

# TEPCO Group Business Operations

**Holdings** Main business: Provision of common services to each core operating company and nuclear power generation

## ● Initiatives Aimed at Revitalizing Fukushima

In June 2015, the Cabinet decided to accelerate initiatives aimed at revitalizing Fukushima, which has been devastated by the repercussions of the nuclear accident. In accordance with this decision, TEPCO Holdings strove to ensure the prompt provision of new compensation for every single eligible claim and that people affected by the accident can resume normal daily life and restart their businesses. Moreover, TEPCO Holdings continued to carry out follow-up services targeting non-claimants. In these ways, TEPCO Holdings has been making sure that every last person is compensated. Reflecting these efforts, compensation paid out as of March 31, 2016 totaled ¥6,043.8 billion.

Having established the Fukushima Revitalization Headquarters, a cumulative total of 237,000 employees were dispatched to engage in cleanup, weeding and other activities aimed at helping restore areas hit by the accident, while a cumulative total of 159,000 employees worked in collaboration with the national and local governments to decontaminate these areas etc. In sum, TEPCO Holdings has rallied all its strengths to help evacuees return to their homes and farmers and businesses to resume their operations at the

earliest possible dates. In addition, TEPCO Holdings has been an active participant in public-private initiatives to assist local businesses with their efforts to reconstruct their operations.

In March 2016, the Company relocated its Fukushima Revitalization Headquarters from J Village to the Hamadori Power System Office which is within the evacuation zone (Futaba-gun, Tomioka-machi) with the aim of better positioning itself to be attentive to local needs and make greater contributions to local communities. TEPCO Holdings sincerely hopes that its ceaseless efforts to fulfill its responsibilities to help revitalize Fukushima will eventually lead to evacuees returning to their homes.



Cleaning the premises of a local shrine in preparation for the New Year worship

## ● Decommissioning of Fukushima Daiichi Nuclear Power Station

Making significant progress in the implementation of contaminated water countermeasures, the Company completed the purification of heavily contaminated water in tanks, excluding the residual contaminated water at the bottom of the tanks. The removal of heavily contaminated water from trenches was also completed. Moreover, impermeable underground walls were installed alongside the shorelines and completely sealed. Meanwhile, the Company began installing impermeable walls (frozen soil walls) around the reactor buildings, initiating the injection of refrigerant to ensure that all underground water flows are stopped before encountering any structure. In these ways, TEPCO Holdings is striving to mitigate risk related to contaminated water.

Aiming to remove all fuel from the spent fuel pool and nuclear debris from the reactor containment vessels, the Company made steady progress in decommissioning-related work, dismounting ceiling panels from the Unit 1 building, removing larger rubble from the spent fuel pool of



Impermeable walls on the shoreline were completely sealed in October 2015

Unit 3 and conducting interior surveys of the reactor containment vessels. In addition, the Company implemented countermeasures to reduce radioactivity exposure within the premises of the power station. Thanks to these countermeasures, TEPCO Holdings was able to expand zones classified as not requiring full face masks, thereby reducing the physical burden on workers. In June 2015, the Company established a large restorative center and began serving meals inside this facility. In March 2016, a convenience store was opened in this facility. These are but a few examples of TEPCO Holdings' constant efforts to improve the working environment by paying close attention to the needs of frontline workers.



Workers are served hot meals at a cafeteria in the large restorative center

## ● Nuclear Power Safety

In line with the Nuclear Safety Reform Plan, TEPCO Holdings has implemented ongoing initiatives aimed at achieving world-leading quality and safety. Specifically, TEPCO Holdings stepped up safety countermeasures undertaken at its Kashiwazaki-Kariwa Nuclear Power Station, installing above-ground filtered vent equipment and strengthening the cooling functions of the spent fuel pool.

To raise their awareness of safety, TEPCO Holdings' senior management and leaders at the Nuclear Power Division underwent crisis management training. In April 2015, Nuclear Safety Oversight Office was reorganized and placed under the direct supervision of the president. This department is now better positioned to monitor and advise management as it addresses issues of nuclear power safety.

Although the aforementioned initiatives demonstrate steady progress, the Company confirmed the misconnection of cables installed under the floor of the central control room of the Kashiwazaki-Kariwa Nuclear Power Station and immediately announced this situation to the general public. The way TEPCO Holdings dealt with this situation was commended by the Nuclear Reform Monitoring Committee—an external advisory body consisting of specialists and experts from around the world—as a testament to the Company's improved vigilance; vigilance that ensured that it detected and disclosed a potential danger while implementing initiatives to achieve reforms in

nuclear power operations. Nevertheless, further incident analysis undertaken to determine the root causes of this particular problem allowed the Company to identify some shortcomings in employees' technological skills in certain fields, a situation that should be addressed as soon as possible. Accordingly, TEPCO Holdings will strive to raise employees' safety awareness and technological capabilities.

A third-party committee investigation into the issue of information disclosure and public relations associated with the accident at the Fukushima Daiichi Nuclear Power Station confirmed that the true nature and extent of the accident was not fully disclosed on the order of the then president of TEPCO, who, immediately after the accident, instructed employees to not use the term "meltdown." Reflecting on the inappropriateness of its information disclosure, TEPCO Holdings would like to extend its sincere and deepest apologies to the general public, especially residents of the area in the vicinity of the power station, for its failure to clearly communicate the facts about the accident. To prevent the recurrence of such failure, TEPCO Holdings has made the safety and security of communities in the vicinity of its power stations, and society as a whole, its utmost priority, no matter what may befall. Going forward, TEPCO Holdings will remain committed to communicating facts while implementing recurrence prevention initiatives, with all employees rallying their strengths to these ends.



Installing iodine filters as part of above-ground filtered vent equipment of the Kashiwazaki-Kariwa Nuclear Power Station Unit 7



Dr. John Crofts, the head of the Nuclear Safety Oversight Office, giving a lecture on nuclear power safety at the Fukushima Daini Nuclear Power Station

## ● Measures for Management Rationalization

Rallying Companywide strengths, TEPCO Holdings pushed forward exhaustive management rationalization efforts, including reductions in purchasing prices and procurement reforms. As a result, in fiscal 2015 the TEPCO Group achieved a significant ¥596.6 billion in cost reductions, an amount ¥239.8 billion greater than the initial target of ¥356.8 billion

set forth in the New Comprehensive Special Business Plan. Stepping up the rationalization of its cost structure, TEPCO Holdings is endeavoring to boost the productivity at every organizational and business level by, for example, inviting the input of external specialists with extensive experience in improving production site management.

## Fuel & Power Main business: Fuel and thermal power generation business

### ● Progress in Comprehensive Alliance

Having agreed to form an alliance with Chubu Electric Power Co., Inc., TEPCO Fuel & Power is now working to develop a comprehensive collaborative structure involving TEPCO Fuel & Power and Chubu Electric Power and encompassing the entire supply chain, from upstream investment and fuel procurement to power generation. The two companies began by establishing the joint venture JERA CO., Inc. (hereinafter "JERA") in April 2015, and transferred their respective fuel transportation and fuel trading businesses to JERA in October 2015. Then, in July 2016, JERA took over other fuel related-businesses, including such upstream assets as fuel procurement operations, as well as overseas thermal IPP businesses and thermal power generation facility development and replacement operations that had been undertaken by Hitachinaka Generation Co., Inc.



Optimizing the fuel supply and utilization system by integrating fuel transportation businesses and improving transportation efficiency

### ● Initiatives Aimed at Strengthening Our Competitiveness

TEPCO Fuel & Power initiated operations of second and third power generation turbines at its Kawasaki Thermal Power Station Group 2, both of which boast the world's top thermal efficiency. The Company also implemented facility improvements aimed at boosting the efficiency of the Yokohama Thermal Power Station Group 7 and 8. In these ways, the Company worked to reduce fuel costs and CO<sub>2</sub> emissions through the enhancement of thermal efficiency.

Striving to become a world leader in thermal power generation, TEPCO Fuel & Power launched a "value-up" project to carry out multi-faceted activities to achieve *kaizen*, or improvements, with external specialists serving as mentors. In addition, TEPCO Fuel & Power addressed such issues as minimizing the downtime necessary for periodic facility inspections, with the aim of boosting the overall productivity of power generation facility operations.



The Kawasaki Thermal Power Station Group 2 upgraded its second power generation turbine with the introduction of the MACC II,\* bringing it online  
\* More Advanced Combined Cycle II

## Power Grid Main business: General power transmission and distribution business

### ● Ensuring a Stable Supply while Reducing Energy Wheeling Costs

In addition to ensuring a reliable power supply, TEPCO Power Grid has promoted exhaustive and ongoing cost reductions, with the aim of achieving a low wheeling rate comparable to those of world-leading utilities. Specifically, along with the steady refurbishment of aging facilities, TEPCO Power Grid has sought to streamline a range of its operations, including transformer replacement and circuit breaker inspection as well as such back office operations as land management. With external specialists giving advice, every department has engaged in a concerted effort aimed at boosting productivity.



Shortening time necessary for transformer replacement by reorganizing and streamlining work process

### ● Adopting a More Sophisticated Network System

To achieve even higher operational efficiency, TEPCO Power Grid aims to promote the centralization of control systems used for grid operations, engineering work and power distribution. In April 2015, TEPCO Power Grid publicly solicited proposals for a next-generation system for the integrated monitoring

and control of these operations and ensuring compliance with international standards. In March 2016, TEPCO Power Grid successfully entered a development agreement with a system vendor, launching a full-scale system development project aimed at boosting productivity and solidifying its IT platform.

## Energy Partner Main business: Electricity retail business

### ● Renewing New Electricity Rate Plans

In anticipation of the full liberalization of the electricity retail market, in January 2016 TEPCO Energy Partner announced eight new electricity rate plans, including a “premium plan” tailored to the needs of intensive electricity users, as well as those designed to accommodate diverse lifestyle and customer needs. Having begun accepting advance applications for these plans, TEPCO Energy Partner also implemented active marketing initiatives utilizing a variety of sales channels. As of March 31, 2016, TEPCO Energy Partner received more than 400,000 applications from customers from Kanto, Chubu and Kansai areas.



Declaring our commitment to becoming a pioneer in creating new value at the press conference where new electricity rate plans were announced

### ● Forming Alliances with Companies in Other Sectors

Having formed alliances with about 40 companies in a wide range of fields, from cell phone carriers and online music distributors to gas companies and residential builders, TEPCO Energy Partner has adopted a new sales approach that utilizes the customer contacts of these alliance partners for nationwide electricity retail marketing. Moreover, TEPCO Energy Partner began selling bundled services with partners while co-developing electricity rate plans dedicated to customers of such partners. Looking ahead, TEPCO Energy Partner will proactively utilize and expand the scope of these alliances, thereby enhancing its sales capabilities and product competitiveness.



“Pepper,” a state-of-the-art robot produced by SoftBank Corp., our alliance partner, serves as a poster boy for TEPCO electricity-related services