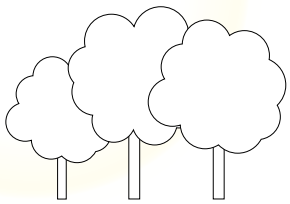
CSR Report 2005

Kansai Electric Power Group CSR Report 2005



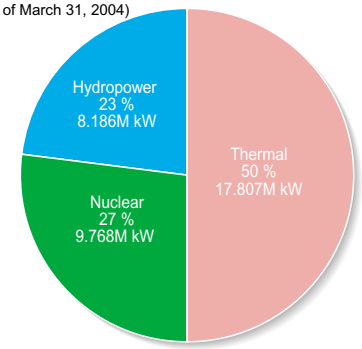
THE KANSAI ELECTRIC POWER CO.,INC.

Overview of Kansai Electric Power

Company name	The Kansai Electric Power Company, Incorporated
Headquarters	3-6-16 Nakanoshima, Kita-ku, Osaka 530-8270 TEL: 06-6441-8821 http://www.kepco.co.jp
Date of establishment	May 1, 1951
Capital	489.32 billion (as of March 31, 2004)
Chairman of the Board of Directors President and Director	Yoshihisa Akiyama Shosuke Mori
Main business	Electric power industry
Kansai Electric Power's service area:	Osaka Prefecture, Kyoto Prefecture, excluded in Hyogo Prefecture, Nara Prefecture, Shiga Prefecture, Wakayama Prefecture, and portions of Mie Prefecture, Gifu Prefecture and Fukui Prefecture
Number of group companies (as of March 31, 2004)	68 consolidated subsidiaries 1 affiliate accounted for by equity method
Number of employees (as of end of fiscal 2004)	33,276 (consolidated), 20,640 (single)
Annual power sales (fiscal 2004)	144,886 million kWh
Sales figures (fiscal 2004)	2,613,483 million (consolidated), 2,448,181 million (single)
Current profit (fiscal 2004)	297,801 million (consolidated), 274,090 million (single)
Current term net profit (fiscal 2004)	69,739 million (consolidated), 110,179 million (single)
Gross assets (as of end of fiscal 2004)	6,857,871 million (consolidated), 6,294,612 million (single)

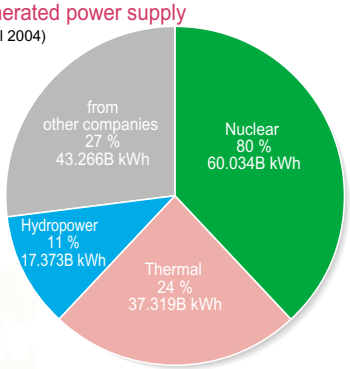
System capacity

(As of March 31, 2004)



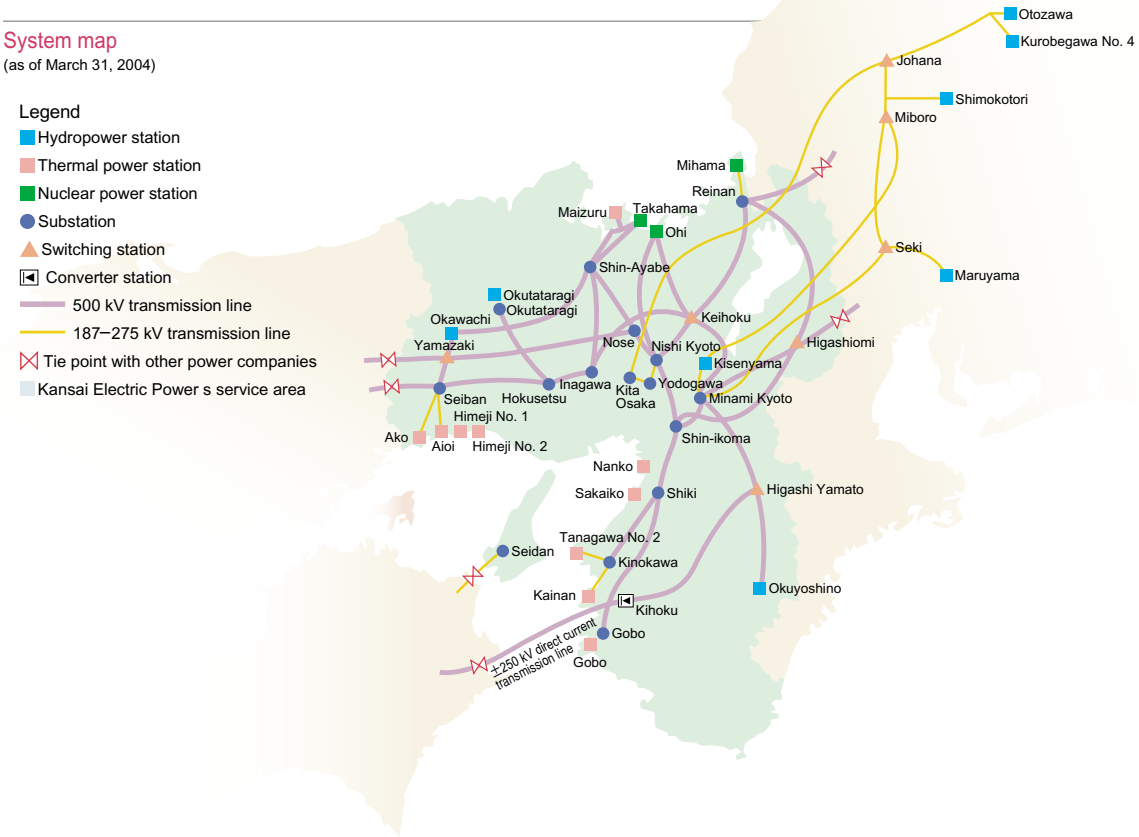
Generated power supply

(fiscal 2004)



System map

(as of March 31, 2004)



CSR Report 2005

Kansai Electric Power Group CSR Report 2005

Editorial Policies

○The Kansai Electric Power Group has published environmental reports since 1993. This year, however, we are publishing the Kansai Electric Power Group CSR Report instead.

○The purpose of this report is to explain our policies, objectives and activities related to Group CSR efforts to our customers and other stakeholders.

○This report is not merely a one-way explanation from our Group. We have emphasized raising the level of objectivity by including the commentary of independent outsiders and have responded to their ideas by showing our Group approaches and stances.

○Furthermore, based on evaluations of Group fiscal 2004 activities and efforts, in following years we will actively confront the issues identified. In order to make our sustained efforts to continue improving clear, we have included fiscal 2005 action policies at the end of each chapter.

○In preparing this report, we referred to the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines (2002 edition) and the Ministry of the Environment's Environmental Report Guidelines (fiscal 2003 edition).

○On page 79, we have published Hitotsubashi University Graduate School of Commerce and Management Professor Kanji Tanimoto's opinions about this report.

Scope of report

- Period covered: April 1, 2004 to March 31, 2005. However, important items from between the end of this period and the publication of this report have also been included.
- Companies covered: The Kansai Electric Power Co., Inc. and Kansai Electric Power Group companies
- Areas covered: economic, environmental, social

Report publication period

Published January 2006.
2004 edition published November 2004. 2006 edition scheduled to be published in the summer of 2006.

Reference

Please refer to the following reports for additional information about our Group CSR efforts.

- Kansai Electric Power Group CSR Report 2005 Web edition (on our corporate home page)
- Kansai Electric Power Group CSR Report 2005 Japanese edition
  (Published September 2005)

Contents

From Environmental Reports to a Corporate Social Responsibility Report

Presenting ourselves as we are to you

This year, we have expanded on our past Environmental Reports to publish a more comprehensive Corporate Social Responsibility (CSR) Report. With the appointment of a new president, we have taken this turning point as an opportunity to think anew about corporate social responsibility.

Our fundamental stance to sustainable development for the environment, the economy and society
—Kansai Electric Power Group CSR Action Charter—

In recent years, sustainable development that balances the environment, the economy and society has become an important issue. As part of their responsibility to society, enterprises have also come to be expected to contribute to this through their business activities.

Energy, the core business of the Kansai Electric Power Group is not only indispensable for our customers' lifestyles and industrial activities, our business activities can also have great impacts on the environment and society.

Given this, we believe that our social responsibility is serious from the perspective of sustainable development for the environment, the economy and society.

Our mission has been to serve our customers continuously since our foundation and has evolved into the fulfillment of social responsibility. In the Kansai Electric Power Group CSR Action Charter, we clarify and describe our promise to society to achieve this in our business activities.

Reviewing last year
—Our sincere remorse and total dedication to recurrence prevention measures—

In August 2004, we were responsible for an accident at the Mihama Nuclear Power Station Unit 3 in which 11 people were killed or seriously injured, in addition to a variety of other calamities. We wish to express our deepest apologies once again.

Due to these accidents and calamities, society lost a great amount of confidence in our activities. This year, the Revised Electricity Enterprises Law was also established and competition in this industry will become fiercer. The trust we have lost is a great blow to us, and, with the sustainability of the Kansai Electric Power Group being questioned, we are aware that we face the greatest crisis since our founding.

The road to regaining your trust is a long and difficult one, but I will follow this oath as the president: my mission, the company mission, is to maintain safety. I will focus all my energy on efforts to prevent calamities, starting with measures to prevent the recurrence of an accident like the one at the Mihama Nuclear Power Station Unit 3.

Recurrence prevention measures are a means
—Making a Kansai Electric Power Group that has the ability to carry out sustainable social responsibility—

For the Kansai Electric Power Group, prevention of accidents and calamities is an urgent and basic duty. For this reason, we know that thorough fulfillment of this duty alone is not enough to rebuild confidence.

Not only in the nuclear power sector, it is extremely important that all individual executives and employees in the Kansai Electric Power Group fulfill our responsibilities to society. Starting with job execution that puts safety assurance first, each must act with self-awareness and build a record of this behavior through repetition.

The sum total of the awareness and actions of each individual creates corporate culture. I believe that the more that our culture becomes sustainable, the more the Kansai Electric Power Group will be able to continue to fulfill our social responsibility.

Considering this, as a concrete implementation of the Kansai Electric Power Group CSR Action Charter, this year we established the Kansai Electric Power Group CSR Action Standards to guide the daily attitudes and behaviors of our staff members. In addition, we also established action plans to further promote CSR activities.

These are not just contrivances. By establishing continuous activities, I want to regain public confidence by building a corporate culture in which, by their own volitions, all Group employees put safety assurance first and actively work to continuously fulfill our social responsibility.

Rejecting self-aggrandizement and presenting the Kansai Electric Power Group as we really are to our stakeholders

We will act with consciousness of maintaining safety and fulfilling our duties to society, and build a consistent record of this performance. Through evaluation and reform of our actions, we can raise the ability of the Kansai Electric Power Group to carry out its social responsibilities.

However, we know that dependence on self-evaluation of our own activities is unacceptable. Evaluations by members of society with objective perspectives are also important.

For these reasons, through this CSR Report, we will first show you, our stakeholders, the Kansai Electric Power Group as we really are.

We do not simply want to explain the results of our activities. Our hope is to show you also how we achieved those results, as well as unfavorable outcomes and failures, what we learned from them, and how we intend to conduct reform.

I hope that our readers will also provide feedback.

Since we want to contribute continuously to sustainable development for the environment, the economy and society, we know that there will never be a point when we can say we have perfected our efforts or that we have done enough. Through lively communication with you, our stakeholders, we will listen to your rebukes and advice to make the road that we must travel more clear, and with your help, continue traveling down that road.

This CSR Report is a precious opportunity for communication and I hope we can build on it with you. I would appreciate hearing your unreserved opinions about this report and our efforts.

President and Director

Feature About the Mihama Nuclear Power Station Unit 3 Accident

—Building a culture of safety to regain the trust of society—

On August 9, 2004, five people lost their precious lives and six were seriously injured because of a grave accident that we caused at the Mihama Nuclear Power Station Unit 3. We would like to take this opportunity to offer once again our deepest apologies to those who were injured and to the families of the victims. We pray for the souls of the dead and for the rapid recovery of the injured. We also offer our sincere apologies to the staff of the affiliated companies who assist with the regular maintenance and operation of the power plant, the town of Mihama, local area governments, the people of Fukui and neighboring prefectures, as well as all the people throughout Japan and the world to whom we have caused trouble and concern.

Based on the results of investigations of the Mihama Nuclear Power Station Unit 3 accident and analysis of the causes, we will meticulously reexamine our responsibility for the accident. We are resolute in our promise to stakeholders that, beginning with the president's declaration and fundamental action policies, we will build a company-wide culture of safety and implement reliable measures to prevent accident recurrence.

Declaration of the President

Maintaining safety is my mission, our company's mission.

Five basic action policies

1. Put safety first
2. Invest more actively in safety
3. Continuously improve maintenance management to ensure safety and establish closer cooperation with manufacturers and contractors
4. Strive to restore the trust of local communities
5. Objectively evaluate and widely disclose our safety initiatives

Following these five fundamental action policies, we will steadily implement concrete action plans and put safety first in the operation of our nuclear power business.

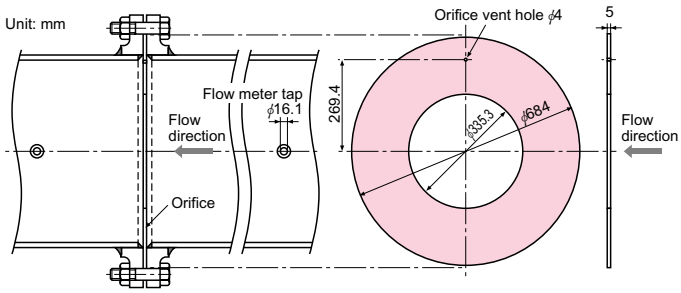
Results of investigations into accident conditions and causes

Accident conditions

○On August 14, at the time of the accident, employees from partner companies were working in the Mihama Nuclear Power Station Unit 3 turbine building in preparation to implement the 21st refueling outage (regular inspection). While they were preparing, a condensate pipe near the ceiling of the turbine building ruptured and 140℃ hot water pressurized to about 10 atmospheres became steam and blasted out. Our employees who were in the turbine building for the inspection found the victims of the steam collapsed in front of the 2nd floor elevator and called for ambulances.

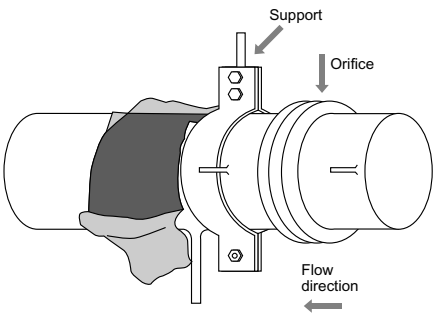
○The 11 victims from cooperating companies were carried out of the turbine building by our employees and other cooperating company employees. Fire department emergency personnel also assisted, and the victims were taken by ambulance to the hospital. Five of the victims lost their lives and six were seriously injured.

Orifice diagram



Condensate pipe external diameter: 560 mm; wall thickness: 10 mm; material: carbon steel

Orifice material: SUS304 (stainless steel)



Ruptured pipe condition

A large rupture was found beneath the condensate pipe flow meter orifice. About 885 tons of water is thought to have erupted from it as steam.

According to design, the ruptured pipe needed to be at least 4.7 mm thick. In fact, when the plant began operation in 1976, it was stated to have been 10 mm thick, but in the area of the rupture, the thinnest part was only about 0.4 mm thick. Results of inspections after the accident revealed that there were no problems with the design, manufacture, maintenance, environment or other conditions of the ruptured pipe, but internal examinations of the rupture area found scaling on the inside. The internal surface disturbance of the water flow had caused erosion-corrosion* that wore away the metal inside the pipe, causing it to become thin and leading to rupture from internal pressure.

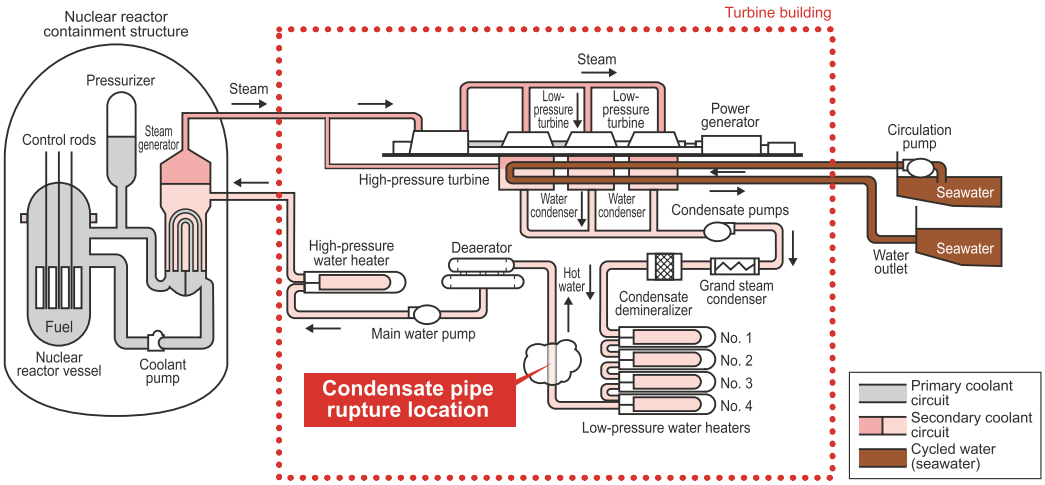
*Accelerated corrosion of metal material caused by the abrasion of flowing liquid

Rupture location

Secondary pipe inspection

Beginning August 13, we stopped operation of our nuclear power plants successively, and conducted inspections of every power plant secondary pipe. We conducted measurements in places where wall thickness management had not been implemented, confirming those that were sound and replacing pipes as necessary.

Mihama Nuclear Power Plant Unit 3 structure and location of the condensate pipe rupture (simplified diagram)



The main pipes of the primary coolant circuit are stainless steel and are about 100 times more resistant to corrosion than the carbon steel pipes used in the secondary coolant circuit. The steam emitted was from the secondary coolant circuit and there was no effect from radioactivity in the surrounding environment

Pressurized light water reactor (PWR) structure and rupture location

Pressurized water nuclear power plants characteristics:

① Heat generated by the nuclear fission of uranium fuel in the reactor vessel is transmitted to the primary coolant.

② Primary coolant is sent to the steam generator where heat is transferred to the secondary coolant, which becomes steam. (In the steam generator, the primary coolant heat is transferred to the secondary coolant without direct mixing, so the secondary coolant does not contain radioactive substances.)

③ Secondary circuit steam turns the turbine and power generator to make electricity.

④ Steam that turns the turbine is cooled by seawater in the condenser and returned to a liquid state.

⑤ Secondary coolant that has been reverted to water is returned to the steam generator again in the power generation cycle. This secondary coolant water, however, is not just suddenly turned to steam, but it is first preheated by water heaters.

This accident occurred when a pipe located after the 4th water heater ruptured, so the superheated, pressurized water had high energy and became steam when it gushed out

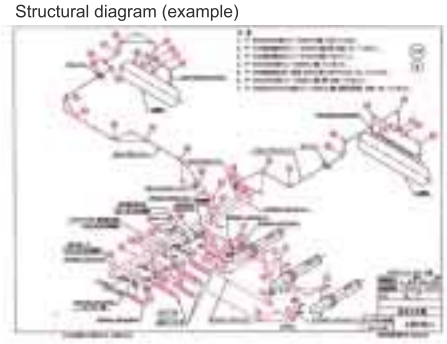
Secondary pipe circuit maintenance status

In 1990, we established the Guidelines for Management of Wall Thickness in Secondary Piping (PWR). In accordance with this, we prepared structural diagrams and inspection management tables as parts of inspection lists. We used these to measure wall thickness at places where wall thinning could be anticipated and replaced pipes with advanced corrosion.

However, the pipe section that ruptured had not been included as a necessary location on the inspection list, and, because this error was not corrected, wall thickness measurements were never implemented before the accident occurred.

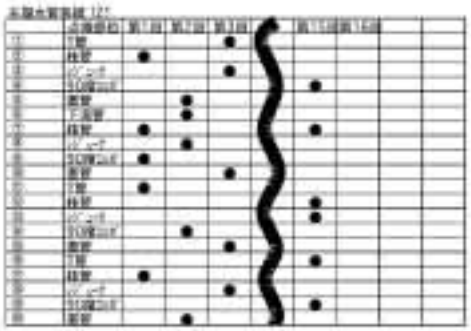
Structural diagram and inspection management table

Structural diagram (example)



*Structural diagrams show the pipe routes three dimensionally

Inspection management table (image)



Accident causes

Since our quality guarantee system and maintenance system for secondary pipe wall thickness management was insufficient, parts that should have been managed were not and they were left unmanaged for years.

(1) Reasons that parts that should have been checked were left outside the scope of inspections

Factors that led to the accident

Three factors contributed to this accident.

○ The ruptured part was not on the inspection list

○ The inspection list was left unrevised for years

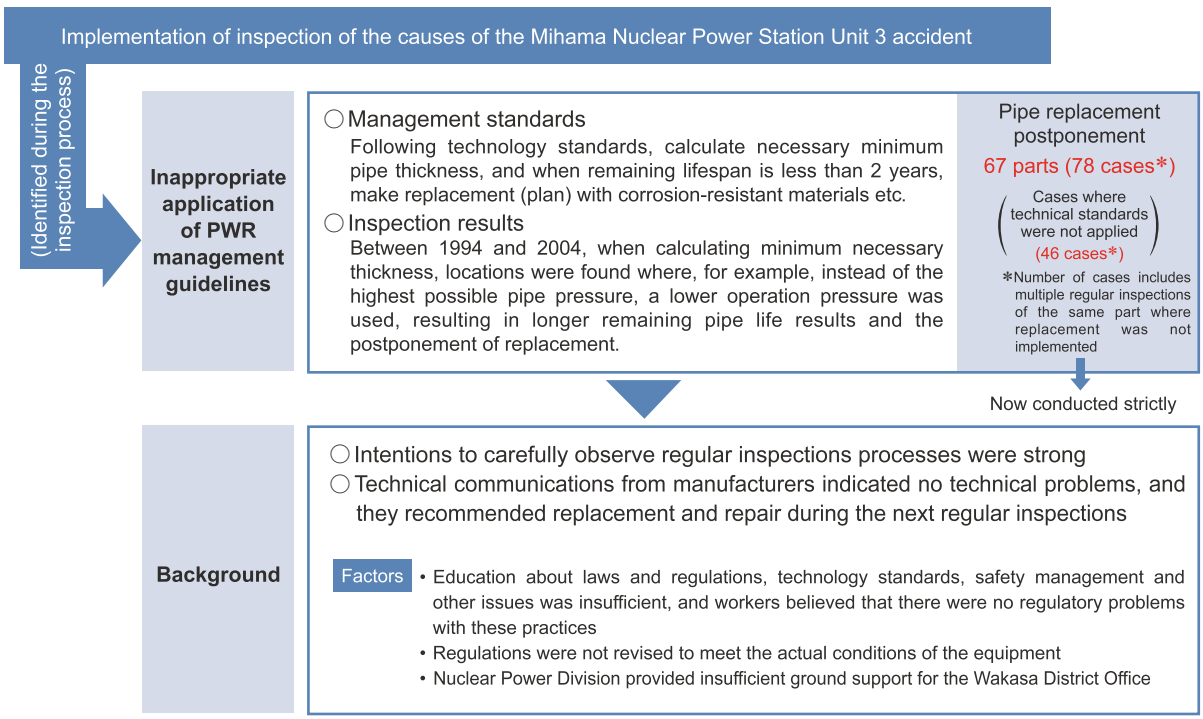
○ After the inspection omission was discovered, communication with the responsible parties was insufficient, and was not appropriately reflected in future inspection plans

(2) Factors that contributed to the omission of items in the inspection list and the lack of revisions

	Factor
Work plans and systems	① Concrete work roles, assignment of responsibilities and other duties not precisely defined in work plans ② Human resources insufficient ③ Mechanization insufficient ④ No system for periodic review of inspection lists
Procurement management	① Requirements of subcontractors unclear ② Information sharing process for unexpected irregularities unclear ③ Examination of inspection lists for omissions not conducted
Information sharing	① The issue of omissions was not handled on a business-wide level as it should have been ② Workers of different companies did not share information about the issue ③ No structure for manufacturers to reliably communicate information about irregularity ④ Insufficient communication between our company and cooperating company employees
Education	① No consideration of the possibility of a large rupture occurring suddenly ② Lessons from the Surry accident not absorbed ③ Awareness of the importance of the work plan lacking ④ Awareness of the importance of procurement management lacking
Auditing	① Internal auditing was limited to sampling the actual conditions of work implementation ② Audits of cooperating companies did not include particular work implementation details

Issues that became clear during the process of inspecting accidents

During the inspections for this accident, it became clear that technical standards had not been applied properly, reflecting a lack of safety awareness overall.

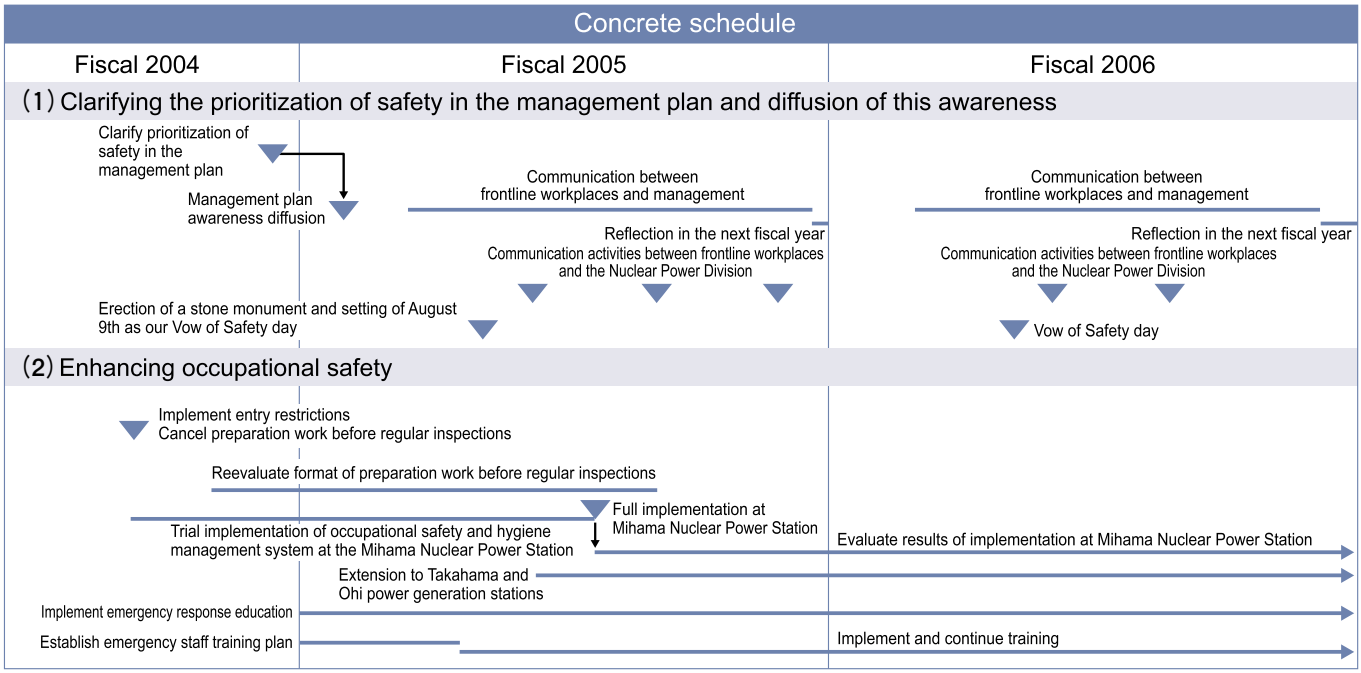


Recurrence prevention measures

1 Put safety first

We have made clear that our management mission is safety first and, with an easy-to-understand, clearly-worded management plan, given every employee a guide for making judgments in their daily business execution.

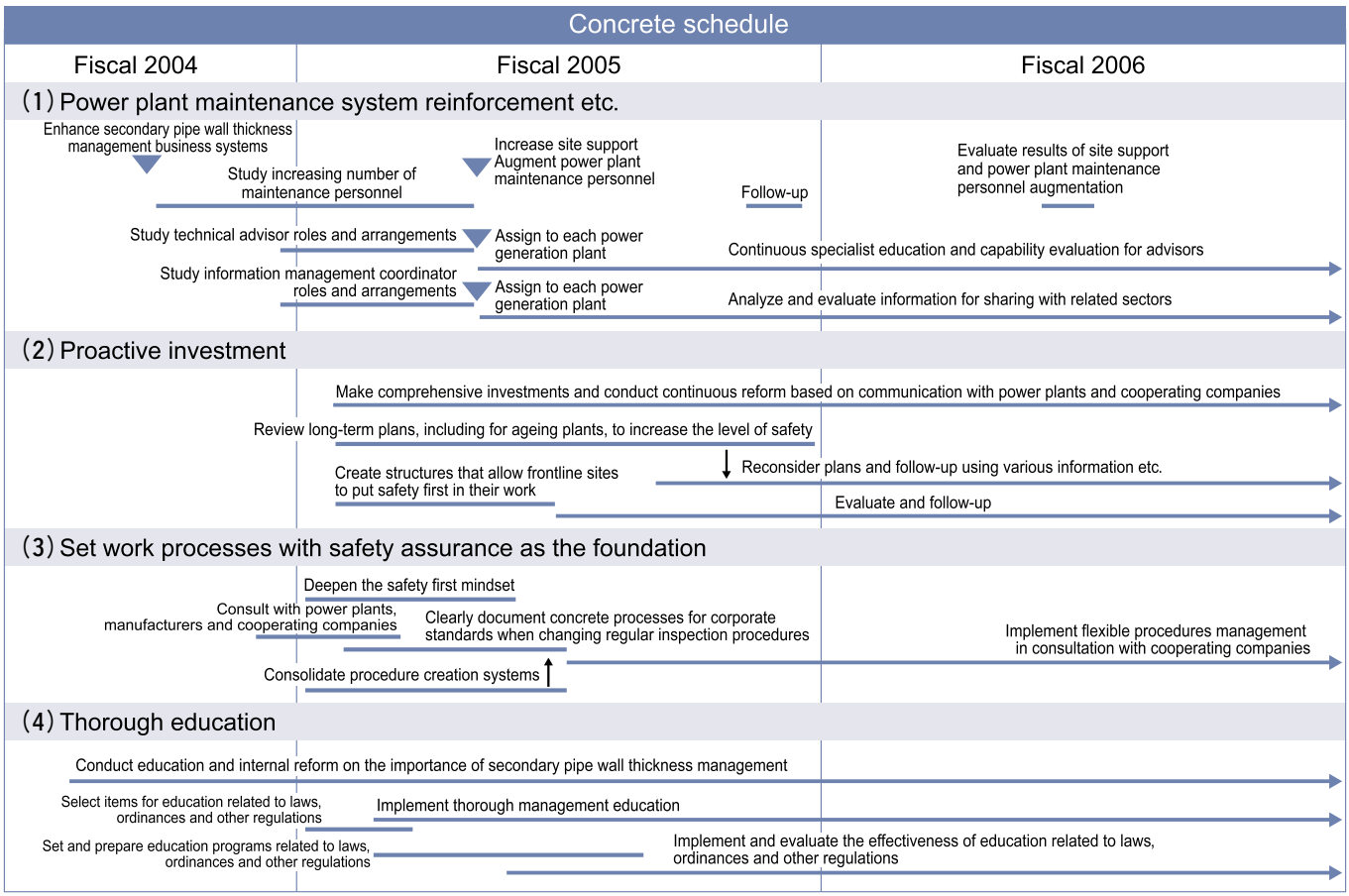
Recognizing clearly that we are responsible for safety and carrying a strong awareness of the need to make a fresh start, management will steadfastly build a renewed culture of safety based on the president's clear policies.



2 Invest more actively in safety

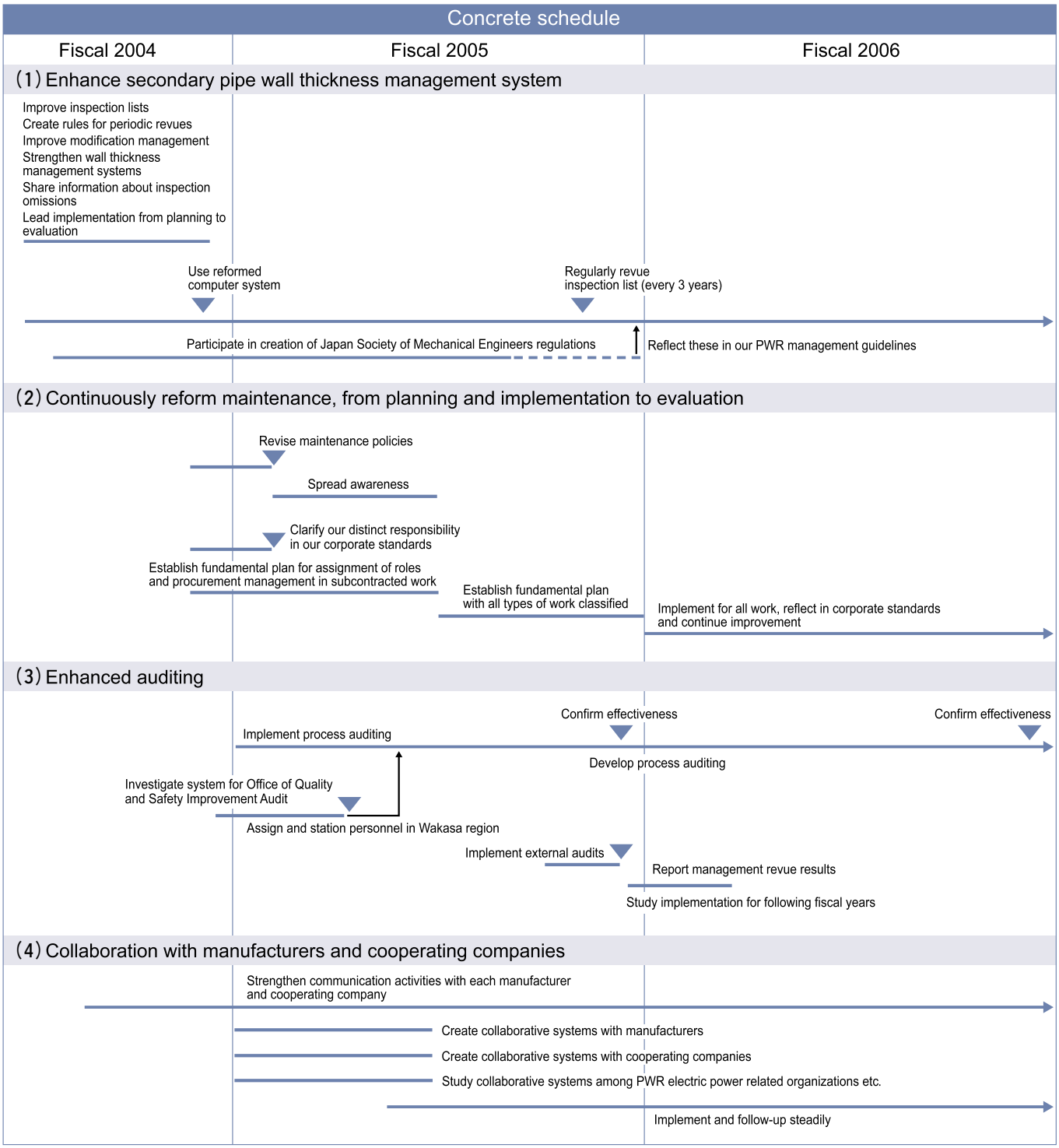
In order to create nuclear power plant workplaces with spare resources to cope with safety needs, we will actively dedicate resource to frontline sites.

Furthermore, to raise the overall technical level of our maintenance staff, we will conduct more thorough education.



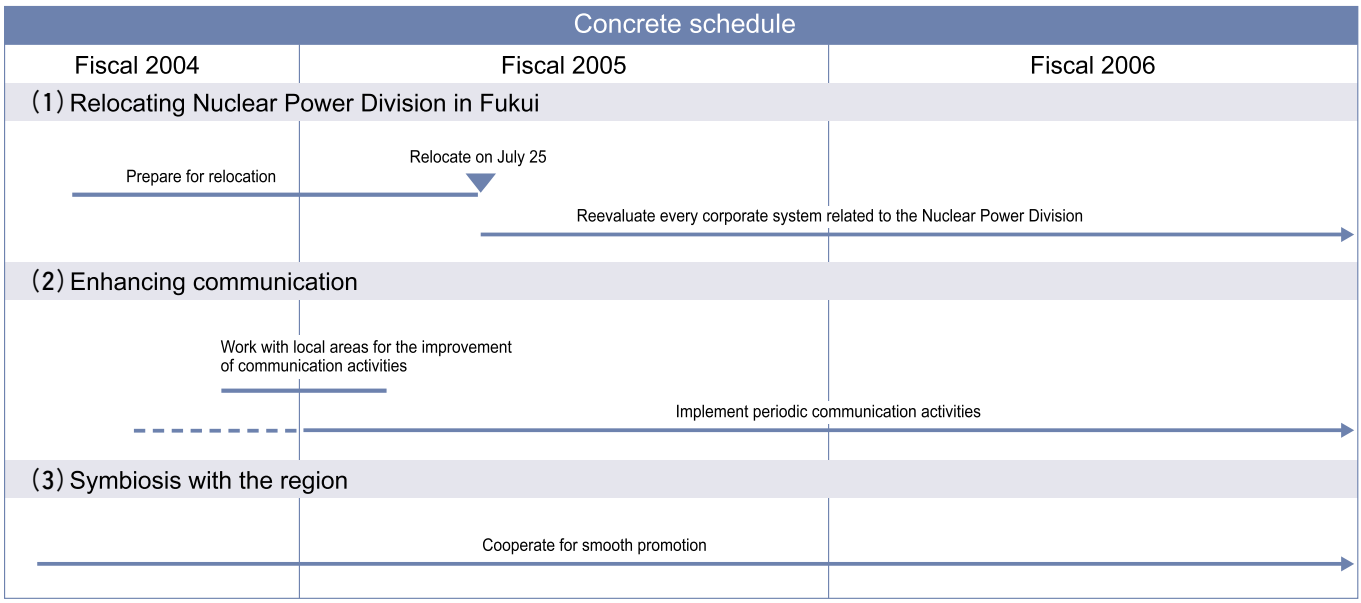
3 Continuously improve maintenance management to ensure safety and establish closer cooperation with manufacturers and contractors

As the plant owner, we have an unmistakable responsibility for all aspects of maintenance, from planning and implementation to evaluation. To enhance maintenance implementation, we will build a solid cooperative system by precisely evaluating our technical abilities along with those of equipment manufacturers and cooperating companies and weigh the importance of each aspect of maintenance work. In addition, through thorough audits, we will conduct objective evaluations, and build systems for continuous reform.



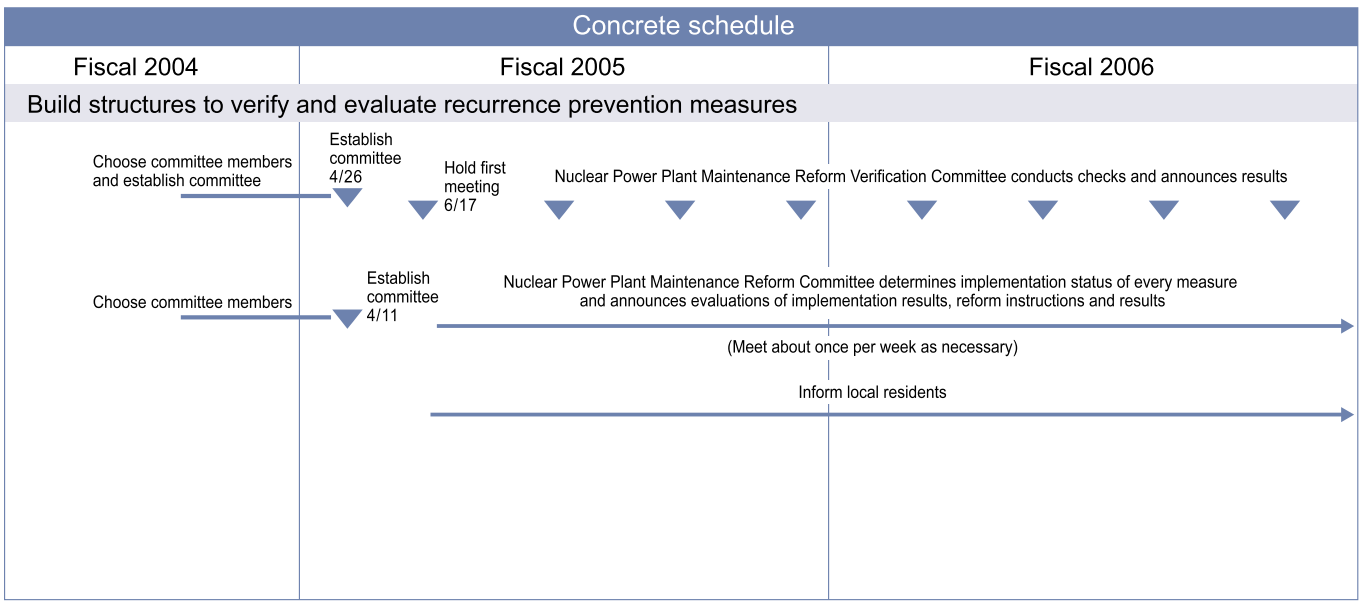
4 Strive to restore the trust of local communities

Aware that we are a local enterprise, we will work to develop regional symbiosis for coexistence with local communities and our mutual prosperity. In order to recover the trust lost because of the accident and to sustain that trust in the future, we will pay close attention to the opinions of local residents and other stakeholders in the operation and management of power plants.



5 Objectively evaluate and widely disclose our safety initiatives

Along with building implementation systems for recurrence prevention measures with clear responsibility structures and for objective confirmation and evaluation, we will raise transparency by making the details of these efforts public.



Promotion system for recurrence prevention action plan

Steady promotion of recurrence prevention measures

In order to promote recurrence prevention measures steadily as we have promised to society, on April 11, 2005, we established the Nuclear Power Plant Maintenance Reform Committee, comprised primarily of members from outside the Nuclear Power Division.

The Nuclear Power Plant Maintenance Reform Committee meets about once per week or as necessary, and deliberates and adjusts implementation plans for recurrence prevention measures, analyzes their progress and conducts other follow-up. Furthermore, the president receives reports of the results, and gives necessary directions to persons responsible for each measure about implementation, reform and other issues.

The first meeting of the Nuclear Power Plant Maintenance Reform Verification Committee

Inspection and evaluation of recurrence prevention measures

In order to conduct objective, comprehensive inspections and evaluations on whether recurrence prevention measures are being reliably implemented, on April 26, 2005, we established the Nuclear Power Plant Maintenance Reform Verification Committee*.

The Nuclear Power Plant Maintenance Reform Verification Committee is composed primarily of outside committee members including local experts to assure independence and neutrality. Meeting about once every three months, they periodically inspect and evaluate the implementation status of our reform measures. In addition, they make recommendations and other reports to the Nuclear Power Plant Maintenance Reform Committee as necessary and make the results of their deliberations known publicly on our web site and elsewhere.

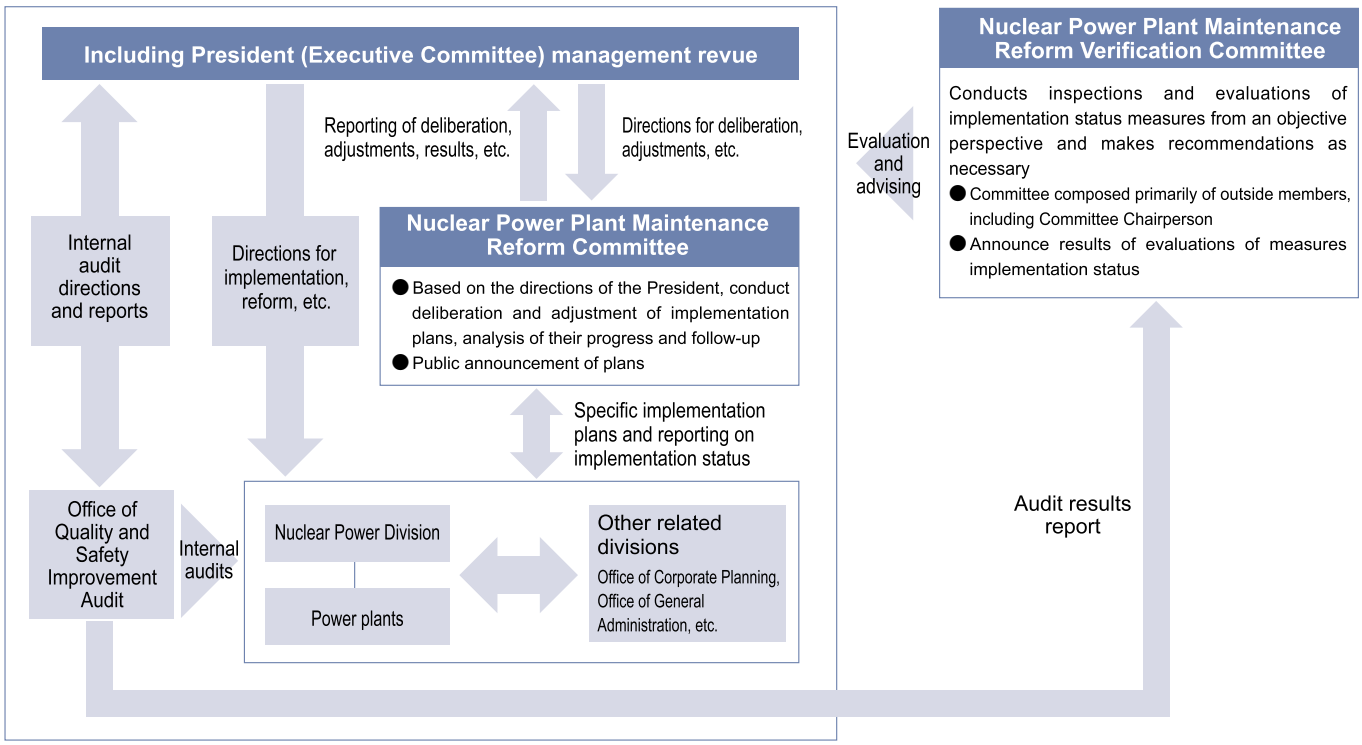
*In the Mihama Nuclear Power Station Unit 3 Accident Recurrence Prevention Action Plan, this committee was referred to as the Nuclear Power Quality Safety Committee (tentative name).

● Nuclear Power Plant Maintenance Reform Verification Committee external committee members (listed in Japanese order)

Committee Chairperson:
Masasuke Omori (Lawyer)

Committee members:
Isao Kuroda (Director, Japan Institute of Human Factors)
Yukiko Shinozaki (Director, Urban Life Research Institute)
Sumiko Masano (Chairperson, Women's Energy Group in Fukui)
Keiji Miyazaki (Professor Emeritus, Osaka University)
Tetsuo Miyamura (Professor, Chuo University)
Masao Mukaidono (Professor, Meiji University)

The committee also includes 3 corporate members.



Steady implementation of action plans
(actions already being taken) (as of September 9, 2005)

1 Put safety first

- In addition to immediately limiting access to plants in operation after the accident, we have prepared additional heat resistant suits for use at times of emergency or when otherwise necessary.
- Make workers thoroughly aware of dangerous locations according to their plant operation conditions.


Limited access to plants in operation


Additional heat resistant suits

- Plant operation is stopped before preparatory work for refueling outages is begun (implemented immediately after the accident).
- Safety first clearly positioned as the most important issue in the Fiscal 2005 Management Plan (March 28, 2005).

Communication between frontline workplaces and management

Executives beneath the president have gone to nuclear power plants 26 times to communicate directly with workers. Opinions expressed during these communication activities, included, “We don’t have enough manpower, and We don’t have enough new staff and might not be able to pass on our skills.”

August 9th: Vow of Safety Day

In order for every employee to reflect on the Mihama Nuclear Power Station Unit 3 accident and take its lessons to heart, we have set August 9 as our Vow of Safety day. On this day, we rededicate ourselves to the everlasting pursuit of safety and renew our determination not to allow such an accident to occur again.


President Shosuke Mori declaring the Vow of Safety before the memorial (August 9)

2 Invest more actively in safety

- For wall thickness management of main condensate and main water supply circuits, we will attach labels to indicate inspection status on necessary pipes during regular inspections.
- We will revise secondary pipe management guidelines, and change “inspect when remaining lifespan is less than 2 years” to “inspect during every regular inspection when remaining lifespan is less than 5 years. For older plants, inspect during every regular inspection when remaining lifespan is less than 10 years.”
  Furthermore, we will complete inspections of other uninspected parts within the next three regular inspections.
- We will implement education systematically, including the importance of pipe wall thickness management work.


Secondary pipe inspection label


Employee education for pipe wall thickness maintenance work

Dedicating human resources to safety measures

- In order to achieve greater corrosion management of secondary pipes, we will augment and assign more personnel.
  - We will increase the number of staff in charge of secondary pipe maintenance and assign technical advisors and information management officers to every power plant.
- In response to the requests of power plants, we will increase the number of new hires and expand the use of subcontractors for some kinds of office and other work.
  Number of hires in the nuclear power field:
  From 18 in fiscal 2003 to 29 in 2004 with further increase planned in 2005

Investing in safety measures

- We will conduct concentrated maintenance inspections of secondary pipes. In order to raise the reliability of secondary pipes, we will spend about 20 billion yen in the 5 years through fiscal 2009. In fiscal 2005, we will spend approximately 2 billion yen on inspections and 3 billion yen on replacing pipes.

Establishing regular inspection procedures based on the safety first stance

- We will ensure the necessary period for safety based on our safety first stance. In addition, to realize concrete action plans, we will establish working groups for regular inspection procedures and continue our investigations.

3 Continuously improve maintenance management to ensure safety and establish closer cooperation with manufacturers and contractors

- If cases like the omissions in the inspection list occur, we will build a horizontal structure so that other power plants and other electric power companies can share the information.
- We will further two-way information exchange between our power plants and cooperating companies, and examine the accumulated information (implemented immediately after the accident).

Communication with cooperating companies

Enhancing secondary pipe corrosion management

- In addition to assigning staff members to secondary pipe maintenance at every power plant, we have improved computer systems so that, for example, newly added main inspection parts are indicated in red.

Technical agreement with Mitsubishi Heavy Industries

- We will cooperate with Mitsubishi Heavy Industries, a manufacturer of nuclear plants, in investigating the issues faced in making certain that nuclear power plants can be operated safely over the long-term.

4 Strive to restore the trust of local communities

- Power plant staff and management are actively conducting communication activities with local stakeholders and listening to their opinions directly (began in fiscal 2004).
  - We will explain our Action Plans to local residents and listen to their opinions.
  - In July 2005, we merged the Nuclear Power Division with the Wakasa District Office, and moved it from Osaka to Mihama-cho, Fukui Prefecture, near the power plant. In addition, we established a Regional Relations Center in the Division and reformed our organization in Fukui City.

Nuclear Power Division

Communication activities in Mihama-cho

5 Objectively evaluate and widely disclose our safety initiatives

- On April 11, 2005, we established the Nuclear Power Plant Maintenance Reform Committee to deliberate implementation plans for recurrence prevention measures and to examine other issues (22 meetings through the end of September).
- Established on April 26, 2005, the Nuclear Power Plant Maintenance Reform Verification Committee is composed primarily of outside committee members, including local experts. This committee objectively and holistically audits and evaluates whether recurrence prevention measures are being implemented steadily (first meeting held June 17, 2005).
- We will report the status of our recurrence prevention measure efforts to the Nuclear Power Plant Maintenance Reform Verification Committee and publicize them on our web site and elsewhere.
  (http://www.kepco.co.jp/notice/mihama/jiko.html)

Kansai Electric Power Group Management Vision

With energy as our core business, we seek to be a "customer satisfaction No. 1 enterprise" in fields related to basic lifestyle needs .

Since our foundation in 1951, the Kansai Electric Power Group has been a service business in spirit. We have made customer service improvement one of our primary management policies and have worked to gain the confidence of our customers.

The business environment that surrounds the Group is changing rapidly these days and the Kansai Electric Power Group could even be said to be facing a second foundation period.

However, no matter how much the business environment changes, our fundamental spirit regarding our customers does not change. In March 2004, we established the Kansai Electric Power Group Management Vision to renew this shared spirit throughout our entire group, to strive toward the realization of our ideal form in the 21st century, and continue our unceasing quest for self-reform.

The Kansai Electric Power Group will continue to conduct its business activities with the goal of being a "customer satisfaction No.1 enterprise."

Kansai Electric Power Group Management Vision

Established March 2004

Corporate goal

"Customer satisfaction No. 1 enterprise" in key lifestyle fields with energy as our core business

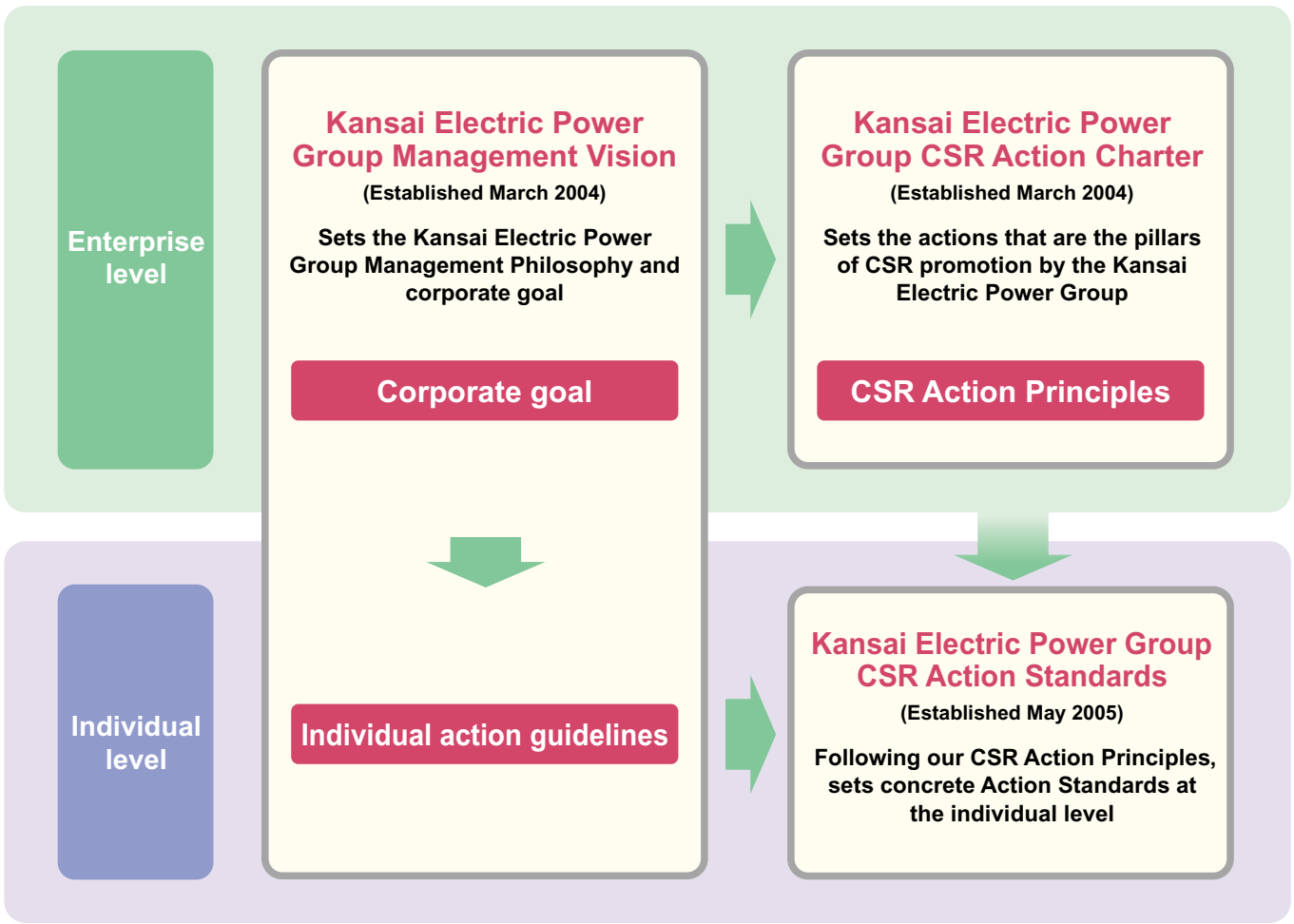
Individual action guidelines

I will do my best to make our customers happy.

Towards achieving our ideal enterprise form

- We will provide the best service to provide customer satisfaction
- We will fulfill our social responsibility as an enterprise
- We will connect the strengths of individuals with customer happiness
- We will ensure expected profits and achieve Group growth

Overview of Management Vision, CSR Action Charter, and CSR Action Standards



Kansai Electric Power Group CSR Action Charter

The confidence that society has in the Kansai Electric Power Group is the foundation of our business activities.

Striving to realize the Kansai Electric Power Group Management Vision, we established the Kansai Electric Power Group CSR Action Charter in March 2004. In order to put CSR into practice consistently, we vowed, to strengthen our business activities as a unified Group based on six action principles.

The business activities of the Kansai Electric Power Group are supported by our customers, members of regional communities, stockholders and investors, business partners, employees and many other people throughout society. The trust that we receive from all of these people is the very foundation for conducting our business and achieving sustainable growth.

In addition to consistently fulfilling our duties as a member of society, including maintaining compliance and transparency, the Kansai Electric Power Group contributes to the development of a sustainable society throughout devotion to meeting stakeholder expectations for our business activities. We hope these efforts also help build your confidence in us.

Based on this stance, to fulfill its corporate social responsibility (CSR), the Kansai Electric Power Group pursues all its business activities in accordance with the following principles.

CSR Action Principles

- ○Providing Safe and Stable Products and Services
- ○Pioneering Efforts to Protect the Environment
- ○Actively Contributing to Regional Society
- ○Respect for Human Rights and Creation of Good Workplace Environments
- ○Transparent, Open Business Activities
- ○Thorough Compliance

Kansai Electric Power Group CSR Action Standards

Every manager and every employee will work at the individual level to implement CSR consistently.

In order to realize the Kansai Electric Power Group CSR Action Charter and help every manager and employee to implement CSR consistently at the individual level, we established the Kansai Electric Power Group CSR Action Standards for daily mental approaches and actions in May 2005.

The base of the Kansai Electric Power Group's ability to grow and develop as a business that serves customers is the trust we receive from society. In accordance with this belief, we implement continuous education, training and other efforts to promote the CSR mindset among management and employees and to expand its practice.

Kansai Electric Power Group CSR Action Standards

■Fundamental stance

Executives and employees will always be aware that they are individual members of the Kansai Electric Power Group and, while working to guarantee quality, act in accord with the good sense of society. Furthermore, in the execution of work, we will put safety assurance first. Strictly adhering to related laws and regulations, business ethics and corporate rules, we will be dedicated to our jobs and will do our best to make our customers happy.

■Providing Safe and Stable Products and Services

○Aware that assurance of safety is the main prerequisite for all of our business operations, we will make safety assurance the priority for all of our actions while strictly complying with laws, regulations and rules related to safety.

○We will identify factors that lead to accidents, disasters and trouble and work to prevent them. We will also prepare for prompt relief and recovery if an accident or disaster should occur.

○To maintain and improve quality during business execution, we will continuously reform business practices and rules.

○We will sincerely respond to customer requests and consultations promptly and appropriately in order to provide customer satisfaction.

■Pioneering Efforts to Protect the Environment

○Aware of the importance of environmental protection, we put significant consideration into the environmental impacts of our business.

○We will actively pursue energy conservation, green purchasing, and waste reduction, reuse and recycling (3R).

■Actively Contributing to Regional Society

○In cooperation with regional society, we will work to solve local issues.

○We will take interest in and actively participate in activities that contribute to society.

Respect for Human Rights and Creation of Good Workplace Environments

○We will respect human rights and work to build workplace environments where everyone can be comfortable.

○We will not use race, nationality, religion, gender, social status, family background, job, disabilities or other traits as reasons for discrimination, harassment, slander, pranks, comments or other conduct that will make people feel uncomfortable.

○We will constantly consider safety and hygiene and work to create workplace environments where all employees can do their jobs with peace of mind.

Transparent, Open Business Activities

○We will actively promote communication with members of society.

○We will gather opinions, requests and other thoughts about our project activities widely from customers and regional stakeholders. We will make these known throughout the company and use them for business reform.

○We will handle records related to business carefully.

○If trouble occurs during business operations, we will report it promptly and accurately.

Thorough Compliance

○We will consistently abide by relevant laws, regulations and other rules during business execution. Even outside of business, as members of society, we will practice good behavior, and never take illegal or antisocial actions. In particular, we will observe the following items.

- We will carefully abide by the laws and regulations concerning the key compliance issues of safety and hygiene assurance, environmental protection and respect for human rights.
- We will strictly abide by the Electricity Enterprises Law and other laws, regulations and rules that concern company business.
- We will carefully comply with the Antitrust Law and other laws, regulations and rules related to business fairness, and make fair and free competition a precondition in the execution of our business.
- We will rigorously adhere to our own company regulations and other corporate rules.
- We will take extreme care in the management of personal data, information about other companies, Kansai Electric Power enterprise secrets and other information handled by our companies. We will not let this information leak to a third party or use it inappropriately, including after retirement.
- We will secure and manage company intellectual property reliably and we will not infringe on the intellectual property of others.
- We will always conduct proper accounting.
- We will faithfully abide by contracts, agreements and other promises with customers, business partners and other parties. We will exercise company rights based on contracts and other agreements reliably.
- We will keep gifts in moderation and hospitality within reasonable limits. In particular, we will not provide payments, hospitality, gifts or anything of value to politicians or government officials, since this would violate laws, regulations and healthy business practices.
- We will not do anything to support the activities of antisocial forces or organizations that threaten social order or safety.
- We will not use company assets for any purpose other than those recognized by the company.
- In international business activities, we will abide not only by Japanese laws, but also by international rules and applicable regional laws and regulations.
- We will not conduct insider trading by using internal information from our companies, business partners or other parties for the sale or purchase of stock or other assets.

○We will be brave and seek to correct compliance transgressions committed by others.

Realizing Our Management Vision and Putting CSR into Steady Practice

We are making a variety of efforts to make every Kansai Electric Power Group executive and employee understand our management policies and Action Standards sufficiently and execute their daily business with the goal of realizing them.

Distribution of conduct cards

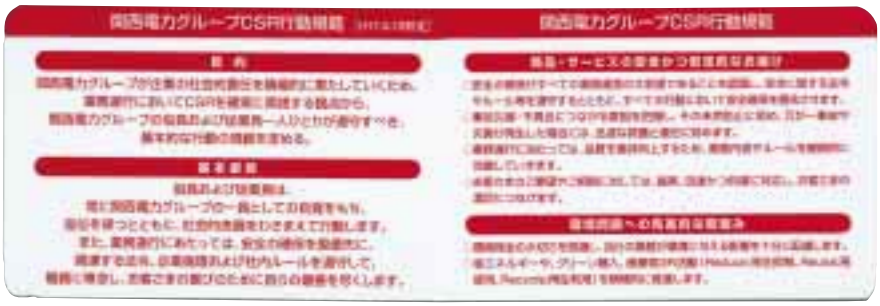
We made conduct cards with the Kansai Electric Power Group Management Vision and the Kansai Electric Power Group CSR Action Standards and distributed them to every executive and employee in July 2005.

These cards include a place for writing individual action declarations, so each executive and employee can set personal business execution goals. In addition to encouraging the steady implementation of these objectives, the portable card will raise awareness of management vision and CSR, further contributing to their realization.

Conduct card

(Front cover)

(Back cover)



(Inside)

Promoting understanding through diverse opportunities

To work toward the steady implementation of CSR as the Kansai Electric Power Group, first, every employee must understand the details of Kansai Electric Power management policies and CSR efforts. For this reason, we have posted explanations of these on the internal corporate portal site that every employee can read. Through group training, e-learning and a variety of other educational opportunities, employees can study our management vision and other Kansai Electric Power management policies and CSR efforts.

In the future, we will evaluate training contents in response to changes in the Kansai Electric Power Group management environment and CSR trends. We will also create training plans suited to employee roles, while simultaneously developing training for Group companies to promote Group-wide understanding and awareness.

Corporate portal site screen

Policy for Fiscal 2005 Efforts

Fiscal 2005 CSR Promotion Efforts

To fulfill our social responsibility as an enterprise proactively, we will put CSR into practice at the business execution level based on the Kansai Electric Power Group CSR Action Charter and build systems to establish CSR solidly.

Specifically, we will establish CSR promotion systems for branch offices, frontline workplaces and related companies. Based on the Group-wide CSR Action Plan, we will consistently implement the Plan-Do-Check-Act (PDCA) process and take other actions to create an environment where CSR is realized reliably in business execution.

Furthermore, to make every executive and employee implement CSR dependably, we will promote actions that carefully follow the Kansai Electric Power Group CSR Action Standards.

I Providing Safe and Stable Products and Services

II Pioneering Efforts to Protect the Environment

III Actively Contributing to Regional Society

IV Respect for Human Rights and Creation of Good Workplace Environments

V Transparent, Open Business Activities

VI Thorough Compliance

Our Mission and Duty to Provide Stable Power Supply

In order to provide our customers with a stable electric power supply, we take responsibility for the entire supply process from power generation to sales. Starting with optimization of the composition of our power sources, we are working to create a high quality, efficient distribution system.

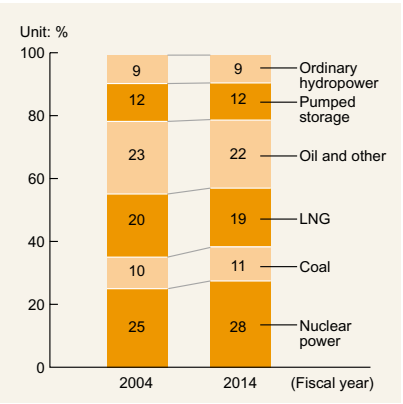
Optimization of power source composition

Since Japan is poor in natural resources and has a fragile energy structure that is dependent on energy imported from abroad and specific sources, Kansai Electric Power has already made numerous efforts to create a suitable combination of multiple energy sources that is not too dependent on any specific one, including moving from oil to nuclear power and natural gas.

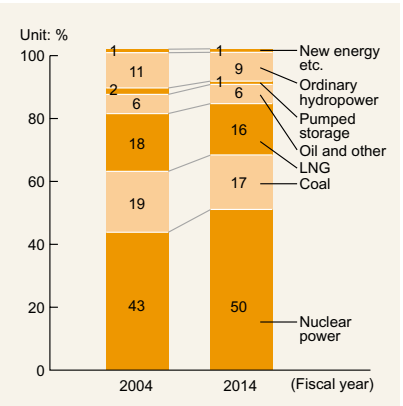
Kansai Electric Power seeks an optimal combination of power sources that puts safety assurance first and takes comprehensive consideration of economic, energy security and environmental impact characteristics. The combination that we are working to create is based on nuclear power generation, including the atomic fuel cycle, and has a good balance of thermal power, hydropower, pumped storage power and other power generation sources.

Power source makeup proportion

Composition ratio at the end of the fiscal year



Power source composition ratio



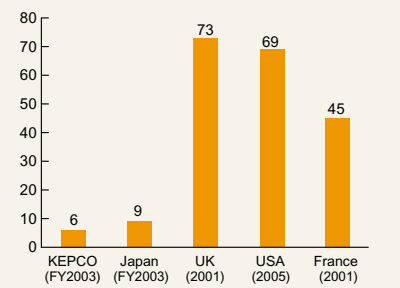
Note 1: Ratios include power received from other companies.
Note 2: Due to rounding, not all totals add up to 100%.

Realization of a high quality electric power distribution system

While improving our delivery equipment, Kansai Electric Power has always sought to improve the economic performance of our efficient, stable electricity delivery system, which includes power transmission, transformation and distribution. Simultaneously, we have implemented thorough accident prevention policies based on fundamental rules and the examples of past accidents. As a result, Kansai Electric Power has achieved the highest level of electricity quality in the world.

In order to continue providing high quality electricity in the future while putting assurance of safety first, we will establish systems and structures to achieve excellent business administration. In addition, we will carefully abide by all rules and seek stable electric power supply and accident and disaster prevention to avoid causing problems for our customers and the people of the region.

Annual power outages per household in various countries



TOPICS

10 years after the Great Hanshin-Awaji Earthquake Disaster: creating a disaster-resistant electricity supply

In accordance with the Disaster Measures Basic Law, as a designated public agency Kansai Electric Power has created a Disaster Prevention Work Plan in preparation for disasters caused by typhoons, earthquakes and other phenomena. In addition to enhancing company rules and training, we are also working to create disaster-resistant equipment.

The earthquake that occurred on January 17, 1995 in the southern part of Hyogo Prefecture had a heavy impact on electric power equipment, causing power outages at 2.6 million customer locations, but 6 days after the earthquake arrangement of emergency power transmission was complete. Learning many lessons from this earthquake disaster, we have revised our first response and information communication systems in order to create a rapid recovery system, and enhance our ability to respond quickly and precisely.

10 years have passed since the earthquake and Kansai Electric Power will review the efforts that we have made so far. We believe that we must continue efforts to convey the lessons learned from this experience to future generations so that January 17 is never forgotten and our guard is never let down.

The possibility of earthquakes occurring in the Tokai, Tonankai and Nankai regions causes great concern. In keeping with the Large-Scale Earthquake Countermeasures Special Act, we are promoting the ability to respond to an earthquake in the Tokai region and making preparations for tsunami and other secondary disasters in keeping with the Special Measures Law Concerning Promotion of Earthquake Disaster Prevention Measures for Tonankai and Nankai Earthquakes.

Recovery Efforts after the Great Hanshin-Awaji Earthquake Disaster

Safe and Stable Nuclear Power Generation

With a quality guarantee system that makes safety the top priority, we are promoting safe and stable continuous nuclear power generation. We seek to conduct nuclear power business that creates confidence and peace of mind throughout society, beginning with the local communities where we are located.

Nuclear power safety assurance

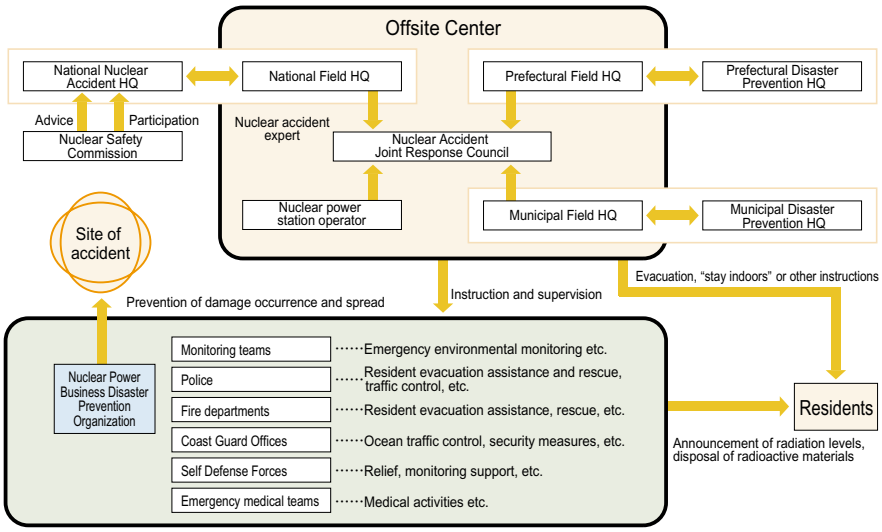
In order to prevent the occurrence of disasters from radiation at nuclear power plants, we undertake multilayered safety assurance measures in preparation for any contingency. In addition, to guard against even the slightest risks, in accordance with the Special Measures of Nuclear Disaster Act*, Kansai Electric Power has created a Disaster-Prevention Activities Plan for Nuclear Operators with emergency measures and other necessary activities to avoid disasters. We examine and revise the contents of this plan every year as one aspect of our work to secure thorough nuclear power disaster prevention measures.

Furthermore, based on our Disaster-Prevention Activities Plan for Nuclear Operators, we conduct nuclear power disaster prevention training at each power plant once every year to assure that nuclear power disaster prevention measures are carried out appropriately.

We also participate actively in national and local government nuclear power disaster prevention training and work to strengthen our cooperation with them.

*National and local governments, plant operators and related agencies cooperate in the creation of frameworks for implementing measures to respond to the occurrence of hypothetical nuclear power disasters that could affect surrounding areas.

Accident response system



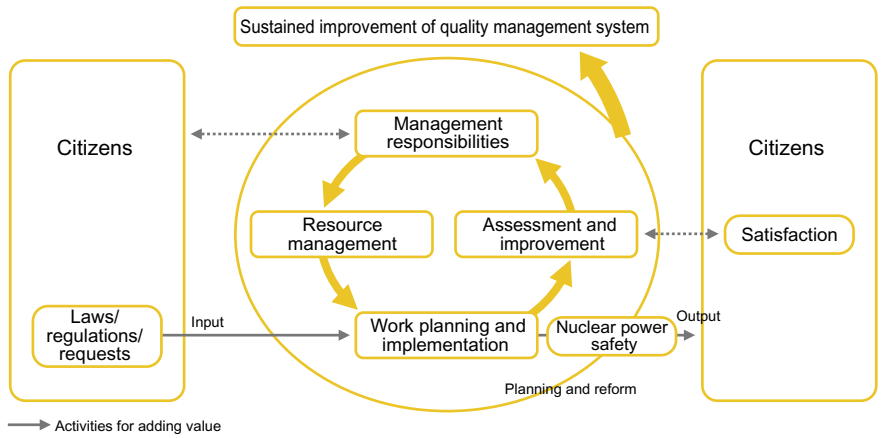
Nuclear power quality assurance activities

In October 2003, Kansai Electric Power established Quality Regulations for the Assurance of Nuclear Power Generation Safety based on the requirements of laws and regulations and the civil Quality Assurance Regulations Concerning Safety at Nuclear Power Staions standards. We had established a quality management system for our nuclear power division, but in August 2004, a secondary pipe rupture accident occurred at Mihama Unit 3.

This accident weighs heavily on Kansai Electric Power. We are putting all our strength into measures to prevent recurrence of such an accident and are seeking to realize nuclear power project operation that puts safety first.

Nuclear power disaster prevention training

Quality management system



Adapted from "Quality Assurance Regulations Concerning Safety at Nuclear Power Stations" published by The Japan Electric Association (JEAC4111-2003)

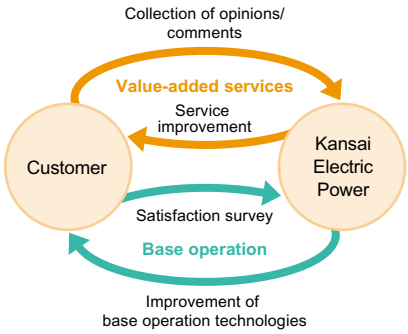
Working to Provide the Best Service

While working to achieve even greater customer confidence, the Kansai Electric Power Group provides solutions and services that fit customer circumstances in order to deliver satisfying, superior service.

Customer service improvement

In order to execute our fundamental business consistently and constantly maintain the best customer satisfaction, we seek to provide products and services that exceed customer expectations and be a "customer satisfaction No.1 enterprise." We do this using means to reflect customer opinions in service reform, including web site and call center inquiries, and surveys and other mechanisms to quantitatively evaluate customer satisfaction.

Customer service improvement philosophy

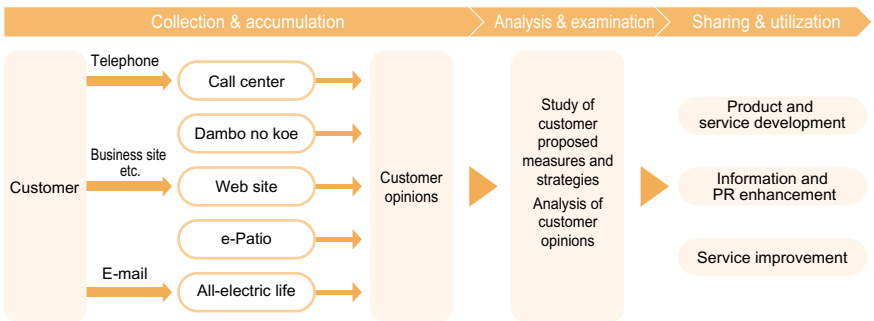


Customer satisfaction surveys

Since 1993, Kansai Electric Power has continuously employed survey specialist companies to conduct customer satisfaction surveys by telephoning customers who have made various requests to the company. In these surveys, customers are asked to evaluate their impressions of the handling of their cases and the Kansai Electric Power employees who interacted with them. By doing this, business places can be made aware objectively of their own service levels, the effectiveness of business reform efforts and areas that need improvement. We are also working to raise service levels by setting future objectives and specific main efforts for following terms.

Customer satisfaction changes

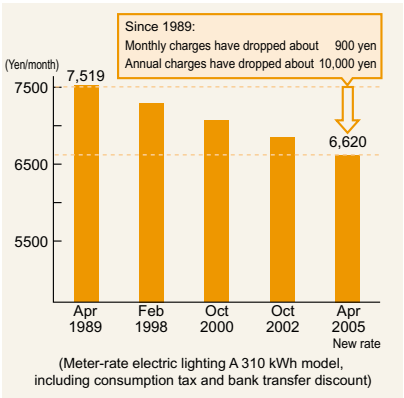
Effective use of customer opinions



Electricity rate reduction

On April 1, 2005, we lowered electricity rates an average of 4.53%.

Household customer price reductions



(Meter-rate electric lighting A 310 kWh model, including consumption tax and bank transfer discount)

Furthermore, besides lowering electricity rates, we have prepared a new Low Voltage Total Use Contract, which combines electric lighting and power, that regulated sector customers can choose according to their use conditions.

We have also revised our standard options that comprise the base of our business with unregulated sector customers and made other adjustments.

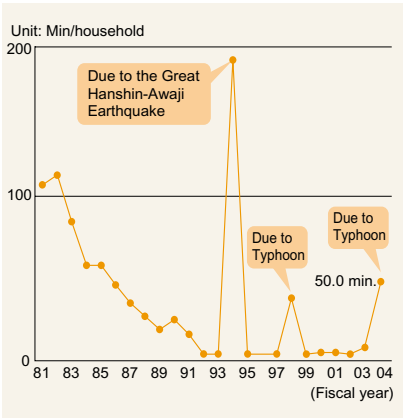
Kansai Electric Power will investigate the creation of more appealing service options so that we will always be a helpful partner for our customers and continue to meet their needs in the future.

Working to allow customers to use electricity with peace of mind

In order to deliver high-quality electricity stably to our customers, not only are we working to expand and maintain our electric power equipment on a daily basis, we are also regularly conducting training and instruction of emergency-ready maintenance staff to provide rapid recovery in the unlikely occurrence of a power outage.

Furthermore, we handle a variety of customer inquiries by sending Kansai Electric Power staff directly to them to provide rapid, appropriate solutions.

Annual power interruption time per household



Maintenance personnel training and instruction

TOPICS

Working to improve call center customer satisfaction with the slogan, “Your Side Service”

Kansai Electric Power seeks to improve customer satisfaction through the provision of uniform, high quality operation and customer opinion collection and analysis. In June 2003, we established a call center in the northern part of Osaka to contribute to this. Since the foundation of this center, we have promoted various efforts to improve quality and create mechanisms to make use of customer opinions. In the future, we plan to establish new call centers in southern Osaka, Kyoto and Kobe.

With the slogan, “Your Side Service,” our call center staff endeavor every day to handle inquiries kindly and politely. In addition, every month, through telephone handling inspections, we regularly check customer service quality and work to make immediate reforms to weak points.

Furthermore, we record customer demands and complaints in our database, and the call center staff discuss suitable measures. Monthly reports provide feedback to the company and management, contributing to the regular consideration of reform and helping us promote service modification and improvement.

Employee perspective

I want to reach the customer at the other end of the telephone line!

Osaka-Kita Branch Customer Office, Osaka North Call Center
Mayumi Hashitani

I am always trying to treat customers in a way that will make them happy and think, “This is pleasant service,” and “I’m glad that you are the one who is responding to my call.” Furthermore, when I make a call to another company as a customer, I try to study how their reception staff speaks and expresses their gratitude to customers in order to improve my own call handling abilities.

I am still far from perfect, but as one “face” for Kansai Electric Power, everyday I try to respond to each call with care.

Creating Customer Value as a Unified Group

As a solution and service business, the Kansai Electric Power Group provides not only electricity, but also a variety of products and services that match our customer's lifestyles and businesses. We are endeavoring to build customer trust by providing these products and services safely and reliably.

Efforts in the information technology field

K-Opticom Corporation, which bears the core responsibility for the Kansai Electric Power Group information communication project, makes use of technologies developed for electric power security communications. Using optical fiber, we provide communication services that are indispensable for individuals and businesses, including Internet connections, IP telephones and digital broadcasting.

In the future, these services will become increasingly important as a lifeline, so we are making a variety of efforts to provide them to our customers stably.

Our communication equipment has a dual structure, so if trouble occurs in the primary equipment, it automatically switches to the backup system, making it possible to respond in times of emergency.

Furthermore, we inspect the equipment regularly and take other maintenance measures in order to guard against equipment failures.

At the Service Operation Center, we conduct continuous inspections of the communication network 24-hours per day. In addition, emergency maintenance staff are ready for dispatch to every part of our service area in times of emergency.

Efforts in the energy-related field

In order to provide customers with optimal energy solutions, the Kansai Electric Power Group supplies gas and fuel for cogeneration (oil) in addition to electricity.

We make various efforts to allow our customers to use these types of energy with peace of mind. With gas, for example, in addition to creation of a safety management system based on our Safety Regulations (Gas Products), we also conduct periodic safety education and training. Furthermore, when gas leaks and other emergencies occur, Kansai Electric Power sends safety personnel from electric power system centers and power plants directly to customers to provide prompt responses.

Kanden Gas and Cogeneration Co., Inc. also conducts regular inspections of customer equipment according to operating conditions to provide them with optimal energy solutions. We also use remote inspection systems to conduct operation inspections on a 24-hour basis, and have systems to provide prompt responses to any problems.

Efforts in lifestyle fields

In order to deepen our relationships with our customers, the Kansai Electric Power Group provides a variety of lifestyle related services, including real estate development focused on housing.

Kanden Fudosan Co., Ltd., which is in real estate development, provides "secure, convenient and comfortable" lifestyle spaces to our customers with an emphasis on all-electric buildings. In homebuilding, our specialist staff conduct quality management, and acquire Housing Performance Evaluation Reports based on the Housing Performance Indication System to verify housing quality and functionality.

Furthermore, we seek to provide service that inspires customer confidence in all our lifestyle related service companies.

For example, our home security business, KANDEN Security of Society (Kanden SOS), utilizes the newest communication technology over optical fiber networks to realize a new highly reliable security service in cooperation with security companies with many years of experience.

Round-the-clock inspections at the Service Operation Center

Customer gas equipment safety inspection

Security staff on the way to a customer

Kansai Electric Power Group

Company details (Consolidated subsidiaries and companies to which the equity method is applied)
As of September 20, 2005

Electric power business

THE KANSAI ELECTRIC POWER CO., INC.

Information technology businesses

K-Opticom Corp.
K-CAT, Inc.
Kansai Multimedia Service Co.
Kansai.com, Inc.
Kanden System Solutions Co., Inc.
and 5 more 10 companies total

Other businesses

Energy-related

Sakai LNG Co., Inc.
Kanden Gas and Cogeneration Co., Inc.
Kanden Energy Development Co., Inc.
and 2 more 5 companies total

Lifestyle-related

KANDEN FUDOSAN Co., Ltd.
Clearpass Co., Ltd.
KANDEN Security of Society, Inc.
KANDEN E HOUSE CORP.
KANSAI Medical Net Co., Inc.
Kansai Jyutaku Hinshitsu Hosho Co., Inc.
Kanden Joy Life Co., Ltd.
Kanden Facility Management Corp.
Kanden CS Forum, Inc.
Urban Service Co., Ltd.
KANDEN AMENIX CORP.
and 3 more 14 companies total

Group support

Kanden Engineering Corp.
Kinden Corp.
KINKI CONCRETE INDUSTRIES CO., LTD.
THE GENERAL ENVIRONMENTAL TECHNOS CO., LTD.
The Kanden L & A Co., Ltd.
DAITO Co., Ltd.
Akinai Biz Square Corp.
NEWJEC INC.
The Kanden Services Co., Inc.
Kansai Power Business Support Corp.
Enegate Co., Ltd.
Kanden Plant Corp.
Institute of Nuclear Safety System, Inc.
Kanden Office Work Corp.
Nihon Arm Co., Ltd.
The Kurobe Gorge Railway Co., Ltd.
Nuclear Engineering, Ltd.
KANDEN POWER-TECH CORP.
and 7 more 25 companies total

Others

KANDEN GEO-RE Co., Ltd.
Kanden-Ecomelts Co., Ltd.
Kansai Power International Corp.
Kansai Power Venture Management Corp.
Kanden L-Heart Co., Inc.
Linecom Co., Inc.
and 8 more 14 companies total

With “safety” as a shared theme, we seek to create unity of intention throughout the Group and create a culture of safety in the corporate environment.

Employees with a unified focus on safety build a culture of safety over time.

Hiroe: At Kansai Electric Power, we think of safety as a prerequisite, indeed, a requirement for stably supplying inexpensive high-quality electricity. However, last year, an accident occurred at the Mihama Nuclear Power Station Unit 3, revealing that necessary safety precautions had not been taken. I believe that one of the causes was that management had not made enough effort to convey the utmost importance of assuring safety to frontline workplace employees. In response to this accident, we have made “making safety assurance our top priority” the primary issue in this fiscal year’s management plan and are pursuing numerous efforts related to safety.

Watari: What is necessary for safety is that every employee have the safety first mindset and that they put their hearts together to move in the same direction with a sense of unity. With accidents at large corporations, there is tendency for people in other parts of the company to think that it is not their issue, that it has nothing to do with them. Developing a sense of unity takes time, but this is how the culture of safety takes root in a business.

Hiroe: In the electricity business, power generation, logistics and sales are separated, but I believe that the Mihama Nuclear Power Station Unit 3 accident is not something that only concerns employees involved in nuclear power generation, it is an issue that all employees must face. However, I worry that the sense of unity will weaken with the passing of time. What ways are there to build this sense of unity and then sustain it?

Watari: Since people make mistakes, machines break, and accidents result from this combination, there is no such thing as “absolute safety.” To prevent large accidents, it is important to catch small mistakes quickly. To do this, you have to bring up specific past examples of failures and through Group-wide discussion of why people make mistakes and other efforts, you need to teach this theoretically. Don’t just take failures negatively. I think you can gain something positive by making their lessons live in future projects. Furthermore, as periods without accidents grow longer, people tend to let their awareness fade. This period is the most important. Always staying aware that safety assurance is your top priority, you must constantly identify new issues to maintain employee consciousness about safety assurance.

Hiroe: In the past, the management have visited frontline workplaces and made other efforts to achieve thorough communication, but regrettably, some of this seems to have become merely superficial. Since the Mihama Nuclear Power Station Unit 3 accident, management has been holding direct dialogues with frontline workplaces to create comprehensive awareness of the prioritization of safety assurance. Furthermore, through these discussion activities, I think we are gradually achieving an atmosphere in which frontline workplace employees can also directly convey their own thoughts to management.

Watari: By repeating these kinds of conversations between management and employees, I believe that both will come to understand the feelings of their counterparts, and a culture of safety will be cultivated through further interaction. Furthermore, for a large business such as Kansai Electric Power, a unified mindset that makes safety the top priority should be shared by Group companies, other cooperating companies and other business partners. The best way to achieve this is through personal interaction between the businesses. One method, for example, is that Kansai Electric Power could send personnel to Group companies and other cooperating companies to build

Yuzuru Hiroe
Executive Officer
Office of Corporate Planning
The Kansai Electric Power Co., Inc.

communication, while also receiving personnel from those businesses and doing work together with them.

Building a record of safety as a business with close community ties.

Hiroe: To grasp new issues, management and the entire company needs to quickly take ownership of frontline workplace problems. Kansai Electric Power is currently emphasizing dialogue and working to rebuild a culture of safety. I want this to continue in the future, too. Furthermore, I think that, as you said, a unified awareness among Group companies and cooperating companies is important, so we are promoting personnel visits, exchanges and other human interactions.

Watari: Considering mutual understanding through communication, in addition to such efforts, getting opinions from outside is also necessary. Having your various efforts checked from third party points of view is also indispensable in gaining the confidence of society.

Hiroe: Regarding that point, we have asked experts from outside the company to be 7 of the 10 members of our Nuclear Power Protection Reform Inspection Committee that inspects measures to prevent the recurrence of an accident like the one at Mihama Nuclear Power Station Unit 3. They are checking our action plans objectively and comprehensively. We are also revising rules and manuals and taking other efforts to restore confidence based on frontline workplace reality. However, I believe that we still have a lot of shortcomings, so I would appreciate your opinions about further points for reform, issues where we ought to make more effort, and so on.

Watari: I think that you are making a variety of efforts now, but you must follow up appropriately with inspections. If you make a lot of rules, with the passing of time, you will lose your focus and eventually you will have a mixture of some things that are effective and others that are not.

For those that are not effective, you should stop them, find another way or take other action. Constantly taking new measures with the latest standards is important.

Hiroe: I hear what you are saying. I feel even more strongly that Kansai Electric Power employees must be unified, of course, along with Group companies and cooperating companies to build safety together.

Watari: That's right. Standing before the word "safety," management, employees, Group companies, cooperating companies, everyone is the same. For this reason you have to be unified and work in a single direction.

Hiroe: Kansai Electric Power has equipment placed everywhere, near everyone. Our connection with society is extremely deep and our business is close to communities. All the more because of this, the trust that we are given by society can be said to be the foundation of Kansai Electric Power's business activities. I hope that in the future, by approaching safety even more earnestly and steadily building our record, we can earn everyone's confidence.

Kunihiro Watari
Quality Guarantee Laboratory Director
Japan Institute of Human Factors

Policy for Fiscal 2005 Efforts

Providing Products and Services Safely and Stably

In addition to more thorough measures to prevent the recurrence of accidents and calamities, we will put top priority on safety assurance by striving to perfect the forms, maintenance and operation of our equipment. We will also realize a stable supply of electric power while preventing accidents and disasters, providing consistent service that creates customer satisfaction.

Specifically, through implementation of quality management systems and other measures, we will further enhance structures for equipment safety. In addition to making every preparation to provide a stable supply of electricity, we will guarantee the safety of the public. Furthermore, through mechanisms to reflect customer opinions, we will reform and improve products and services to provide even more attractive choices to our clients.

Efforts to Prevent Global Warming —2004 Highlights—

Micro-hydro power generation CDM project in Bhutan

Chendebji, the village where the project is sited

As one e7* participant company, Kansai Electric Power is working on a Clean Development Mechanisms (CDM) project in Bhutan that contributes to global warming prevention, sustainable energy development in the host nation and the creation of Kyoto Protocol CDM rules. In May 2005, this project was registered as a CDM project by the UN, marking the first instance of a Japanese power company participating in such a project, the third for Japan, and only the sixth worldwide.

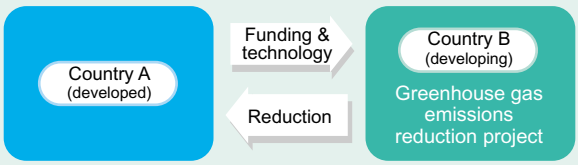
Project Details
Construction of a 70 kW micro-hydro power plant in a village in Bhutan that lacks electricity to provide power to the region. As the project leader, Kansai Electric Power is cooperating with 3 other e7 member companies.

Participating companies
Kansai Electric Power (project leader), American Electric Power (USA), Électricité de France (France), Hydro Québec(Canada)

Expected emissions reduction (annual)
About 500 tons of CO_2

Commencement of power generation facility operation
August 2005

Clean Development Mechanisms (CDM)
Cooperative projects between developed and developing countries to reduce greenhouse gas emissions with making it possible for the developed countries to use those reductions to achieve their emissions reduction targets.



* The e7 international electric power voluntary organization, comprised of electric power companies from the G7 countries, was established as an NPO in 1992. The members seek to work cooperatively in order to contribute to sustainable energy development and other means of solving global problems. Since its establishment, the e7 has been actively pursuing goals that include implementing projects in numerous developing countries and expressing positions at the UN and other international conferences.

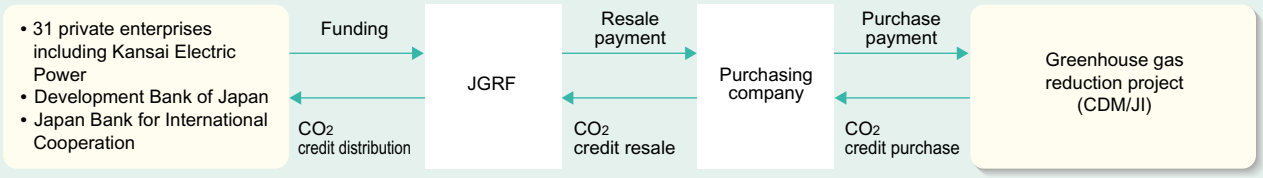
Funding for the Greenhouse Gas Reduction Fund

Kansai Electric Power is a participant in the Japan Greenhouse Gas Reduction Fund (JGRF) that was established in December 2004 by the Japan Bank for International Cooperation, the Development Bank of Japan and 31 Japanese private enterprises and organizations.

As the first greenhouse gas reduction fund in Asia, the JGRF mission is to acquire CO_2 credits with high cost-effectiveness from overseas greenhouse gas reduction projects that are efficient in preventing global warming.

By contributing 3 million dollars to the JGRF, Kansai Electric Power not only gains CO_2 credits, but also contributes to global warming prevention on an international level as an active participant in greenhouse gas reduction projects.

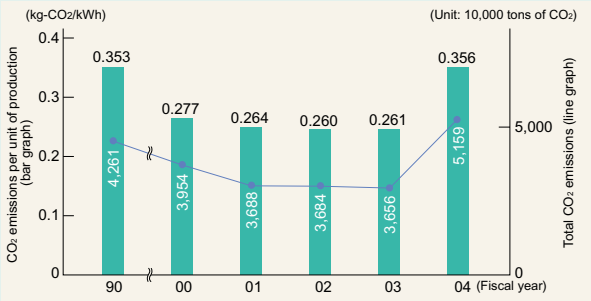
Japan Greenhouse Gas Reduction Fund



We will continue actively promoting measures to keep CO_2 emissions per unit of production low

In fiscal 2004, our CO_2 emissions amount per unit of production was 0.356 kg-CO_2/kWh, an increase from the fiscal 2003 level. This is the result of the accident at the Mihama Nuclear Power Station Unit 3, which led to greater operation of thermal power plants to compensate for the reduced amount of nuclear power generation. To continue reducing CO_2 emissions, Kansai Electric Power will actively pursue the New Era Strategy of comprehensive greenhouse gas reduction measures that includes promotion of nuclear power generation on the premise of guaranteeing safety and reestablishing public confidence.

CO_2 emissions total and per unit of production



Investigating the effectiveness of mangroves in reducing tsunami damage

The disastrous tsunami generated by an earthquake off the coast of the Indonesian island of Sumatra in December 2004 caused vast suffering and damage.

Kansai Electric Power, which has mangrove plantation technologies, is cooperating with the Government of Thailand to investigate how effective mangrove forests were at suppressing tsunami damage along 150 km of the coastal area north from Phuket island (June 2005—March 2006)

Combining satellite image analysis with site inspections, we conducted the first ever quantitative comparison of the differences in the abilities of mangroves and other trees to suppress tsunami damage.

The capability of mangrove forests to form natural wave barriers that weaken the power of tsunamis is being reconsidered. If our research can confirm that mangrove forests have the ability to reduce tsunami damage, we can show that they contribute to both protecting the environment and preventing disaster.

Thailand mangrove forest

Establishment of a general consulting system for acquiring CDM credits

In February 2005, General Environmental Technos, one of our group companies, concluded an agreement with the Asia Carbon Group, a Singaporean venture business, for CDM related business in the Asian region. By creating this cooperative relationship with ACG, we have established an organic network with specialized agencies for every step related to CDM. Thus, we have created a total consulting system that will help us acquire CDM credits early and efficiently.

Agreement signing ceremony

Participation in the Team Minus 6% national campaign to stop global warming

In June 2005, Kansai Electric Power participated in Team Minus 6%, the national global warming countermeasures campaign.

Before this, we had promoted practices such as wearing lightweight clothing for office work in the summer and maintaining appropriate air-conditioning settings as part of our efforts to confront the problem of global warming. With this campaign, we will further strive to reduce CO_2 emissions.

Employees in cool clothes

Selected as one of 60 top companies for the Climate Leadership Index

In September 2005, for the second year running, the Carbon Disclosure Project*, which is comprised of a group of major global institutional investors, listed Kansai Electric Power as one of the best 60 companies that are working to fight global warming and practicing information disclosure. We were the only company selected from the Japanese energy industry.

* This group of 155 global institutional investors requests information disclosure from the 500 companies with the highest market capitalization regarding awareness of global warming and measures to deal with it. The total operating assets of these companies reaches 21 trillion dollars, twice the GDP of the USA.

Electric power companies selected (10)

- American Electiric Power (US)
- Duke Energy (US)
- Entergy (US)
- eXcelon (US)
- Florida Power and Light (US)
- Endesa (Spain)
- ENEL (Italy)
- Iberdrola (Spain)
- Kansai Electric Power (Japan)
- Scottish Power (UK)

Other Japanese companies selected (3)

- Honda
- Toyota
- Mitsui & Co., Ltd

Communication about the Environment

We look to all the various stakeholders that have relationships with our business and listen to their opinions and concerns. By valuing this face-to-face communication, which builds mutual understanding, Kansai Electric Power is able to implement even more thorough environmental protection efforts.
In May 2005, we held stakeholder meetings with working people, homemakers and students with the cooperation of E-Being, an NPO that coordinates cooperative relationships between industry, academia and government.
In this report, we will introduce some of the ideas that participants have presented to us.

Communication with students

We began working with students living in the Kansai area in fiscal 2002 to create reports about our environmental efforts jointly. Through visits to thermal power plants and other Kansai Electric Power facilities, we have been able to conduct sustained communication with students, including listening to their opinions about our environmental efforts.

This fiscal year, we wanted the students to gain an even greater understanding of our electricity production processes and environmental efforts. To accomplish this, we brought them on tours of hydroelectric power generation facilities, including the Kurobe Dam, Kurobegawa No. 4 Hydro Power Plant and Kanden-el-farm (see page 53), our group business that recycles dam driftwood, and discussed ideas with them about our environmental protection efforts.

In the future, we will continue to improve the contents of our communication activities so that they become even more meaningful for both students and our company. We intend to make use of the ideas and opinions that they shared with us in these activities in future environmental protection efforts.

Participating students (titles omitted)
Takahiro Asahi (Graduate School of Engineering Osaka University)
Koichiro Ogata (Doshisha University Faculty of Economics)
Nanako Tenjin (Doshisha University Faculty of Economics)
Fumiko Matsumoto (Kyoto University Graduate School of Global Studies)

E-Being NPO Commentary

This is the third year that the company has had activities to communicate about the environment with students. “What is Kansai Electric Power’s real motive behind these activities?” “With far less information and knowledge than Kansai Electric Power, what kinds of proposals could we students possibly make?” Questions and concerns like this about the true nature of these activities show the growing depth of commitment and the seriousness of the student participants. I hope that the people of Kansai Electric Power will reexamine their environmental efforts and continue to build social trust through communication about the environment.

E-Being NPO Momoko Sugahara

Student ideas and our responses

(Idea)
I think increasing the environmental focus of tours of power plants and other facilities would have an educational effect for both company staff and outsiders.
(Response)
We have been conducting facility tours, mainly of power plants, but we would like to put greater focus on the environment and include them as a part of our communication about environmental activities in the future.

(Idea)
By repeating discussions many times throughout visits, I think participants could gain a greater understanding of the issues and develop greater understanding of Kansai Electric Power.
(Response)
We believe that the more we increase opportunities to communicate about the environment, the more we will gain valuable ideas. In the future, in addition to actively increasing communication opportunities, we also want to consider ways to make it possible for participants to prepare thoroughly beforehand.

Communication with working citizens

We held an idea exchange meeting about our environmental protection efforts with working citizens who live in the Kansai area. People from several generations, ranging from their 20s to 40s, joined this meeting and shared their unreserved opinions as citizens.

Among the participants were people who are responsible for environmental issues in their own jobs, so we were able to share concerns such as how to convey the extent of our environmental efforts to other citizens and discuss various business duty experiences, resulting in a very lively discussion.

Working citizen participants (titles omitted)
Hitomi Katayama, Daisaku Kitamura, Kazuyoshi Koba, Megumi Hamamoto, Rie Matsui, Takuya Matsumoto, Takeshi Miyaji

Working citizen ideas and our responses

(Idea)
As an electric power company undertaking environmental protection efforts, what are you trying to focus your strength on in particular, and how are you making an appeal about this to society?

(Response)
With the enactment of the Kyoto Protocol and other developments, concern about CO_2 and other greenhouse gases has grown. We will promote the greater adoption and understanding of energy sources that do not cause CO_2 emissions, including nuclear power generation that puts safety and stable operation first, as well as new energy sources.

(Idea)
Even with environmental reports, I do not think that you are communicating your efforts for the environment to your stakeholders well enough. I believe you should emphasize communication to help people understand more clearly what you are doing.

(Response)
We wish to have open, two-way communication not only about the environment, but for other issues as well, and reflect the opinions of members of society in our operations.

Communication with homemakers

With the theme of “cooking delicious seasonal dishes efficiently and without waste,” we held environmentally friendly cooking classes with homemakers in the Kansai region.

Through this cooking class, participants gained a sense of connection between their lives and the environment, for example, by using seasonal ingredients to reduce unnecessary energy consumption. We followed the cooking lesson with a discussion with members of our staff.

Building on this communication opportunity, we will work to increase the amount of interaction we have with families, including homemakers, and intend to make use of their ideas as a part of our environmental protection efforts.

Participating homemakers (titles omitted)
Hisayo Iwagami, Kyoko Okusa, Yukari Shimazu, Wakaba Tokuyama, Maki Baba, Mitsuko Minohara, Masami Miyamoto

Homemaker ideas and our responses

(Idea)
It’s important to get children to learn, because they will get their families involved. I think activities to teach children about the environment will have more effect than those for adults. In particular, how about putting more effort into outreach education? Also, include more illustrations and other things that are appealing to children in public relations materials.

(Response)
We are conscious of the need to educate the next generation about the environment. We will actively pursue more thorough outreach education, creation of public relations materials for children, events and other forms of environmental education. We will work to make the content of these programs appealing to children.

The mark shown to the right indicates items that have been audited by Tohmatsu Environmental Research Institute, a third party inspector.

Environmental Policy

The Kansai Electric Power Group CSR Action Charter (extract)

Addressing Global Environmental Problems

As an energy supplier with ties to the environment, the Kansai Electric Power Group aims for the world's highest level by recognizing the size of the impact of its business activities on the global environment and by working to reduce the load placed on the environment by its business activities. The Kansai Electric Power Group has also taken advanced initiatives to create a better environment and actively contributes to building a sustainable society.

Philosophy Five Basic Principles of the Global Environmental Action Plan (Adopted in 1990)

Kansai Electric Power is well aware of our big responsibilities as an energy provider. As we strive to deliver an affluent way of life to people in our service area, we are staking a serious challenge to protecting the global environment on the corporate level. In all aspects of our operations, we are investigating advanced means of global environmental protection and taking action immediately in areas we can be effective.

❶Reduction of environmental impact ❷Promotion of effective and efficient use of energy and resources
❸Development of advanced technology ❹Coordination of efforts throughout the Kansai Electric Power Group
❺Creation of a new corporate culture to support harmonious coexistence with the global environment

Action Guide Global Environmental Action Plan (Adopted in 1991, revised in 2005)

Action 1 **Consideration for the environment in all areas of our business**	❶Address global environmental problems a. Measures to prevent global warming (new ERA strategy) Efficiency: Efforts to increase energy efficiency by society as a whole Reduction: Reducing greenhouse gas emissions in power supply Activities abroad: Activities carried out abroad to prevent global warming b. Protecting the ozone layer ❷Addressing local environmental problems a. Measures to prevent air pollution b. Measures to prevent water pollution c. Measures against chemical substances, etc.
Action 2 **Activities aimed at building a recycle-oriented society**	❶Promoting business activities suitable for a recycling-oriented society ❷Earnest exchange and cooperation with external groups ❸Raising employee awareness of their responsibility as global citizens and encouraging them to develop good daily practices

Concrete Action Plans Eco Action (Adopted every year)

Status Overview of Our Environmental Load

Independent review conducted. (See page 50.)

We will strive to understand the status of the environmental load from our business activities in a quantitative manner to further reduce our environmental load in all of our business fields.

INPUT

Fuels for power generation		
Fuels for thermal power generation	Coal	1,862,000 t
	Heavy oil	270,000 kL
	Crude oil	1,159,000 kL
	LNG (Liquid Natural Gas)	4,206,000 t
	Other	8,000 kL (converted to heavy oil)
Fuel for nuclear power generation		158 tU (weight of pre-irradiation uranium)

Water for power generation	
Industrial water	4,690,000 t
Clean water	840,000 t

Resources	
Limestone	45,000 t
Ammonia	5,000 t

Other	
Electricity	106 million kWh
Water	750,000 m³
Gasoline	3,891 kL
Light oil	1,129 kL

Business Activities

Electricity generated 114,726 million kWh
Electricity purchased from other companies etc. 47,256 million kWh
In-house consumption and distribution and transmission losses (13,105) million kWh
Electricity used for water pumping (3,990) million kWh
Electricity sold 144,886 million kWh

OUTPUT

Released into atmosphere	
CO_2 (Carbon dioxide)	51,590,000 t-CO_2
SOx (Sulfur oxides)	2,373 t
NOx (Nitrogen oxides)	4,529 t

Released into water area	
COD emission	21 t

Radioactive waste	
Low level *1	3,432 drums (200 L drums)
High level *2	Approx. 205 (glassification)

*1. Net generation (generated amount - reduced amount)
*2. Calculated from wattage generated by nuclear power

Industrial waste etc.	
Landfill disposal	8,000 t
Discharge	331,000 t
Recycled: Recycled or reused	322,000 t
Recycled: (Re-pump) Recovered heat	3,000 t
Reduction in intermediate treatment	1,000 t
Landfill disposal	8,000 t

Emissions from vehicle use	
CO_2 emission from vehicles	11,997 t-CO_2

Targets and Results (Eco Action 2005, the company-wide specific action plan) Independent review conducted. (See page 50.)

In accordance with our environmental policies, every year we set three-year numerical targets for Eco Action, our company-wide specific action plan. In addition, every business unit sets its own specific action plans based on the Eco Action plan.

Eco Action 2005 company-wide specific action plan (set in March 2005)

Item			Fiscal 2004 targets and results		Targets			Page
			Targets	Results	Fiscal 2005	Fiscal 2006	Fiscal 2007	
Environmental management	Further introduction of systems in compliance with ISO or other certifications (total)		Approx. 17 locations	16 locations	Maintenance/increase in number of conforming locations			36
Addressing global environmental issues	Reducing CO_2 emissions per unit consumption (sales)		Approx. 0.34 kg-CO_2/kWh	0.356 kg-CO_2/kWh	0.34 kg-CO_2/kWh (forecast)			39
	Promoting safety first operations at nuclear power plants		85% or more (facility use rate)	70.2% (facility use rate)	Operating nuclear power plants with safety assurance measures to prevent a recurrence of an incident like the Mihama Nuclear Power Station Unit 3 accident			43
	Maintaining and improving thermal efficiency rate of thermal power plants		42% or more	42.2%	42% or more			43
	Increasing output from hydroelectric power plants through their refurbishment		46,452 kW	46,252 kW	46,252 kW	49,652 kW	50,052 kW	43
	Reducing SF_6 emissions (increasing gas recovery rate at equipment inspections)		97%	97.9%	97%			43
	Increasing nighttime electric power subscription through the promotion of EcoCute and other high efficiency hot water heating equipment		Further expand subscription (520,000 units in fiscal 2003)	590,000 units	Increasing the subscription targeting one million households by fiscal 2007			40
	Development and diffusion of new energies		660 million kWh	Target achieved	Amount required by the RPS Law (700 million kWh in fiscal 2005)			41
					Promote the Kansai Green Power Fund			
Addressing environmental issues in local communities	Reducing SOx and NOx emissions per unit output	SOx	Maintained at approx. current level (5-yr. avg. 1999–2003 SOx: 0.02 g/kWh (KEPCO) (Thermal power 0.05 g/kWh) NOx: 0.04 g/kWh (KEPCO) (Thermal power 0.14 g/kWh))	0.021 g/kWh (KEPCO)	Maintained at approx. current level (5-yr. avg. 2000–2004 SOx: 0.02 g/kWh (KEPCO) (Thermal power 0.05 g/kWh) NOx: 0.04 g/kWh (KEPCO) (Thermal power 0.13 g/kWh))			47
				(Thermal power 0.064 g/kWh)				
		NOx		0.039 g/kWh (KEPCO)				
				(Thermal power 0.121 g/kWh)				
Promoting recycling business activities	Improving recycling rate of industrial wastes		90%	97.3%	90%			49
	Reducing landfill disposals of industrial wastes*		50% reduction from 2000 levels (4,500 tons or less)	6,829 t	50% reduction from the fiscal 2000 result (4,500 tons or less)			49
	Promoting green purchasing of office supplies (43 subject items)		100%	99.0%	100%			49
	Increasing introduction ratio of low pollution vehicles (a percentage of low pollution vehicles to the total company vehicles)		35%	37.7%	42%	46%	50%	49
	Energy conservation (in-house consumption) (Compared to fiscal 2000)	Reducing office electricity consumption	12% reduction	10.8% reduction	1% or more reduction from each previous fiscal year			49
		Reducing utility water consumption	24% reduction	28.4% reduction	1% or more reduction from each previous fiscal year			
		Improving mileage of company vehicles	Improve as much as possible (fiscal 2000 performance 9.3 km/L)	9.0 km/L	Improve as much as possible			
		Reducing copy paper consumption	11% reduction	1.8% increase	1% or more reduction from each previous fiscal year			

*Excluding special management industrial waste

Changes from the previous plan
- "Improvement of equipment utilization factor of nuclear power stations" was changed to "safety first operations of nuclear power plants" in response to the Mihama Nuclear Power Station Unit 3 secondary coolant pipe rupture accident.
- "Increase in all-electric home accounts (Happy e Plan etc.)" and "Increase in regenerative adjustment accounts" were unified in conjunction with management plan goals as the item "Increasing nighttime electric power subscription through the promotion of EcoCute and other high efficiency hot water heating equipment."
- "Reduction of total loss (transmission/distribution loss)" was removed from the items for reasons including the completion of large-scale system construction.
- "Utilization of unused energy (location where heat is supplied)" was removed from the items since this plan was completed.

Environmental Management

We are creating even more thorough environmental management systems based on the ideas of total quality management (TQM) in order to promote more efficient measures while complying with relevant laws and regulations.

Environmental management promotion organization

Kansai Electric Power's promotion organization

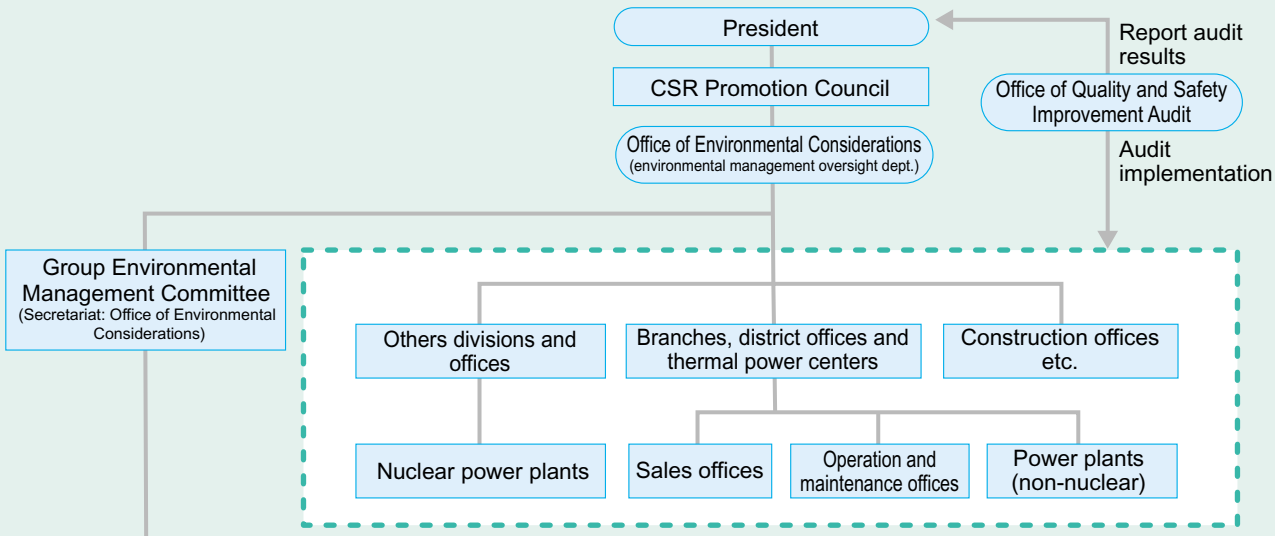
With the president as the chair, the CSR Promotion Council is leading the formation of an environmental management promotion organization that puts the Office of Environmental Considerations as the environmental management oversight division.

Every organization will be assigned environmental management officers and global environmental project promotion staff. Based on specific Eco Action plans, we are promoting corporate-wide environmental protection efforts through the PDCA cycle.

Group promotion organization

We have established a Group Environmental Management Committee with the Office of Environmental Considerations as its secretariat and are working to identify environmental impacts and develop consolidated environmental management.

Kansai Electric Power Group Environmental Management Promotion Organization



Kinden Corp.
Kanden Engineering Corp.
Kanden Plant Corp.
K-Opticom Corp.
Enegate Co., Ltd.
Kanden System Solutions Co., Inc.
The Kanden Services Co., Inc.
KANDEN POWER-TECH CORP.
NEWJEC INC.
THE GENERAL ENVIRONMENTAL TECHNOS CO., LTD.
KANDEN FUDOSAN Co., Ltd.
KANDEN AMENIX CORP.
The Kurobe Gorge Railway Co., Ltd.
Nihon Arm Co., Ltd.
KINKI CONCRETE INDUSTRIES CO., LTD.
The Kanden L & A Co., Ltd.
Kanden Gas and Cogeneration Co., Inc.
Kanden Energy Development Co., Inc.
Kanden CS Forum, Inc.
Urban Service Co., Ltd.
Nuclear Engineering, Ltd.
Kanden L-Heart Co., Inc.
Kanden Joy Life Co., Ltd.
KANDEN E HOUSE CORP.
Kansai Multimedia Service Co.
Kanden Office Work Corp.
Institute of Nuclear Safety System, Inc.
Sakai LNG Co., Inc.
Kanden Facility Management Corp.
KANDEN Security of Society, Inc.
K-CAT, Inc.
Clearpass Co., Ltd
Kansai Jyutaku Hinshitsu Hosho Co., Inc.
KANDEN GEO-RE Co., Ltd.
Akinai Biz Square Corp.
DAITO Co., Ltd.
KANSAI Medical Net Co., Inc.
K-SQUARE Co., Ltd.
Kansai.com, Inc.
KANDEN BUILDING MANAGEMENT Co., Ltd.
Kanden-el-farm, Inc.
Meteorological Engineering Center, Inc.
CCL Co., Ltd.
MOSS WORKS KANDEN Co., Ltd.

44 companies total As of the end of June 2005

ISO 14001 adoption

Since fiscal 1997, we have been implementing ISO 14001 compliant environmental management systems (EMS) at thermal power plants and other facilities. By the end of March 2005, 9 locations had received external certification for ISO 14001.

Furthermore, in February 2005, the Hokusetsu Sales Office received Eco Action 21 certification, which was established by the Ministry of the Environment based on ISO 14001.

Locations acquiring external certification (Fiscal 2003)

Name	Date registered
Himeji No. 1 Power Station (thermal)	March 24, 2000
Kainan Power Station (thermal)	October 27, 2000
Himeji No. 2 Power Station (thermal)	March 23, 2001
Sakaiko Power Station (thermal)	February 22, 2002
Wakayama Power Station, Tanabe Electric Power SC	February 22, 2002
Nanko Power Station (thermal)	March 29, 2002
Himeji LNG Management Office	March 29, 2002
Ohi Nuclear Power Station	October 25, 2002
Distribution and Sales Division, Technical Test Center	January 26, 2004

Thorough internal auditing

With the help of outside specialists as auditors, business sites with environmental management systems conduct objective EMS evaluations in order to make further improvements.

Environmental education

We have been implementing environmental education for all employees since fiscal 2004 using an e-learning system to encourage every employee to make personal and proactive environment protection efforts.

While pursuing the development of education through e-learning in fiscal 2005, we are also conducting suitable group education and systematically educating personnel with the specialized skills necessary to cope with increasingly complex and diverse environmental issues.

e-learning screen

Assignment of promotional staff

We have assigned Global Environment Project promotion staff to every workplace. This staff of approximately 250 people advances resource recycling, reuse and reduced use, regional environmental contribution activities and other voluntary efforts.

We will continue to actively pursue environmental efforts by reorganizing the Global Environment Project promotion staff under CSR Promotion Officers that we intend to create in fiscal 2005.

Outstanding operation awards

Seeking to realize more thorough and vigorous environmental efforts at every business place, we have instituted a Global Environment Action Plan Promotion Outstanding Operation Award Program since fiscal 1992.

In this program, business places that have good environmental performance (environmental load reduction) for the fiscal year, implement long-lasting grassroots efforts or conduct other excellent activities are given awards.

Outstanding business places (fiscal 2004)

Award	Business place
Outstanding performance award	Nara Sales Office Hokuriku District Office Himeji No. 1 Power Station
Excellent achievement award	Himeji Sales Office Kobe Power Station Sakaiko Power Station

Award ceremony

Strict compliance with laws and regulations

We are dedicated to abiding by the laws and regulations related to the environment that apply to our facilities as well as the environmental protection agreements that we have with the local authorities whose jurisdictions include our power plants.

Communication about the environment

While cooperating with local residents, we are actively pursuing environmental communications in order to promote various environmental activities and to fulfill our duties completely as we build mutual understanding.

We implement various activities to promote exchange and cooperation with the local communities of each business place, and we hold a symposium on environmental issues with the support of Osaka Prefecture and Osaka City every June.

In addition, our employees visit schools where they teach about energy and environmental issues. In fiscal 2004, our employees made about 740 visits and taught approximately 32,000 students. We also conducted roughly 350 facility tours for 18,000 people in fiscal 2004.

Monthly environmental symposium

Thorough group environmental management

Beginning this fiscal year, every group company is undertaking specific Eco Action plans related to environmental management as we also promote group-wide environmental management.

Management items that are common throughout the group include energy conservation efforts, green procurement, and the 3 R's. Each group company sets its own goals and undertakes its own continuous improvement efforts based on the PDCA cycle.

Group company environmental impacts (for 23 companies in fiscal 2004*)

Energy and resource conservation	Office electricity use	89,000,000 kWh
	Non-industrial water use	580,000 t
	Gasoline use	4,080 kL
	Kerosene use	4,318 kL
3 R's	Copy paper use	923 t
	Industrial waste output	62,000 t
	Industrial waste landfill disposal	31,000 t

*See page 38

Environmental Accounting

Since fiscal 1999, Kansai Electric Power has conducted environmental accounting for the head company and made the results public. In the last fiscal year, we also calculated environmental protection costs for some group companies. This year we expanded the number of group companies and items covered.

Evaluation of fiscal 2004

Environmental value of nuclear power generation

As a result of the accident at Mihama Nuclear Power Station Unit 3, greater use of thermal power generation became necessary, resulting in:

- 51,590,000 tons of CO_2 emissions, an increase of 15,030,000 tons (41%) over the previous year
- 2,373 tons of SOx, and 4,529 tons of NOx, approximately six times more and two times more than the previous year, respectively
- Environmental efficiency indicator (aggregate indicator) dropped 26% from the previous fiscal year

These facts emphasize the central role that nuclear power generation plays in our environmental protection efforts. We will continue to work actively to stop global warming and deal with other environmental issues by endeavoring to restore confidence in nuclear power generation and putting top priority on safety assurance.

Environmental protection cost changes

With the completion of the Maizuru Power Staion Unit 1, investment in soot filtration and other environmental protection equipment for thermal power plants has greatly decreased, but higher output from thermal power plants and other factors has caused increased local environmental protection costs for desulfurization, denitrification and other measures.

Environmental protection costs (millions of yen)

Category	Investment		Expense		Main items
	Fiscal 2004	Fiscal 2003	Fiscal 2004	Fiscal 2003	
I. Cost of environmental management	150	20	4,010	4,490	
1. Environmental management	150	20	130	150	Preparation of environmental reports, internal education programs, acquisition of external certifications such as ISO
2. Environmental advertising	—	—	100	110	Monthly events related to the environment, PR work on energy conservation
3. Labor costs	0	0	3,770	4,220	
II. Cost of measures against global environmental problems	830	730	1,610	1,250	
III. Cost of conservation of regional environments	12,520	27,830	27,270	20,290	
1. Monitoring and measuring of environmental impact	80	620	1,940	2,040	Measurement and management of radioactivity levels, measurement and research of substance concentration in the environment
2. Pollution prevention	3,480	20,970	20,740	14,030	Measures for preventing air and water pollution
3. Natural environment protection and harmonization	8,960	6,240	4,590	4,220	Burying of transmission cables, planting projects
IV. Cost of building a recycle-oriented society	1,130	2,470	7,410	6,300	
1. Treatment and recycling of industrial waste	190	1,720	3,230	1,440	Industrial waste and PCB treatment
2. Treatment and recycling of general waste	—	—	20	20	Recycling of old paper
3. Treatment of radioactive waste	940	750	4,150	4,810	Low level radioactive waste treatment
4. Green purchasing	0	0	20	30	Leasing of low-pollution vehicles
V. Cost of research and development	110	—	1,700	1,850	CO_2 measures
VI. Other costs	40	200	1,160	1,270	
1. Coexistence with local communities and support for environmental education	—	—	270	350	Membership in environmental organizations, donations for events
2. International activities	40	200	0	0	Donations to environment funds overseas
3. Environmental subsidies and donations	—	—	890	910	Levies on pollution levels
Total	14,780	31,250	43,160	35,430	
Total investment for the concerned period	203,500	255,100	—	—	
Total running costs for electric utilities business during the concerned period	—	—	2,054,100	2,029,700	

Note: "Environmental Accounting Guidelines, 2005 edition" (Ministry of the Environment) was used a reference. Depreciation was not used as a factor in figuring cost. Complex cost was figured by using one of the following 3 methods: 1. balance tabulation, 2. pro rata tabulation based on rational standards or 3. pro rata tabulation based on simple standards. The total of individual environmental preservation initiatives has been used as a factor in figuring cost involving nuclear power generation (managing/measuring radiation, treating low-level radioactive waste, etc.). Totals may not add up exactly due to rounding off of figures.

Effect of environmental protection activities

Category		Item (unit)		Fiscal 2004 (A)	Fiscal 2003 (B)	Result (A - B)	Against 1990
I. Environmental management		Acquisition of external certification such as ISO	(total number of facilities)	9	10	(1)	—
II. Global environmental protection		CO_2 emissions	(10,000 tons of CO_2)	5,159	3,656	1,503	898
		CO_2 emissions per unit of power	(kg-CO_2/kWh)	0.356	0.261	0.095	0.003
III. Regional environmental protection	Pollution prevention	SOx emissions	(t)	2,373	415	1,958	(8,924)
		SOx emissions per unit of power	(g/kWh)	0.021	0.004	0.017	(0.071)
		NOx emissions	(t)	4,529	2,731	1,798	(10,517)
		NOx emissions per unit of power	(g/kWh)	0.039	0.023	0.016	(0.084)
	Environmental harmonization	Extended length of buried cable	(km)	141	134	7	accumulative total of 13,003
		Forested area	(1,000 m^2 total area)	3,625	3,628	(3)	—
IV. Building of a recycle-oriented society		Industrial waste discharge	(1,000 t)	331	57	274	192
		Industrial waste recycle rate	(%)	97	86	11	20
		Low level radioactive waste	(drums)	3,432	2,267	1,165	accumulative total of 121,527
		Use of low-polluting vehicles*1	(total number of vehicles)	1,799	1,462	337	—
V. Other		Forestation	(10,000 trees)	1.0	1.6	(0.6)	accumulative total of 34.3 *2
		Beautification activities	(no. of cases)	362	308	54	accumulative total of 6,812 *3

Note: CO_2 emissions include those of other companies. SOx and NOx emissions are only for self-generated power. CO_2 emission per unit of power is based on amount of energy sold. SOx and NOx emission per unit of power is based on amount of power generated.
*1. Category expanded from electric vehicles to include other low-polluting vehicles. *2. Total of fiscal 1993 and subsequent *3. Total of fiscal 1996 and subsequent

Economic effect of environmental protection efforts (millions of yen)

Category		Fiscal 2004	Fiscal 2003	Main items
Revenue	Business income from recycling etc.	370	250	Sales of desulfurizing gypsum for flue gas etc.
Expenditure	Cost reduction by energy saving	8,450	4,470	Reduction in fuel consumption by improving heat efficiency of thermal power plants*
	Cost reduction by material reuse and recycling	5,420	4,970	Cost reduction by reusing utility pole transformers etc.
	Other	10	20	Reduction in pollution load levies by reducing SOx emissions
Total		14,260	9,720	

* The reduced fuel consumption for this year was calculated from the thermal efficiency improvement compared to 1990 levels.

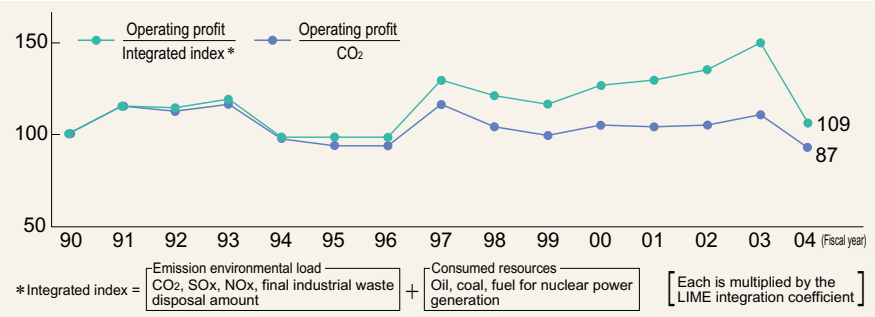
Eco-efficiency

Kansai Electric Power has conducted trial calculations of the relationship between the environmental loads of our business activities and the economic value that those activities produce to express eco-efficiency. Beginning this fiscal year, we have used the Japanese version of a damage-oriented impact assessment method called LIME, which was developed by the Ministry of Economy, Trade and Industry's LCA National Project, to create an integrated index of our environmental load.

The environmental loads summarized considering the nature or our business include emissions of CO_2, SOx and NOx, substances that have considerable environmental impacts, final industrial waste disposal, and crude oil and other resource consumption. For economic value, we used the operating profit from our financial accounting.

In fiscal 2004, our rate of use for nuclear power plants was reduced, resulting in increased environmental loads and leading to eco-efficiency that was 26% lower than the previous fiscal year. We will make further efforts to improve our eco-efficiency in the future, including use of nuclear power generation that makes safety the top priority.

Eco-efficiency (Operating profits ÷ Environmental load), 1990 level = 100



Group environmental accounting efforts

Continuing from fiscal 2003, we calculated totals for the environmental accounting of our group companies in fiscal 2004. This year, focusing on group companies, we expanded the number of companies covered to 23 that have significant environmental loads.

Furthermore, we also expanded the scope of the calculation items to include environmental protection costs (investments), environmental protection effects (material amount effects) and economic effects.

In order to understand the costs of environmental protection in our business activities and the material amount and economic effects from those activities of the Kansai Electric Power Group as a whole in the future, we will calculate aggregate environmental accounting totals for fiscal 2005, focusing on the group companies that comprise the environmental management promotion organization that is introduced on page 35.

Environmental protection costs

(millions of yen)

Category	Main items	Fiscal 2004 (23 companies)		Fiscal 2003 expenses (11 companies)
		Investment	Expense	
Management activity costs	ISO implementation and operation	0	1,304	613
Pollution prevention costs	Air pollution, water quality degradation prevention, equipment maintenance	42	55	18
Recycling costs	Ordinary/industrial waste processing/recycling	2	644	58
Social activity costs	Tree and vegetation planting activities, participation in non-company projects	—	9	5
Other costs	Pollution impact levies	782	90	111
Total		826	2,102	805

Effect of environmental protection activities

Category	Item (unit)	Fiscal 2004	Fiscal 2003
Environmental management	Acquisition of external certification such as ISO (total number of facilities)	6	6
Global and regional environmental protection	CO_2 emissions (10,000 tons of CO_2)	294	267
	SOx emissions (t)	1,340	1,008
	NOx emissions (t)	1,797	1,063
	Forested area (thousands of m² at fiscal year end)	37	—
Building of a recycle-oriented society	Industrial waste discharge (1,000 t)	62	58
	Use of low-polluting vehicles (total number of vehicles)	281	133
Other	Forestation (10,000 trees)	1,303	—
	Beautification activities (no. of cases)	205	—

Economic effect of environmental protection efforts (millions of yen)

Category		Fiscal 2004
Revenue	Business income from recycling etc.	11
Expenditure	Cost reduction by energy saving	3
Total		14

Group companies covered (23)

K-Opticom Corp., Kanden System Solutions Co., Inc., Wakayama Kyodo Power Company, Inc., KIA Heating & Cooling Supply Co., Ltd., Osaka Rinkai Energy Service Corp., Kanden Gas And Cogeneration Co., Inc., Kanden Energy Development Co., Inc., Wakayama Marina City Energy Service Co., Ltd., Kobe Heating and Cooling Supply Co., Ltd. KANDEN FUDOSAN CO., LTD., KANDEN AMENIX CORP., Kanden Engineering Corp., Enegate Co., Ltd., Nihon Arm Co., Ltd., KINKI CONCRETE INDUSTRIES CO., LTD., Kanden Plant Corp., The Kurobe Gorge Railway Co., Ltd., NEWJEC INC., THE GENERAL ENVIRONMENTAL TECHNOS CO., LTD., The Kanden Services Co., Inc., KANDEN POWER-TECH CORP., The Kanden L & A CO., LTD., Kinden Corp.

Confronting Global Environmental Issues —New ERA Strategy—

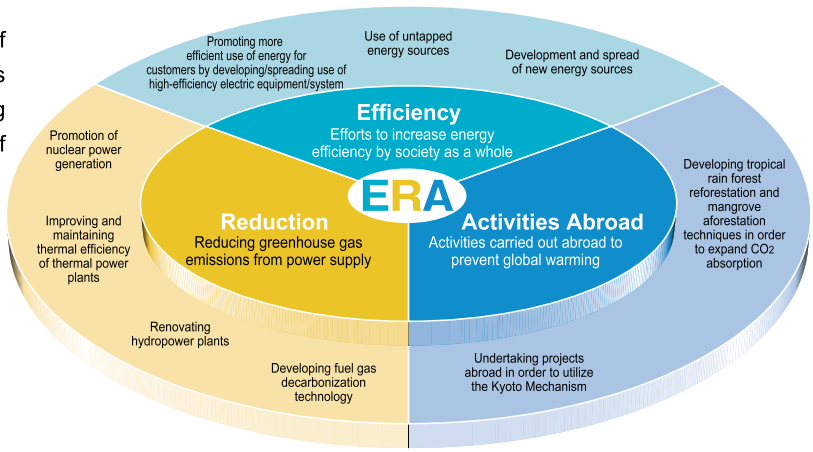
Pursuing our New ERA Strategy of comprehensive measures to prevent global warming and promoting the reduction of greenhouse gases and appropriate energy use worldwide.

Kansai Electric Power's global warming prevention measures —New ERA Strategy—

We are actively promoting our New ERA Strategy of comprehensive measures to reduce greenhouse gas reduction. We will conduct our business by pursuing balanced policies to promote the three ERA themes of efficiency (E), reduction (R) and activities abroad (A) in order to contribute even more to confronting the problem of global warming.

The name ERA uses the initials of the themes of efficiency, reduction and activities abroad and emphasizes our desire to create a new era.

New ERA Strategy



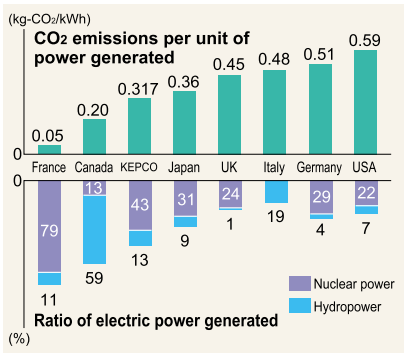
CO_2 reduction target and performance

For our CO_2 reduction target, in keeping with the targets of the electricity business as a whole, we have set a numerical CO_2 emissions target (CO_2 emissions unit) for fiscal 2010 of 0.34 kg of CO_2 per kWh of electric power used (sold).

Due to our reduced rate of nuclear power plant use, the increase in electric power sold and other factors, our performance in fiscal 2004 was 0.356 kg-CO_2/kWh, an increase of 0.095 kg-CO_2/kWh over fiscal 2003.

In order to continue reducing our CO_2 emissions unit, we will focus on promoting nuclear power generation that puts assurance of safety and recovery of confidence first. Kansai Electric Power is also actively working on various other efforts including Eco Cute and other energy conservation devices, new energy expansion, use of the Kyoto mechanisms and the development of technologies to recover and affix CO_2.

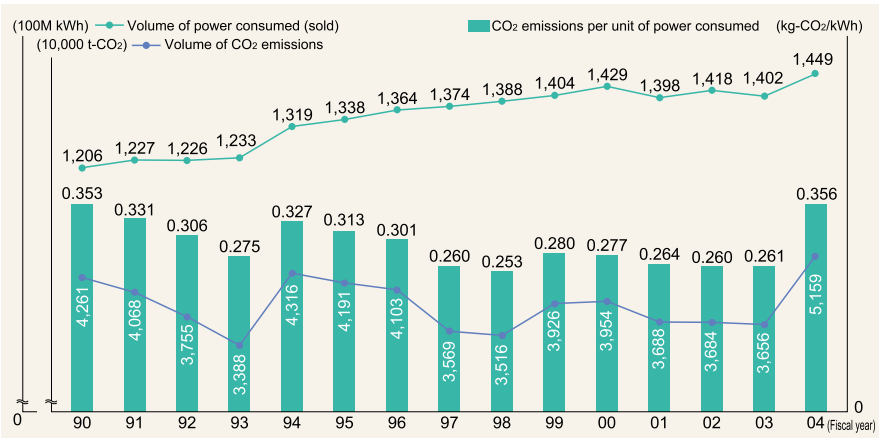
CO_2 emissions per unit of power generated and nuclear/hydropower ratio (2002)



Sources for foreign countries: Energy Balances of OECD Countries 2001–2002
Source for Japan: Survey by the Federation of Electric Power Companies. Actual results for Kansai Electric Power for fiscal year 2003.

*Compared to the average CO_2 emissions per unit of power generated by European and North American countries, Kansai Electric Power is third behind France, with its high ratio of nuclear power, and Canada, with its high ratio of hydropower.

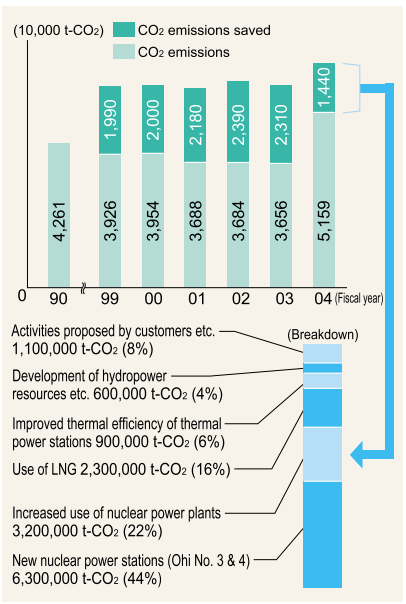
Trend of CO_2 emissions per unit of power consumed (sold)



CO_2 emissions prevention effectiveness

Due to reduced use of nuclear power plants and other reasons in fiscal 2004, our CO_2 emissions prevention effectiveness was lower than in fiscal 2003, but compared to 1990 the reduction was still 14.4 million tons of CO_2, with nuclear power generation accounting for 70% of the effect. This is about 1% of Japan's annual CO_2 emissions of 1.259 billion tons of CO_2 (fiscal 2003). This is equivalent to 4.1 million kiloliters of oil, roughly half of our fiscal 2004 fuel consumption.

CO_2 emissions saved



Note: Percentages are calculated against total amounts.

Efficiency —achieving more efficient energy use throughout society—

We are working to promote customer energy conservation methods, the development and popularization of new energy and other ways to increase more efficient use of energy throughout society.

Encouraging customer energy use efficiency

Kansai Electric Power is promoting greater customer energy conservation through the development and popularization of high efficiency devices and systems and education about improved operation of customer equipment.

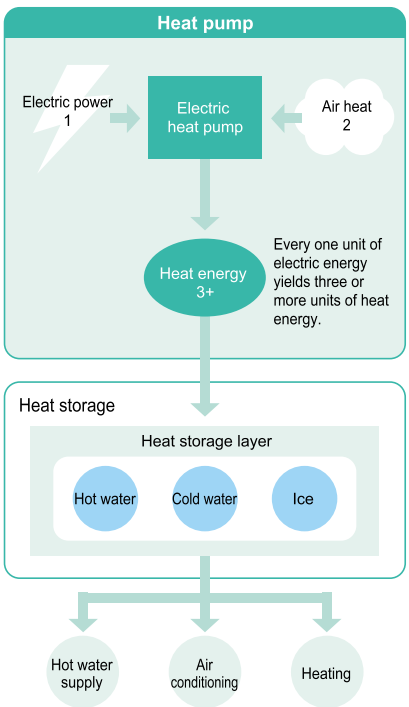
Heat pump technologies and thermal storage systems

Promotion of energy conservation in the private sector has become an urgent issue. Business and household energy consumption continues to increase with 54% of it for air-conditioning, water heating and related uses.

The key to solving this problem is heat pump technology, which uses atmospheric heat, a clean renewable energy, as a heat source and allows about three times the input energy to be used.

In addition, by using relatively inexpensive nighttime electric power, thermal storage systems can accumulate heat energy at night for use in the daytime.

Heat storage air-conditioning system



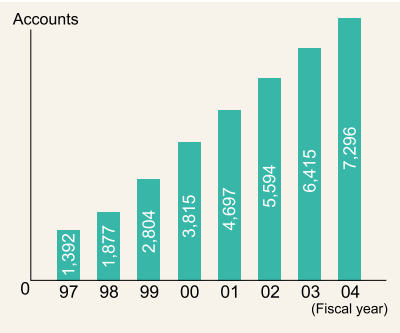
Efforts for our corporate customers

Popularization of thermal storage systems and other activities

For our industrial and business sector customers, we recommend our Eco Ice and Eco Ice Mini ice thermal storage air-conditioning systems, thermal storage heat pump hot water systems and commercial electric kitchens. We have readied a wide variety of models suitable to applications and sizes ranging from office buildings and hotels to hospitals, shops and factories.

Furthermore, for customers who install thermal storage systems, we have special contracts with electric power rates discounted up to 60%. In recent years, we have concluded about 1,000 new contracts every year. By the end of fiscal 2004, we had over 7,000 such accounts.

Number of accounts for heat storage and adjustment plan



Provision of energy diagnosis and other services

In order to help our customers understand the characteristics of electricity and the optimal ways to use their equipment, our group conducts energy diagnoses of customer equipment. By the end of fiscal 2004, we had undertaken 445 energy diagnoses.

In addition, we provide a variety of other options to allow the best use of energy according to customer needs including a thermal storage consignment system and the e-Pack corporate lease service.

Efforts for our household customers

Popularization of Eco Cute electric water heaters and new product development

In addition to electric water heaters, which are typical late night electric power using devices, we are working to expand the use of Eco Cute heat pump technology.

Eco Cute is a heat pump system that can convert one unit of electric energy into three units of heat energy and act as a high efficiency hot water supply device that can boil water. For refrigerant, this system uses CO_2, which causes no damage to the ozone layer and has a small global warming coefficient. This and other features give it excellent energy conservation traits, making it a device that is good for the global environment.

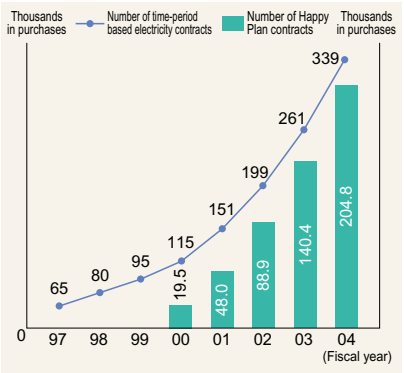
Furthermore, Kansai Electric Power is working with manufacturers on cooperative development of Eco Cute and other household hot water supply equipment. Recently, to meet diversifying customer needs, we have been developing a variety of models that can be connected to heated flooring and bathroom heaters, as well as compact, space-conserving types.

Eco Cute

Extensive selection of HAP-e Plans and other rate options

In addition to being able to choose HAP-e Time and other time-period based electricity contracts for inexpensive late night electric power, households that convert completely to electric power can join the HAP-e Plan, which is discounted an additional 10% from the HAP-e Time rates. Customers have been choosing this and other options from a selection of special rates suitable to their lifestyles, resulting in more and more contracts every year.

Time-period based electricity contracts and HAP-e Plan contracts



In addition, the HAP-e Package lease system for electric water heaters, IH cooking heaters and other appliances is contributing to the rapid popularization of these devices because, among other reasons, there are no initial or maintenance costs. By the end of fiscal 2004, the number of contracts already exceeds 22,000.

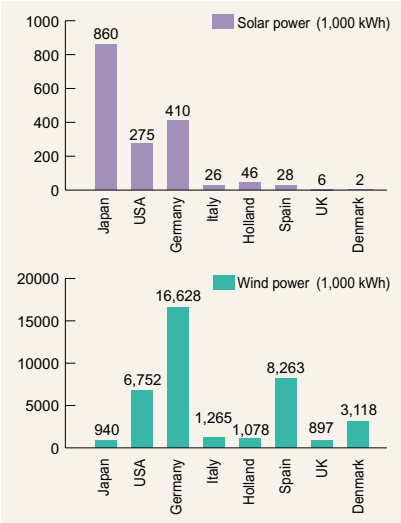
New energy development and popularization

Working to popularize new energy

Among new energy sources, solar and wind power have the merit of not causing CO_2 emissions during generation, but they are unreliable power sources due to their dependence on the weather and their power generation costs are high compared to nuclear and thermal power generation. However, national efforts are being made to popularize these in Japan, a country with almost no domestic energy resources. In particular, Japan leads the world in the amount of solar it uses.

By the end of fiscal 2004, Kansai Electric Power had installed solar and wind power generation equipment that provides 865 kW and 150 kW of power, respectively. Furthermore, we have been actively supporting new energy popularization by purchasing electricity from solar and wind power generation and cooperating with the Kansai Green Power Fund.

Use of solar and wind power by nation



Ref: Prepared by Kansai Electric Power from information in IEA PVPS Report (September 2004) and Wind Power Monthly (April 2005).
Note: Solar power is as of the end of 2003 and wind power is as of the end of 2004

TOPICS

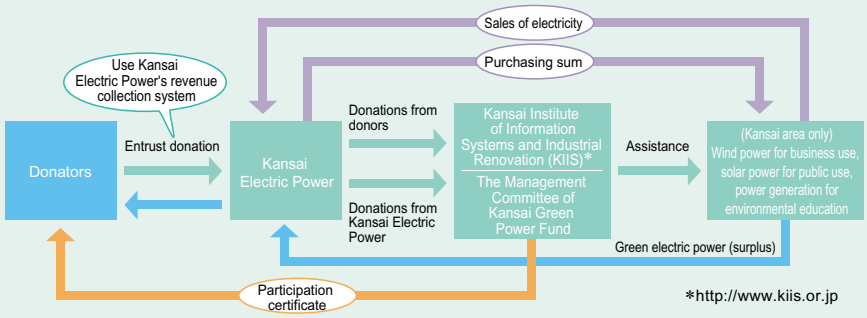
Kansai Green Power Fund

Kansai Electric Power matches the amounts of regional customer contributions to the Kansai Green Power Fund in order to aid the construction of new energy power generation equipment that does not emit CO_2 during power generation and to further its popularization. In addition to solar power generation for public use and wind power generation for business use, interest in environmental education has grown, so, support of power generation systems for environmental education purposes was added in fiscal 2004. Recipients such as the Sanda City Yurinokidai Elementary School are using this power generation system for environmental education.

Since the start of this program in 2000 through the last fiscal year, support has been given for 47 solar power generation, 3 wind power generation systems and 3 systems for environmental education.

Fiscal 2004 support recipient: Hirogawa-cho wind power generator (Wakayama)

Structure of Kansai Green Power Fund



*http://www.kiis.or.jp

Our contributions to the Green Power Fund

(millions of yen)

Fiscal year	2000	2001	2002	2003	2004	Total
Amount	3.4	10.84	16.23	14.7	13.56	58.73

Fiscal 2004 support recipient: Sanda City Yurinokidai Elementary School (Hyogo)

New head office building
(Kansai Electric Power Building)

We have been conducting business since the beginning of 2005 at the Kansai Electric Power Building, our new head office building where we have implemented a variety of features to create a model environmentally harmonious building.

▲Kansai Electric Power Building

▲Nakanoshima 3 Chome area heat supply facility

Active use of natural energy

An eco-frame pillar and beam structure 1.8 meters beyond the windows allows effective utilization of direct natural lighting and ventilation. In addition, the installation of solar panels on the south face of each floor and on the roof totaling 100 kW and other features allow the active use of natural energy.

▲Exterior and interior around the windows

In addition, the regional heat supply facility in the basement of the building uses river water, which is cooler than the summer air and warmer than the winter air, allowing efficient creation of cool and warm water for air-conditioning. This not only realizes energy conservation, it also helps reduce the urban heat island effect because it does not cause the release of heat directly into the air.

Promotion of energy conservation

Office areas use movement and light level sensors to effectively control lighting, including using daylight and dimming lights in unused areas, realizing great energy conservation.

For air-conditioning, the overall room temperature is less regulated, but by placing cooling near the office workers, both greater energy conservation and comfort can be achieved.

In addition, we are actively promoting energy conservation through the use of the most advanced electric kitchens and other high efficiency devices.

Promotion of electric power impact leveling

The hot water supply equipment for the building uses late night electric power. Furthermore, by accumulating cool air using building thermal storage and by large-scale ice thermal storage at regional heat supply facilities during the summer at night, daytime electric power peaks can be reduced.

Effective use of resources

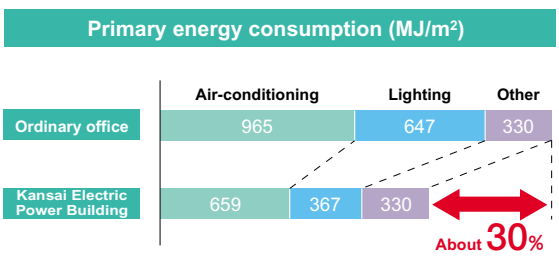
By processing used water, including that collected from sinks and rain, for reuse to flush toilets, ordinary water consumption can be reduced about 40%.

In addition, by thoroughly separating garbage on every floor we are encouraging effective reuse of resources.

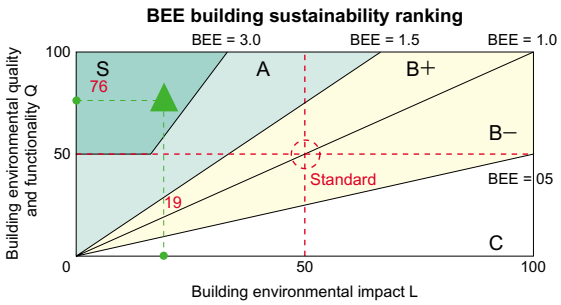
- The Nakanoshima 3 Chome area heat supply facility has been designated by the government Urban Renaissance Headquarters as a leading example of measures against global warming and the heat island effect in the Nakanoshima area.
- The head office building was selected for the New Office Environmental Incentive Award of the 18th Nikkei New Office Awards.

Expected effects

Through these efforts, office floor primary energy consumption is expected to be reduced by about 30% compared to typical offices.



Furthermore, the Comprehensive Assessment System for Building Environmental Efficiency (CASBEE) gave the Kansai Electric Power Building an S rank (BEE = 4.0), the highest possible evaluation.



Reduction —decreasing greenhouse gas emissions through the supply of electric power—

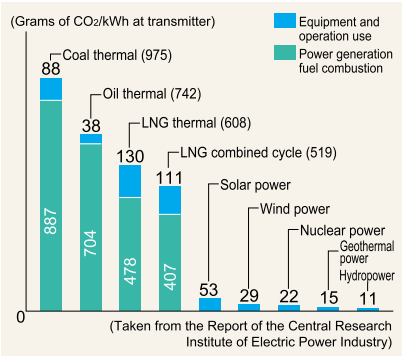
We are working actively to reduce greenhouse gas emissions through promotion of nuclear power generation that puts assurance of safe and stable operation first, as well as maintenance and improvement of thermal power plant efficiency and other aspects of the electric power supply.

CO_2 emissions-free nuclear power generation

Nuclear power generation does not cause CO_2 emissions during generation and has other environmental features that make it an excellent power generation method.

Kansai Electric Power makes assurance of safe and stable operation its top priority in its promotion of nuclear power generation and its efforts to confront global warming issues.

Lifecycle CO_2 emissions per energy unit by source



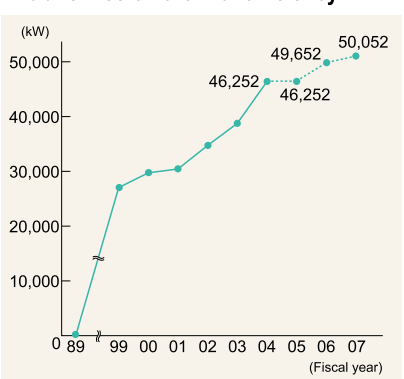
• Calculations take into account all energy consumed, not just the fuel burnt in producing the electricity but also the energy consumed in obtaining the basic fuel for the construction of facilities, transportation of fuel, refining, use and maintenance.

Hydropower generation renovation

Kansai Electric Power is working to increase the amount of hydropower-generated electricity by installing more efficient water turbines at our hydropower facilities and increasing the amount of water that can be used on rivers with large flow capacities.

The total output increase since fiscal 1989 was 46,252 kW at the end of fiscal 2004. We plan to further raise the output increase to 50,052 kW by fiscal 2007.

Kansai Electric's thermal power gross transmission thermal efficiency

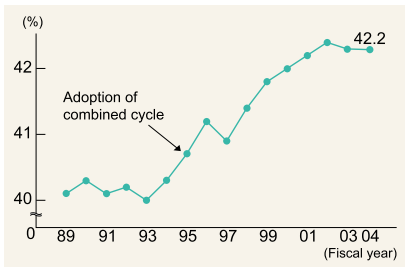


Thermal power plant thermal efficiency rate maintenance and improvement

Adoption of combined cycle power generation

For conventional power plants, in addition to making reforms related to equipment and operation, we have implemented combined cycle power generation*, a high thermal efficiency (54%) power generation method at the Himeji No. 1 Power Station. We are also implementing an equipment renewal plan at the Sakaiko Power Station to install the latest combined cycle power generation system with a combustor output temperature class of 1,500℃, while making other efforts to maintain and improve the total thermal efficiency of other thermal power plants. In addition, we intend to use the latest combined cycle power generation for the planned Wakayama Power Station.

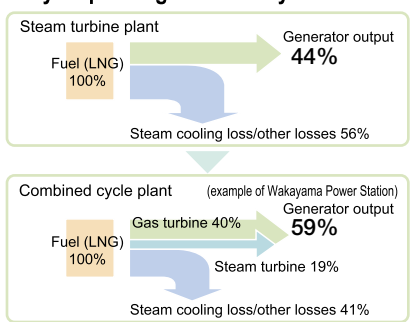
Total thermal generating efficiency before transmission



* In recent years, we have introduced highly efficient combined cycle power generation with a thermal efficiency of 54%. By operating existing equipment, gross thermal efficiency is approximately 42% at all thermal power stations.

The latest combined cycle power generation equipment has a designed thermal efficiency of about 58–59% and global top level performance, achieving CO_2 emissions per unit of electric power that is expected to be 25–30% lower than conventional LNG thermal power generation.

Gross thermal efficiency of combined cycle power generation system



* Combined cycle power generation equipment thermal efficiency
As the name suggests, two power generation systems are combined into one. Hot exhaust from a gas turbine is routed to a heat recovery boiler, where it is used to generate steam to run a steam turbine. Effective combination of these two generation cycles can improve the thermal efficiency of the entire generation facility.

Suppression of emissions of greenhouse gases other than CO_2

Greenhouse gas emissions status

At the December 1997 Global Warming Prevention Conference in Kyoto (COP3), reduction targets were set for the 6 greenhouse gases of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF_6). CO_2 makes up about 90% of the total of Japan's greenhouse gas emissions, and 99% of the emissions by our company.

In addition to CO_2, we cause a small amount of SF_6 emissions with our electrical equipment insulation, but almost no emissions of the other greenhouse gas.

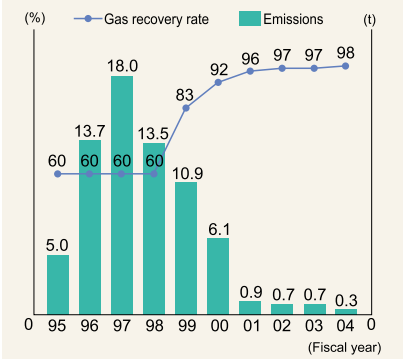
SF_6 gas emissions control

Electric equipment with SF_6 gas* insulation devices used in gas circuit breakers, gas insulation switchgears and other parts are disassembled and inspected at least once every 18 years. At such times, we work with device manufacturers and others to recover and reuse the SF_6 gas to minimize the amount emitted into the atmosphere.

Furthermore, we developed a secondary apparatus to recover the SF_6 gas that remains in the primary gas recovery device. By using this secondary apparatus, we will be able to recover more than 97% of the gas.

* In addition to allowing electric devices to be made lighter and smaller, this gas is used widely in electrical devices as a high performance insulation gas because it is safe for people.

SF_6 gas recovery rate during apparatus inspection



Technology development to reduce CO_2 emissions

Since 1990, we have been working in cooperation with Mitsubishi Heavy Industries on the development of flue gas decarbonization technology to separate and recover CO_2.

We installed a flue gas decarbonization pilot plant at the Nanko Power Station in order to remove CO_2 from thermal power plant flue gas, and are pursuing research and development for a chemical absorption method that uses a liquid to recover CO_2. In the process of establishing this high efficiency CO_2 separation and recovery technology, patents from our research results have been recognized not only in Japan, but also in many countries in America, Europe and Asia. In Malaysia, this CO_2 recovery technology is also being used in a urea manufacturing plant and there are plans to use it in India, too.

In addition to CO_2 coal bed sequestration, subterranean disposal and other means of confronting the problem of global warming, we expect this technology to have a wide variety of applications as a CO_2 supply source for industrial materials and other uses. We will continue to pursue this research to contribute to effective CO_2 use in Japan and abroad.

Low temperature operation solid oxide fuel cells

Because fuel cells use an electrochemical reaction between hydrogen and oxygen to make electricity directly, their energy conversion loss is low. The high efficiency of this new distributed power generation system keeps environmental impacts low, and we have high expectations for its future use. Among fuel cells, solid oxide fuel cells (SOFC) have high power generation efficiency, making it possible for them to replace existing power generation systems.

Kansai Electric Power is working to develop low temperature operation SOFC that can use inexpensive metal materials with lower heat tolerances. So far, we have achieved the highest level of power generation efficiency in the world and shown their high durability. We will continue working to increase their functionality and to achieve high capacity, and will seek to make a usable system greater than 20 kilowatts for use in small and mid-size shops and small factories by the end of fiscal 2006.

Development of next generation semiconductor elements (SiC)

Silicon (Si) power semiconductors are used in most circuit elements that control electric power. However, current Si power semiconductors cannot operate in high temperature environments and have high energy loss and other functional limits. In contrast, Silicon carbide (SiC) semiconductor elements are seen as next generation semiconductor elements because they have excellent heat and voltage tolerance and low energy loss.

Kansai Electric Power is the first in the world to successfully develop inverters that use SiC. By replacing Si inverters with SiC inverters in the future, energy loss can be cut by more than half, contributing to energy conservation and the reduction of CO_2 emissions throughout the industrial sector.

In order to increase the capacity of SiC inverters for use in electric power related equipment, industrial motors, fuel cells and other distributed power sources, *shinkansen*, linear motorcars and other mass transit, and for other uses in the future, we will seek to realize a several hundred kVA class all-purpose inverter by the end of fiscal 2006.

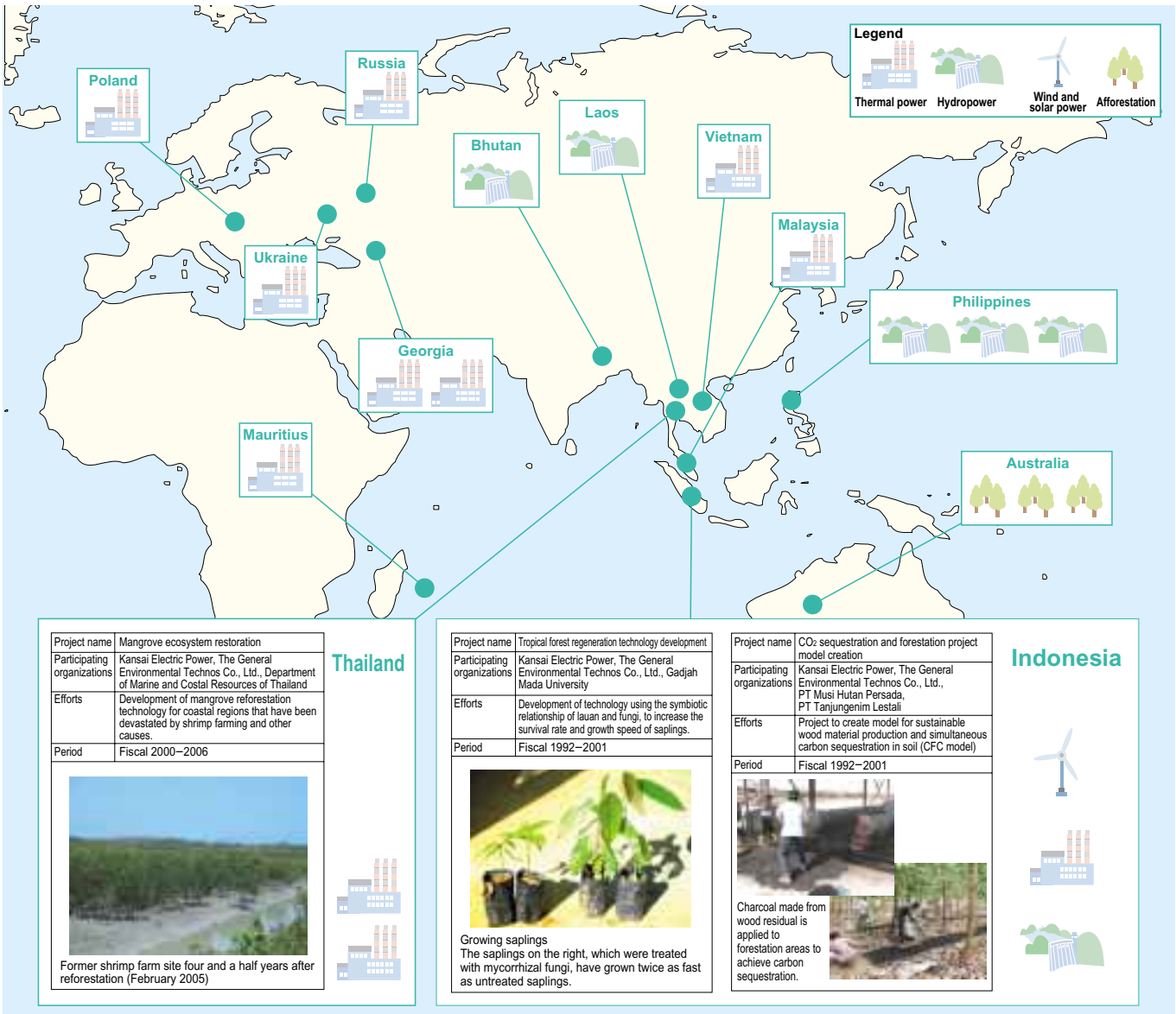
Flue gas decarbonization pilot plant
(Nanko Power Station)

1-kW SOFC power generation system that we developed

12-kVA SiC 3-phase inverter equipment

Activities Abroad —efforts to prevent global warming overseas —

As an electricity business, Kansai Electric Power is using the technological capabilities, knowledge and expertise that it has gained through years of operations to undertake efforts overseas that make use of the Kyoto mechanisms valuable for cost-effective greenhouse gas reduction on a global scale.



Thailand

Project name	Mangrove ecosystem restoration
Participating organizations	Kansai Electric Power, The General Environmental Technos Co., Ltd., Department of Marine and Costal Resources of Thailand
Efforts	Development of mangrove reforestation technology for coastal regions that have been devastated by shrimp farming and other causes.
Period	Fiscal 2000–2006

Former shrimp farm site four and a half years after reforestation (February 2005)

Indonesia

Project name	Tropical forest regeneration technology development
Participating organizations	Kansai Electric Power, The General Environmental Technos Co., Ltd., Gadjah Mada University
Efforts	Development of technology using the symbiotic relationship of lauan and fungi, to increase the survival rate and growth speed of saplings.
Period	Fiscal 1992–2001

Growing saplings
The saplings on the right, which were treated with mycorrhizal fungi, have grown twice as fast as untreated saplings.

Project name	CO_2 sequestration and forestation project model creation
Participating organizations	Kansai Electric Power, The General Environmental Technos Co., Ltd., PT Musi Hutan Persada, PT Tanjungenim Lestali
Efforts	Project to create model for sustainable wood material production and simultaneous carbon sequestration in soil (CFC model)
Period	Fiscal 1992–2001

Charcoal made from wood residual is applied to forestation areas to achieve carbon sequestration.

TOPICS

Global 100 Eco-Tech Award Received (Makoto Ogawa, The General Environmental Technos Co., Ltd.)

Makoto Ogawa
Director
Biological Environmental Institute
The General Environmental Technos Co., Ltd.
(Osaka Institute of Technology Guest Professor)

The mycorrhizal fungi technology developed during developmental research for tropical forest regeneration technology in Indonesia has been recognized for its value in solving global environmental issues and realizing a sustainable society. In September 2005, Makoto Ogawa, research project leader of General Environmental Technos, a Kansai Electric Power Group company, received the Global 100 Eco-Tech Award from the Japan Association for the 2005 World Exposition. The award-winning mycorrhizal fungi technology is currently being used not only in Indonesia but also in Australia and other countries for forestation activities in barren areas.

Mycorrhizal fungi

Environmental treeplanting in Western Australia

As a result of past forest clear-cutting in Australia, soil salinization* has increased, leading to the serious problem of losing land capable of agricultural production.

In response to this problem, since fiscal 2002, the Kansai Electric Power Group has been conducting an environmental reforestation program in southwest Australia around Perth that seeks to expand CO_2 absorption to prevent global warming while simultaneously preventing soil salinization.

In the future, the Kansai Electric Power Group is considering the use of the experience gained from this project for reforestation projects in arid regions in China, the countries of Central Asia and elsewhere.

*In Australia, great amounts of agricultural land have been lost due to rising groundwater that contains salt reaching the topsoil and causing soil salinization.

Project overview

Project name	Environmental tree-planting project to prevent global warming and soil salinization
Participating organizations	Kansai Electric Power, The General Environmental Technos Co., Ltd., Oil Mallee Company
Efforts	With using, for example, the fungi and charcoal technology that the Kansai Electric Power Group has developed, 2.5 million native mallee eucalyptus trees are planted in a belt shape over 1,000 ha of agricultural land.
Period	Fiscal 2002–2022 (scheduled)
Expected effects	CO_2 absorption About 860,000 tons of CO_2 (20 year period)

Soil salinization (image)

One and a half years after reforestation (March 2005)

CO_2 coal bed sequestration technology

Since fiscal 2002, the Kansai Electric Power Group has been participating in the development of technology to sequester carbon dioxide in coal beds, a goal promoted by the Ministry of Economy, Trade and Industry.

In November 2004, we began preliminary experiments on injecting CO_2 into coal beds and recovering the displaced methane at an experimental site in Yuubari, Hokkaido. This research seeks to understand the fundamental characteristics related to the injection of CO_2 into coal beds and methane recovery.

We plan to continue conducting and evaluating preliminary experiments through fiscal 2006, and then begin working toward practical application through comprehensive verification tests of these research results.

Project overview

Project name	Carbon dioxide coal bed sequestration technology development
Participating organizations	Kansai Electric Power, The General Environmental Technos Co., Ltd., several universities, etc
Efforts	Using the adsorption qualities of coal, replace methane in coal beds with CO_2 recovered from thermal power plants and other sources to fix the CO_2 in the coal beds. The displaced methane can also be recovered and used effectively as a clean energy source.
Period	Fiscal 2002–2008 (scheduled)

Eastern European energy conservation fund

Since January 2000, we have been participating in the Eastern Europe energy conservation fund advocated by the European Bank for Reconstruction and Development. At present, the fund is investing in 14 projects.

These projects are mainly ESCO projects for energy efficiency improvement and electricity and heat sales projects through the installation of high efficiency gas engines. These projects are not just meant to be profitable; they are also expected to contribute to greenhouse gas reduction.

Project overview

Project name	Investment fund for energy conservation projects in Eastern European countries
Participating organizations	European Bank for Reconstruction and Development, Kansai Electric Power, Dexint, Marubeni Corporation, Electric Power Development Co., Ltd., Mitsui & Co., Ltd.
Investment manager	FondElec, LLC (Connecticut, USA)
Efforts	Invest in energy projects in the 26 Eastern European countries that can receive funding from the European Bank for Reconstruction and Development. At present, there are 2 projects in Poland, 11 in Hungary and 1 in Croatia. In the future, we will seek to obtain greenhouse gas credits.
Period	2000–2009 (maximum 2-year extension)

TOPICS

Research on CO_2 sequestration and effective use by the creation of bamboo charcoal in the Maizuru region

We are conducting research to verify that CO_2 can be sequestered by making charcoal from bamboo grown in the Maizuru region and that the bamboo charcoal can be used to improve water and soil quality and for other useful applications.

We are also conducting lifecycle assessments of CO_2 sequestration amounts and the business potential of various uses.

Maizuru CO_2 Bamboo Charcoal Sequestration and Effective Use Experiment Center

Responding to Community Environmental Issues

We consider environmental protection for every aspect of our facilities and seek to create even better local environments where we operate in order to coexist and make progress with the people of those communities.

Community environmental protection measures

While continuing to take regular measures to prevent air pollution, water quality degradation and other environmental issues as in the past, we are also dealing appropriately with chemical substances and other new issues. At thermal power plants, for example, we are giving thorough consideration to community environments by taking measures to prevent air pollution, water quality degradation, noise pollution, vibrations and other problems based on laws, regulations, agreements and other environmental protection standards. In addition, we perform inspections and measurements to confirm that these efforts are effective.

Furthermore, through environmental revegetation and facility designs that consider the landscape, we also seek to achieve visual harmony with our communities.

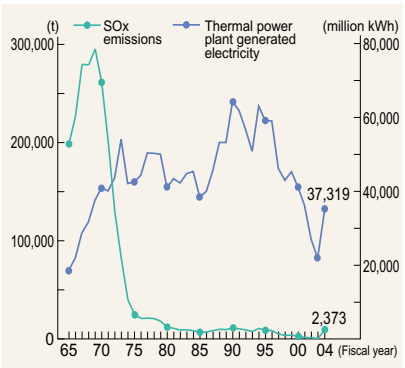
- Environmental protection measures
  - Measures to prevent air pollution
    - Sulfur oxides
    - Nitrogen oxides
    - Dust
    - Monitoring and measuring of environmental impacts
    - Emergency measures
  - Measures to prevent water pollution
    - On-site wastewater
    - Warm water discharge
    - Prevention of oil spills
  - Measures to prevent noise and vibration
  - Measures to prevent offensive odors
  - Chemical substance handling measures
    - PRTR
    - Dioxins
    - Soil contamination
    - PCBs
  - Harmonizing with communities
    - Environmental revegetation
    - Electric power facility environmental harmony
    - Nature preservation
    - Effective use of hot water discharge

Air pollution prevention measures

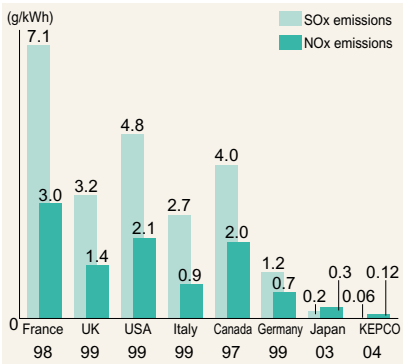
In addition to using low-sulfur heavy and crude oil, sulfur-free LNG (liquid natural gas) and low-nitrogen fuel (LNG, high quality oil, etc.) as thermal power generation fuels, we have greatly reduced sulfur oxide (SOx) and nitrogen oxide (NOx) emissions through measures such as the installation of flue gas desulfurization and denitrification equipment.

As a result, SOx, NOx emissions from our thermal power generated electricity are extremely low and ranked highest globally. In addition, high performance electric filters drastically cut soot emissions.

Main environmental protection measures for thermal power generation plants

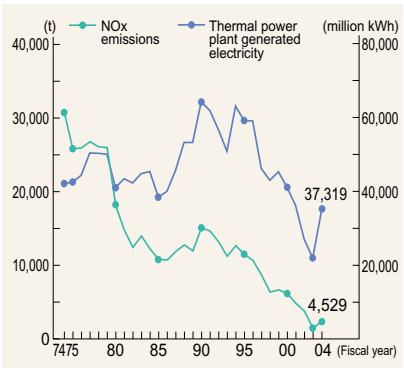


SOx and NOx emissions per unit of thermal power generated



Sources for foreign countries:
OECD Environmental Data compendium/2002
Energy Balances of OECD Countries 1996, 1997–98
1998–99, 1999–2000 (1996 values given for Canada)
Sources for Japan:
Survey by Federation of Electric Power Companies

NOx emissions and thermal power generation



Water quality degradation and hot water discharge measures

Water used in thermal power plants is thoroughly purified by a variety of processing equipment before discharge. Furthermore, to supplement oil barricades and loading arms, we have installed oil fences and other oil spill countermeasures to be completely prepared for the unlikely occurrence of an oil spill.

We also release seawater used for power plant cooling (hot water discharge) at a temperature no more than 7℃ higher than the nearby ocean. In addition, to prevent affecting the sea creatures that live nearby, we choose appropriate methods and locations for water intake and output.

Noise pollution, vibration and odor prevention measures

Whenever possible we place devices that could cause noise pollution or vibrations inside and far from the boundaries of our power plants and substations. We also harden machinery foundations and install noise absorbers and barriers to minimize noise pollution and vibrations.

Moreover, we maintain suitable input levels for ammonia used at power plants and, measuring flue gas ammonia concentrations regularly, keep output amounts low.

Chemical substance measures

We have prepared a PRTR Regulated Chemical Management Handbook for chemical substance handling. In addition to conducting chemical management with all of our group companies, we have been disclosing substance amounts and other emissions data since before it became legally required.

PCB

We carefully keep PCB (polychlorinated biphenyl), which had been used in insulation for transformers and other electrical devices, in a special storage facility. Kansai Electric Power began dealing with utility pole transformers that contain a low concentration of PCB waste in April 2004.

Furthermore, we are currently preparing an appropriate processing plan for PCB waste in high voltage transformers and condensers and will complete processing by 2016, the legally established deadline.

In response to the newly identified issue of traces of PCB in heavy electrical equipment, we are appropriately managing items that we have found to contain traces of PCB.

Storage of low concentration PCB waste (utility pole transformers)

(March 31, 2005)

	Insulation oil (Unit: 10,000 kL)	Transformer cases (Unit: 10,000 cases)
Amount to be processed	10	24
Stored	5.1	15.1
Processed	0.8	2.4
Storage scheduled	4.1	6.5

Storage of high concentration PCB waste (high voltage transformers and condensers) (March 31, 2005)

Amount stored	5,455

Soil contamination measures

In our efforts to prevent soil contamination, we strictly abide by all soil contamination laws and regulations. Furthermore, when converting our land to new uses, Kansai Electric Power conducts inspection measures and other appropriate actions in accordance with the Soil Contamination Law established February 2003.

Dioxins

To decrease dioxin emissions, we are decommissioning incinerators as we implement waste minimization, recycling and other measures that reduce the need for incineration.

Furthermore, we confirmed with our own inspections that our thermal power plants produce almost no dioxin emissions.

Harmony with communities

Environmental revegetation

Using the Ecological Revegetation Method* at our thermal and nuclear power plants, we are seeking to create natural forests with high environmental protection effectiveness, biotopes, which are ecosystems that support insects such as fireflies and dragonflies, and other environments that contribute to forming regional green networks.

*Ecological Revegetation Method
In order to create forests that are as natural as possible rapidly, saplings of tree species suited to the region are mixed and planted densely.

Electric power facility environmental harmony

In the building and handling of electric power facilities, we not only pay careful attention to urban and regional development, but we also do our best to design facilities that blend well with the townscape and surrounding landscape, preserving the scenery and harmonizing with the environment.

Lighting that changes to suit the season (Nanko Power Station)

Effective use of hot water discharge

The heat energy of seawater that has been used for power plant cooling (hot water discharge) is used effectively for the production and breeding of important regional fish and shellfish. In addition to verifying the safety and usefulness of the hot water discharged, the sea organisms thus bred are released into the nearby seas, contributing to the prosperity of the fishing industry.

TOPICS

Yamazaki Traditional Horticulture Plants Laboratory (Yamazaki, Shiso City, Hyogo Prefecture)

Since the 17th century, Japan has produced many rare and valuable plants with unusually colored and shaped flowers and leaves.

These traditional horticulture plants can be said to be the crystallization of cultural wisdom transmitted through generations by horticulturalists who created advanced cultivation technology. Since they are not subject to national preservation efforts, however, many have come close to disappearing in recent years.

Kansai Electric Power is making efforts to maintain and preserve these precious natural and cultural legacies at the Yamazaki Traditional Horticulture Plants Laboratory.

Promotion of Business Activities Suitable for a Recycling-Oriented Society

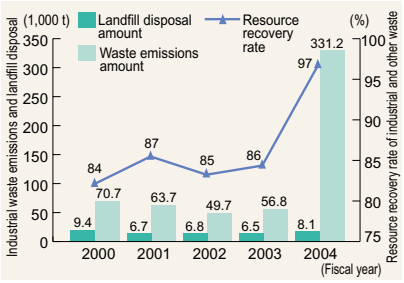
In accordance with the Kansai Electric Power Recycling-Oriented Society Business Activities Promotion Plan, we are promoting 3R efforts (waste reduction, reuse and recycling), green purchasing and other actions to reduce waste emissions with the goal of eliminating all landfill disposal in the mid and long term.

3R promotion

For fiscal 2005, we set the midterm target for landfill disposal of industrial waste* to less than 4,500 tons (half of the fiscal 2000 level), and are promoting 3R efforts for waste and other materials in all our business activities.

*excluding special management industrial waste

3R efforts for industrial and other waste



Fiscal 2004 performance

- Resource recovery rate of industrial and other waste: 97.3%

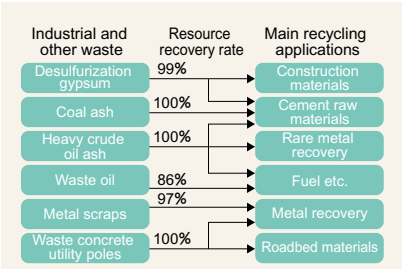
Cause of increase: With the start of operation of the Maizuru Power Station, the amount of coal ash and gypsum emissions that are completely recovered increased.

- Industrial waste landfill disposal: 8,099 tons

Cause of increase: Pipe inspections at thermal and nuclear power plants caused an increase in the amount of emissions of insulation and other materials that are difficult to recover.

Applications for resources recovered from industrial and other waste

(Fiscal 2004 performance)



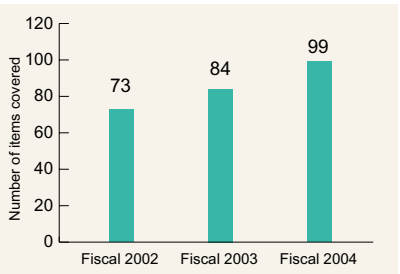
Green purchasing promotion

In accordance with our green purchasing promotion policy, established in 1999, we are undertaking company-wide green purchasing efforts that give preference to the purchase of manufactured goods and services with low environmental impacts. We have set company-wide targets that follow our green purchasing guidelines and are encouraging these purchasing efforts.

Office and other supplies

Item	Green purchasing rate	
	Targets	Performance (fiscal 2004)
Office supplies (43 items)	100%	99% Details: Copy paper 100% OA devices (5 items) 99% Stationery (26 items) 97% Appliances and furniture (11 items) 97%

Electric power equipment materials and parts



Automobiles

In addition to electric automobiles, we are actively increasing the use of low gas emissions vehicles (LEV) and hybrid vehicles.

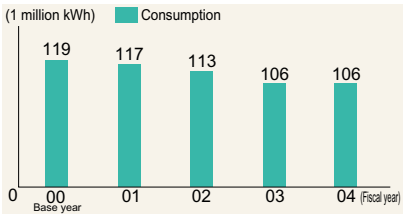
Ordinary waste 3R efforts

We are also working to reduce copy paper, newspaper, magazines and other office waste and to recover these resources. We are also collecting driftwood, fallen leaves and other materials that accumulate at dams for use as soil improvement materials and other uses.

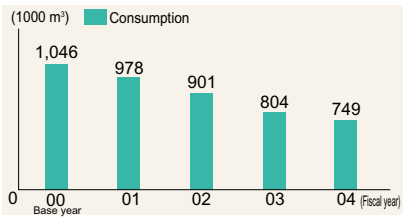
Office energy and resource conservation efforts

We continue efforts in our immediate environments at every business place to use electricity, water and other resources that are indispensable for our daily business carefully. In particular, we have set company-wide targets for electricity, water, copy paper and vehicle fuel conservation and are pursuing a variety of efforts to reduce their use.

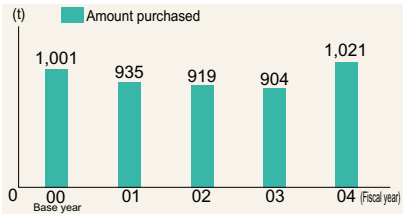
Electricity consumption of offices



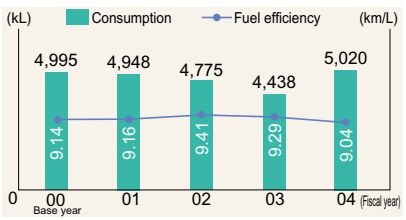
Water consumption



Copy paper consumption



Vehicle fuel consumption and efficiency



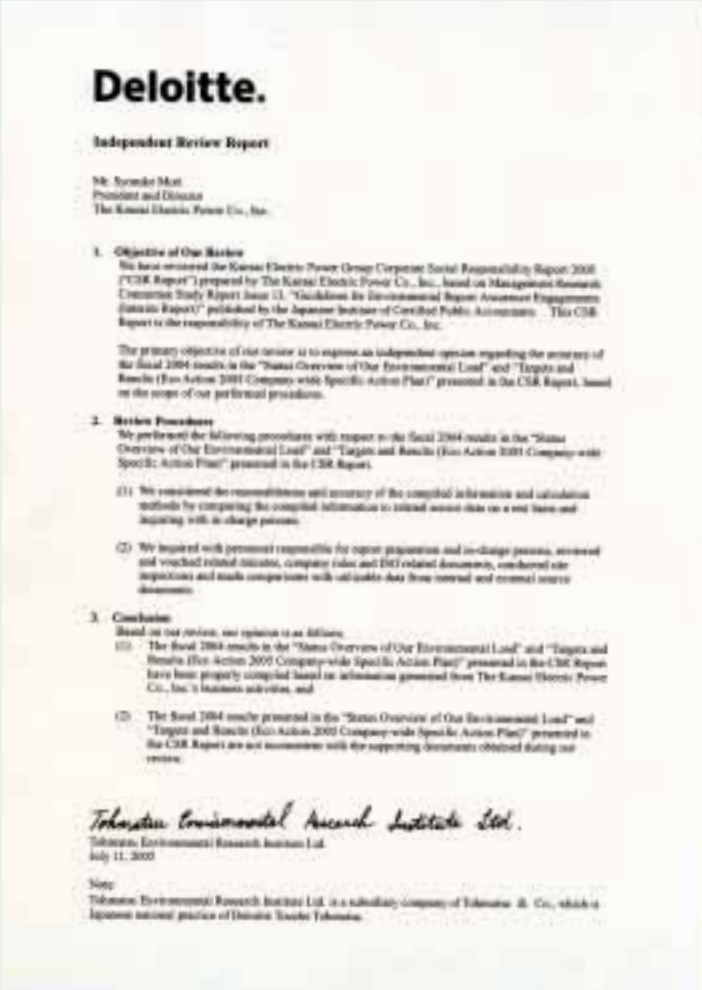
PCB waste recycling

Recycling Center for Utility Pole Transformers

Kansai Electric Power established the Recycling Center for Utility Pole Transformers to safely decontaminate and recover insulation oil and other resources that contain trace amounts of PCB from utility pole transformers. This center passed Osaka City industrial waste processing facility pre-use inspections and was completed in January 2004. Full operation began in April 2004, after we received confirmation from all those concerned that the center can, according to plan, maintain functionality, safety and environmental protection during continuous stable operation.

Independent review

The Kansai Electric Power Co., Inc. commissioned Tohmatsu Environmental Research Institute to perform an independent review to obtain assurance regarding the environmental data of results presented in the CSR Report.



Deloitte.

Independent Review Report

Mr. Syunsuke Mori
President and Director
The Kansai Electric Power Co., Inc.

1. Objective of Our Review

We have reviewed the Kansai Electric Power Group Corporate Social Responsibility Report 2005 ("CSR Report") prepared by The Kansai Electric Power Co., Inc., based on Management Research Committee Study Report Issue 13, "Guidelines for Environmental Report Assurance Engagements (Interim Report)" published by the Japanese Institute of Certified Public Accountants. This CSR Report is the responsibility of The Kansai Electric Power Co., Inc.

The primary objective of our review is to express an independent opinion regarding the accuracy of the fiscal 2004 results in the "Status Overview of Our Environmental Load" and "Targets and Results (Eco Action 2005 Company-wide Specific Action Plan)" presented in the CSR Report, based on the scope of our performed procedures.

2. Review Procedures

We performed the following procedures with respect to the fiscal 2004 results in the "Status Overview of Our Environmental Load" and "Targets and Results (Eco Action 2005 Company-wide Specific Action Plan)" presented in the CSR Report.

(1) We examined the reasonableness and accuracy of the compiled information and calculation methods by comparing the compiled information to related source data on a test basis and inquiring with in-charge persons.

(2) We inquired with personnel responsible for report preparation and in-charge persons, reviewed and vouched related materials, company rules and ISO related documents, conducted site inspections and made comparisons with calculable data from internal and external source documents.

3. Conclusion

Based on our review, our opinion is as follows.

(1) The fiscal 2004 results in the "Status Overview of Our Environmental Load" and "Targets and Results (Eco Action 2005 Company-wide Specific Action Plan)" presented in the CSR Report have been properly compiled based on information generated from The Kansai Electric Power Co., Inc.'s business activities, and

(2) The fiscal 2004 results presented in the "Status Overview of Our Environmental Load" and "Targets and Results (Eco Action 2005 Company-wide Specific Action Plan)" presented in the CSR Report are not inconsistent with the supporting documents obtained during our review.

Tohmatsu Environmental Research Institute Ltd.

Tohmatsu Environmental Research Institute Ltd.
July 11, 2005

Note
Tohmatsu Environmental Research Institute Ltd. is a subsidiary company of Tohmatsu & Co., which is a Japanese network practice of Deloitte Touche Tohmatsu.

In connection with this independent review, we received the following guidance from Tohmatsu Environmental Research Institute for our further improvement.

①**Expansion of scope**
The scope of compiled data of results only covers The Kansai Electric Power Co., Inc. It was recommended this scope of compilation be expanded to also cover group companies in the future.

②**Calculation method for environmental data of results**
With respect to certain data of results, there were cases of different calculation methods being used by each business unit. Clear rules should be made to establish uniform calculation methods.

③**Compilation method for environmental data of results**
Headquarters and business units are compiling data of results by hand or using spreadsheet programs. To prevent miscalculations and improve the accuracy of data, the compilation process should be systemized.

We will act upon and respond to their recommendations as follows:

① We will increase the number of group companies compiling environmental data of results. We will also expand activities related to certain items of Eco Action (page 34) to our group companies and compile their data.

② With respect to the noted different calculation methods used for environmental data of results, we will establish clear and uniform rules.

③ With respect to the compilation of environmental data of results, we will consider the introduction of a system together with group companies.

Acquisition of the EcoLeaf environmental label

The EcoLeaf environmental label is an environmental labeling system overseen by the Japan Environmental Management Association for Industry (JEMAI). This label indicates that a product has been registered as having received third party inspection for quantitative environmental data for the lifespan of the item, from resource procurement to disposal and recycling. In July 2003, Kansai Electric Power was the first in the energy service sector to acquire this certification, which was renewed with fiscal 2004 performance data in June 2005.

In the future, we will continue to disclose this type of environmental information to maintain customer confidence.

Product Environmental Aspects Declaration
ECO LEAF
製品環境情報
http://www.jemai.or.jp
No.AT-03-001

■Main environmental data certified

Product: Grid electricity
Specifications: 60 Hz
Year covered: fiscal 2004
Lifecycle global warming load (CO_2 equivalent): 0.411 kg-CO_2/kWh
CO_2 equivalent from power generation (average of all days):
0.356 kg-CO_2/kWh (fiscal 2004)
0.284 kg-CO_2/kWh (fiscal 2000–2004 5-year average)

Registration renewal certificate

Efforts to Reduce Radioactive Waste

Appropriate handling of radioactive waste

Low-level radioactive waste

The radioactive gas and liquid waste that occurs at nuclear power plants is filtered, separated by evaporation equipment into distilled and concentrated liquids and otherwise processed to reduce radioactivity according to its characteristics. Then, after confirming that the radioactive substance concentration is low enough, it is released into the atmosphere and ocean while inspecting it with a radiation monitor.

Radioactive solid waste, which is concentrated liquid that has been solidified, and mixed solids comprised of metals and other materials, is compressed and packed in drum cans. After it is safely stored and confirmed to be compliant with national technological standards, the drums are placed in an underground facility so that they will not have any effect on the living environment.

Inspection and measurement of radiation and radioactive substances

In order to confirm that the radiation that occurs in the operation of nuclear power plants does not reach a problematic level, we conduct inspections through monitoring posts and other means.

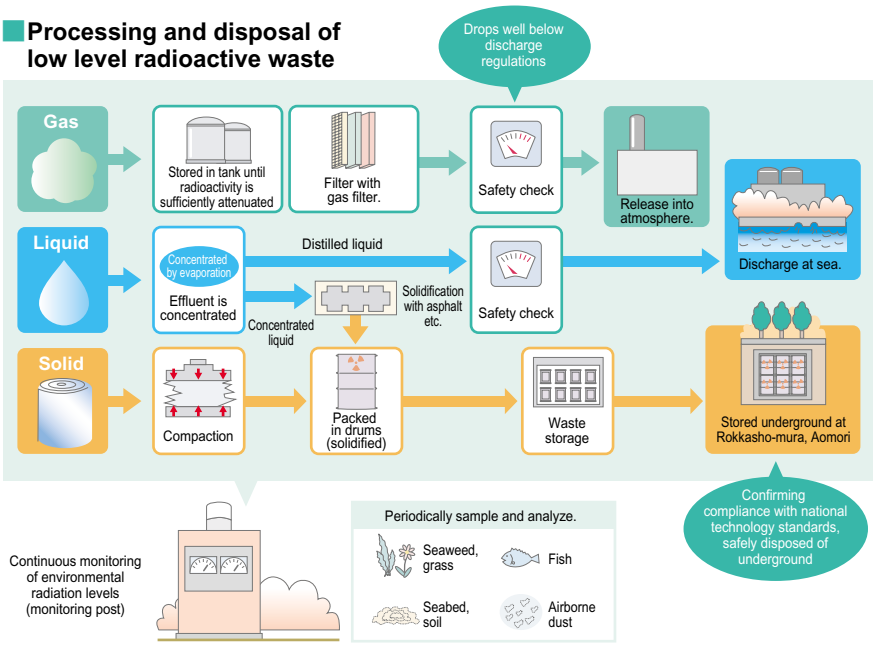
High-level radioactive waste

The geologic disposal policy for high-level radioactive waste that results from the reprocessing of used fuel is to store it safely for a cooling period of 30–50 years before final disposal underground at a depth of more than 300 meters. Furthermore, to cope with the long-term uncertainty of geologic disposal, a variety of hypothetical scenarios are considered scientifically to confirm the safety.

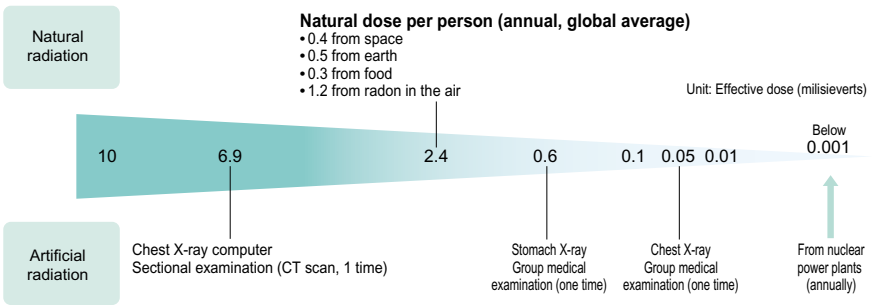
At present, the Nuclear Waste Management Organization of Japan* (approved by the Minister of Economy, Trade and Industry), the main agency responsible for disposal, is in the process of selecting a disposal site.

*http://www.numo.or.jp/

Processing and disposal of low level radioactive waste

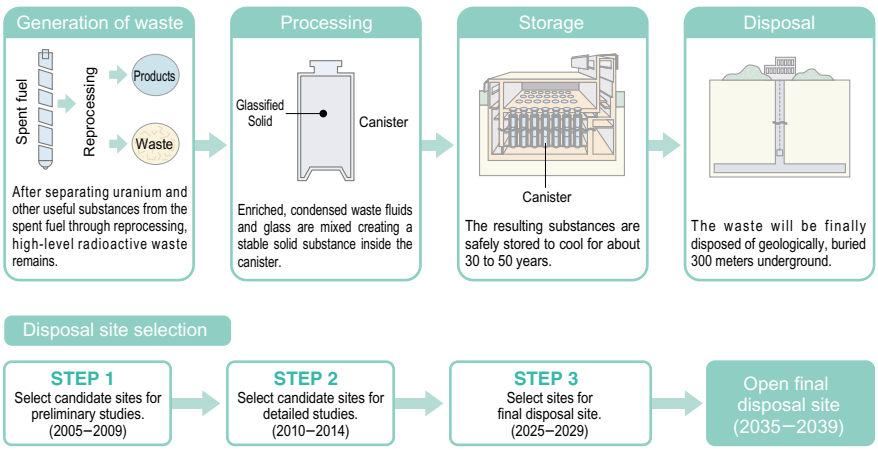


Periodic sampling and analysis



Radiation dose received by the public living near nuclear power stations that is emitted by radioactive waste is less than 0.001 milisieverts per year. This is extremely low compared to the amount of natural radiation received (2.4 milisieverts per year).

Processing and disposal of high-level radioactive waste



Establishing an atomic fuel cycle

Japan, a country that is poor in energy resources has made reprocessing and recovery of used fuel and effective use of plutonium, uranium and other elements a fundamental national policy.

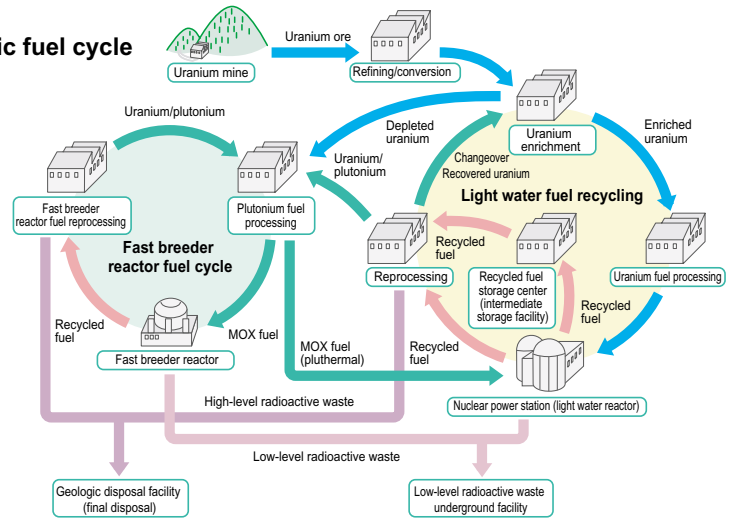
Furthermore, in October 2003, the Energy Basic Plan created by the cabinet also states clearly that "with safety assurance as a prerequisite, nuclear power generation, including the atomic fuel cycle, is to be promoted as a main power source," and that "pluthermal* is to be promoted as the primary immediate method."

*Plutonium that has been recovered by reprocessing recycling fuel is mixed with uranium to make mixed oxide (MOX) fuel and used again in light water and thermal nuclear reactors.

At present, the Atomic Energy Commission's New Nuclear Policy-Planning Council is working on a new Nuclear Energy Policy Outline. In the draft of this outline, the reprocessing route is recognized as better than direct disposal without recycling for energy security, environmental compatibility, ability to respond to future uncertainties and other aspects. They confirmed that viewed comprehensively the currently used reprocessing route is superior and should be continued.

Kansai Electric Power will work to make certain that the process of establishing Japan's atomic fuel cycle in accordance with national policy is sound. While gaining the understanding of local residents and everyone involved and putting safety first, we intend to continue pursuing the pluthermal plan.

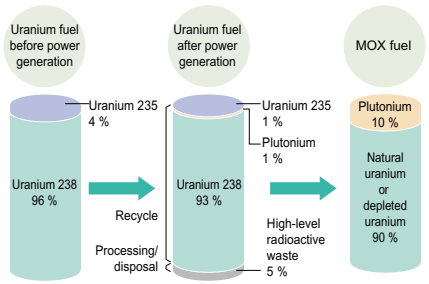
Atomic fuel cycle



Recycled fuel storage center

A recycled fuel storage center is a facility where recycled fuel that can be reused as an energy resource in the future is stored appropriately for a fixed period before reprocessing. Currently, about 900–1,000 tons of recycled fuel are produced annually in Japan. Considering the annual uranium capacity of 800 tons of the Japan Nuclear Fuel Limited reprocessing plant under construction in Rokkasho-mura, Aomori-ken, new facilities to store recycled fuel outside power plants will be necessary.

Recycled fuel (used fuel)



Reprocessing fuel used at nuclear power plants (recycled fuel) allows the recovery of the useful substances uranium and plutonium for reuse as fuel.

Out of the recycled fuel, only a mere 5% or less becomes radioactive waste that must be disposed of, while more than 95% is reusable uranium and plutonium. For resource-poor Japan, effective reuse of these is thought to be necessary.

Environmental merits of establishing an atomic fuel cycle

Compared to low-level radioactive waste, many technological and social issues must be solved for the disposal of high-level radioactive waste.

An atomic fuel cycle can reduce and minimize the volume and toxicity of high-level radioactive waste disposal, giving it great merits from the perspective of environmental compatibility.

High-level radioactive waste volume reduction

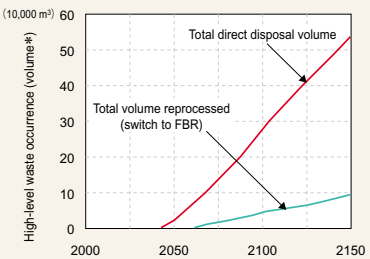
By reprocessing high-level radioactive waste, its volume can be reduced 70–80% compared to not recycling.

Reduction of high-level radioactive waste disposal toxicity

The latent harmfulness of the radioactivity of high-level radioactive waste is reduced to one-eighth by the light water reactor cycle. In contrast, if a fast breeder reactor cycle is realized in the future, the reduction could be increased to as much as one-thirtieth.

Volume of high-level radioactive waste disposal

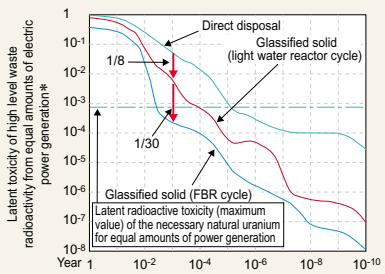
New Nuclear Policy Planning Council (8th) publication no. 3 Atomic Fuel Cycle Volume Analysis (revised edition) simplification



*Calculated from glassified solid overpack volume. For direct disposal, calculated for the volume of two storage canisters.

Latent toxicity of radioactive waste

New Nuclear Policy Planning Council (9th) publication no. 14 Atomic Fuel Cycle Volume Analysis (revised edition) simplification



*This is not the actual danger of high-level radioactive waste, but rather its latent toxicity. The value is relative to the latent toxicity of used fuel after one year, which is set at one.

Eco-business Expansion

**The Kansai Electric Power Group has pursued revegetation, environmental assessment inspections and other environmental protection activities for many years.
Using the expertise and management resources gained from these efforts, we are engaging in new environmental businesses, and actively pursuing environmental, recycling and other projects.**

Kanden-el-farm, Inc.

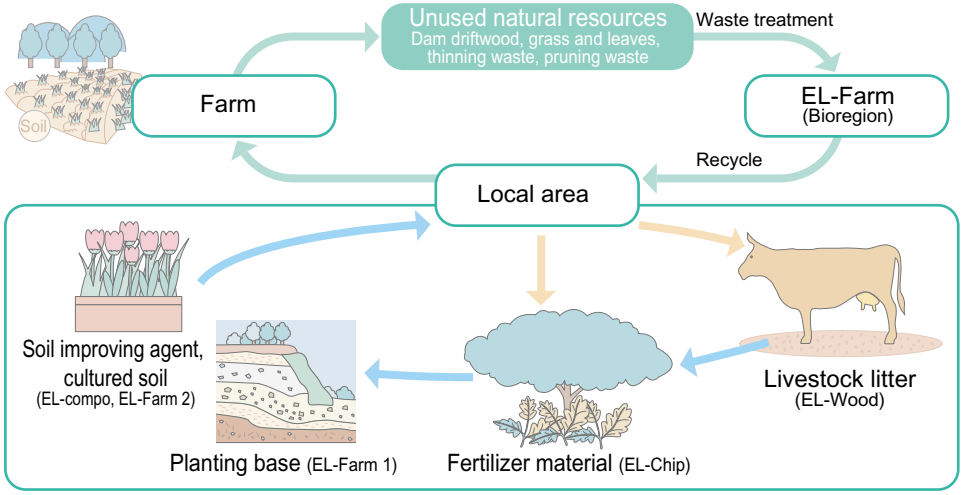
Global environmental protection, regional vitalization and environmentally-friendly product development are parts of our management philosophy. By regenerative processing of unused natural wood material resources, we contribute to the creation of a resource recycling-oriented society.

Kanden-el-farm concept

We combine regenerative process technologies (knowledge) and the traditional agricultural skills (wisdom) of the regions that contain hydropower sources with bioregion* techniques to create a regenerative process for dam driftwood, forest thinning scraps and other materials and realize a resource cycle and regional symbiosis. This process produces livestock litter, which is lacking in the region. After it is used, part of the sold livestock litter is bought back to make high quality organic soil improvement materials for uses including regional vegetable cultivation. The Kanden-el-farm concept has been highly evaluated as a business model and received the fiscal 2001 Good Design Award.

*By making maximum use of the regional climate, microorganisms, topography, technology and resources, this regional vitalization technique can maintain and develop natural environment protection, regional history and traditional wisdom, while creating new lifestyles and culture.

Kanden EL-Farm concept



Kanden EL-Farm concept was awarded the Good Design Award for the business model section.

Kanden Gas and Cogeneration Co., Inc.

In addition to providing complete support in supplying customers with optimized energy systems, we contribute to energy cost reduction through ESCO projects that guarantee conservation results.

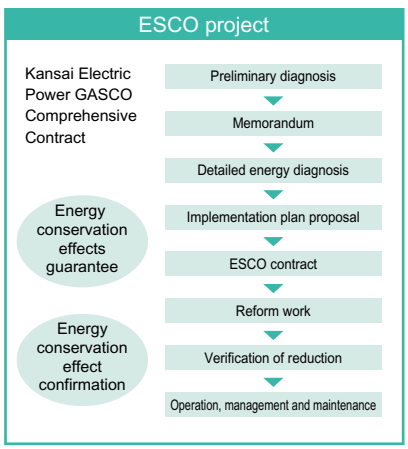
ESCO projects

ESCO is an abbreviation for energy service company. As one, we diagnose the energy use status of factories, buildings and other structures and propose effective systems for energy conservation.

We provide total support from reform to operation.

<ESCO examples>
- Reform of lighting, air-conditioning, toilets and other aspects of business buildings
- Reform of lighting, pumps, fans and other factory equipment

Project image



THE GENERAL ENVIRONMENTAL TECHNOS CO., LTD.

As a general environmental engineering enterprise that is involved in the fields of environment, civil engineering and architecture, we contribute to the realization of affluent regional communities and the protection of the irreplaceable global environment.

Environmental impact assessment and risk management

From large-scale public projects to small-scale development projects, we handle every type of environmental assessment and environmental impact inspection. We also provide consulting about the ecosystem impacts of chemical substances, soil and groundwater pollution, global warming issues and a variety of other environmental risks.

Environmental restoration and regeneration

We undertake every step, from inspection and design to execution, for environmental restoration and regeneration projects, including revegetation that is suitable to regional needs and characteristics, green urban rooftop installation and the creation of seaweed beds and biotopes.

Environmental assessment

Birds of prey inspection

Ecological revegetation

Biotope

Environmental information analysis

Using cutting-edge information technology, we provide a variety of services, including phenomenal analysis appropriate for the environment, environmental risk analysis and environmental management.

Global and regional environments

From consulting to handling global environmental issues, we provide total planning for regional development that is symbiotic with nature.

MOSS WORKS KANDEN Co., Ltd.

As the first business in the world to focus on selling moss as a rooftop revegetation material, we contribute to alleviating the worsening urban heat island phenomenon.

Rooftop greenery merits

The heat island phenomenon results from increased road paving and buildings causing urban temperatures to become higher than the surrounding areas. The rooftop greenery that this company creates not only contributes to alleviating the heat island phenomenon, it also provides the comforting effects of plant-life to soothe the spirits of urban dwellers. Our efforts have been attracting attention as a means of increasing the comfort of the urban environment.

Rooftop greenery

KANDEN GEO-RE Co., Ltd.

As a professional group that handles pollution soil measures, we provide customers with optimal solutions through consulting and purification projects.

Providing total solutions for polluted soil

By employing a continuous processing system that combines the previously separate techniques of cleansing and heat processing, we are able to purify polluted soil at lower costs and with greater effectiveness. With a recycling rate greater than 97%, our purified earth and sand can be reused as soil improvement and horticultural materials. With this purification technology as the foundation of our business, we also provide total solutions from inspection, analysis and other consulting services to the sale of purified soil.

Plant site

As an enterprise responsible for sustaining comfortable lifestyles, we are taking the lead on environmental issues in order to help realize a sustainable society.

Leading our group as a responsible enterprise

Morishita: Having been shown Kansai Electric Power's past reports and data, I see that you seem to have been thorough about implementing environmental measures.

Imai: For a Japanese enterprise, Kansai Electric Power stands out for beginning to make efforts on behalf of the environment at a fairly early stage. In 1990, before global environmental issues were taken up on a worldwide scale, we established the Five Basic Principles of the Global Environmental Action Plan, and the following year we established action guidelines. We have continued these efforts to the present, revising them as necessary. Furthermore, we are actively engaged in environmental afforestation projects abroad and other global activities.

Morishita: I see. Still, Japanese businesspeople may carefully follow company rules during working hours, but as soon as most people step out the company gate, they forget it all. Are you taking any measures to avoid this and to encourage your employees to have deeper environmental awareness?

Imai: Kansai Electric Power has about 21,000 employees. Since 1998, we have involved their families in our 100,000 Member Eco Family Movement. We distribute many pamphlets about energy conservation and tools that can be used at home so that our employees can make efforts to conserve energy with their families.

Takeshi Imai
President, The General Environmental Technos Co., Ltd.
(Former Executive Officer and Director, Office of Environmental Considerations, Kansai Electric Power)

As people living on the same planet, we want to make the most of communication.

Morishita: That sounds great. At work and at home, awareness of energy conservation and the environment becomes actual practice and common sense that people learn and can turn into action. If you extended this to your group companies, it could spread even further. I have always thought that corporate social responsibility is proportional to the size of the enterprise. When you become a business as large as Kansai Electric Power, I think you have the responsibility to pull along your group businesses.

Imai: In order to develop CSR as the Kansai Electric Power Group proactively,

we created the Kansai Electric Power Group CSR Action Charter in 2004, and, this May, we created the Kansai Electric Power Group CSR Action Standards as individual concrete action guidelines. Furthermore, we have begun environmental e-learning for all Kansai Electric Power Group employees. In order to seek to unify group awareness as a whole, during environmental month we also implemented a cleanup movement as an activity that can contribute to the communities where we have facilities. We hope that, because of these various activities, environmental protection efforts become a habit for our employees and become engrained in the group as a whole.

Morishita: I see. I am looking forward to the results of these efforts in the future, and hope that they will spread to your customers and others, too. By the way, though, speaking bluntly, isn't encouraging energy conservation an undesirable thing for an electric power company from the perspective of management?

Imai: We certainly hear this occasionally, but energy is indispensable for people to live comfortably. When you hear the words, "energy conservation," you might think that this means stopping the use of energy, but really, what I think it means is that using the need energy effectively and without waste is important.

Morishita: I agree. I often tell people, "You should not waste the electricity that the electric power companies have put so much effort into making." In short, energy conservation and environmental issues are not just problems for businesses, but rather they are issues that end-users must also face.

Imai: Everyone needs to actively discuss and debate the issues and then cooperate fully in the pursuit of those targets that we set. As people living on the same planet, we have to cooperate with each other.

Morishita: For those reasons, I hope that electric power companies will practice even more frank communication as part of their social responsibility. For example, nuclear power generation may not emit CO_2 during power generation, but there are still many issues that need to be solved, including nuclear plant decommissioning and radioactive waste handling. Furthermore, many people now have high expectations for new energy. How are you going to pursue this? I want Kansai Electric Power to show us its mid and long term vision for these kinds of issues. The R in CSR is for "responsibility," which derives from the word "response." In essence, I think it is important to take a stance for responding to these difficult issues sincerely. By building communication between people, mutual understanding should occur. I have high expectations for Kansai Electric Power in the future.

Imai: Thank you. Looking at global environmental issues 50, 100 years from now, there are some that we all have to think about together. We need to understand each other and cooperate. I will take your comments to heart and hope to make good use of them in the future.

MORISHITA Ken
President, Eco-Management Institute

Policy for Fiscal 2005 Efforts

Pioneering Efforts for Environmental Issues

With the Kyoto Protocol now in effect, expanding global warming prevention measures and other efforts for the environment will also lead to improving our enterprise value.

Specifically, while continuing and strengthening our Eco Action efforts, we intend to implement environmental management in every group company. In particular, we will promote efforts for energy conservation, green purchasing of office supplies and 3R measures as key group-wide shared management items. Furthermore, we will invite third party examinations to inspect the validity of our environmental impact data.

Contributions to Society as a Corporate Citizen

As an enterprise with deep connections to communities and individual lifestyles, we are actively contributing to regional society.

Support for people with disabilities

Desiring to realize a society in which both people with disabilities and those without live together joyously, Kansai Electric Power promotes efforts to create "barrier free hearts."

We sponsor Kanden Collabo Art 21 with the cooperation of the TanPoPo-No-Ye Foundation, social welfare associations from every community and other groups in order to support the artistic efforts of people with disabilities. We invite submissions of pictures and other artworks from people with disabilities throughout the Kansai area and recognize outstanding works.

Kanden Collabo Art 21

Support for art and culture promotion

Every year we sponsor concerts by local symphonies and other musical groups throughout the Kansai region. With these performances, we express our gratitude to our customers and encourage cultural activity in the region by providing opportunities to enjoy famous classical music and opera masterpieces.

Diverse interaction rooted in local communities

We want people to feel even closer to Kansai Electric Power. Each business place cooperates in the planning and implementation of regional festivals, sporting events and other events through employee volunteers. We also help, for example, with distance running races by providing electric automobiles that do not emit exhaust gas. In addition, we cooperate with local citizens and groups to make our environments more beautiful through cleaning activities not only around our business places, but also at tourist spots, beaches, rivers, local community public facilities and other locations.

▲Mihama Itsuki Hiroshi Marathon

▲Participation in the Kyoto Aoi Festival procession

▲Cleaning activities

▲Releasing juvenile fish

Main activities in local communities

Supporting distance races

Our employees participate as volunteers in many races including the Mihama Itsuki Hiroshi Marathon and the National Wheelchair Race. Furthermore, we provide company electric automobiles to help conduct of Kyoto City Half Marathon, the Ujigawa Marathon, the Biwako Men's and Women's Ekiden and other races.

Cooperation in regional and traditional events

We are deeply involved in diverse events ranging from assisting with the Kobe Luminarie to participating in the Kyoto Aoi and the Ecchu Owara festivals.

Environmental activities in cooperation with local communities

We undertake cleaning activities at the Kino River in Wakayama Prefecture, the Suma seaside in Hyogo Prefecture and other tourist spots, as well as for Osaka's Tenjin Festival and other events. Furthermore, every year during environmental month (May–June), we conduct juvenile fish releases to give ordinary citizens an opportunity to feel closer to nature.

TOPICS

Kanden Kagayaki Festival

Every year since 1995, for the benefit of society, we have held a concert with musical performances and other acts by people with disabilities. Through this concert, we hope to contribute to the goal of realizing a society in which all people, both with and without disabilities, live together harmoniously. In close cooperation with numerous NPO and NGO groups, government agencies, labor unions and other enterprises, we have developed this as a main stage event of the Citizen Festival in Osaka, which draws about 70,000 municipal residents.

Education of the next generation

To nurture the children who will create the future and bear responsibility in the coming era, our staff makes direct school visits to teach the next generation about energy, the environment and other issues.

School visit

Education using a company electric automobile

Employee volunteer activities

Every year 70–100 employees volunteer at the Kanden Kagayaki Festival social benefit event as wheelchair assistants, main stage security and guides, as well as helping with the presentations of other groups.

Furthermore, our employees actively volunteer in local distance running races, festivals and other community events, deepening communication with other citizens through these activities.

Kanden Kagayaki Festival

Race water station volunteers

Support for employee volunteer activities

We support the desires of our individual employees to contribute to society through volunteer activities. To do this, we have created and implemented systems for volunteer time-off, matching donations and gifts, and recognition of activities that contribute to society. We also provide information to employees about volunteer activities in which they might participate.

Volunteer time-off use results
(Fiscal 2004) 111 instances totaling 195 days

This system recognizes activities that contribute to society and meet fixed conditions, allowing employees that participate in them to take 50–100% of the time taken for them, within an annual limit, as specially recognized time-off.

Matching and gift fund results
(Fiscal 2004) 11 instances totaling 740,000 yen
(This does not include contributions related to large-scale disasters.)

With this system, the company supports contributions within a set limit to public organizations that meet fixed requirements made by individual employees and collected through workplace fund-raising activities.

TOPICS

10 years after the Great Earthquake—Remembering “1.17” at the Kobe Branch Office

January 17, 2005 marked the 10th anniversary of the Hanshin-Awaji Great Earthquake Disaster.

Our Kobe Branch Office displayed the illuminated message “1.17” on its building. We did this in coordination with the Hanshin-Awaji Great Earthquake Disaster 1.17 Gathering held at the adjacent Higashi Yuenchi park.

In addition to this, the Kobe Branch Office, as an enterprise that experienced the disaster along with the city, held photograph exhibits, conducted electrical equipment inspections of refuge shelters and cooperated in the Messages from Kobe: Tenth Anniversary of the Great Hanshin-Awaji Earthquake project that seeks to promote town-planning to make Kobe a safe, secure and appealing city. We did this with the goals of “gratitude and encouragement,” “remembering earthquake disaster damage,” and “disaster prevention awareness education.”

Because we are a business rooted in the region, we foster a corporate culture that actively pursues contributions to society outside of our main business and cultivate personnel with strong volunteer spirits.

After completely fulfilling our main business duties, we focus our strength on activities that contribute to society.

Hayase: Today our theme is "enterprise contributions to society," but I think that businesses already contributes to society in some form or another through their work, so fulfilling your main business activities well is the prerequisite task. In particular, through the supply of electricity, Kansai Electric Power fulfills an extremely important role in supporting the daily lives of the people of the region and the business activities of other enterprises.

Miyamoto: That's right. Electricity is a very convenient form of energy, but one characteristic is that unlike gas, oil and other sources it cannot be kept in stock. For this reason, we must account for seasons, weather, special events, daily activities and other minute factors to analyze and predict the necessary electric power for each day, and then, generate and supply just that necessary amount of power everyday. If, moment-to-moment electricity consumption and power generation and supply becomes unbalanced, wave frequency and voltage also become unstable, causing trouble for our customers. Of course, we also absolutely must avoid not being able to provide electricity for a long period. We know that our great task is to prevent these kinds of things and provide electricity safely and stably. For exactly this reason, when the Hanshin-Awaji Great Earthquake Disaster occurred in 1995, we felt that "times like this are tests of our reason for existence." Kansai Electric Power employees were unified along with Group company employees in our efforts to restore electric power as quickly as possible.

Tsuneaki Miyamoto
Executive Officer and Director
Office of Community Relations
The Kansai Electric Power Co., Inc.

Hayase: I see. Supporting daily life in the region is truly an activity that contributes to society. Especially because you are a business that is rooted in the region, it should be easy for you to foster a corporate culture that contributes to society even outside your main business. My impression is that you have been active in efforts to contribute to society outside your usual business from early on. For example, in 1993, you established Kanden L-Heart, Co., Inc. to actively promote the employment of people with disabilities, and your social welfare foundation Kanden Welfare Agency, established in 1998, is operating EL Home Ashiya, a special elderly nursing home. Furthermore, I think that your employees include many outstanding members who are very dedicated to volunteer activities and making contributions to society.

Miyamoto: Kansai Electric Power is built on the prosperity of the region. Since we are a truly regional enterprise, we pay close attention to even slight movements in Kansai economy and society and actively supporting the region is an important part of our work. Kansai Electric Power has approximately 21,000 employees, so we have all kinds of people, for example, qualified Buddhist priests and people with disabled family members. When we start new projects that will contribute to society, people like this often step forward eager to get involved.

Among recent efforts, Kanden Collabo Art 21, which was started as a 50th anniversary commemorative event, has been expanding in scale every time we hold it. This event has led to greater cooperation with NPOs and government agencies. I am very happy that these kinds of efforts have been highly regarded and have continued to be successful. The company sponsors public exhibitions of art by people with disabilities, and staff from each business place present award certificates for winning artworks. We also exhibit the works at branch office buildings, regional facilities and other locations in a traveling exhibition.

Kansai Electric Power has continuously carried this out with the cooperation of prefectures, concerned social welfare associations and other groups, while emphasizing our relationships with the region on a company-wide basis.

Personnel who serve local communities even after retirement

Hayase: In addition to such company-wide efforts, Kansai Electric Power has also created corporate systems to support employee volunteer activities, including a volunteer time-off system. I think that the business creating such systems has a great effect on increasing employee awareness of participation in society.

Miyamoto: Since the volunteer time-off system is supposed to support employee voluntarism, our staff are using it effectively as they need. I think that what they gain from relationships with people in the community through volunteer efforts adds to the relationships they have through business and family, contributing to even their having even more fulfilling lives.

Hayase: I agree. In that sense, I hope that people who are active in the business, as well as those who were active, will also become involved in volunteer activities. In fact, volunteer organizations, NPOs and other groups need people with their special abilities. For example, we need the ability to make plans and proposals when applying for government and foundation grants. At such times, if we had people who could skillfully prepare plans and people with strong proposal making abilities, it would make our activities smoother. Considering this, volunteer organizations and NPOs need people with practical enterprise experience much more than those people realize.

Noboru Hayase
Executive Director
Osaka Voluntary Action Center

Miyamoto: Is that so? In contrast, as a business, we would like NPOs and other groups to give us more information about the kinds of people they need. Considering the changing era, opportunities for retired businesspeople to participate in volunteer and other activities should increase from now on. I believe that if present and former employees of Kansai Electric Power and our Group companies could fulfill volunteer needs, we could contribute even more to building a better society. The employees and retirees who participate in these activities will be able to use the skills they gained through their work. If they can make use of these in a second role in society, I think we will be able to say that they have wonderful lives.

Hayase: That is why I hope that people who have polished skills at work will actively participate in local communities even after retirement.

Miyamoto: cultivating people who help the region even after retirement—for Kansai Electric Power, this is also an important part of our contributions to society as a business. I want to promote such activities from now on.

Policy for Fiscal 2005 Efforts

Actively Contribute to the Development of Local Communities

While serving regional development and industrial invigoration and seeking coexistence and mutual prosperity with the region, we will also support the participation of our employees in activities that contribute to society.

Specifically, we will seek evaluations from regional communities of our activities in support of regional organizations, both those that Kansai Electric Power undertakes independently and those in response to requests. In addition, we will evaluate the effects and impacts of our own business activities, constantly reviewing and reforming them in order to achieve the greatest benefits from the perspective of coexistence with the region and mutual prosperity. Furthermore, in order to link employee desires to volunteer with actual activities, we will provide Group-wide information and opportunities to promote volunteer activities.

Respect for Human Rights

The Kansai Electric Power Group is working as an enterprise to deepen every employee's accurate understanding of human rights, while making efforts to become a business that does not tolerate any kind of discrimination or sexual harassment and to realize a discrimination-free society.

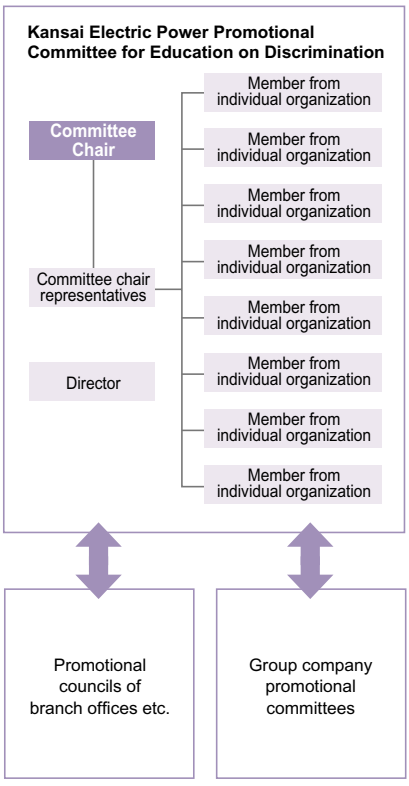
Fundamental policy

We are aware of our social responsibility as an enterprise to help eliminate every kind of discrimination, beginning with traditional caste discrimination. We are working to deepen accurate understanding of human rights by every employee and to create respect for human rights and good workplace environments. As an enterprise, we are also taking steps to create a business culture that does not tolerate any kind of discrimination and to contribute to the realization of a discrimination-free society.

Furthermore, we understand international human rights standards and reject forced and child labor. Among other human rights efforts, we will also thoroughly pursue the prevention of both workplace sexual harassment and discrimination against people with HIV.

In addition, we will further strengthen cooperation with Group companies to support educational activities and otherwise raise human rights awareness throughout the Kansai Electric Power Group.

Promotional System



Fiscal 2004 human rights awareness promotion efforts

We continuously implement equality and human rights training as awareness-raising activities for all employees, and in fiscal 2004 a total of 19,981 employees received training.

Furthermore, we implement awareness-raising and human rights education efforts during Constitution Week to compliment those of Human Rights Week. For example, during Human Rights Week, we called for human rights slogans and received 7,499 with "Adopt a considerate heart and a caring attitude to build a bright future together" becoming the company winner. We also held human rights lectures on the theme of power harassment, while providing information about human rights on our company-wide portal site.

Furthermore, in fiscal 2004, we conducted a human rights issues questionnaire survey of all employees to determine the degree of their human rights awareness for use in the development of future training. We think that the questionnaire itself also contributes to improving employee human rights awareness.

We are also holding human rights information exchange meetings with Group companies and strengthening our cooperation with them.

We will continue to pursue a variety of awareness-raising activities in fiscal 2005.

Kansai Electric Power Promotional Committee for Education on Discrimination

Human rights slogan poster

Group company human rights information exchange meeting

Discrimination and human rights training (fiscal 2005 plan)

Item	Details
Awareness-raising and training for all employees	Implement training for every employee at least once per year on a business place and job level basis. Use a variety of training methods to raise effectiveness.
Development of company human rights promotion leaders	Actively send employees to external training meetings to develop leaders who will promote training in the company.
Follow-up on human rights issues questionnaire results	Analyze the human rights issues questionnaire results and reflect them in future efforts to create respect for human rights and good workplace environments.
Constitution Week and Human Rights Week efforts	As linked awareness-raising activities, conduct lectures, human rights slogan contests and other activities. Seek to raise awareness by making employees aware of these activities.
Reconsideration of past company practices	From the perspective of respect for human rights, reform daily company practices that should be improved and raise awareness.
Information-sharing, support and cooperation with Kansai Electric Power Group companies	To further raise human rights awareness among Group businesses, actively pursue information-sharing, support and cooperation.

Labor Safety Assurance

Employee safety and health maintenance is one of the foundations of our existence as a business. Kansai Electric Power endeavors to create workplaces where employees can do their jobs safely and healthily.

Safety and hygiene activity policies and plans

To create workplace environments where employees can do their jobs safely and healthily, we are striving to eliminate disasters and create invigorating workplaces that are healthy and energizing. However, last year the Mihama Nuclear Power Station Unit 3 secondary pipe rupture accident caused a grave disaster that harmed many people from cooperating companies. Determined not to allow such a disaster to ever occur again, we are rebuilding the foundations of our safety and hygiene management and making improvements steadily.

Fiscal 2005–2007

Kansai Electric Power safety and hygiene activity policies

Key policies

Related to safety

1. Revision of safety management foundations
2. Thorough safety efforts for partners and other companies

Related to hygiene

Promote mental health and lifestyle-related illness measures

Safety and Hygiene Committee

Labor and management should be unified in the handling of issues related to safety and hygiene. For this reason, we hold monthly Safety and Hygiene Committee meetings to advance our discussions on creating safer, healthier workplace environments.

Group-wide safety efforts

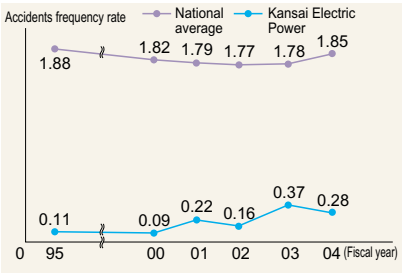
We are conducting a wide range of safety activities in order to build a Kansai Electric Power Sphere of Safety that assures the safety of Group company and subcontractor employees, customers and every other person who has any relationship with Kansai Electric Power. Specifically, every year, we hold a Kansai Electric Power Sphere of Safety Promotion Meeting where we conduct information exchange and other efforts toward Group-wide disaster elimination. We will also continue to examine the causes of the Mihama Nuclear Power Station secondary pipe accident last year and take measures to prevent recurrence of such a disaster.

Safety and hygiene efforts

Accident prevention policies and education

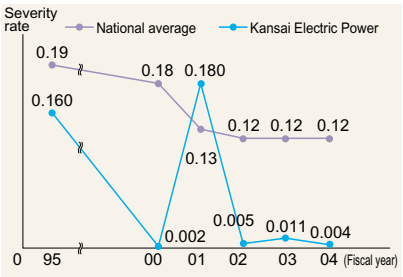
To prevent accidents during the course of business execution, we are promoting events and education to improve working environments, including equipment safety improvement and safety awareness heightening. As a result, the accident frequency rate of Kansai Electric Power has remained at a level lower than the nationwide average. From now on, we will examine latent risks in equipment and work activities, and greatly increase the energy that we put into risk reduction and other disaster prevention efforts.

Accident frequency rate



*Accident frequency rate: Indicator of accident frequency widely used around the world that is calculated as the number of total accidents resulting in missed work per million working hours.

Accident severity rate



*Severity rate: Days of lost work due to accidents per 1,000 working hours.

Human factor measures

After analyzing an accident, measures to prevent its recurrence are considered and carried out evenly throughout the Group. Furthermore, human factor training and other efforts are conducted at safety and hygiene assemblies held periodically at every workplace.

Vehicle driver certification system

Among other thorough safe driving management measures, we have established a vehicle driver certification system and require employees who will drive company vehicles to undergo specific training and operation ability checks with periodic follow-up.

Promotion of mental healthcare

Increased stress in daily life and other factors make mental health maintenance important. Among other efforts, we are working to provide comprehensive education to deal with stress and have created an in-house counseling service.

Support of voluntary health activities

Concerned about hyperlipidemia, high blood pressure and other lifestyle-related illnesses, we provide health guidance for improving exercise and eating habits, and support for employee initiated health efforts including quitting smoking.

TOPICS

Company-wide Safety and Hygiene Conference

For the two months of July and August every year, as an effort to assure safety and health during the season of intense heat, we hold the Summer Safety and Hygiene Promotion Drive. We hold the Company-wide Safety and Hygiene Conference on July 1 to make the purpose perfectly clear, to heighten safety and hygiene awareness and to foster a sense of solidarity.

Company-wide Safety and Hygiene Conference

Equal Opportunity Employment and Creation of Comfortable Workplaces

While adhering to the expectations of related laws and regulations, the entire Kansai Electric Power Group is pursuing a variety of efforts with the goal of achieving the realization of fair and impartial employment and the creation of comfortable workplaces that suit individual abilities and aptitudes.

Promotion of hiring in compliance with the Equal Employment Opportunity Law

Through the entire work cycle from hiring to retirement, we conduct personnel deployment with no distinctions for gender. In particular, since the 1986 enactment of the Equal Employment Opportunity Law, we have been actively assigning female employees to equipment operation and maintenance work and otherwise expanding the range of work for women. When the Equal Employment Opportunity Law was revised in 1999, through discussions with female employees, we established a sexual harassment consultation desk and made other measures to create employment environments where women can make full use of their abilities. In the future, we will continue to deploy our personnel with no distinction for sex and assign ambitious employees to suitable business areas and promote them according to their results.

Promotion of employment of older people

We established the e-Staff System, a reemployment system for employees retiring at the age of 60 in 2001 or later. This system revises the previous retiree reemployment system created in 1996, greatly expanding the types of work so that energetic people older than 60 who still have a desire to work can enjoy fulfilling lives and use their knowledge and experience in our workplaces. Since creation of this new system, every year about 20 retirees have sought reemployment.

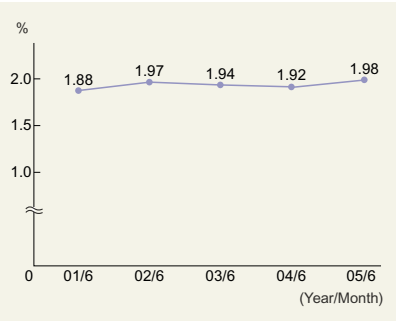
In the future, based on the Revised Law Concerning the Stabilization of Employment of Older Persons that seeks measures to increase incrementally the employment of workers up to age 65, in preparation for an increasingly older society we will examine our reemployment system and take other steps to promote the employment of older people who desire to work.

Promotion of the employment of people with disabilities

In addition to creating OA operator positions for people with disabilities, we established the special subsidiary company Kanden L-Heart and have taken other measures in the past to actively hire people with disabilities. In June 2005 our employment rate was 1.98%, surpassing the legal rate of 1.8%.

In the future, we will continue to do our best to promote employment of people with disabilities in order to contribute to their independence and participation in society.

Change in employment rate



TOPICS

Seeking barrier-free hearts

Kansai Electric Power has actively practiced employment of people with disabilities for years, but in order to further promote the employment of people with mental and other serious disabilities who have hitherto had limited work opportunities, we have developed diverse work fields outside the framework of the electricity business. With the support of Osaka Prefecture and Osaka City, on December 9, 1993 (International Day of Disabled Persons), we established Kanden L-Heart Co., Inc., a joint private-public venture, as a business place offering diverse employment for people with severe disabilities.

At present about 90 employees with various disabilities, including visual, hearing and speech impairments, external and internal physical handicaps and mental disabilities, are working happily together in a variety of work, including flower cultivation, printing, product wrapping and health massage. We are confident that we have achieved the Kansai Electric Power goal of helping people with disabilities achieve independence and participate in society by giving them a chance to have a purpose in their work.

Since its establishment, over 40,000 people have visited the Kanden L-Heart head office in Suminoe-ku, Osaka City with many touring the facilities and purchasing plants.

Stance toward personnel vitalization systems

Increasing enthusiasm and satisfaction at work

The continuation of strong business operation foundations that put safety assurance first and the responsibility for efforts to create customer value depend on every individual employee.

In order to increase the enthusiasm and satisfaction of every employee at work, we are making efforts in three areas: promotion of human resources management that allows employees to make maximum use of their abilities, realization of arrangements that suit the diverse values and lifestyles of employees, and creation of structures that allow employees to work with peace of mind.

Cultivation of personnel

To cultivate personnel who will contribute to the continuation of a strong business operation foundation that prioritizes safety assurance, we are comprehensively and continuously endeavoring to help every employee develop their abilities to reliably carry out business activities. These efforts include provision of training programs appropriate for extending individual abilities, guidance at the workplace and preparation of business texts and manuals.

Furthermore, in order to provide all our employees with environments that let them pursue self-development and work with eagerness and a sense of purpose, we are enhancing measures to support individual self-education ambitions. As one part of this, we are actively promoting the Kanden e-Learning remote study system, which allows people to pursue study both at work and at home, and expanding other opportunities for study.

Support of employee lifestyle choices

Diverse working time systems

In order to support flexible lifestyles, we are operating existing working hour and time-off systems adaptably while implementing new ones, including the Refresh Time-off and Flexible Time-off long-term time-off systems and the Selective Working Hour and Flextime Working Hour systems to promote efficient work.

Furthermore, to give flexibility and peace of mind in support of family life, we have created Half-day Time-off and Sick-leave Accumulation Time-off systems.

In the future, we will continue to support employee work and lifestyles through adoption and application of working time systems that suit work conditions.

Retirement options and job change support systems

With the goal of supporting the diverse life designs of all our employees, in 1996 we established a retirement age selection system, and now we allow any employee over the age of 45 to choose retirement. Furthermore, in 2001 we established a job change support system to encourage employee self-reliance and company vitalization. We support employees over the age of 30 who want to change to other job types.

Support for childcare and nursing

As a measure to support both work and households, we provide a diverse variety of options to meet employee needs, including a temporary leave system for child-raising and nursing care leaves that can be used for up to 3 years, exceeding the standards of the Family and Medical Leave Act. Furthermore, based on the Next Generation Education and Support Promotion Act that went into effect in April 2005, we have set an ordinary business action plan and will implement a system for reemployment of employees that retire for the purpose of childbirth and child-raising in fiscal 2005. We will use temporary employees as substitute personnel for employees on child-raising and caretaking leaves of absence. In the future, we will continue to try our best to understand employee needs accurately and to support child-raising and nursing care.

Child-raising and caretaking support systems

	Legal requirements	Our system
Child-raising temporary leave system	Until the child is the age of 1*	Until the end of the fiscal year when the child turns 3
Reduced working hour system for child-raising	Until the child is the age of 3	Until the end of the fiscal year when the child turns 3
Caretaking temporary leave system	Total 93 days	3 years from the date of the start of the caretaking (Can be used until 93 days total are used even after 3 years)
Reduced working hour system for caretaking	Total 93 days	For as long as nursing care is necessary

*Can be extended an additional 6 months under special circumstances

Maintenance of stable labor and management relations

Kansai Electric Power has concluded union shop agreements with the Kansai Electric Power Labor Union, and we have built over 50 years of history of labor and management working toward the shared goal of improving company productivity accompanied by improving labor conditions. We have built good labor and management relations based on a strong relationship of trust.

In order to maintain this good labor and management relationship, we will hold operation confabulations about company management plans and other topics among other efforts to promote mutual understanding and agreement between labor and management.

In the future, we will make our communication with the labor union even more thorough on a variety of management issues.

Main discussions

	Details
Operation confabulation	Promote mutual understanding between labor and management about the company management plan etc. (held annually)
Operation discussion	Consultation between labor and management about organizational reform and other important issues (held as necessary)

If each individual has a strong awareness of and respect for the human rights of others, a workplace environment where people understand and accept each other will be born.

Creating workplaces with open atmospheres that encourage mutual respect for human rights.

Kagawa: These days, implementation of corporate social responsibility is a major issue that attracts much attention from society. We have been promoting CSR throughout our Group, establishing the Kansai Electric Power Group CSR Action Charter as an enterprise level fundamental policy in March last year and the Kansai Electric Power Group CSR Action Standards as individual level action guidelines in May this year. We are now working to spread their understanding and implementation.

Jiroh Kagawa
Executive Officer
Office of Human Resource Development
The Kansai Electric Power Co., Inc.

"Respect for human rights and creation of good workplace environments" is one of the principles of our CSR Action Charter, and we are promoting a variety of efforts to implement this. Today I would like to discuss the theme of power harassment and sexual harassment prevention as a workplace human rights issue.

Okada: One issue with the workplace human rights violations of power harassment and sexual harassment is the power relationships between employees in the workplace . . . for example, power relationships between superiors and subordinates and men and women have a big role in this. Workplaces where these types of problems arise easily tend to be closed environments, for example, workplaces where direct contact with customers is infrequent or where outside voices are not often heard. This has a lot to do with the nature of the work and the workplace, as well as the climate, culture and other characteristics of the enterprise. Reforming this kind of environment first is important.

Kagawa: I see. Kansai Electric Power is in the process of pursuing the creation of a variety of rules as well as other efforts in order to create good, open workplace environments. As an organization that promotes respect for human rights, the Promotional Committee for Education on Discrimination, which was established in 1977, leads the preparation of basic plans and training plans for raising human rights awareness company-wide, while committees at branch offices and other workplaces promote training and additional efforts at each business place. Furthermore, regarding sexual harassment issues, with the 1999 enactment of the Revised Equal Employment Opportunity Law, we took the opportunity to conduct employee training, distribute pamphlets, revise work regulations and take other measures to raise employee awareness. We also created consultation and complaint desks. These desks allow consultation through a variety of routes, including general affairs section chiefs and personnel affairs section managers, health management and legal consultation offices, and compliance committees. We recognize that continuing these efforts steadily is important, but we would like to hear other advice you have for us, Ms. Okada.

Okada: I think having a lot of consultation desks as a sexual harassment countermeasure is a good thing. However, because sexual harassment

and power harassment are extremely delicate issues, the abilities of the people in charge of those desks to handle inquiries and their awareness about these issues are important. Considering this, I think implementation of training for the people in charge of these desks is necessary. In addition, I really hope that you will consider making use of female employees at these desks.

Kagawa: Since the enactment of the Equal Employment Opportunity Law, Kansai Electric Power has hired male and female employees on an equal basis through fair hiring and selection. At present, however, of about 21,000 total employees, only about 1,500, a very small proportion, are women. Given this situation, what particular things should we pay attention to in order to make our workplace environments more comfortable, especially for women.

Each individual employee's increased awareness changes the air in the workplace.

Okada: First, you need to make open environments where women and young employees feel free to express their own opinions. However, before the measures that you take for these issues, the consideration and sense of respect for individuals held by each and every person in the workplace are important. Power harassment and sexual harassment tend to occur when there are disparities in job duties. However, when everyone does their work with responsibility and self-consciousness, harassment and other problems are less likely to occur. Of course people in higher positions of power in the workplace must respect the human rights of people in weaker positions, but, if the subordinates and others in weak positions can also handle their work and clearly express their own opinions, everyone will come to understand each other better and the environment will change significantly. For this reason, I think the key things are that everyone in the workplace must respect the human rights of the others, undertake their jobs with independent and autonomous mindsets, and endeavor to make their workplace into a place they can work with pride.

Yasuko Okada
Representative Director and President
CuoreC^3 Co., Ltd.

Kagawa: I see. As a business, making rules and arrangements is important, but before that, the attitude toward work and respect for human rights of every employee is crucial.

Okada: If each individual employee approaches work with the attitude, "I will make a better company," I am sure that you will grow into a splendid company. I hope that your top management will carry this attitude the strongest of all and constantly convey it to other employees. Since Kansai Electric Power has the ability to have a great influence on other enterprises, I hope that you will be a leading company that provides a model for other businesses in matters of personnel affairs and efforts to promote respect for human rights.

Kagawa: Thank you, Ms. Okada, for talking with me and providing such valuable advice. Kansai Electric Power is a group of about 21,000 people. I became aware of the importance of those 21,000 people sharing attitudes and dreams as much as possible. We will continue to value the perspectives of employees and members of society and strive to build respect for human rights and better workplace environments.

Policy for Fiscal 2005 Efforts

Foster Respect for Human Rights and Build Good Workplace Environments

In addition to establishing and developing corporate culture that respects human rights, we will promote the assurance of occupational safety to create workplace environments where employees can work safely and healthily.

Specifically, regarding human rights awareness-raising and training, based on the results of the human rights issues questionnaire, we will make use of and effectively implement a variety of techniques to make these issues easier to understand and to deepen recognition of them. We will also continuously pursue efforts to employ people with disabilities and to cultivate and support the next generation. Furthermore, in order to reduce the latent danger of work accidents and assure work safety, we will enhance our labor safety and hygiene management arrangements.

Corporate Governance

While assuring business operation is transparent and sound, Kansai Electric Power makes thorough corporate governance a top management task and endeavors to realize it in order to achieve sustainable enterprise value improvement.

Strategic handling of management issues

The Board of Directors holds regular meetings once per month and special meetings as necessary. They deliberate and make decisions about important management issues and oversee the work execution of the executive officers.

Furthermore, in order to realize prompt and appropriate decision-making regarding execution of important business, the Executive Committee, which is composed of top management, meets on a weekly basis to carry out efficient, effective company operations.

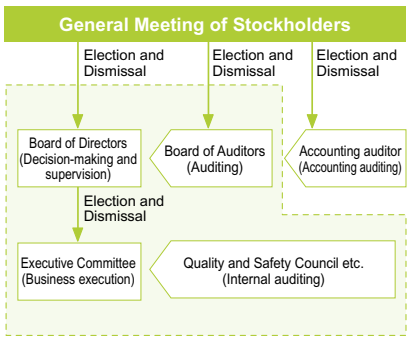
Maintenance of transparent and sound business operations

Kansai Electric Power has adopted an auditor system in which auditors attend important meetings, including those of the Board of Directors and the Executive Committee, where they express their opinions and listen to explanations from the directors about important management items. They also inspect work at main business places and the status of assets among other auditing activities to confirm the legality and propriety of business execution by the directors. Furthermore, among other efforts to strengthen the effectiveness of our audit functions, we have established a dedicated organization with 13 staff members to carry out auditing tasks.

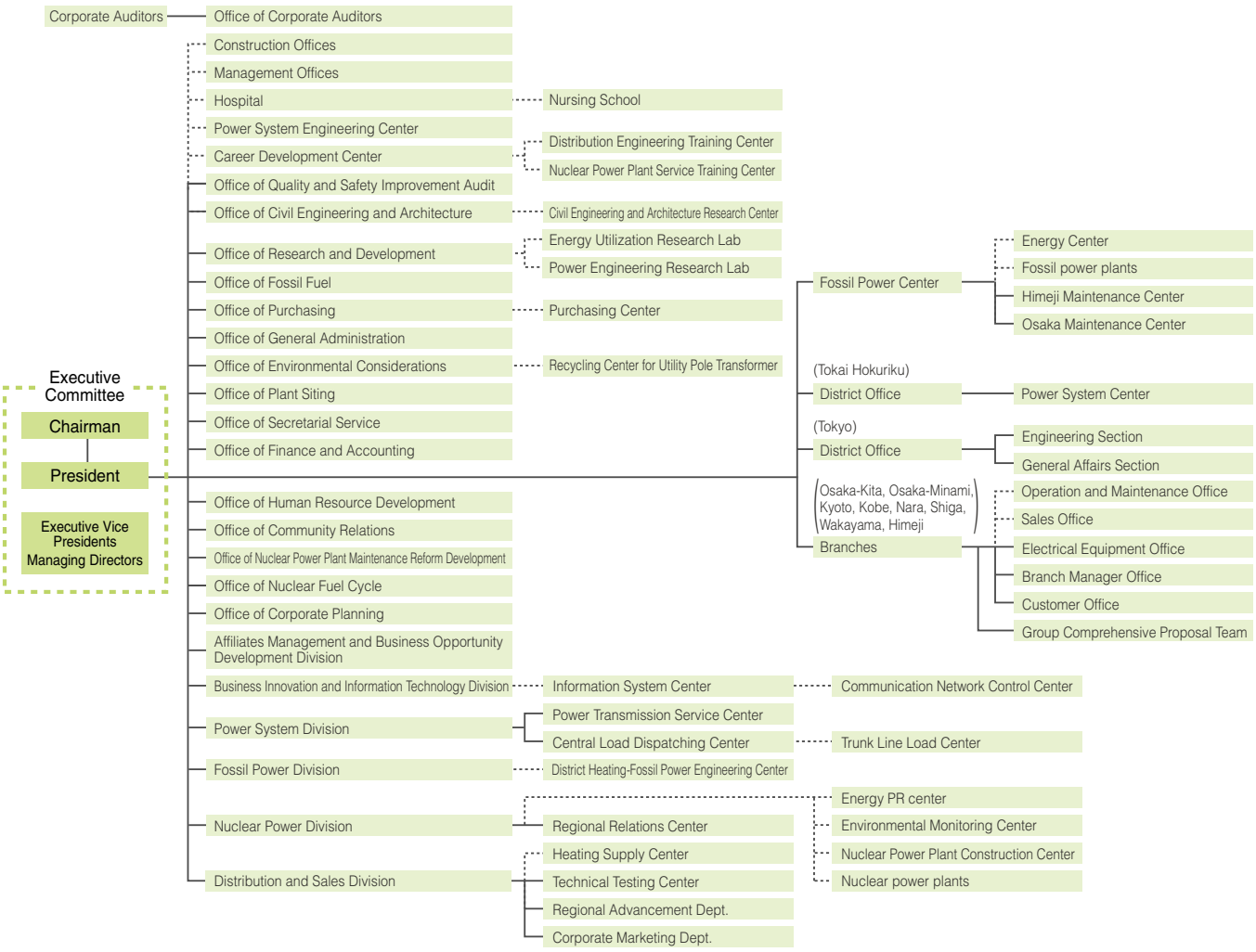
Moreover, in addition to 3 outside directors, 4 outside auditors have been appointed, meaning that the majority of our 7 auditors come from outside the company (as of June 29, 2005).

Enhancement of internal checking functions

With the goal of quality and safety assurance, Kansai Electric Power has made efforts to improve internal checking functions, including establishing a Quality and Safety Council with outside experts, conducting internal audits with a 28-member organization dedicated to quality and safety auditing, and business self-checking by each division.



Organization



Diverse Opportunities for Communication with Customers

In order to achieve fairness in business operations and fulfill our responsibility to explain our activities to society faithfully, we will promote even greater communication and conduct our business activities openly and transparently.

Providing information to media agencies

Information about Kansai Electric Power on television and in newspapers greatly influences customer understanding of our business and our corporate image. Kansai Electric Power actively provides information to media agencies, including regular press conferences with the company president. In addition, we respond promptly and precisely to reporting requests from media agencies and disclose and communicate accurate information.

Promotion of better understanding of our business activities

To create a new enterprise image through the mass media, we are providing information to promote the understanding of Kansai Electric Power Group business activities, which continue to serve customers and support the foundations of their lifestyles.

Furthermore, to introduce our business activities, Kansai Electric Power issues the public relations magazine Watt, which has topics related to lifestyles and communities. We also send an email magazine to opinion leaders named Insight: Keywords for Understanding the Times.

Watt public relations magazine

Insight email magazine
http://www.kepco.co.jp/insight/

Interaction with local communities through public relations facilities

To gain the understanding of people in our region for Kansai Electric Power's business activities and electricity generation efforts while increasing communication with local communities, we have built public relations facilities at power plants and elsewhere that are being used extensively by ordinary people.

Maizuru Power Station public relations facility El Mar Maizuru opens

In August 2004, we opened El Mar Maizuru, a ship-shaped public relations facility at the Maizuru Seaside Park in Maizuru City, Kyoto Prefecture. Within the ship, power generation mechanisms of the Maizuru Power Station and environmental technology are introduced along with exhibits related to the history and culture of Maizuru. This facility also has one of the biggest planetariums in the prefecture. Since opening, it has received visits from numerous customers as a new tourist destination in Maizuru.

El Mar Maizuru

Communication with customers

In addition to publishing the contents of press releases and messages from Kansai Electric Power on our web site, we have also created a desk for receiving email inquiries and are actively pursuing two-way communication with our customers.

Furthermore, Kanden e-Patio, our Internet member club, which started in July 2002, provides information about the Kansai Electric Power Group, events and other items useful for the lives of our customers through email magazines and the web site. Over 33,000 people have joined so far.

We try to respond to inquiries and requests received from members by email rapidly and precisely. Furthermore, the opinions they provide, along with the results from web questionnaire surveys, are reflected suitably in the reform of our business activities.

Kanden e-Patio web site
http://www.fururu.net/e-patio/index.html

TOPICS

Initiation of mobile phone site

In April 2005, we began operating a mobile phone site to provide our customers with useful services.

Services include:

◇Information about Kansai Electric Power business places, cooking schools by IH (induction heater) stove-top and public relations facilities
◇All-electric heating and lighting cost simulations
◇Power outage information corner
◇Guide to worry-free electricity use
◇Notices from Kansai Electric Power

In the future, we plan to add new contents in response to customer requests and opinions to contribute to the realization of comfortable and safe lifestyles.

Mobile phone site URL
http://kanden.jp

Advancement of investor relations activities

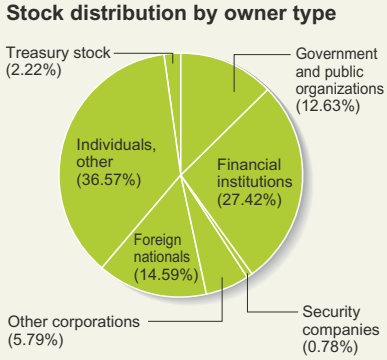
Kansai Electric Power discloses information to our investors impartially and promptly. Using the Kansai Electric Power web site and other means, we provide information in response to a variety of needs to our domestic and foreign institutional investors, individual investors, public organizations and all other types of investors.

In addition, we undertake two-way communication through company explanation meetings by the president, periodic trips in Japan and abroad to meet investors by the president and other executives, and active initiation of dialogues with investors by management. Furthermore, as a means to increase opportunities to interact with individual investors, we hold company explanation meetings for securities company employees and other events.

Investor relations web site

Stock composition (Stock ratio as for March 31, 2004)

485,069 stockholders, 962,669,000 shares



Investor relations tools

Fact book

Annual report

Company Profile

Activities to promote greater understanding of nuclear power

Nuclear power has become indispensable for our lifestyles and over half of Kansai Electric Power's electricity comes from nuclear power generation. We believe that building society's confidence in nuclear power is increasingly important. For this reason, we are pursuing a variety of efforts to deepen public understanding of nuclear power.

Activities to promote understanding

Implementation of direct dialogues

Electricity businesses are rooted in their regions, so we believe that it is important to have the confidence of our customers, beginning with those in the regions where our power plants are located. For this reason, Kansai Electric Power employees directly visit customers to explain nuclear power and energy and environmental issues. In fiscal 2004, Kansai Electric Power employees visited schools 740 times and local governments, businesses and other groups 490 times.

Furthermore, in the parts of the Wakasa region where our nuclear power plants are located, we visited every home and conducted other face-to-face public relations activities to explain power plant operation status and other issues.

In addition, since "a picture paints a thousand words," we conduct tours in order to allow customers to see power plants for themselves and learn more about electricity. In fiscal 2004, over 33,000 people visited our plants. To visit a power plant please contact the nearest Kansai Electric Power sales office.

Cooperation in energy education projects for children

We are actively cooperating in a variety of energy education projects because we believe that it is important for children, who will be responsible for the future, to think about the energy and environmental issues that must be solved on a global scale.

Main cooperative projects

- Kansai Junior High School Student Research Report Contest for essays on the theme of the environment and energy (sponsors: Mainichi Newspapers etc.)
- "Energy Resources and Electricity" environment and energy study materials for older elementary school students (author: Energy Education Research Association)

Energy classroom school visit

Cooperation with exchange meetings between electricity producing (Fukui) and consuming regions (Osaka etc.)

Kansai Electric Power employees participate in exchange meetings that deepen understanding of issues related to nuclear power and future energy, as well as actively cooperating in the support of similar activities. We participated in one such meeting between the Women's Energy Group in Fukui, a group of female opinion leaders from the region where we produce electricity, and the Elle Group, a group of female opinion leaders from the region where most of this power is consumed.

Furthermore, we have held the Kanden Kid's Summit 13 times as of the start of fiscal 2005. This event brings together children from both electricity producing and consuming regions to learn more about each other's regions and about electricity through experiential education and activities such as power plant tours.

Exchange meeting between electricity producing and consuming regions

Kansai Nuclear Power Information Net Surfing

In order to promote accurate understanding of nuclear power, Kansai Electric Power and other enterprises, universities and organizations involved in nuclear power in the Kansai region created Kansai Nuclear Power Information Net Surfing in October 2000. We are undertaking activities to increase the understanding of nuclear power using the facilities and human resources of the involved organizations.

Other participating organizations

Kinki University, Kyoto University, Mitsubishi Heavy Industries, Nuclear Fuel Industries, Ltd., Mitsubishi Electric, The Kansai Atomic Conference

Main activities

- Cooperative planning and implementation of nuclear power public relations activities
  (Nuclear power study group for women, Kinki University *Naruhodo* Nuclear Power exhibit, etc.)
- Distribution of nuclear power information by a web site (http://www.kgj-net.com/), pamphlets, etc.
- Awareness-raising activities among members through nuclear power courses

Nuclear power study group for women

Making information public through the Internet

On the Kansai Electric Power web site, we present information about nuclear power in easy-to-understand formats through four features, including Nuclear Power Generation Information.

Furthermore, we release information about power plant trouble in a timely manner. In accordance with the law, since fiscal 2003, in addition to troubles reported to the national government, we have periodically provided nuclear power plant operation status and other information through the web site Maintenance Quality Information feature and other means.

Nuclear Power Generation Information site
http://www.kepco.co.jp/bestmix/

We are further promoting communication with members of society and making our business activities transparent and open.

To ensure the impartiality of our business operations and to fulfill our duties to explain our actions to society faithfully, Kansai Electric Power is promoting communication with members of society. We foster communication through a variety of opportunities, and the opinions and requests we receive from members of society contribute to the enhancement of our business operation.

Communication with customers

Since communication both increases understanding of Kansai Electric Power business activities and contributes to the reform of those business activities through the ideas we receive from customers, we are actively pursuing communication with our regional customers at every business place.

Branch offices, district offices and sales offices hold customer meetings. We invite regional experts and opinion leaders to these communication events and give explanations about Kansai Electric Power business activities. In addition to deepening their understanding of our activities, they provide opinions and requests about our products and services, as well as our business activities in general.

We share the ideas that we receive with the business places that they concern and use them to improve our business operations.

Branch office Energy Talks General Meeting

Branch office Energy Talks

Dambo-no-Koe Feedback system

In addition to feedback at formal discussions and talks, Kansai Electric Power employees receive a variety of opinions and requests from customers about our products and services, as well as our business activities in general, during the execution of their daily work, as well as outside of work. In order to use every valuable opinion and request gained from these communication opportunities to improve our business activities, we have created the Dambo-no-Koe corporate LAN system for employees to input customer comments at business computer terminals.

Customer comments that are input through Dambo-no-Koe are used for a variety of purposes and stored in a corporate database so that employees can share these resources. Sales offices, power plants, branch offices and other business locations can use them to improve their work procedures and handling of customers. By delivering ideas to parts of the business where they are relevant, they can contribute to the development of new Kansai Electric Power products and services and company-wide reform of systems and structures. We manage this data along with the status of related efforts and make reports to management as necessary. About 15,700 items were entered in fiscal 2004.

Household visit

Communication through this report

Through the questionnaire at the end of this report, we hope to receive a variety of ideas from our readers. We will make use of these ideas to improve Kansai Electric Power business activities and our CSR efforts.

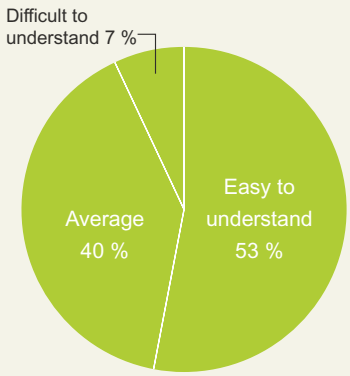
In addition, we hope to use your opinions about the contents and layout of this report to make it easier to read and understand. We will continue to work to improve the report contents and design.

Furthermore, we will use this report as an explanatory pamphlet for people outside the company and as one tool to spread understanding of Kansai Electric Power business activities and CSR efforts.

Environmental Report 2004

About our Environmental Report 2004

Evaluation of report contents and composition



Main opinions about the report

- Please try to make it a little more interesting to read.
- It's put together well, but for the average person, it is fairly technical and difficult to understand.
- I am looking forward to reading the fiscal 2005 edition.

Areas where we tried to make improvements

○**Inclusion of conversations**

Unlike past reports, when we just included articles about the details of our activities, this time we have included conversations between Kansai Electric Power management and outside third parties to make the reading material more interesting.

Furthermore, through conversations in which members of management explain their stances and the efforts of Kansai Electric Power in their own words, we have made these things easier to understand for ordinary people.

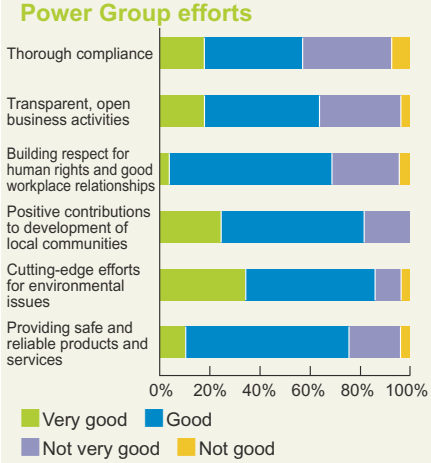
○**Inclusion of activity policies for the next fiscal year**

By including policies for fiscal 2005 efforts at the end of each chapter, evaluations of the previous fiscal year efforts are reflected in the plans for the following fiscal year and the fact that we will sustain these activities is easier to understand.

In the future, we intend to consider the evaluations and opinions of our readers to further improve our business activities. In addition, we will continue to explain the status of our efforts in future editions of this report, on our web site and through other means.

Reader evaluations and opinions about Kansai Electric Power Group efforts and business activities

Evaluation of Kansai Electric Power Group efforts



Main opinions about Kansai Electric Power Group efforts

- I hope that you put safety first in your business activities.
- I hope you will investigate the Mihama Nuclear Power Station accident and work to establish a higher level of business ethics.
- I expect that you will pursue additional environmental measures with the Kyoto Protocol coming into effect.

○**Business activities that put safety assurance first**

In the Fiscal 2005 Kansai Electric Power Group's Management Vision and Management Plan, we made our policy of putting safety first clear. We will pursue all our business activities based on this.

(→Fiscal 2005 Kansai Electric Power Group's Management Vision and Management Plan http://www.kepco.co.jp/corporate/plan/index.html)

○**Mihama Nuclear Power Station accident investigation and strengthening business ethics**

●In response to the Mihama Nuclear Power Station accident, we are steadily implementing measures to prevent recurrence of such an incident based on the Mihama Nuclear Power Station Unit 3 Accident Recurrence Prevention Action Plan. The Nuclear Power Protection Reform Inspection Committee also implements objective and comprehensive inspections and evaluations.

(→Feature: About the Mihama Nuclear Power Station Unit 3 Accident, page 05)

●We are also implementing education about business ethics and taking other measures to continue strengthening them in the future.

(→Strengthening compliance, page 73)

○**Environmental efforts since the Kyoto Protocol came into effect**

With the Kyoto Protocol in effect, we will strengthen and continue our Eco Action efforts and expand other measures for the environment starting with global warming prevention.

(→Pioneering Efforts to Protect the Environment, page 29)

Policy for Fiscal 2005 Efforts

Transparent, Open Business Activities

To achieve greater understanding of our business activities, in addition to working to actively provide information, we will promote stakeholder meetings and other forms of lively two-way communication.

Specifically, basic communication efforts will be the foundation of our activities. These include the timely provision of information through mass media, our web sites and other means, and meetings and other interactions with customers, stockholders, regional residents and other types of stakeholders. We will also identify the status of every business place and their issues, and we will consider the course of future efforts by accounting for every management environment.

Promotion of Autonomous Efforts in Each Workplace

In fiscal 2004, we expanded our fiscal 2003 target of "raising awareness" into the goal of "achieving deep compliance awareness in every employee," and focused on the promotion of autonomous efforts in the workplace.

Compliance promotion staff lead activities

In April 2003, to further autonomous compliance activities, we made the top person at every business location and division responsible for compliance implementation and established promotion staff in every workplace.

In fiscal 2004, these promotion staff lead the preparation and execution of compliance action plans at every workplace and conducted training for every employee using case studies.

Preparation and implementation of compliance action plans at every workplace

In order to conduct compliance promotion activities grounded in reality and deepen the awareness of each employee, we prepared and implemented compliance action plans at every workplace.

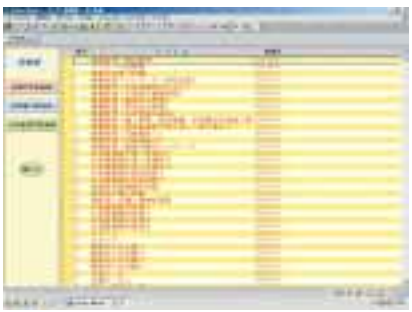
In particular, we made "identification of laws, regulations and company rules that do not seem to match reality and investigation of how to adhere to them" a company-wide shared action theme. In addition, based on the characteristics of their different business tasks, we set unique action themes for each workplace, including enforcement of personal data and other confidential information management, reasonable labor time management (elimination of unpaid overtime), and strict contract management. Through these efforts, we conducted reforms for every issue related to compliance.

Implementation of case study training at each workplace

In July 2004, we created the Compliance Case Study Collection as a tool for the training that occurs at every workplace and provided access to it on our corporate intranet. This tool includes about 130 realistic examples of compliance issues and points for consideration that were prepared based on the work of every business division.

Using this Case Study Collection, compliance promotion staff conducted training in every workplace. They did not simply teach the correct answers to compliance issue questions, but, rather, they had the entire staff of each workplace discuss the issues so that every person would think about them and develop practical decision-making abilities.

Compliance Case Study Collection index screen



Efforts in fiscal 2005

We will continue to implement similar efforts in fiscal 2005, but in fiscal 2004, we found that in some workplaces, not everyone was involved in compliance activities planning and implementation and that the vibrancy of the activities varied between compliance promotion staff.

Accordingly, in fiscal 2005, we will continue to set our target as establishing compliance awareness, including legal risk management awareness, through autonomous efforts in the workplace. In order to strengthen training and education activities for frontline workplaces in particular, head office Compliance Committee Secretariat (Legal Department) staff will go to every frontline workplace, and promote greater use of the legal consultation system, which until now has been used from the perspective of preventative maintenance. In addition, we plan for this staff to conduct direct training through dialogues, especially with core workplace promotion staff.

Furthermore, in order to enhance the training at each workplace by promotion staff, we will further develop the Case Study Collection as a tool, review the February 2003 Compliance Manual that is now over 2 years old and take other measures.

Employee opinion

Noboru Miyamoto
Chief Manager, Land Affairs Group, Branch Manager Office, Himeji Branch

Sustaining awareness is the key:
compliance efforts at the Himeji Branch Branch Manager Office Land Affairs Group

In our business, compliance is the foundation of our connection with the region and the trust its people have in us. We have implemented legal and regulatory procedures, information management and other efforts focused on compliance. In particular, this fiscal year, we have strengthened information management efforts to meet the requirements of the Personal Information Protection Law, which is now fully in effect.

We are implementing office layout changes and access management, appropriate handling of documents taken out of worksites and other fundamental procedures, while increasing the awareness of Group employees. Our future task is sustaining awareness. Every month this fiscal year, we are creating opportunities for opinion exchanges within the Group on the theme of compliance to further promote the permeation of awareness.

Organization of a Group-wide Compliance Promotion System

Creation of Group-wide compliance consultation desks

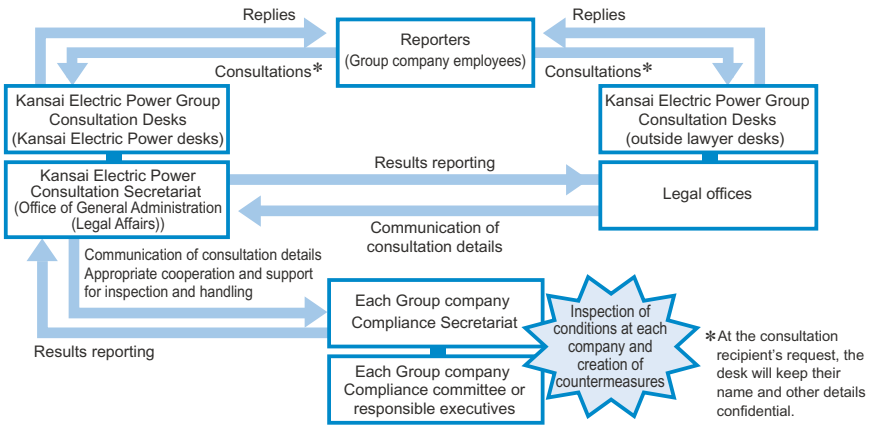
In February 2003, Kansai Electric Power established compliance consultation desks as resources that employees can consult when they have questions related to compliance. These desks, which are located both in the company Office of General Administration (Legal Affairs) and in outside legal offices, receive a wide range of consultations.

Previously, our compliance consultation desks had been only for Kansai Electric Power employees, but we needed a compliance consultation system with the goals of prevention and early detection of legal and regulatory transgressions, not just for specific companies, but also for the entire Group. Furthermore, for the successful functioning of a consultation desk system, gaining the trust of those who use them through confidentiality protection and assurance of safety from repercussions is essential. For this reason, the creation of desks outside of each company is imperative.

Kansai Electric Power is now accordingly expanding the scope of our current compliance consultation desks to include the entire Kansai Electric Power Group. Specifically, both current internal and external desks will now accept consultations from all Group company employees, including on issues that are particular to their companies. Current Kansai Electric Power Company desks and outside lawyer desks will be reorganized as Kansai Electric Power Group Consultation Desks that accept issues from throughout the Group, and each Group company will treat these as outside desks.

In March 2005, we held a briefing session for 55 Group companies (consolidated subsidiaries), encouraging each company to revise its internal regulations. In the summer of 2005, we began operation of the Kansai Electric Power Group Consultation Desks (Kansai Electric Power desks and outside lawyer desks).

Kansai Electric Power Group Consultation Desks (Kansai Electric Power desks and outside lawyer desks)



Supporting creation of compliance systems at every Group company

In addition to enhancement of compliance consultation desks, establishing compliance systems requires a variety of elements, including creation of compliance committees (officers in charge), preparation and distribution of compliance manuals, enactment of necessary company regulations and implementation of various training.

We will actively support each Group company with these efforts in the creation of compliance systems in fiscal 2005.

In particular, we are providing firm support for the rapid creation of compliance systems at Group companies, such as those that handle large amounts of personal data, where transgressions could have serious impacts.

TOPICS

Compliance efforts at Kanden System Solutions Co., Inc.

In order to promote compliance, we established a Compliance Group in our Management Planning Division in July 2004. Among measures we have been taking to organize our compliance system, we began operating compliance consultation desks in January 2005. Furthermore, we have been focusing our efforts on building the system foundations by preparing compliance guidelines and manuals, spreading understanding and implementation of compliance action standards, conducting education through e-learning for employees company-wide, and otherwise deepening compliance awareness. Meanwhile, in order to ensure appropriate application of business related laws, regulations and other rules, we are preparing many types of manuals and continuously posting notices on our portal site to inform and educate employees. In fiscal 2005, while continuing our fiscal 2004 activities, we will also adopt the efforts of the entire Kansai Electric Power Group to further enhance our company systems and handling of related regulations, conduct other CSR efforts, and seek to be a customer satisfaction first business in IT solutions services.

Tsutomu Osaka
Chief Manager, Compliance Group, Management Planning Division, Management Reform Promotion Headquarters, Kanden System Solutions Co., Inc.

Checklist of procedures for laws and regulations

The laws and regulations that concern Kansai Electric Power range from the commercial, labor and other laws that apply to every enterprise to the Electricity Utilities Industry Law that underlies all electricity business operation.

Kansai Electric Power has created legal and regulatory procedures checklists of the related laws and regulations that every business area must follow. We strive to prevent lapses in the implementation of such procedures, but, recognizing gaps in implementation in multiple divisions, we reviewed the legal and regulatory procedures checklists for every division from December 2004 to March 2005.

In addition to periodically reviewing these lists and increasing their precision, we will prepare mechanisms to make use of the lists more convenient and conduct even stricter handling in the future.

Observance of the Anti-Monopoly Act

To stay competitive in what is expected to be an increasingly fierce electric power market, companies should approach their business by seeking fair competition in compliances with the Anti-Monopoly Act.

However, on April 21, 2005, the Fair Trade Commission warned Kansai Electric Power about the possibility of transgressions of the Anti-Monopoly Act in the supply to condominiums and the handling of the elimination of utility poles in detached housing areas.

The Fair Trade Commission and the Ministry of Economy, Trade and Industry have jointly prepared Guidelines for Proper Electric Power Trade. Kansai Electric Power has prepared an explanation of these guidelines and distributed it throughout the company starting with the business divisions. In addition to making these guidelines understood throughout the company, we have also held Anti-Monopoly Act training every year and endeavored to deepen employee understanding. We are taking this warning from the Fair Trade Commission seriously and are reevaluating the necessary company rules. In addition, we are working to make every employee understand accurately the purpose and details of the Antitrust Law and reflect it in their work. In fiscal 2005, we will continue to hold training at every branch office and abide carefully by the Anti-Monopoly Act.

Compliance activities monitoring

To evaluate the degree of effectiveness of Kansai Electric Power's compliance activities, every year we conduct an anonymous questionnaire of all employees.

14,611 people, a response rate of 70.8%, responded to the March 2005 questionnaire. 94% of those surveyed responded that “our corporate compliance awareness has improved in the last 1–2 years.” In addition, 97% claimed that “my compliance awareness has improved in the last 1–2 years.” Given these results, we believe that we have achieved some success towards the fiscal 2004 target of achieving compliance awareness by every employee, but we intend to engrain compliance awareness further by continuing various types of training and promoting independent efforts in each workplace.

Realization of impartial and fair material procurement in compliance with laws and regulations

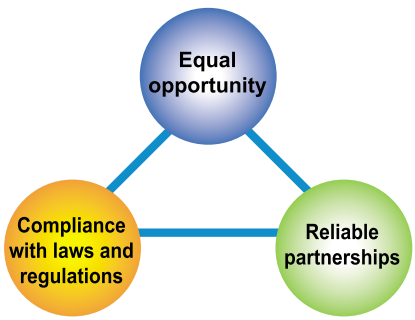
The Office of Purchasing has established the following three Procurement Action Standards and has sought to procure high quality parts and work at reasonable prices.

In order for the Kansai Electric Power Group to earn the confidence of customers and local communities, we will continue to intensify communication between our business partners and every company division and strive for impartial and fair material procurement activities that put quality assurance first.

Three Procurement Action Standards

The Office of Purchasing has three action standards that it implements in its procurement activities. We make details of these efforts widely available in our Information about Purchasing Activities public relations pamphlet and on our web site. In addition, we explain Kansai Electric Power efforts and stances to our business partners in our General Contract Procedures.

Materials procurement principles



TOPICS

“In Practice! Compliance” column in our “Legal Information” magazine

To improve Kansai Electric Power internal compliance awareness, in November 2003, the Legal Department began including a column, “In Practice! Compliance” in its publication “Legal Information”, which they have produced since June 1988. This column has appeared 6 times so far and we intend to continue it in the future.

Previously, the majority of the articles in “Legal Information” had been rather dry explanations of new laws and regulations, but they write “In Practice! Compliance” in a conversational format in order to make it interesting to as many employees as possible. In addition, based on employee questions and opinions, the columns focus on concrete issues that they actually confront at work and include other features to promote the breadth and depth of awareness about compliance issues.

Promotion of Information Security and Personal Data Protection

Recognizing the importance of thorough efforts to prevent the leakage of personal data entrusted by customers and other proper information management, Kansai Electric Power has pursued a variety of measures. We will actively continue these efforts to meet all the requirements of the Personal Information Protection Law that went into effect in April 2005.

Promotion of information security management

With the increased use of information technology inside and outside of our company, we recognized the increased risks of leakage of important information that we maintain, including customer information. In response, we initiated a new information security management system to achieve thorough implementation of suitable information management.

Specifically, we established the Information Security Committee, chaired by the company vice president. The committee will prepare an annual plan to pursue efficient security in three areas –education, training and other personnel measures, document management, office access management and other physical measures, and computer system reform and advancement measures. They will track the progress of these measures and deliberate other issues.

Furthermore, we have assigned Information Security Managers in each workplace company-wide to implement appropriate disposal of confidential documents, careful password management and employee self-monitoring of daily information handling.

Customer information leakage

Despite the above efforts, in May 2004, we determined that a sales office in Shiga Prefecture had leaked customer information. This breach was completely unacceptable and we took emergency measures to improve appropriate information management and assure that such a problem never occurs again. We will continue to issue warnings and take other actions in the future to prevent employees from forgetting about leakage risks.

May 2004
Kansai Electric Power customer information leak

- Public announcement:
  May 2004
- Leaked information:
  customer data (name, address, etc.)
- Leaked records:
  183 (including businesses)
- Overview:
  In response to a request from a power-line construction company, a Kansai Electric Power employee provided customer information to that company.

Examples of emergency measures

1. Management issued a warning to all employees
2. Investigation of every employee's awareness about information management, and, based on the results, conversations between head offices and frontline workplaces
3. Implementation of case study training (e-learning) for all employees based on the leakage
4. Minimization of the number of employees with access to the customer information system

Application of the Personal Information Protection Law

In order to handle the requirements of the Personal Information Protection Law, which came into full effect on April 1, 2005, we established Personal Data Protection Regulations and other corporate rules in March 2005.

These regulations establish the specific purposes of personal data use by Kansai Electric Power and include how requests from outside the company for personal data disclosure should be handled. Before the law went into effect, we conducted company-wide training for every executive and every worker, created manuals for personal data handling for every division and took other measures to achieve thorough awareness throughout the company.

Furthermore, to achieve appropriate personal data handling throughout the Group, Kansai Electric Power created a full-time promotion team that visits every affiliated company to guide and check their efforts.

However, in May 2005, an employee of information communication subsidiary K-Opticom lost a hard disk containing about 12,000 customer information records.

In the future, we will continuously implement internal audits throughout the entire Group, take other measures focused on confirming actual work practices, and work to further strengthen our efforts to conduct business in accordance with the provisions of the Personal Information Protection Law.

Other main information security measures implemented to date
(including personal data protection measures)

○Organizational measures

- Appointment of a managing director as the Chief Privacy Officer (CPO) in charge of personal data protection
- Creation of Group-wide information security and personal data protection guidelines.
- Management and control of subcontractors in accordance with confidentiality maintenance agreements

○Personnel measures

- Awareness heightening through group training for new employees, officers and others
- Personal data protection training for every employee at least once per year

○Physical measures

- Office access management using IC cards (employee IDs etc.) at the new head office building, office zoning with partitions
- Installation of additional shredders, and lockable furniture for thorough security management of important information

○Technological measures

- Computer use authorization using IC cards (employee IDs etc.)
- Output of customer information system use record list by the person in charge to check for improper use
- Reliable data erasure at computer disposal
- Encryption of electronic data handled by employees

Information security strengthening with IC card employee IDs

Computer use authorization

Authorization of individual at network login using IC cards

Building and office access management

Electronic lock and office access log management

Creating a trustworthy, transparent organization that manages latent risks accurately

We start from the assumption that people make mistakes.

Yasuda: So far, Kansai Electric Power has established compliance committees, opened consultation desks, prepared compliance manuals, held training for every employee and conducted other proactive efforts. However, last year we experienced a series of troubles and accidents, making further enhancement of compliance measures an urgent issue.

Kunihiro: Compliance means strict adherence to laws and regulations and strict adherence to business ethics, but it is not simplistic idealism that says, “eliminate all transgressions.” You must approach it calmly and rationally. As long as people conduct business, accident and mistakes, big and small, will occur. In short, we have to face the fact that risk will always exist. I believe that the fundamental role of compliance is that risk can be managed by following rules and that prevention of large accidents and incidents can help an enterprise endure.

Yasuda: In short, compliance is daily risk management, and to do that we must identify and understand every possible risk within the company and the Group. Kansai Electric Power conducts an employee questionnaire every year, but it still seems difficult to bring all the issues to light.

Kunio Yasuda
Executive Officer
Office of General Administration
The Kansai Electric Power Co., Inc.

Kunihiro: People don't easily bring up issues that could be disadvantageous for them. For this reason, for example, repeatedly bringing together personnel from various divisions to discuss freely about the risks in their divisions would be effective. By providing a guarantee in advance that nothing discussed will lead to repercussions for the individuals participating beforehand, you can loosen the tension and a lot more will come out that was not written in the questionnaires.

Yasuda: I see. By doing that, people would probably relax and talk. When we bring risks to light, though, I think we have to deal with them in order of seriousness. What kinds of serious risk factors, for example, can you specifically imagine?

By honestly making company mistakes public, we will become a trusted enterprise.

Kunihiro: Now, the biggest sources of danger for enterprises are lies and concealments. More than an accident itself, its concealment can lead to even greater risk. To prevent this, you have to deepen the attitude in the company that there will be no lying and no hiding trouble. The management and leadership levels, in particular, must be sensitive to even small accidents and errors in the company. In response to these, rather than assigning individual blame, they need to examine how these problems arise in the organization, and develop their risk management sensitivity.

Yasuda: So, building an open corporate culture, including manager awareness, is important.

Kunihiro: Yes. And, for that purpose, setting up reporting hotlines is indispensable. Between the reporter and top management, many places within the organization act as gates where information about risks could be stopped if even one person decides to keep it secret. For smooth information collection, hotlines are important as bypass routes. Kansai Electric Power has established Compliance Consultation Desks, but concrete rules about who receives the information that reaches the desks and how the reporter will be protected are important. If you do that, it will be easier for employees to make reports and easier to get risk information.

Yasuda: Creation of mechanisms so that compliance issues are not kept secret by any single person, but are handled as company issues should be a base of enterprise activities. That will also increase confidence from members of society.

Kunihiro: That's right. The Whistleblower Protection Act will go into effect in April 2006, and under certain circumstances whistleblowers who report to the outside will also be protected. So, the awareness of society is growing, and concealed enterprise problems will be investigated very harshly. In this atmosphere, recently, the number of Japanese enterprises that promptly recall manufactured goods and publicize efforts for preventing recurrence of problems within their company is increasing. The important thing is that you find the company's negative information and risk information as early as possible and make corrections with your own power before accidents occur and proactively make the necessary public announcements. In particular, as a large enterprise, Kansai Electric Power will be held responsible not only for your own problems, but also for any problems that occur in Group businesses. For this very reason, you need to create thorough compliance awareness not only in the main company, but also in every nook and cranny of your Group businesses.

Yasuda: While compliance activities are risk management, they are also important for enterprise transparency. In the future, we will further enhance our efforts, including in our Group companies, and I hope that we can meet the expectations of the public.

Tadashi Kunihiro
Lawyer
T. Kunihiro & Co., Attorneys-at-Law

Policy for Fiscal 2005 Efforts

Thorough Compliance

We will further enhance compliance awareness in all of our business activities and reinforce our practical legal risk management.

Specifically, through active communication with our frontline workplaces, we will solidify our company-wide compliance consciousness and legal risk management awareness, while implementing training in each field about the Antitrust Law, the Personal Information Protection Law and other legal regulations. We will also prepare to respond to new laws and regulations quickly and appropriately.

Furthermore, we will make full efforts to develop Group company compliance promotion activities and enhance the legal risk management of the Group as a whole by establishing compliance systems in each company.

I am looking forward to future development from this first Kansai Electric Power CSR Report.

Kansai Electric Power has built on last year's Environmental Report 2004 to create this year's Kansai Electric Power Group CSR Report 2005. Considering that this is Kansai Electric Power's first real CSR Report, I will evaluate the key points of the report and point out issues for future consideration.

Mihama Nuclear Power Station Unit 3 accident coverage

Regarding the Mihama Nuclear Power Station accident that occurred in August 2004, 10 pages are dedicated to discussion of investigating the causes, recurrence prevention measures, implementation systems and schedules and other explanation. I feel that they are taking a sincere attitude and facing the necessary measures head-on. Another important thing, though, is communication with stakeholders. I wish that the opinions expressed until now by both people within the Kansai Electric Power Group, including Group companies, and local residents had been included along with explanation of how they have responded to these ideas. This report emphasizes the necessity of cooperative systems with Group companies, the deepening of communication between frontline workplaces and management, and the importance of education and training. The key is carrying these out with accountability. I will wait for follow-up in next year's report on your efforts, progress and results from now on.

Report composition

One unique aspects of this report is that the six action principles outlined in the Kansai Electric Power Group CSR Action Charter created last year have been followed in the six-chapter composition. Another is that outside opinions have been included centered on conversations between third party representatives and management at the end of each chapter. In particular, these conversations include important advice from experts in different fields. While analyzing previous fiscal year efforts and conducting self-evaluations, Kansai Electric Power should also refer to these outside opinions, create targets for how future business activities will be improved and check the actual results. I believe that describing how efforts will be made this way will make the report even more meaningful.

Furthermore, not much is provided about action stances and basic policies towards society. By indicating the related policies, points, targets and degrees of success at the start of every chapter in an easy to understand format, as was done in Chapter II, the actual status of Kansai Electric Power activities would be conveyed more clearly.

Overall impressions of the report

CSR is really not something special, but rather a matter of how daily enterprise management is conducted. For that reason, this report should not just be an enumeration of results. “Why are we taking these actions?” “How did we get here?” “What will we do in the future?” By answering these process-related questions in the report, stakeholders can be shown a real image of the business. This report has no explanation of concrete management and system efforts related to the Kansai Electric Power Group CSR Action Charter that was created last year or the CSR

Action Standards established this year. I have heard that the creation of the CSR Action Standards was not limited to Kansai Electric Power, but that Group companies also provided opinions and that Group representatives gathered and had opportunities for communication. If such activities and concrete details were provided, the report would gain much more stakeholder understanding.

In future reports, I expect that communication with stakeholders will be valued and from that daily enterprise management will be reexamined. I also expect that the policies and activities of the Kansai Electric Power Group as a whole, as well as the overall direction of the Group, will be conveyed.

Professor Kanji Tanimoto
Hitotsubashi University Graduate School of Commerce and Management Professor

Response to the commentary

Regarding Mihama Nuclear Power Station Unit 3 accident recurrence prevention measures and other continuing implementation efforts from fiscal 2005 on, we intend to explain concretely the status and progress of our efforts, their results and other details as much as possible in future reports and elsewhere.

In addition, regarding setting of policies for our efforts and their processes, we plan to report on opinions received by the Nuclear Power Plant Maintenance Reform Verification Committee and other company representatives. We will also present how Kansai Electric Power has responded to those opinions to further develop two-way communication between the Group and outside individuals and organizations.

Furthermore, we will work to clarify the main points and make other efforts to make the contents of the report easier to understand.

Yuzuru Hiroe
Executive Officer
Office of Corporate Planning
The Kansai Electric Power Co., Inc.

Operation Data

Equipment and power supply and demand

Fiscal year	2000	2001	2002	2003	2004	Unit
Power generation equipment output (KEPCO at fiscal year end)	3,746	3,559	3,543	3,482	3,576	10,000 kW
Hydropower	813	813	813	815	819	
Thermal	1,956	1,769	1,753	1,691	1,781	
Coal	—	—	—	—	90	
Oil etc.	1,152	970	954	908	908	
LNG and other gas	804	799	799	783	783	
Nuclear	977	977	977	977	977	
Total power	1,558	1,525	1,549	1,531	1,579	100 million kWh
Generated by KEPCO	1,256	1,222	1,199	1,170	1,147	
Hydropower	144	137	154	185	174	
Thermal	411	362	271	220	373	
Nuclear	700	723	774	765	600	
Purchased	172	203	243	274	322	
Interchanged	159	134	155	144	151	
Power for pumping	(29)	(34)	(48)	(57)	(40)	
Power consumption	1,429	1,398	1,418	1,402	1,449	100 million kWh
Lighting	444	443	456	447	468	
Electricity	984	954	962	956	981	

Finances

	Fiscal year	2000	2001	2002	2003	2004	Unit
Non-consolidated basis	Operating revenue	2,581.4	2,517.8	2,482.7	2,375.2	2,448.1	¥ billion
	Lighting	1,010.9	993.7	995.4	944.2	990.9	
	Electricity	1,515.2	1,477.8	1,426.3	1,356.4	1,373.7	
	Other	55.2	46.2	60.9	74.5	83.5	
	Operating expenses	2,245.3	2,206.1	2,167.1	2,045.7	2,082.1	
	Operating profit	336.0	311.7	315.5	329.4	366.0	
	Recurring profit	180.7	163.5	186.5	188.8	274.0	
	Net profit for current term	95.4	137.0	97.2	118.4	110.1	
	Plant & equipment investment	479.0	410.5	326.5	255.1	203.5	
	Total assets	7,212.5	7,043.4	6,772.3	6,540.8	6,294.6	
	Outstanding interest-bearing debts	4,565.3	4,327.1	4,075.4	3,589.2	3,164.7	
	Shareholders equity ratio	18.6	19.0	19.6	21.9	23.6	%
Consolidated basis	Operating revenue	2,647.9	2,651.5	2,615.1	2,540.1	2,613.4	¥ billion
	Operating expenses	2,307.2	2,332.2	2,289.5	2,190.6	2,226.5	
	Operating profit	340.6	319.3	325.5	349.4	386.9	
	Recurring profit	169.3	159.5	174.7	187.3	297.8	
	Net profit for current term	122.7	128.4	80.4	90.1	69.7	
	Plant & equipment investment	489.5	467.8	386.8	321.5	273.7	
	Total assets	7,550.8	7,507.5	7,402.3	7,150.8	6,857.8	
	Outstanding interest-bearing debts	4,616.5	4,448.3	4,354.1	3,883.6	3,489.8	
	Shareholder equity ratio	20.8	21.1	20.9	22.9	24.0	%

Employees and safety

	Fiscal year	2000	2001	2002	2003	2004	Unit
Number of employees	Kansai Electric Power	24,539	23,971	21,920	21,031	20,640	Persons
	Kansai Electric Power Group	32,589	37,911	35,554	33,935	33,276	
Accident rate *		0.09	0.22	0.16	0.37	0.28	%

* Accident rate: Number of accidents per one million hours of operation

Environmental Data

Global environmental protection

Fiscal year			2000	2001	2002	2003	2004	Unit
CO_2 emissions			3,954	3,688	3,684	3,656	5,159	10,000 t-CO_2
CO_2 emissions per unit of power consumed *1			0.277	0.264	0.260	0.261	0.356	kg-CO_2/kWh
	Nighttime (22:00－08:00) *2		0.245	0.227	0.244	0.253	0.355	
	Daytime (08:00－22:00) *3		0.292	0.282	0.268	0.265	0.357	
CO_2 emissions per unit of power generated *4			0.248	0.235	0.230	0.229	0.317	kg-CO_2/kWh
Reference	World CO_2 emissions *5		235	236	241	—	—	100 million t-CO_2
	Japan CO_2 emissions *6		12.39	12.14	12.48	12.59	—	100 million t-CO_2
	Electric power industry CO_2 emissions *7		3.17	3.12	3.42	3.63	—	100 million t-CO_2
	Electric power industry CO_2 emissions per unit of power consumed *7		0.378	0.379	0.407	0.436	—	kg-CO_2/kWh
Nuclear power station capacity factor *8			81.8	84.5	90.5	89.1	70.2	%
Thermal power total thermal efficiency at transmission end *9			42.0	42.2	42.4	42.3	42.2	%
Fossil fuel consumption		Coal	—	—	—	123	1,862	1,000 t
		Heavy oil	515	202	224	98	270	1,000 kL
		Crude oil	1,370	767	715	215	1,159	1,000 kL
		LNG	5,463	5,286	3,799	3,366	4,206	1,000 t
Power from hydropower station refurbishment (cumulative output since 1989)			29,752	30,452	34,752	38,752	46,252	kW
Transmission and distribution loss rate *10			5.1	5.2	5.5	5.5	5.4	%
SF6 gas emissions			6.1	0.9	0.7	0.7	0.3	t
SF6 gas recovery			92.1	96.4	97.1	97.2	97.9	%
Use of untapped energy sources (heat supply locations)			10	11	11	11	12	Locations
Progress of new energy source development and use (cumulative total at year end)			914	919	919	919	1,015	kW
	Solar power generation		760	765	765	765	865	
	Wind power generation		154	154	154	154	150	
Purchased power generated by new energy sources		Purchased amount	10,987	18,522	26,880	39,047	58,866	1,000 kWh
Solar power generation		Number of purchases	8,031	11,793	17,888	26,511	36,766	Purchases
Participants in Kansai Green Power Fund (at fiscal year end)			3,010	13,881	13,151	11,973	11,217	Participants
Energy support from Kansai Green Power Fund (cumulative equipment output)			—	4,600	4,670	6,991	9,549	kW
	Solar power generation		—	100	170	491	1,545	
	Wind power generation		—	4,500	4,500	6,500	8,000	
	Power generation for environmental education		—	—	—	—	4	
Energy and resource conservation (Office divisions)		Office electricity consumption	118.5	116.6	113.2	105.8	105.7	1 million kWh
		Ordinary water consumption	1,045.6	978.4	900.7	803.6	748.5	1,000 m^3
		Vehicle fuel	9.14	9.16	9.41	9.29	9.04	km/L
		Copy paper consumption	1,000.5	934.9	919.4	903.9	1,021.0	t
Designated CFC consumption			0.3	0.3	0.1	0.6	0.6	t
COD emissions			—	—	25	32	21	t

*1 CO_2 emissions per unit of power consumed = CO_2 emissions ÷ power consumed
*2 Nighttime (22:00－08:00) = nighttime CO_2 emissions ÷ nighttime power consumption
*3 Daytime (08:00－22:00) = daytime CO_2 emissions ÷ daytime power consumption
*4 CO_2 emissions per unit of power generation = CO_2 emissions ÷ power generated
*5 World CO_2 emissions, source: Energy and Economic Statistics, Institute of Energy Economics, Japan
*6 Japan CO_2 emissions, source: Greenhouse Gas Inventory Office (Center for Global Environmental Research, National Institute for Environmental Studies)
*7 Electric power industry CO_2 emissions and electric power industry CO_2 emissions per unit of power consumed: Environmental Plan of Action for the Electric Power Industry, Federation of Electric Power Companies of Japan
*8 Nuclear power station capacity factor = power generated ÷ (permitted output x running hours) x 100
*9 Thermal power total thermal efficiency at transmission end = (transmitted and distributed power x heat load per kWh) ÷ total heat load input
*10 Transmission and distribution loss rate = 1 – {(power sold + substation power use) ÷ (total power - power used by power station)}

Environmental Data

Local environmental protection

Fiscal year		2000	2001	2002	2003	2004	Unit
SOx emissions	(KEPCO power stations)	2,833	1,438	1,332	415	2,373	t
SOx emissions per unit of power generated	(Per unit of power generated by KEPCO) *1	0.023	0.012	0.011	0.004	0.021	g/kWh
	(Per unit of power generated thermally by KEPCO) *2	0.069	0.040	0.049	0.019	0.064	
NOx emissions	(KEPCO power stations)	6,123	4,801	3,740	2,731	4,529	t
NOx emissions per unit of power generated	(Per unit of power generated by KEPCO) *3	0.049	0.039	0.031	0.023	0.039	g/kWh
	(Per unit of power generated thermally by KEPCO) *4	0.149	0.133	0.138	0.124	0.121	
Greenery rate *5 (at fiscal year end)	Thermal power station	34	34	34	34	36	%
	Nuclear power station	79	79	78	78	78	
	Electric power office (substation)	33	32	28	28	28	
Burial rate of transmission cable *6 (at fiscal year end)		13.8	13.9	14.1	14.2	14.5	%
Burial rate of distribution cable *7 (at fiscal year end)		9.3	9.3	9.4	9.4	9.5	%

*1 SOx emissions per unit of power generated by Kansai Electric Power= SOx emissions ÷ power generated
*2 SOx emissions per unit of thermal power generated by Kansai Electric Power= SOx emissions ÷ power generated thermally
*3 NOx emissions per unit of power generated by Kansai Electric Power= NOx emissions ÷ power generated
*4 NOx emissions per unit of power generated thermally by Kansai Electric = NOx emissions ÷ power generated thermally
*5 Greenery rate = business site greenery area ÷ business site total area x 100
*6 Burial rate of transmission cable = length of buried cable ÷ (length of overhead cable + length of buried cable) x 100
*7 Burial rate of distribution cable = length of buried cable ÷ (length of overhead cable + length of buried cable) x 100

Waste and resource recycling

Fiscal year		2000	2001	2002	2003	2004	Unit
Industrial waste and other discharge		70.7	63.7	49.7	56.8	331.2	1,000 t
	Ash (heavy oil, coal, etc.)	4.1	2.3	1.7	7.5	196.1	
	Sludge (desulfurization gypsum, wastewater treatment sludge, etc.)	22.4	17.5	7.0	9.3	73.6	
	Cinders	1.1	0.8	0.7	0.6	26.2	
	Waste concrete poles, etc.	15.4	15.8	16.7	15.2	13.7	
	Metal scrap	17.0	16.5	15.9	17.1	11.9	
	Glass and ceramic scrap (heat retention materials, insulator waste, etc.)	4.8	3.9	3.3	2.5	3.9	
	Spent oil	3.9	4.6	2.2	3.0	3.0	
	Waste plastic	1.5	1.2	1.3	1.1	1.1	
	Other	0.5	1.0	1.1	0.5	1.7	
Landfill disposal of industrial waste		9.4	6.7	6.8	6.5	8.1	1,000 t
	Glass and ceramic scrap (heat retention materials, insulator waste, etc.)	4.3	2.9	2.7	1.4	2.9	
	Sludge (wastewater treatment sludge etc.)	1.1	0.8	0.7	2.5	2.2	
	Asbestos	0.3	0.4	0.3	0.1	1.3	
	Cinders	0.8	0.7	0.6	0.6	0.7	
	Waste plastic	1.2	0.8	0.8	0.7	0.5	
	Scrap metal	0.7	0.5	0.7	0.9	0.4	
	Other	0.9	0.6	1.1	0.3	0.2	
Industrial waste recycling rate *1		84	87	85	86	97	%
Volume of low-level PCB waste treated (pole transformers) *2	Insulating oil	—	—	—	0.2 (2.0%)	0.8 (8.0%)	10,000 kL
	Transformer cases *3	—	—	—	0.3 (1.3%)	2.4 (10.0%)	10,000 units

*1 Industrial waste recycling rate = (reused amount + amount sold) ÷ (industrial waste discharge + amount sold)×100
*2 The amount represents the cumulative value of the previous years. Values in parentheses represent the ratios of the total amount treated.
*3 Utility pole transformer internal parts etc. are returned to storage.

Radioactive materials and waste

		Fiscal year	2000	2001	2002	2003	2004	Unit
Measured dosages in public areas around power stations		Mihama Power Station	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	Millisieverts/year *2
		Takahama Power Station	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
		Ohi Power Station	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Radioactive gas waste release (noble gases)		Mihama Power Station	1.6E+10	1.4E+10	1.1E+10	6.1E+09	1.9E+09	Becquerel *3
		Takahama Power Station	1.6E+10	1.8E+10	1.2E+10	1.1E+10	1.6E+10	
		Ohi Power Station	5.7E+10	1.5E+10	2.8E+10	1.8E+10	4.1E+11	
Radioactive gas waste release (iodine)		Mihama Power Station	N.D.	9.9E+04	3.8E+05	2.3E+05	N.D.	*1 Becquerel *3
		Takahama Power Station	N.D.	1.8E+05	3.4E+05	N.D.	N.D.	
		Ohi Power Station	1.1E+06	2.7E+05	N.D.	N.D.	1.9E+08	
Radioactive liquid waste release (excluding tritium)		Mihama Power Station	N.D.	N.D.	N.D.	N.D.	N.D.	Becquerel *3
		Takahama Power Station	N.D.	N.D.	N.D.	N.D.	3.1E+05	
		Ohi Power Station	N.D.	N.D.	N.D.	N.D.	N.D.	
Solid radioactive waste generation (200 L drum can)			7,045	9,112	7,301	9,438	8,183	Drum cans
	Mihama Power Station		1,651	3,504	3,135	4,337	2,698	
	Takahama Power Station		1,593	1,375	1,440	1,724	1,893	
	Ohi Power Station		3,801	4,233	2,726	3,377	3,592	
Solid radioactive waste reduction (200 L drum can)			4,741	7,423	8,439	10,067	7,687	Drum cans
	Mihama Power Station		526	2,540	3,423	5,527	3,143	
	Takahama Power Station		1,160	797	743	606	653	
	Ohi Power Station		3,055	4,086	4,273	3,934	3,891	
Solid radioactive waste cumulative storage (200 L drum can)			84,709	86,398	85,260	84,631	85,127	Drum cans
	Mihama Power Station		27,772	28,736	28,448	27,258	26,813	
	Takahama Power Station		30,723	31,301	31,998	33,116	34,356	
	Ohi Power Station		26,214	26,361	24,814	24,257	23,958	

*1 N.D. (Not Detectable): less than critical detectable concentrations ○E + △: ○ × $10^{△}$
*2 Millisieverts/year (effective dose equivalent): unit for expressing effect of radiation on human body
*3 Becquerel: unit for expressing the quantity of radioactive material in which one nucleus decays per second

Environmental management

		Fiscal year	2000	2001	2002	2003	2004	Unit
Locations with ISO or other certifications (at fiscal year end)			19	20	19	17	16	Locations
	Relisted for external certification acquisition		5	11	12	10	10	
	Thermal power division		17	14	13	12	10	
	Relisted for external certification acquisition		4	7	7	6	5	
	Nuclear power division		1	2	2	2	2	
	Relisted for external certification acquisition		0	0	1	1	1	
	Engineering division		1	4	4	2	2	
	Relisted for external certification acquisition		1	4	4	2	2	
	Sales and distribution divisions		0	0	0	1	2	
	Relisted for external certification acquisition		0	0	0	1	2	
Participants in environmental education programs	ISO 14001 staff training		—	30	26	26	23	Persons
	Internal environmental auditor training		23	21	21	22	12	
	Environmental staff training		47	41	37	38	25	
Environmental accounting	Environmental protection costs (investment)		32.4	38.0	35.4	31.3	14.8	¥ billion
	Environmental protection expenditures		44.4	42.8	40.1	35.4	43.2	
	Economic effect of environmental protection measures		16.7	15.9	13.0	9.7	14.3	

Other data

Fiscal year	2000	2001	2002	2003	2004	Unit
Vegetation planting activities (at public facilities)	3.0	2.9	2.4	1.6	1.0	10,000 trees
Beautification activities (local cleaning etc.)	1,521	1,027	841	308	362	Instances

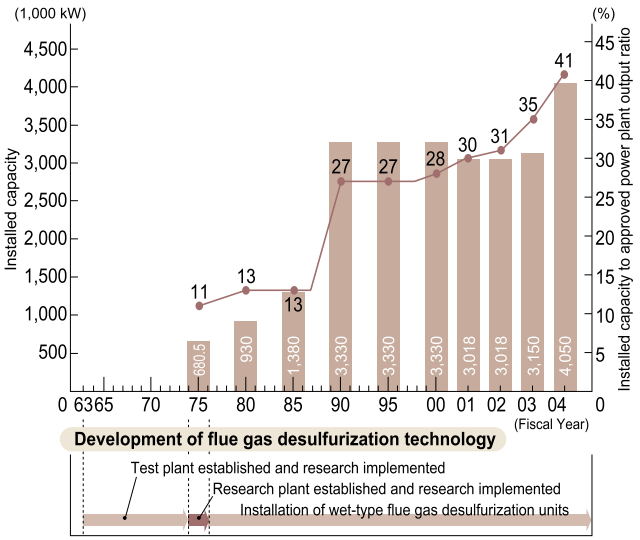
Data by Thermal Power Station

Thermal Power Station Environmental Protection Performance (Fiscal 2004)

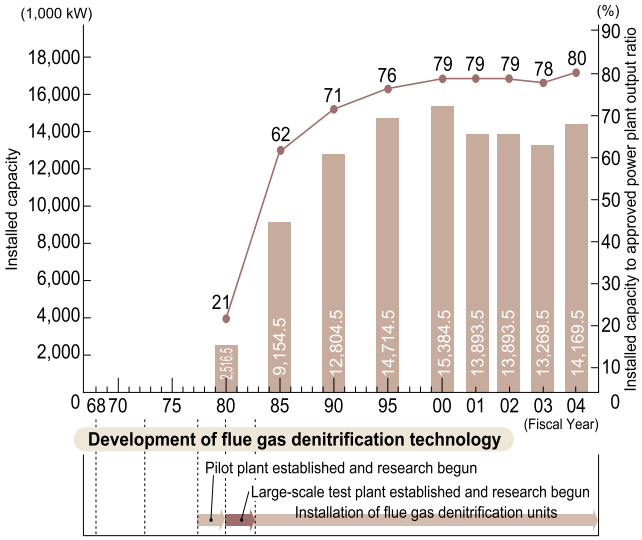
Item				Sakaiko Power Station	Tanagawa No. 2 Power Station	Nanko Power Station	Miyazu Energy Research Center	Maizuru Power Station
Main fuel				L/H/C	H/C	L	H/C	Coal
Atmospheric	SOx	Emissions per hour (m^3N/hr)	A. P. P. Law (Regulation on overall emissions)	391	587	98	306*5	10,306*5
			Agreed value	—	—	—	112	255
			Result	0	140	0	No past record of operation	92
		Emissions per day (t/day)	Agreed value	10.1	9.3	—	—	—
			Actual value	0.04	6.3	—	—	—
		Emissions per year (t/year)	Agreed value	940	3,020	—	$492\times10^3\ m^3N$	$1,523\times10^3\ m^3N$
			Actual value	2	523	—	No past record of operation	$281\times10^3\ m^3N$
	NOx	Emissions per hour (m^3N/hr)	A. P. P. Law (Regulation on overall emissions)	612	398*2	255	Areas other than those designated	Areas other than those designated
			Agreed value	—	—	—	58	244
			Result	109	155	31	No past record of operation	76
		Emissions per day (t/day)	Agreed value	7.7	7.2	1.8	—	—
			Actual value	3.5	5.9	1.1	—	—
		Emissions per year (t/year)	Agreed value	1,420	2,100	400	$244\times10^3\ m^3N$	$1,457\times10^3\ m^3N$
			Actual value	568	525	171.4	No past record of operation	$352\times10^3\ m^3N$
	Soot	Discharged concentration (g/m^3N)	A. P. P. Law (Regulation on overall emissions)	0.050*4	0.070	0.030	0.050	0.10
			Agreed value	0.020	0.020	0.000	0.014	0.009
			Result	0	0.007	0	No past record of operation	0.003
Water	Hydrogen ion concentration index		W.P.P. Law and ordinances	Outlet: C oil content treatment / D oil content treatment / E oil content treatment: 5.8–8.6	5.8–8.6	5.0–9.0*3	5.0–9.0	5.0–9.0
			Agreed value	—	5.8–8.6	—	5.8–8.6	5.8–8.6
			Result	6.9–8.1	7.0–8.1	6.3–8.1	6.2–7.8	5.9–7.6
	COD	Max. concentration (mg/L)	W. P. P. Law and ordinances	12 / 30	50	200*3	160	160
			Agreed value	—	15	—	15	15
			Result	1 / 4	7	21	7.8	5.4
		Pollutant load (kg/day)	W. P. P. Law and ordinances	388.4	55	—	—	—
			Agreed value	—	14	—	20.8	22
			Result	16.3	12.6	—	1.3	6.2
	SS	Max. concentration (mg/L)	W. P. P. Law and ordinances	50	100	200*3	200	200
			Agreed value	—	20	200	20	15
			Result	4	4	27	2	8
	n-hexane extracts	Max. concentration (mg/L)	W. P. P. Law and ordinances	10	4	20*3	5	5
			Agreed value	—	1	—	1	1
			Result	<1	0.1	<1.0	< 0.5	<1.0

A.P.P. Law: Air Pollution Prevention Law　W.P.P. Law: Water Pollution Prevention Law　L: LNG　H: Heavy oil　C: Crude oil
*1 K-value regulatory value　*2 Value reported under Osaka Prefecture NOx Reduction Guidelines for Fixed Sources　*3 Regulations of Osaka City Ordinance on Sewerage
*4 Osaka Prefecture Ordinance on Living Environment Protection　*5 Kyoto Prefecture Ordinance on Environmental Protection

Flue gas desulfurization equipment



Flue gas denitrification equipment



	Item			Kainan Power Station	Gobo Power Station	Himeji No. 1 Power Station	Himeji No. 2 Power Station	Takasago Power Station	Aioi Power Station	Ako Power Station
	Main fuel			H/C	H/C	L	L/H/C	H/C	H/C	H/C
Atmospheric	SOx	Emissions per hour (m^3N/hr)	A. P. P. Law (Regulation on overall emissions)	646	7,800*1	119	780	344	3,054	2,146*1
			Agreed value	310	184	—	58	155	165	180
			Result	129	131	0	0	No past record of operation	121	155
		Emissions per day (t/day)	Agreed value	—	—	—	—	—	—	—
			Actual value	—	—	—	—	—	—	—
		Emissions per year (t/year)	Agreed value	$1,760\times10^3\ m^3N$	$970\times10^3\ m^3N$	—	$400\times10^3\ m^3N$	2,492	$885\times10^3\ m^3N$	650
			Actual value	$132\times10^3\ m^3N$	$98\times10^3\ m^3N$	—	0	No past record of operation	$85\times10^3\ m^3N$	$45\times10^3\ m^3N$
	NOx	Emissions per hour (m^3N/hr)	A. P. P. Law (Regulation on overall emissions)	Areas other than those designated	Areas other than those designated	Areas other than those designated	Areas other than those designated	Areas other than those designated	Areas other than those designated	Areas other than those designated
			Agreed value	450	110	104	463	320	85	94
			Result	123	71	64	363	No past record of operation	60	79
		Emissions per day (t/day)	Agreed value	—	—	—	—	—	—	—
			Actual value	—	—	—	—	—	—	—
		Emissions per year (t/year)	Agreed value	$2,400\times10^3\ m^3N$	$560\times10^3\ m^3N$	$590\times10^3\ m^3N$	$2,263\times10^3\ m^3N$	$1,620\times10^3\ m^3N$	$390\times10^3\ m^3N$	$340\times10^3\ m^3N$
			Actual value	$58\times10^3\ m^3N$	$57\times10^3\ m^3N$	$215\times10^3\ m^3N$	$843\times10^3\ m^3N$	No past record of operation	$36\times10^3\ m^3N$	$37\times10^3\ m^3N$
	Soot	Discharged concentration (g/m^3N)	A. P. P. Law (Regulation on overall emissions)	0.070	0.070	0.050	0.070	0.070	0.070	0.050
			Agreed value	0.020	0.010	—	—	0.050	0.015	0.015
			Result	0.014	0.001	0	0.005	No past record of operation	0.009	0.003
Water	Hydrogen ion concentration index		W.P.P. Law and ordinances	5.0–9.0	5.0–9.0	5.0–9.0	5.0–9.0	5.0–9.0	5.0–9.0	5.0–9.0
			Agreed value	5.8–8.6	5.8–8.6	5.8–8.6	5.8–8.6	5.8–8.6	5.8–8.6	5.8–8.6
			Result	6.0–7.8	6.0–7.9	6.8–7.6	6.9–8.0	No past record of operation	6.7–7.6	6.4–8.1
	COD	Max. concentration (mg/L)	W. P. P. Law and ordinances	10	160	100	100	100	100	100
			Agreed value	10	10	15	15	20	15	15
			Result	6.6	4.2	2	7	No past record of operation	2	4
		Pollutant load (kg/day)	W. P. P. Law and ordinances	187.7	—	40	105	102	66	84
			Agreed value	50	36.8	15.2	35	34	18	22.4
			Result	5.3	5.1	3.0	25.8	No past record of operation	2.5	6.1
	SS	Max. concentration (mg/L)	W. P. P. Law and ordinances	40	200	90	90	90	90	90
			Agreed value	20	20	20	20	20	20	20
			Result	4.8	1.5	1	8	No past record of operation	1	2
	n-hexane extracts	Max. concentration (mg/L)	W. P. P. Law and ordinances	5	5	5	5	5	5	5
			Agreed value	2	1	1	1	1.5	1	1
			Result	0.1	0.1	0.2	0.1	No past record of operation	0.1	0.1

Discharge and transfer of substances subject to PRTR Law (Fiscal 2004)

Substance	Use	Quantity (t/year)	Discharge (t/year)			Transfer (t/year)	
			Air	Public water	Soil	Sewage	Waste
2-amino ethanol	Water supply treatment agent	100	< 0.1	0	0	0	3.3
Asbestos	Piping insulation etc.	120	0	0	0	0	120
Bisphenol A epoxy resin	Paint	1.1	< 0.1	0	0	0	0
Ethylbenzene	Paint	4.0	4.0	0	0	0	0
Xylene	Paint, power generation fuel and equipment cleaning	65	33	0	0	0	< 0.1
Dichloropentafluoropropane (HCFC-225)	Cleaning	4.3	4.3	0	0	0	0
Styrene	Paint	2.4	2.4	0	0	0	0
Thiourea	Chemical cleaning agent for boilers	3.0	0	0	0	0	0
Toluene	Paint, power generation fuel	35	7.0	0	0	0	0
Hydrazine	Water supply treatment agent	86	< 0.1	0	0	< 0.1	1.4
Benzene	Power generation fuel	1.2	< 0.1	0	0	0	0
Tridimethyl phenol phosphate	Power generation turbine control oil	18	0	0	0	0	15
Dioxins	Waste incinerator	—	70 (mg-TEQ/year)	0.035 (mg-TEQ/year)	0	0	3.9 (mg-TEQ/year)

*This table rounds off the handled quantity to t/year for Type 1 Specified Chemical Substances and to 0.5 t/year for Special Specified Chemical Substances (excluding dioxins).
*"0" indicates no discharge. *"< 0.1" represents discharge was less than 0.1 t/year.
*Dioxin quantities for facilities with certain conditions (waste incinerators etc.) are given only for discharge and transfer. Handled quantity, therefore, is not given.

Guidelines Reference Table

Pages relevant to GRI Sustainability Reporting Guidelines (2002 edition)

Item	Page
1. Vision and Strategy	
1.1	15–18
1.2	3, 4
2. Profile	
Organizational Profile	
2.1	1
2.2	1
2.3	67
2.4	25, 26, 53, 54
2.5	1
2.6	1
2.7	1
2.8	1
2.9	2
Report Scope	
2.10	Back cover
2.11	2
2.12	2
2.13	2
2.14	Not applicable
2.15	Not applicable
2.16	Not applicable
Report Profile	
2.17	87
2.18	37
2.19	38
2.20	2, 28, 29, 31, 32, 55, 56, 59, 60, 77, 78
2.21	2
2.22	2, 69, 70

Item	Page
3. Governance Structure and Management Systems	
Structure and Governance	
3.1	67
3.2	67
3.3	—
3.4	35, 67
3.5	—
3.6	35, 67
3.7	15–18, 33
3.8	69
Stakeholder Engagement	
3.9	2, 31, 32
3.10	23, 31, 32, 68–72
3.11	23, 31, 32, 69, 71, 72
3.12	23, 31, 32, 69, 71, 72
Overarching Policies and Management Systems	
3.13	16–18, 33, 47, 48, 62
3.14	—
3.15	29
3.16	22, 49, 75
3.17	35, 51
3.18	Not applicable
3.19	34, 61–64, 67
3.20	35, 36, 84
4. GRI Content Index	
4.1	87
5. Performance Indicators	
Whole System	39
Cross-sectional	38

Item	Page
5. Performance Indicators	
Economic Performance	
EC1	1, 81
EC2	*90
EC3	*103–105
EC4	*—
EC5	*103
EC6	*99, 106
EC7	*99, 106
EC8	*99, 104, 105
EC9	*110
EC10	41, 58
EC13	—
Environmental Performance	
EN1	33, 82
EN2	49, 52–54
EN3	33
EN4	33, 43
EN5	33
EN6	48
EN7	—
EN8	33, 39, 43
EN9	82
EN10	33, 47, 48, 83
EN11	33, 49, 51, 83, 84
EN12	47, 48
EN13	Not applicable
EN14	39
EN15	Not applicable
EN16	36, 75
EN17	39–43
EN19	50
EN22	47, 48
EN30	43
EN33	49
EN34	33, 49
EN35	37, 38

Item	Page
5. Performance Indicators	
Social Performance	
LA1	1, 63, 81
LA2	—
LA3	64
LA4	64
LA5	62
LA6	62
LA7	62, 81
LA8	61
LA9	—
LA10	63
LA11	—
LA12	64
LA13	64
LA15	62
LA16	63, 64
LA17	63, 64
HR1	61
HR2	75
HR3	—
HR4	61
HR5	64
HR6	61
HR7	61
HR8	61
HR9	61, 63, 74
HR10	61, 63, 74
SO1	16, 17
SO2	18, 74
SO3	18, 74
SO4	30, 42, 45, 57, 58
SO7	18, 73–75
PR1	16, 17, 21–25
PR2	16, 17, 21–25, 40
PR3	17, 76
PR6	50
PR8	23–25

*Pages in Kansai Electric Power Shareholders Report (http://www.kepco.co.jp/ir/securities/81).

Pages relevant to 2003 Guidelines for Environmental Reports

Item	Page
1. Basic items	
1)	3, 4
2)	2, 26, 72, Back cover
3)	1, 15–19, 26, 81, 90
2. Summary of environmentally-friendly policies, targets and results in business activities	
4)	16–18
5)	2, 34, 38, 82–86
6)	33
7)	37, 38
3. Status of environmental management	
8)	35, 36, 47, 48, 51, 84
9)	75
10)	40, 41, 44
11)	31, 32, 50, 57, 58, 72
12)	36, 47, 48
13)	45–48, 52, 58

Item	Page
4. Environmental impacts caused by business activities and status of efforts to reduce such impacts.	
14)	21, 33, 34, 41–43, 49, 52, 82
15)	21, 33, 34, 41–43, 49, 52
16)	33, 34, 43
17)	33, 34, 39–46, 82, 83, 85, 86
18)	47, 48, 85, 86
19)	1, 33, 50, 81
20)	33, 34, 49, 83
21)	33, 47, 48, 82, 85, 86
22)	33, 34, 49, 81
23)	34, 49
24)	33, 34, 37–39, 43, 50
5. Status of social efforts	
25)	21–25, 57, 58, 61–64, 68–72, 81

Please share your thoughts and opinions with us.

We have tried to provide concrete descriptions of Kansai Electric Power Group efforts so that more people will have an opportunity to understand them. However, we expect that our readers will find parts that are difficult to understand, information that is lacking and other faults. We would like to reflect the frank opinions and impressions of our readers in future efforts.
For this reason, we request that you kindly participate in our questionnaire on the back of this page.

Operations Management Group
Office of Corporate Planning
The Kansai Electric Power Co., Inc.
TEL: +81-6-7501-0276 (direct)

Please share your thoughts and opinions with us. FAX: +81-6-6441-8598

To: Operations Management Group, Office of Corporate Planning, The Kansai Electric Power Co., Inc

Please check the items most closely match your opinions or impressions.

Q1 Please tell us your impressions of the report. (Please choose one option and give us your reasons.)

(1) Content understandability

☐ Easy ☐ Average ☐ Difficult

Reason:

(2) Content quantity

☐ Long ☐ Average ☐ Short

Reason:

Q2 How do you feel about the efforts of our Group? (Please answer for each of chapters Ⅰ–Ⅵ and provide reasons.)

Ⅰ. Providing Safe and Stable Products and Services

☐ Very good ☐ Good ☐ Not very good ☐ Bad

Reason:

Ⅱ. Pioneering Efforts to Protect the Environment

☐ Very good ☐ Good ☐ Not very good ☐ Bad

Reason:

Ⅲ. Actively Contributing to Regional Society

☐ Very good ☐ Good ☐ Not very good ☐ Bad

Reason:

Ⅳ. Respect for Human Rights and Creation of Good Workplace Environments

☐ Very good ☐ Good ☐ Not very good ☐ Bad

Reason:

Ⅴ. Transparent, Open Business Activities

☐ Very good ☐ Good ☐ Not very good ☐ Bad

Reason:

Ⅵ. Thorough Compliance

☐ Very good ☐ Good ☐ Not very good ☐ Bad

Reason:

Q3 Which items in the report interested you? Which items do you think our Group should focus on or prioritize? (Please choose as many as apply.)

☐ Message from the President
☐ Feature About the Mihama Nuclear Power Station Unit 3 Accident
☐ Management Vision, CSR Action Charter, CSR Action Standards

Ⅰ. Providing Safe and Stable Products and Services

☐ Our Mission and Duty to Provide Stable Power Supply
☐ Safe and Stable Nuclear Power Generation
☐ Working to Provide the Best Service
☐ Creating Customer Value as a Unified Group
☐ Communication & Solutions
-Safety and quality management in corporate policies-

Ⅱ. Pioneering Efforts to Protect the Environment

☐ Efforts to Prevent Global Warming -2004 Highlights-
☐ Communication about the Environment
☐ Environmental Policy, Status Overview of Our Environmental Load, Targets and Results
☐ Environmental Management ☐ Environmental Accounting
☐ Confronting Global Environmental Issues (New ERA Strategy)
☐ Efficiency ☐ Reduction ☐ Activities Abroad
☐ Responding to Community Environmental Issues
☐ Promotion of Business Activities Suitable for a Recycling-Oriented Society
☐ Efforts to Reduce Radioactive Waste ☐ Eco-business Expansion
☐ Communication & Solutions
-the environmental measures and social responsibilities of electric power companies-

Ⅲ. Actively Contributing to Regional Society

☐ Contributions to Society as a Corporate Citizen
☐ Communication & Solutions
-Thinking about business social contributions and volunteerism-

Ⅳ. Respect for Human Rights and Creation of Good Workplace Environments

☐ Respect for Human Rights ☐ Labor Safety Assurance
☐ Equal Opportunity Employment and Creation of Comfortable Workplaces
☐ Communication & Solutions
-Thinking about respect for human rights and good workplace environments-

Ⅴ. Transparent, Open Business Activities

☐ Corporate Governance
☐ Diverse Opportunities for Communication with Customers
☐ Communication & Solutions
-Communication with members of society-

Ⅵ. Thorough Compliance

☐ Promotion of Autonomous Efforts in Each Workplace
☐ Organization of a Group-wide Compliance Promotion System
☐ Promotion of Information Security and Personal Data Protection
☐ Communication & Solutions
-Effective risk management through compliance-
☐ Third Party Commentary ☐ Reference Data
☐ Guidelines Reference Table

Q4 ○Please tell us your opinions and impressions of this report (for example, contents you would like included in the future). ○Please tell us your opinions and impressions of our group efforts and business activities (including, for example, expectations you have for us).

Q5 Please tell us your perspective as a reader of this report. (Please choose one that best applies.)

☐ Company customer ☐ Individual investor or stockholder ☐ Institutional investor or stockholder
☐ Someone who does business with the company ☐ Government or government-related
☐ NPO or NGO ☐ Mass media ☐ Responsible for CSR in another company ☐ Student
☐ Other Explain:

Q6 How did you learn about this report? (Please choose one that best applies.)

☐ Newspaper or magazine ☐ Kansai Electric Power website ☐ From a Group employee ☐ From a friend or acquaintance
☐ Other Explain:

Q7 What format is desirable for future reports? (Please choose one that best applies.)

☐ A brochure as in the past ☐ A brochure for the overview with the details on the Internet ☐ Internet only
☐ Other Explain:

Thank you for participating in this survey.

Name Gender ☐ Male ☐ Female Age

Address

Occupation (company name or organization)

✻The personal information that you provide in this questionnaire will be handled as follows.
1. Personal information that you provide will only be used to send you a copy of the next report published in 2006.
2. Opinions and impressions that you provide may be used in the report published in 2006, but nothing that could be used to identify you will be included.
3. With the exception of the following cases, we will not disclose your personal information to any third party.
• Cases when you consent to sharing the information
• Cases when we are legally obligated to provide the information
• Cases when we contract work to another business with which we have a confidentiality agreement

Main Places of Business (as of Sep. 20, 2005)

Business office	Address	Phone number
Headquarters	3-6-16 Nakanoshima, Kita-ku, Osaka 530-8270	06-6441-8821
Osaka-Kita Branch	3-9-3 Honjohigashi, Kita-ku, Osaka 531-8588	06-6373-1541
Kujo Sales Office	1-11-18 Kujominami, Nishi-ku, Osaka 550-0025	06-6582-2881
Ogimachi Sales Office	3-9-3 Honjohigashi, Kita-ku,Osaka 531-0074	06-6373-3131
Ikeda Sales Office	1-1-16 Ueikeda, Ikeda, Osaka 563-0027	072-752-5070
Mikuni Sales Office	2-13-31 Mikunihonmachi, Yodogawa-ku, Osaka 532-0005	06-6391-1061
Hokusetsu Sales Office	2-45-5 Izumi-cho, Suita, Osaka 564-0041	06-6384-1131
Takatsuki Sales Office	17-3 Sawaragi-cho, Takatsuki, Osaka 569-0084	072-676-3131
Moriguchi Sales Office	1-9-15 Yagumohigashimachi, Moriguchi, Osaka 570-0021	06-6908-4731
Hirakata Sales Office	1-1-6 Higashitamiya, Hirakata, Osaka 573-0023	072-841-1131
Osaka-Minami Branch	3-9-5 Hamaguchinishi, Suminoe-ku, Osaka 559-0006	06-6672-1301
Namba Sales Office	3-8-8 Shikitsuhigashi, Naniwa-ku, Osaka 556-0012	06-6631-4101
Higashi Sumiyoshi Sales Office	8-3-33 Imagawa, Higashisumiyoshi-ku, Osaka 546-0003	06-6700-3131
Higashi Osaka Sales Office	1-6-15 Kosaka, Higashiosaka, Osaka 577-0801	06-6787-5011
Habikino Sales Office	1-2-1 Karusato, Habikino, Osaka 583-0854	0729-56-3381
Minami Osaka Sales Office	2-2-20 Kumanochohigashi, Sakai, Osaka 590-0946	072-238-8681
Kishiwada Sales Office	3-4-4 Fujii-cho, Kishiwada, Osaka 596-0046	0724-22-4701
Kyoto Branch	579 Higashi-shiokojicho, Shiokoji-dori Karasuma Nishi-iru, Shimogyo-ku, Kyoto 600-8216	075-361-7171
Kyoto Sales Office	50-1 Koyamakitakamifusa-cho,Kita-ku, Kyoto 603-8142	075-491-1141 075-611-2131 0771-22-0149 0774-72-0029
Sonobe Sales Office	4 Misonomachi, Sonobe-cho, Funai-gun, Kyoto 622-0002	075-491-1141 075-611-2131 0771-22-0149 0774-72-0029
Fushimi Sales Office	293-3 Katahara-cho, Fushimi-ku, Kyoto 612-8361	075-491-1141 075-611-2131 0771-22-0149 0774-72-0029
Fukuchiyama Sales Office	3-82 Ekinan-cho, Fukuchiyama, Kyoto 620-0931	0773-22-3101
Maizuru Sales Office	704 Koaza-hama, Oaza-hama, Maizuru, Kyoto 625-0036	0773-62-2540
Miyazu Sales Office	2064-15 Tsuruga-cho, Tsuruga, Miyazu, Kyoto 626-0041	0772-22-2112
Mineyama Sales Office	775-10 Ogitani, Tamba, Mineyama-cho, Kyotango, Kyoto 627-0011	0772-62-0051
Obama Sales Office	14-53 Minamigawa-cho, Obama, Fukui 917-0075	0770-52-0890
Takahama Sales Office	16-5 Minamishioiri, 86 Miyazaki, Takahama-cho, Oi-gun, Fukui 919-2225	0770-72-1212
Mihama Sales Office	8 Yokota, 13 Goichi, Mihama-cho, Mikata-gun, Fukui 919-1141	0770-32-0025

Business office	Address	Phone number
Kobe Branch	6-2-1 Kano-cho, Chuo-ku, Kobe, Hyogo 650-0001	078-391-7211
Kobe Sales Office	6-2-1 Kano-cho, Chuo-ku, Kobe, Hyogo 650-0001	078-392-6200
Akashi Sales Office	2-14 Higashinakano-cho, Akashi, Hyogo 673-0886	078-912-2651
Awaji Sales Office	2-3-28 Yamate, Sumoto, Hyogo 656-0024	0799-22-0605
Hanshin Sales Office	2-33-60 Nishinagasu-cho, Amagasaki, Hyogo 660-0805	06-6481-3961 0798-67-3131 0797-85-0201
Sanda Sales Office	501-26 Miyanomae, Fukushima, Sanda, Hyogo 669-1313	079-563-2484
Himeji Branch	117 Junishomae-cho, Himeji, Hyogo 670-8577	0792-25-3221
Himeji Sales Office	2-1-2 Minamikurumazaki, Himeji, Hyogo 670-8502	0792-92-3131
Kakogawa Sales Office	2552 Kitazaike, Kakogawa-cho, Kakogawa, Hyogo 675-0031	0794-21-3201
Aioi Sales Office	1-12-1 Asahi, Aioi, Hyogo 678-0031	0791-22-0730
Toyooka Sales Office	7-37 Sanno-cho, Toyooka, Hyogo 668-0044	0796-22-3131
Yashiro Sales Office	1446-1 Yashiroazabessho, Yashiro-cho, Kato-gun, Hyogo 673-1431	0795-42-0260
Nara Branch	48 Omoricho, Nara 630-8548	0742-27-1237
Nara Sales Office	7-1-20 Omiya-cho, Nara 630-8530	0742-36-1201
Takada Sales Office	2-1-1 Higashinaka, Yamatotakada, Nara 635-0065	0745-53-1131
Shiga Branch	4-1-51 Nionohama, Otsu, Shiga 520-8570	077-522-2626
Shiga Sales Office	4-1-51 Nionohama, Otsu, Shiga 520-8570	077-522-2611
Hikone Sales Office	1880-10 Ishimochi, Matsubara-cho, Hikone, Shiga 522-8502	0749-22-0080
Yokaichi Sales Office	24-15 Yokaichimidorimachi, Higashiomi, Shiga 527-8585	0748-22-2111
Wakayama Branch	40 Okayama-cho, Wakayama 640-8145	073-422-4150
Wakayama Sales Office	40 Okayamacho, Wakayama 640-8145	073-422-8111
Shingu Sales Office	5-63 Noda, Shingu, Wakayama 640-8145	0735-22-5211
Tanabe Sales Office	22-10 Akebono, Tanabe, Wakayama 646-0021	0739-22-1212
Gobo Sales Office	29-1 Sono, Gobo, Wakayama 644-0002	0739-22-1212
Hashimoto Sales Office	6-7-22 Toge, Hashimoto, Wakayama 648-0072	0736-32-1245
Nuclear Power Division	8 Yokota, 13 Goichi, Mihama-cho, Mikata-gun Fukui 919-1141	0770-32-3500
Tokai District Office	2-27-14 Izumi, Higashi-ku, Nagoya 461-8540	052-931-1521
Hokuriku District Office	1-2-13 Higashi-denjigatamachi, Toyama 930-8513	076-432-6111
Tokyo District Office	Fukoku Seimei Building 2-2-2 Uchisaiwai-cho, Chioda-ku, Tokyo 100-0011	03-3591-9261
Fossil Power Center	770 Dai Building 3-6-32 Nakanoshima, Kita-ku, Osaka 530-6591	06-6459-0433
Kansai Electric Hospital	2-1-7 Fukushima, Fukushima-ku, Osaka 553-0003	06-6458-5821