CHAPTER 05

Provider of Services for Smart Living

Development Vision

With the goal of serving as Taiwan's provider of services for smart living, Taipower is working to make power services smarter and immediately accessible by introducing new 5G and AIoT technologies and equipment to meet user needs. At present, Taipower is pursuing both demand response and energy conservation as key elements of demand side management. Demand response analyzes power supply data through smart meter deployment, so the electricity consumption of users can be better understood. This makes the match between power supply and demand more immediate, and effectively guides customers to use electricity through the time-of-use rates. Energy conservation efforts are principally aimed at avoiding the unnecessary waste of electricity. Taipower has implemented power-saving incentive measures and built multiple information transmission channels so that the public can participate in the work of energy conservation and carbon reduction. By creating an atmosphere of power saving, we hope to drive the collective effect of power saving for all people, so that the suppression of peak load, energy saving and power saving will become a national movement and achieve a win-win situation for the power industry, customers and the environment.

Every year, Taipower continues to promote and refine its various demand response measures. In line with its deployment of smart meters, the Company will develop diverse demand response solutions to help reduce net nighttime loads and combine the automatic demand response solutions of smart home appliances and energy management systems with real-time prices that dynamically reflect the power supply situation and encourage users to manage electricity consumption more flexibly. Demand response uses monthly operation planning, day-ahead economic scheduling, same-day economic dispatch, and less than 15 minutes and other diversified ways of providing flexibility to adjust power system dispatching. As efforts continue, the demand response participation target is expected to reach 3.0GW by 2030.

Performance Highlights

- Implemented Time-of-Use (TOU) rates to stimulate the management of public power consumption, and cumulatively suppressing the peak load by 4.16 GW in 2022
- Promoted demand bidding and bolstered user participation to suppress peak loads and implemented demand-response load management measures on the highest load days throughout 2022 and effectively reducing peak loads by 1.15 GW
- Provided communities and associations with power-saving advocacy services. A total of 1,502 sessions were held in 2022, attracting 200,000 participants
- Taipower's Power-Saving Service Team visited 4,456 customers in 2022, with an estimated power saving of 103.24 GWh
- In 2022, Taipower's 1911 customer service hotline received more than 1.705 million calls. The proportion of calls that were answered within 20 seconds was 97.88%
- In 2022, a total of 5,434 cases were received through the user suggestion box and 4,981 dedicated services were provided for corporate customers

5.1 Smart Electricity Services

5.1.1 Demand Side Management Measures

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In recent years, demand for electricity in Taiwan has been growing. Coupled with the difficulty of setting up new power generation units and climatic anomalies, this has led to an increasingly tight supply of electricity. According to Article 47, paragraph 4 of the Electricity Act, the Electricity Retailing Enterprise shall draft an annual incentive program that encourages and assists users to save electricity. The plan will be submitted to the electricity industry regulatory authority for review.

Demand-Based Bidding

"Demand-Based bidding" refers to the practice of allowing users to sell back the electricity they save to Taipower during periods of high system load. Users bid their desired price, and Taipower determines the winning bidder based on the lowest bid. If the winning bidder successfully reduces their electricity consumption during the designated period, they are eligible for a reduction in their electricity bill. This measure empowers users by allowing them to set their own price, stimulating their potential for reducing electricity usage. It helps improve the system load profile, thereby delaying the need for new power generation facilities and reducing the risk of potential power shortages. In the future, Taipower plans to provide more real-time power consumption information through smart meters, and to refine demand response scheme designs. For example, the Company will coordinate the increasing number of renewable energy grid-connections to adjust periods for users to suppress power consumption. This will provide more flexible resources for the power system. Taipower will also be reviewing and piloting a variety of demand response plans.

Time-of-Use Rates

The Time-of-Use (TOU) rates set different electricity prices for peak and off-peak periods. This reflects the power supply costs in different periods and guides users to reduce or shift peak power consumption to off-peak periods. Taipower has now used TOU rates for more than 40 years since they were first employed in 1979. At present, there are a total of 14 TOU rates for all kinds of customers. Among them, TOU rates have been fully applied to high-voltage users since 1989, while low-voltage users are free to choose to participate or not.

Power Consumption Category	Total Customers (Households)	TOU Customers (Households)	Ratio (%)
Meter-rated lighting for non-businesses	13,373,135	63,472	0.47
Meter-rated lighting for businesses	1,040,266	127,306	12.24
Low-voltage electricity	306,781	38,049	12.40
High-voltage electricity	24,854	24,854	100.00
Ultra-high-voltage electricity	673	673	100.00
Total	14,745,709	254,354	1.72[Note]

Note: If only potential customers (i.e., those using >700 kWh per month for residential and >1100 kWh per month for small stores) are considered, time tariff accounts for about 15% of the total number of customers.

Note: With the exception of contracted light and contracted power (which are billed on a capacity basis without seasonality), the rest of the electricity tariff is applied seasonally. The proportion of users is 99%

Description of Electricity Type

In line with the deployment and application of smart meters, Taipower introduced Residential and Commercial Simple Time-of-Use (TOU) Pricing in 2016. In May 2021, the Company further launched Standard Three-Tiered TOU Pricing for Lighting and Three-Tiered TOU Pricing for Low-Voltage Electricity to provide users with multiple options. In May 2022, Taipower introduced Electric Vehicle Charging and Swapping Facility Pricing to cater to the growing demand for electric vehicles. Together, these pricing plans offer users a diverse range of choices.

Additionally, with the increasing generation of renewable energy, there have been changes in peak and off-peak hours within the power system. To accommodate this, Taipower has adjusted the peak and off-peak periods for time-of-use pricing. These were officially implemented in 2023.

Supply Voltage	Category		Scope of Application	Example of Application
Low voltage	Contracted light and electricity		Lights, small appliances, and alarms for outdoor public facilities	Public street lights, alarms
	Meter-rated lighting	Electricity for non-businesses	The total capacity of electricity used for residential purposes or for lights, small appliances, and electric power in non-productive premises other than residences is less than 100 kw	Residences
		Electricity for businesses		Small-sized stores
	Low-voltage electricity		For lights, small appliances, and electric power in production or non-production premises with a contracted capacity of more than 1kw but less than 100kw. In cases where the power supply is 380V with no technical difficulties, the capacity can be expanded to 499 kw	Medium-sized organizations, schools, supermarkets, medium-sized shopping malls, small and medium-sized factories, electric vehicle charging and swapping facilities
High voltage and above	High-voltage electricity		For lights, small appliances, and electric power in production or non-production premises with a contracted capacity of more than 100kw	Large-sized factories, organizations, schools, banks, department stores, and electric vehicle charging and swapping facilities
	Ultra-high voltage electricity			Mega factories, MRT systems, airports

Demand Side Management Measures

Taipower focuses on demand-side management, with demand response and energy conservation as its two main driving directions. The goal is to create an energy-saving atmosphere, promote demand response, and encourage energy-saving practices among the general population. By generating a collective drive for energy conservation, the aim is to reduce peak loads and promote energy efficiency as a nationwide movement. This will drive changes in societal behavior, and encourage the active participation of the entire population in energy conservation and in carbon reduction efforts.

Measure		Description	Applicable customers	Results
TOU Rates	Use of TOU rates since 1979	Reflects the cost of electricity during different periods. Encourages off-peak electricity use to reduce energy consumption during peak hours.	Optional for meter-rated lighting and low-voltage customers; applicable to all high-voltage customers	The cumulatively suppressed peak load reached 4.16GWh in 2022
	Launched Simplified Residential / Commercial TOU rates in 2016	Provides more diverse rates for residential/commercial customers. Price signals are used to guide users to reduce electricity consumption during peak hours, thereby achieving the goal of reducing peak load.	Residential, small shops and low-voltage customers	
	Added new three-stage TOU rates for standard type and low-voltage meter-rated lighting in 2021			
Demand Response Load Management Measures	Implemented Air Conditioner Duty Cycling Load Control Measures in 1991 (Ended on December 31, 2022)	Central air-conditioning systems are paused for 15 minutes in every 60 minutes of operation. Packaged air conditioning systems are paused for eight minutes with 22 minutes of operation to suppress peak loads.	Non-productive customers (e.g., office buildings, schools)	The 2022 peak load day (July 22) exceeded the low peak load by 1.15 GW
	Implemented Power Consumption Reduction Measures in 1987	Provides reduced rates as incentives to encourage customers to reduce electricity consumption during peak hours or to shift to off-peak hours, to reduce system peak loads.	Either (super) high-voltage customers with more than 100 kW of dedicated capacity as specified in their contracts (could include factories and educational institutions or schools)	
	Implemented Demand-Based Bidding Measures in 2015	Through user-defined feedback pricing, more autonomy is given to customers to reach their power-consumption mitigation potential and improve system loads. This reduces the demand for new power development and minimizes the risk of power shortages	Users that are frequently above high-voltage use levels	
	Implemented new Demand-Based Bidding Measures – a Joint Solution - in 2017	Allows customers to apply for Demand-Based Bidding in groups	Users that are frequently above high-voltage use levels	
	Implemented emergency response measures and pact-guarantees in 2021	In line with load reduction in cases of emergency, the system improved demand-side resilience	Users that are frequently above high-voltage use levels	
	Implemented flexible nighttime reductions from 2022	Offers flexible suppression options for different hours during nighttime peak periods to encourage users to reduce power consumption.	Users that are frequently above high-voltage use levels	
Power-Saving Service Team		Monthly visits to high-voltage users. Teams use high-voltage AMI data analysis and simple equipment diagnostic questionnaires (air-conditioning equipment, motors, lighting equipment, etc.) that help users grasp power consumption, inventory power saving potential, and promote Demand Response Measures to maintain a stable power supply.	Users that are frequently above high-voltage use levels	Taipower's Power-Saving Service Team visited 4,456 users in 2022, with an estimated power saving potential of 103.24GWh
Community Energy Saving Campaigns		Provides free power-saving advocacy services for communities and associations. Taipower uses assemblies to promote power-saving, share energy-saving related knowledge and experiences. The Company advocates proper power-saving techniques, the use of high-efficiency energy-saving products (e.g., LED lighting), and provides electricity improvement recommendations for public facilities.	Local communities and associations	A total of 1,502 seminars were organized in 2022, with approximately 200,000 participants

5.1.2 Power Saving Performance

In order to encourage energy conservation in practice, Taipower has employed power-saving incentives since July 2008. The Company continues to introduce new measures to maintain customer motivation and prompt additional power-saving over the long term. In order to increase user interaction and the effectiveness of voluntary power saving, a registration mechanism was introduced in 2018. Customers who sign up through the website, customer service hotline, or at a service counter will receive a reward of $0.6 per kWh of electricity saved, with a minimum bonus of $84 per period (2 months). The same year, a Power-Saving Reward Points mobile application was launched. This allows users to collect points by participating in various energy-saving puzzle activities on the app. Points may be redeemed for prizes or used to participate in sweepstakes. The goal is to promote power-saving among the public and to create a power-saving culture and habits. Taipower will continue to organize power-saving promotional activities that convey power-saving concepts through innovative and amusing approaches.

Power Savings Reward Performance in 2022

Year	Amount of saved electricity (Billions of kWh)	Reward amount for saving electricity (NT$100 million)	Carbon dioxide emission reduction (10,000 metric tons)	Equivalent number of Daan Forest Parks (for CO2 absorption capacity) in one year
2020	1.19	10.3	61	1,558
2021	1.49	11.9	76	1,948
2022	2.31	17.0	117	3,016

Note:
1. Calculated based on the 2021 electricity emission coefficient of 0.509 kg CO_2e/kWh announced by the Bureau of Energy, Ministry of Economic Affairs in November 2022 and the 2020 Energy Bureau report on Daan Forest Park's absorption of 389 metric tons of CO_2 each year.
2. The performance of power-saving rewards is derived from the statistical data of customers who have logged in and completed power-saving reward activities (4.22 million customers in 2020, 4.34 million customers in 2021, and 4.32 million customers in 2022).
3. The calculation of electricity consumption reduction for the current year is based on the previous year, which is also the base year.

5.1.3 Digital Transformation

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Taipower has formulated a clear development blueprint for digital transformation, focusing on four key areas: platform construction, data governance, talent cultivation, and innovative applications. By the end of 2021, two major infrastructure projects – the island-wide fiber-optic communication system and the big data platform – had been completed, establishing a solid foundation for Taipower's future digital transformation. Taipower will continue to dedicate effort to driving digital transformation. Through top-down strategic planning and bottom-up innovation inspirations, it aims to stimulate innovative reforms within different units. A consensus among Taipower employees on promoting digital transformation has been consolidated. Taipower aspires to become a driving force in the energy technology industry as Taiwan's power sector moves towards liberalization.

The Construction of a Smart Grid

After the proportional increase in renewable energy generation, there has been a significant system load discrepancy due to the integration of intermittent renewable energy into the grid. The success of this integration requires a more flexible grid and the ability to stabilize the power supply quality through flexible scheduling. Taipower utilizes advanced technologies such as 5G, AI, IoT, and blockchain to integrate distributed energy resources while pursuing power system optimization. Through the digital integration of power resources, Taipower aims to create a digital energy internet with a smart grid at its core.

Taipower's smart grid is developing in three stages. The first is Smart Grid 1.0 and focused on infrastructure development. The second, Smart Grid 2.0, emphasizes practical operational models, and will ultimately lead the third stage, or Smart Grid 3.0, when the energy market opens up and the efficient integration of energy is achieved thereby enabling widespread applications. Currently, Taiwan is in the second stage of smart grid implementation, which emphasizes ensuring the stable operation of the power system, enhancing power supply quality, and encouraging user participation in energy conservation.

Taipower also utilizes AI and big data analytics to perform predictive maintenance and renewable energy generation forecasting. For thermal power units, preventive maintenance applications have already been implemented to achieve operational optimization and cost savings. For wind and solar photovoltaic energy, correlation predictive models can be established between power generation and sunlight data, providing a forecast for wind and solar power generation over the next 48 hours. This information assists with system dispatching and unit generation scheduling.

Strengthening Communication Infrastructure

To support Taipower's digital transformation and leverage digital innovation technologies that drive smart operations, Taipower is actively enhancing its communication infrastructure by constructing an Ultra-High-Speed IP Fiber-optic Communication System to meet the communication and transmission bandwidth requirements for future applications such as the smart grid, 5G, AI, and IoT. The system will also enhance the reliability of the communication system. The core network construction for Phase 1 was completed on November 20, 2020, and the construction of Phase 2 for the relay backbone network was completed on December 10, 2021. The construction of Phase 3 for the access network was reported for inspection on December 5, 2022, and the Company is currently working diligently on the inspection and acceptance of the Phase 3 access network. Work has also begun on the construction of the Phase 4 synchronous clock source system.

To ensure a stable power grid and a reliable power supply, Taipower actively strengthened the communication systems at power plants, ultra-high-voltage substations, primary substations, secondary substations, distribution substations, and service centers in 2022. This includes laying 100 kilometers of optical cables, setting up 42 sets of fiber-optic communication systems, providing 720 communication circuits, installing 590 access routers for protection relay, dispatching line and feeder automation systems, and facilitating the operation, monitoring, protection, load balancing, and other related operations of the entire power grid.

In response to the waves of 5G, AI, and IoT technology development, Taipower will continue to establish relevant 5G application services. These include implementing vertical applications in the power field and deploying wireless communication for power terminal devices. Taipower will continuously review and plan for the optimal deployment to improve operational efficiency and effectively utilize power usage.

An Introduction to 5G Service Applications

Taipower has identified a number of projects that can utilize 5G technology to offer application services. In collaboration with the Kaohsiung Asian New Bay Area 5G AIoT Innovation Park project, the a 5G AIoT Promotion Office was established at the Southern Power Plant in 2021 to conduct verification of power applications related to 5G AIoT. In January 2022, a 5G AIoT Promotion Team was formed internally, and through brainstorming and identifying actual needs within various units a Real-time Collaboration System for Switchyards in Southern Power Plants was proposed. The system aims to enhance operational safety and logistics collaboration using 5G AIoT technology.

On June 28, 2022, a matchmaking briefing was held, with the participation and guidance of the Ministry of Economic Affairs' Asia Silicon Valley 5G AIoT Project Office and the Kaohsiung City Government. The Real-time Collaboration System for Switchyards in Southern Power Plants project was launched. It subsequently underwent public review in January 2023 and was opened to bidding from February 2 to 13, 2023. The initiative aims to facilitate the implementation of 5G AIoT technology and establish its vertical application in the power industry.

Mobile App Development

Taipower has combined mobile digital technology with AMI smart meter big data applications to launch the Taiwan Power App, which provides functions such as electricity bill inquiry and payment, service applications, electricity management, visualized electricity consumption charts, power outage reporting, and more. This app aims to make electricity usage more convenient for the public. Taipower has also introduced a Power Instant App that allows users to earn points by participating in energy-saving and educational activities. These points can be redeemed for prizes or entry into lucky draws. The app serves to promote key concepts in energy conservation among the public and to foster a culture of habitually saving electricity.

Furthermore, to promote intelligent occupational safety and health, Taipower has developed a Smart Occupational Safety Management App. The main features of the app include reporting work starts/finishes, clocking in/location tracking, and message notifications. It enables the more effective management of contractors by allowing for real-time monitoring of their personnel, activities, timing, locations, and products. This encourages contractors to be self-aware and comply with occupational safety regulations, leading to the more effective management of contractors.

To enhance the efficiency of employee work, communication, and data sharing, Taipower has also implemented a Taipower Cloud Drive (iCloud) App. The app provides a platform for employees and subcontractors to exchange data within and outside the network while ensuring security and convenience.

5.2 Customer Service and Management

5.2.1 Diverse Channels for Engagement and Communication

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Taipower places great emphasis on issues of concern to the general public. Through diverse channels, the Company maintains bilateral communication with its customers and improves service quality by following customer suggestions. In addition, Taipower facilitates customer inclusion by attempting to resolve all service hindrances caused by language, culture, and literacy-related issues. Taipower's customer services are now available in Mandarin Chinese, Taiwanese, Hakka, and English to cater to customers' power service needs in the language of their preference.

Taipower's Official Website

In order to increase public awareness of issues affecting the electricity industry, Taipower has disclosed 32 items of information on its official website under six categories. These include Management, Power Generation Information, Power Supply and Demand, Customer Information, Environmental Information, and Engineering Information. These disclosures allow the public to browse online and gain a greater understanding of the actual operation of the company.

Taipower's Official Website

The Taipower Fan Page on Facebook

The Taipower Fan Page on Facebook currently has over 250,000 followers and has had more than 40 million views as of 2022. The themes of the posts include electricity knowledge, power saving, power safety, convenience measures, activities, etc. In addition, Taipower hopes that through this visual approach the public will recognize its efforts in stabilizing the power supply and reducing coal and emissions at the Taichung Thermal Power Plant even as power consumption hit new highs in 2021. Taipower wishes to improve the effectiveness of its communications through social network sharing. The content of posts has been actively quoted by major media platforms. In 2022, it generated 88,557 online responses, including 4,000 press citations and 18,641 Facebook shares.

TheTaipowerFan Page on Facebook

Taipower TV - YouTube Channel

Taipower TV - YouTube Channel

Taipower TV was established on May 1, 2013. The channel's planning, filming, editing post-production, uploading and marketing are conducted entirely in-house to create internet videos tailored for different target audiences. As of 2022, the channel had accumulated 2.4 million views on YouTube. The main focus of the content is to promote Taipower's stable supply of power and net-zero initiatives. Other topics include the causes of regional blackouts, projects to enhance grid resilience, energy storage at the Tainan Salt fields, the Songhu Substation, the Taiwan-Penghu Submarine Cable, the offshore wind power, power trading platform, green energy development, and various convenience and energy-saving measures. The content is presented in diverse styles to allow for greater communication effectiveness. Additionally, important meetings, forums, and press conferences organized by Taipower are released to the public in real-time through this platform.

User Communication and Management

Taipower has formulated Guidelines for Handling Customer Petitions that safeguard the rights and interests of its customers by ensuring that their suggestions or appeals receive fair and reasonable resolutions and remedies in a timely manner. The Company's commitment to this enhances the quality of services provided by the company and builds a positive image. Users are encouraged to express their opinions on various business measures, service attitudes, public interests, or the protection of rights and interests through diverse communication channels provided by the Company.

District Service Offices

Taipower has established a closely-linked service network across Taiwan that offers over-the-counter applications for various power and consultation services. These offices are responsible for the construction and maintenance of power supply lines within their service areas and for accommodating customer needs with speedy and convenient responses. They are also responsible for the establishment of direct communication and the maintenance of good interactions with customers.

Each year, Taipower holds a seminar with the Taiwan Electrical Engineering and Industrial Association to facilitate two-way communication and consensus-building with contractors in the electrical engineering industry. The seminar helps address electricity application issues for the public and businesses while also promoting Taipower's important business initiatives. The seminar for the year 2022 was successfully held on November 10, 2022, at the Taipower Hualien District Office.

Feedback Channels

Taipower has established the 1911 customer service hotline, an online service counter, and the Taipower e-Counter app to meet various user service needs through multiple channels.

Customer Feedback Channels		
Customer feedback mailbox	Customer Service Hotline	Enterprise Dedicated Service
A customer feedback mailbox was established on the corporate website to provide a smooth and effective feedback channel for the immediate processing of customer opinions, thereby improving service quality and satisfying customer demands.	The hotline provides 24/7 services all year round, including electricity billing and business inquiries, acceptance of electricity applications, and interactions about the repair of power supply line equipment to improve service satisfaction.	In order to reinforce customer-oriented services, Taipower provides dedicated visitation services to group enterprises and corporate customers using high-voltages (above 1,000 kw), national trade associations with high power consumption, science parks, and service windows in industrial zones under the Ministry of Economic Affairs. These facilitate the maintenance of good communication channels with customers.
The customer suggestion mailbox received 5,434 messages in 2022.	In 2022, more than 1.705 million calls were answered, and 97.88% of calls were answered within 20 seconds.	In 2022, there were a total of 4,981 visitations performed for customers.

Customer Satisfaction

In 2022, Taipower conducted an opinion survey of its general, medium and large customers. The scope of the survey included quality of service, Taipower's corporate image, customer feedback, and overall customer satisfaction. The survey for the year 2022 was conducted from October 6 to December 9 of that year. Over the past few years, customer satisfaction has consistently remained above 90%, indicating that Taipower's various service efforts have been recognized and appreciated by users.

2022 Survey Objectives, Period and Areas		
Survey objectives	Period	Survey facet
1. General users: low-voltage users who have had business contact with Taipower in the past year. 2. Medium and large users: users with a contracted capacity of more than 100 kW.	October 6 - December 9, 2022.	1. Service quality. 2. Corporate image of the company. 3. Feedback from customers. 4. Overall customer satisfaction.

Customer Satisfaction Scores			
Year	2020	2021	2022
Score	95.7	93.0	95.1

Electricity supply is critical to the national economy and security, and as such, Taipower has continuously worked to improve power supply and capacity by adding new power sources and enhancing maintenance. The Company has also actively promoted measures aimed at energy conservation and refined its demand response load management to suppress power consumption.

Every month, Taipower replies to dissatisfied customers that have expressed concerns through the comment box. This entails reviews and improvements along with supervisor assistance in providing suggestions and disseminating information across units within Taipower. In the future, Taipower will continue to handle customer service-related businesses in accordance with the Ministry of Economic Affairs' Implementation Plan for Improving Service Efficiency, and will strengthen its communication with customers to make service delivery even better.

5.2.2 Guarding Information Security

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Product Liability and Personal Information Protection

Taipower's various tariffs are set in accordance with relevant government laws and policies. The processing of customer billing information and the cutting off of electricity due to overdue bills are therefore managed in compliance with the Personal Information Protection Act and the Electricity Act. Taipower also conducts annual reviews of all necessary fields in its personal information files and systems, and revises relevant business rules. As for the confidentiality of customer-related data, Taipower has formulated mechanisms and operational methods that accommodate different targets. Each unit of The Company follows the operating regulations in handling information to ensure the security of customers' personal information throughout the course of business execution. To prevent service personnel at local offices from inadvertently disclosing user's personal information in violation of relevant regulations, while also considering the need for convenient services, specific procedures have been established for verifying the identities of applicants and inspecting identification documents when users or their authorized representatives inquire (or print) electricity usage information through channels such as in-person visits, phone calls (or faxes), or online platforms. This ensures compliance with legal requirements and protects user privacy. For critical databases, Taipower has established a database activity monitoring system. The system inspects the database and protects it through real-time monitoring and event analysis. Monthly reports of exception records are generated and sent to the maintenance department for review. In 2022, the results of the quarterly reviews were normal, and there were no violations of regulations due to the provision and use of products and services.

Information Security Plan

Information and Communication Infrastructure is one of the areas of concern as Taipower develops a smart grid. To enhance data quality, improve analysis and application, and ensure the security of information systems and program-controlled systems, Taipower has formulated a Cyber Security Policy and set up a Cyber Security Steering Committee for management.

In line with the government's policy on dedicated manpower for cybersecurity, a plan has been developed to adjust the cybersecurity workforce to specialized positions. The principle of upward concentration has been adopted, with specialized personnel centralized in the supervisory department. This aims to achieve the goals of having dedicated cybersecurity personnel and conducting training for field protection.

The company is strengthening its information and communication security responsibility management mechanisms and promoting key performance indicators (KPIs) for information and communication security to enhance the effectiveness of cybersecurity governance.

Cyber Security Policy

1	Information assets and critical information infrastructures shall be regularly inventoried, classified, and graded, and risk assessments shall be conducted for critical information assets and critical information infrastructures so that appropriate protective measures can be implemented accordingly.
2	The collection, processing, and utilization of personal information shall comply with the provisions of the Personal Information Protection Act.
3	Unit supervisors shall pay close attention to the identification and control of confidential and sensitive information. They shall be responsible for supervising, executing, and auditing the compliance of cyber security policies, relevant laws and regulations, and operational specifications. They shall also ensure their implementation in the routine operations of each unit and employees' daily work.
4	It is necessary to have complete notification and contingency measures for cyber security incidents and to conduct regular information security drills to ensure continuous business operations.
5	All employees shall be fully aware of the purpose of the cyber security policy and their responsibilities under it.
6	The effectiveness of the information security management system shall be reviewed regularly.
7	The cyber security policy and related operational specifications shall be revised appropriately according to business changes, information technology developments, and risk assessment results.

Information Management Performance Indicators and Achievements

Management Dimension	Management Performance Indicators	2022 Achievements
Information Security	· Information security policy documents approved and released by management shall be communicated to all employees · Assets shall be classified · Vulnerability assessments will be conducted on host computers quarterly and improvement records will be tracked · The use of information and communication products from Mainland China is prohibited to reduce information security risks · Vulnerabilities shall be patched and updated regularly · The core information and communication system shall conduct a business continuity drill once a year · Social engineering drills shall be conducted twice a year · All core information and communication systems shall undergo a penetration test once a year · In the event of an information security incident, the Cyber Security Incident Notification and Response Management Procedures shall be followed	After review, the results for 2022 were normal, and there were no violations of laws or regulations
Customer Privacy Information	· The Director and Deputy Director of the unit or interdepartmental organization shall be designated as responsible for advancing information security matters, through measure such as examining whether the handling of operational records is consistent with the relevant regulations of the Establishment Guidelines for the Security and Maintenance of the Personal Information Files Team · Personal information shall be inventoried in accordance with the Security and Maintenance Plan for the Personal Information Files and Personal Information Processing Methods after Business Termination · The content of cyber security requirements in the outsourcing contract shall include the Personal Information Protection Act, a definition of the rights and responsibilities of both parties, the right to audit manufacturers, security controls, and other legal requirements · Personnel with access to confidential or sensitive information shall be decentralized and rotated · The identification codes, access codes and permissions of transferred, departed or retired personnel shall be canceled immediately · Confidential information shall be handled in physical isolation	After review, the results for 2022 were normal, and there were no violations of laws or regulations