relevant electric companies (including purchase from new power generators). On the other hand, people who have installed private power generators will be requested to sell electricity.

- Use of pumped storage generation

(2) Measures after this summer

- Restoration and launch of thermal power stations (including joint stations and IPP)
For the thermal power stations that will not have been launched by this summer, the damage situation will be checked and the possibility of restoration will be considered promptly.
- Construction and addition of thermal power stations
The aim is to quickly start operation at the thermal power stations currently under construction.
- Installation of emergency power supply equipment (such as gas turbines)
Further installation of fixed gas turbines including those from overseas will be pursued.
- Increase of interconnection lines between different areas
The plan is to quickly increase the capacity of existing frequency converters and to realize the proposal for their further enhancement. In addition, a mid-term master plan on further enhancement of interconnection facilities between different areas will be mapped out.
- Promoting the introduction of renewable energies (photovoltaic, wind power, geothermal energy etc.)
- Promoting the introduction of decentralized generation plants
- Promotion of research and development of related technology

4. Demand side measures

- The goal is to reduce the demand by at least 10 million kW in the TEPCO area and at least 2.8 million kW in Tohoku EPCO area (These amounts are assumed to sufficiently eliminate the gap between supply and demand when the supply side measures are taken at the same time).
- A target of demand reduction for large users, small users and households will be set respectively, also taking into account the possibility of limitation. The government and the private sector will study measures together to enable users to attain the targets by combining the various actions as follows by the end of April, when the final bill will be prepared. The final target figures will be decided at that time.
- The maximum power used (kW) should be reduced in principle.
- Target of reduction will be set corresponding to the supply-demand situations in the TEPCO and Tohoku EPCO areas respectively. At present, the ratio of the demand to be reduced to the total demand is about the same for both companies, a common target shown below has been set:

(1) Large users (contract electricity: 500 kW or more) 【Reduction by about 25%】

- Individual users (offices) (Note) should map out and implement a plan on the specific approaches to reduce maximum electricity consumption by 25% in the peak period or time zone (for example, from 10:00 to 21:00 on weekdays from July to September) and actions to innovate the people's life styles

such as shorter or shifted business hours, setting, extension or staggering of summer holidays etc.

(Note) Users include the central and local governments. This provision applies hereafter.

▪To secure the actual effect of demand reduction and fairness among users, Article 27 of the Electricity Business Act will be applied. Introduction of a scheme to enable joint reduction of demand by several entrepreneurs engaged in the same or different trades, with considering the actual situations of business activities will be considered.

(2) Small users (entrepreneurs with contract electricity of less than 500 kW) 【Reduction by about 20%】

▪Individual users (offices) should, to contribute to reduction of the maximum electricity used in the peak period/time zone by 20%, set specific targets. They should also map out and announce voluntary plans on specific approaches to save electricity for air conditioning and lighting equipment, to have shorter or shift business hours, to set, extend or stagger summer holidays etc. The relevant authority will prompt the users to map out and announce the plans.

▪The government will present examples of approaches to attain the goals (electricity saving for air conditioning, system, lighting, office automation equipment etc.) or otherwise assist with power saving. At the same time, it prompts the users which have mapped out their plans to show easy to understand electricity saving activities. In addition, the government will open a website to list the approaches by the users positively saving electricity so as to show their efforts widely to the public.

▪Approaches by individual users through the relevant ministries, industrial associations, local governments etc. will be promoted with appropriate information and instructions how to save electricity provided by visiting them. A national movement will thereby be developed.

(3) Households and individuals 【Reduction of about 15 to 20%】

▪The trend toward saving of electricity and positively developing a national movement will be enhanced with the aim to reduce the maximum electricity used in the peak period and time zone by 15 to 20% at households. A wide range of entities including local governments, industrial associations and schools will be cooperated with.

➤The consciousness of electricity saving at households through all channels including mass media, local governments, industrial associations and schools will be spread.

➤Examples of electricity saving measures for people indicating specific behavior and the electricity saved by that behavior will be presented (Example: If you set the air conditioning for 2 °C higher than before, you will contribute to electricity saving by ● kW.). Consideration is required so that expressions will be easy to understand.

▪System to prompt electricity saving will be also studied.

▪By thoroughly visualizing the daily electricity supply-demand data, the consciousness about electricity saving of consumers and entrepreneurs will be further enhanced. The data is already shown in the websites of the electricity company and the relevant ministries, but TV stations and public transportation companies will be approached to show the data on screen.

▪People to hold large events and to broadcast consideration of the peak period and time zone. At the same time, schools will be urged to provide electricity saving education so as to advance reduction of

power consumption in households and by individuals.

5. Collecting people's common sense and ideas

▪ Now that people have the greatest interest we have ever seen in electricity saving, we will positively invite opinions from the public, for example, request for ideas to save electricity from a wide range of people using a portal website so as to promote a national movement.

6. Schedule for the future

▪ On the basis of this outline (draft), Electricity Supply-Demand Emergency Response Headquarters and its meeting of board members, will study the desired measures on electricity supply and demand for each sector and specific contents of the measures.

▪ Electricity Supply-Demand Emergency Response Headquarters will compile a package of policies that will go into effect by around the end of April.