

The Chemical Industry's Initiative to Protect the Environment and to Promote Safety and Health

Responsible Care

Report 2007



レスポンシブル・ケア®

Japan Responsible Care Council

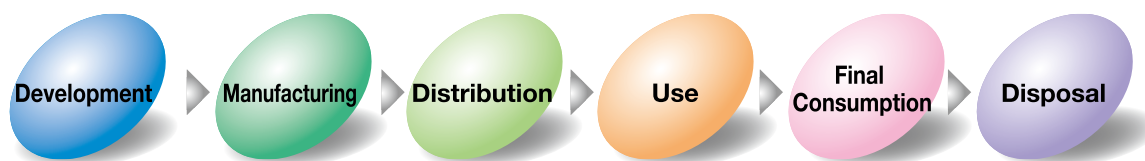
Do You Know about Responsible Care?

What Is Responsible Care?

Chemical substances are vital and indispensable to our daily lives. However, if they are improperly handled, they can be hazardous and can damage human health and the environment.

Concerns about health, safety and the environment are increasing due to the escalation of global environmental problems, the expansion of industrialization and new problems arising from technological developments. It is no longer possible to ensure environmental and human health and safety through legislation, and all parties who deal in or manage chemicals are required to take initiatives to protect health, safety and the environment.

The global chemical industry, comprising a multitude of corporations that deal with chemical substances, is working voluntarily to protect health, safety and the environment through every process from the development of chemical substances, their manufacture, distribution, use and final consumption to disposal as well as engaging in dialogue and communication with the public by openly disclosing performance. These initiatives are called "Responsible Care."



Responsible Care was initiated in Canada in 1985 and 1990 marked the establishment of the International Council of Chemical Associations (ICCA). Fifty-three countries around the world now implement Responsible Care (as of October 2007). In 1995, the Japan Responsible Care Council (JRCC) was established within the Japan Chemical Industry Association (JCIA) by 74 corporations, primarily companies engaged in manufacturing and handling chemical substances. With the establishment of the JRCC, the environment, safety and health activities of each company were harmonized and further intensified to promote public understanding of the chemicals industry.. As of October 2007, the JRCC comprised 103 corporate members.

The Responsible Care Logo

The logo, depicting a pair of hands and a model of a molecule, expresses the key message in handling chemical substances with care, and the ICCA has adopted the logo as an international mark to be used by corporations and associations that implement Responsible Care. Permission to use the logo has been granted to chemical industry associations in all ICCA member countries, as well as the respective members of those associations.

In Japan, the Responsible Care logo can be used only by the JCIA, the JRCC and the JRCC members.



Responsible Care Implementation Items

The JRCC and its members collectively take action in five principal areas:

- Environmental protection (protecting nature and health globally)
- Process safety and disaster prevention (striving to prevent disasters at industrial facilities)
- Occupational safety and health (protecting the safety and health of workers)
- Chemicals and product safety (clearly identifying the properties and handling methods of chemical products and protecting health, safety and the environment of all persons who handle these products, including customers)
- Distribution safety (preventing accidents during the transportation of chemicals and protecting human health, safety and the environment)

The JRCC and its members publicly report the results of these efforts to promote the following:

- Interaction/communication with the public.

These efforts are spearheaded primarily by the Planning and Management Committee. Under the committee are the Steering Committee and five working groups, which are responsible for annual reports, dialogue, member relations, international affairs and product stewardship.

* Refer to the JRCC web site: <http://www.nikkakyo.org/organizations/jrcc/top-e.html>

Table of Contents

The Chemical Industry's Initiative to Protect the Environment and to Promote Safety and Health

Responsible Care Report 2007

Do You Know about Responsible Care?	2
Message from the Chairman	4
The JCIA Guiding Principles for Improvement of Environmental, Health and Safety Conditions	4
About the Responsible Care Report 2007	5
JRCC Management	6
The JRCC Program of Activities and Progress Status	7
● Environmental Protection	8
Industrial Wastes Reduction Energy Conservation and Global Warming Preventive Measures / Environmental Protection / Chemicals Emission Reduction	
● Process Safety and Disaster Prevention	16
● Occupational Health and Safety	18
Safety Awards/ Symposium	
● Chemicals and Product Safety	20
● Distribution Safety	23
● Investment in Environmental Protection and Safety	24
● Members' Management System	25
● Member's Dialogue with the Public	26
Responsible Care Report / Communication with the Community	
● JRCC Activities	28
Dialogue with Society / Report Presentation	
● International Activities	30
● Interaction among Members	32
● Responsible Care Verification	33
Our Expectations for Responsible Care	34
The JRCC Members List	35

Message from the Chairman



Ryuichi Tomizawa

Chairman

The Japan Responsible Care Council

In the 21st century, we need to attain economic growth in harmony with the environment, instead of just pursuing economic affluence. To this end, we must always keep the importance of global sustainability in mind as a key component of the establishment of well-balanced society.

The chemical industry has been providing society with diverse environmental products and technologies, based on its accumulated know-how, as the industry that can make the greatest contribution to the sustainable development of society. At the same time, the industry has been playing an active role in meeting the requirements of the age, including protection of the global environment and management of chemical substances, through its Responsible Care (RC) activities, which are voluntary activities designed for the benefit of the environment, safety and health in every process from the development to disposal of chemical products.

Regarding the global warming problem for which measures are now being taken on a global scale, Japan's chemical industry has been steadily implementing its voluntary environmental action plans and has achieved more than expected over the last ten years. Japan's chemical industry will continue to pursue the achievement of higher goals through the concerted effort of all participants. In addition, the Japan Chemical Industry Association (JCIA) has decided to prepare energy conservation guidelines for corporate headquarters, sales offices and other facilities and to promote energy saving among households by conducting a campaign called "Accelerate by Chemical Industry for Cool Earth (ABC)." Furthermore

in November 2007, the JCIA published a booklet, "Compendium-Technologies on Energy Saving and Environment." These technologies will also help promote energy conservation in foreign countries. We will continue to implement such comprehensive measures to help solve the global warming problem, which is essential for ensuring global sustainability.

For the environment and safety, it is a global imperative to have strong management of chemical substances and shift from hazard-based management to risk-based management. In Japan, we are striving to help the national government formulate appropriate policies for the comprehensive management of chemical substances toward the future revision of the Law concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law) and the Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chemical Substances Control Law.) As for the REACH Regulation enforced in Europe in June 2007, which will exert a profound influence over the entire supply chain, it is important to share information among all those concerned in an appropriate and smooth manner. The JCIA has established a task force to deal with REACH-related issues and plans to create relevant guidelines to ensure that all interested parties have a clear understanding of the basic problems and respond appropriately and efficiently. In addition, we will collaborate widely with appropriate organizations, both within Japan and abroad, and conduct a range of activities, including reporting our opinions to the relevant authorities, giving practical support to member companies, and providing information on our website.

It is Responsible Care activities, which forms the basis of the continued existence of the chemical industry, that will provide a foundation from which to tackle various problems within the chemical industry as it stands today. In order to gain greater understanding and trust from society, the Japan Responsible Care Council (JRCC) will steadily implement its new medium-term RC plan, which reached its halfway point in 2007, in line with JCIA Guiding Principles for Improvement of the Environment and Health and Safety Conditions, as a member of that organization. We would appreciate the members' further understanding of and support for our activities.

November 2007



The JCIA Guiding Principles for Improvement of Environmental, Health and Safety Conditions

1. To improve continuously the environmental, health and safety performance, over the entire life cycle of our products, from research and development through to waste disposal, and to report openly the performance to society.
2. To manage our business activities so as to avoid harm to people and the environment as well as to guarantee that there is no threat to the environment, health and safety, during the transportation, storage and disposal of our products.
3. To promote the conservation of resources and energy and to minimize waste emission and to recycle waste efficiently.
4. To address the concerns of government officials and the public regarding the influence of our products and operations on the environment, health and safety, while disclosing relevant information to and having dialogues with them for proper understanding.
5. To enhance risk characterization and risk management based on sound scientific information in order to reinforce product stewardship within the chemical industry and with customers throughout the chain of commerce. To improve transparency, including ways to make relevant product stewardship information available to the public.
6. To cooperate with governments and organizations in the development and implementation of effective regulations and standards, and to promote voluntary initiatives for improving the environment, health and safety in addition to meeting them.
7. To support actively national and global Responsible Care governance process in order to ensure accountability of implementation of Responsible Care for the environment, health and safety.
8. To extend local, national and global dialogue processes to address expectations of stakeholders worldwide for the promotion of the environment, health and safety.

About the Responsible Care Report 2007

This report was prepared as a summary of the individual activities of the JRCC member companies, as well as the JRCC overall activities.

The activities were presented quantitatively by using member companies' responses to the questionnaire survey and the 2006 Responsible Care Implementation Report/Plan.

For the Responsible Care Report 2007, we used data provided by JCIA members on performance data items that can be tabulated.

This is the 12th publication since 1996.

Topics

• Progress regarding the JRCC medium-term plan (fiscal period 2006-2008)

The JRCC set out a program of activities for each of the priority issues specified in the medium-term plan formulated in fiscal year 2005, and has steadily been implementing programs since then. → P7

• A steady decrease in the amount of industrial waste for final disposal

The amount of final disposal of the industrial waste generated by the member companies in fiscal 2006 was about 349,000 tons representing a decrease by 52,000 tons from fiscal 2005, and this indicated an 83% decrease from fiscal 1990. → P8

• The setting of a new target for specific energy consumption

The chemical industry had set a goal of "reducing specific energy consumption to 90% of 1990 level by 2010." In fiscal 2006, the member companies actually achieved the goal by reducing it to 82% of the 1990 level. To achieve more, the industry has set a new goal of reducing specific energy consumption to 80% of 1990 levels by 2010. → P10

• A steady reduction in VOC emissions

The JCIA has been implementing measures to reduce the emissions of volatile organic chemicals (VOC). In fiscal year 2006, the Association achieved a 44% reduction from the level in the baseline year (2000). → P13

• The necessity of implementing more measures to ensure safety and security

The number of equipment- and labor-related accidents have both been increasing, and more countermeasures need to be implemented. → P16,18

• Establishment of a task force according to the REACH Regulation

In response to the enforcement of the new regulation on chemical substances, called REACH in Europe, the JCIA has established a task force to support member companies in implementing necessary measures. → P22

• Promotion of capacity building

In order to disseminate Responsible Care in ASEAN region, the JRCC has promoted the capacity building activities for human resource development and capability improvement by holding seminars there. → P30

• Participation in India Chem

The JCIA has exhibited at India Chem, an international chemical trade show held in India, to introduce its activities. → P31

• Establishment of the Responsible Care commendation program

To further encourage its members to engage in Responsible Care activities, the JCIA established a program to commend individuals and groups that have contributed to Responsible Care activities, and awarded the first commendations to the prize winners. → P32



• Responsible Care verification: 21 companies undertook in fiscal 2006

In fiscal 2006, a total of 21 companies undertook the verification, representing an increase of six companies from the preceding year. → P33

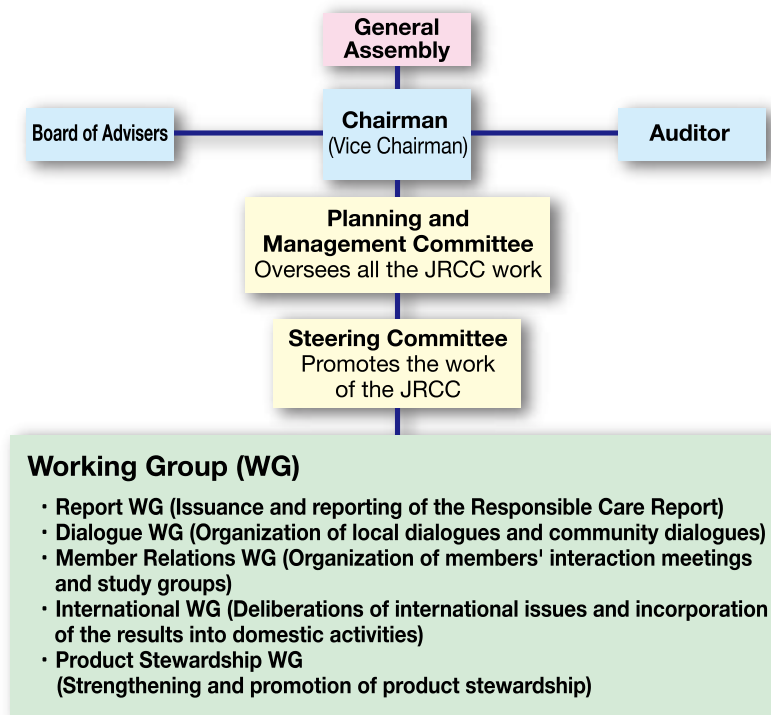
• Opinions from experts

Ms. Debbie Jackson, who is a journalist, and Professor Kenichi Togawa of Kumamoto University commented on Responsible Care activities. → P34

JRCC Management

The JRCC was established within the JCIA in 1995. Responsible Care is being implemented by the Steering Committee under the JRCC Planning and Management Committee, with five working groups as the focal point. Task forces may be temporarily created as necessary.

Organizational Chart of the JRCC



Member Activities



When members engage in the practice of Responsible Care, they abide by the seven Codes of Responsible Care, which provide for the basic implementation items, and strive to implement the PDCA cycle by themselves.

They prepare their implementation program (Plan), perform their activities (Do), conduct self-assessment by internal audit (Check), prepare the Implementation Report and Performance Data to be submitted to the JRCC, and at the same time perform reviews and suggest improvements (Act) for adoption into the next program.

The Internal Audit Assessment Matrix is a checklist based on the respective Codes of Responsible Care, which makes use of a ranking from 1 to 5, with 5 being the highest. The collated results are presented as graphs and are illustrated in this report as "Members' Self-Assessment."

Self Assessment Scores and Categories

Higher than 4.5: Completely satisfactory
 3.5 to 4.5: Nearly satisfactory
 2.5 to 3.5: In the process
 Less than 2.5: Need to adopt

The JRCC Program of Activities and Progress Status

In fiscal year 2005, the JRCC prepared its new medium-term plan (fiscal period 2006-2008), and has since been conducting activities based on the policies contained in the plan, by focusing on the following key issues.

JRCC Policies

To strive for dissemination of the Responsible Care Global Charter in cooperation with the JCIA, in accordance with the JCIA new Guiding Principles for Improvement of the Environmental, Health and Safety Conditions

Key Issues of the JRCC medium-term plan

- ① Further enhancement and promotion of product stewardship *¹
- ② Promotion of continuous improvement and dissemination of Responsible Care activities
- ③ Fulfillment of accountability by improvement of verification activities
- ④ Further recognition of Responsible Care activities by society
- ⑤ Promotion of capacity building *² in ASEAN countries
- ⑥ Enhancement of the functions of the JRCC Management System

※ 1. Product stewardship (PS): Refer to p. 20.

※ 2. Capacity building: Refer to p. 30.

FY 2006 Program of Activities/ Progress Status and FY 2007 Implementation Plan

	FY 2006 Program of Activities	FY 2006 Progress Status	FY 2007 Implementation Plan
Information Disclosure	<ul style="list-style-type: none"> • Preparation and publication of the Responsible Care Report 	<ul style="list-style-type: none"> • Prepared the Report • Held report briefings in Tokyo and Osaka • Responsible care reports published by a total of 72 member companies 	<ul style="list-style-type: none"> • Preparation and publication of the Report
Communication	<ul style="list-style-type: none"> • Continuation of dialogue meetings with local communities and citizens • Implementation of dialogue meetings with consumers and students • Continuous provision of risk communication training 	<ul style="list-style-type: none"> • Held dialogue meetings with local communities in 8 areas • Held dialogues with consumers in Tokyo and Osaka • Held a dialogue meeting with students in Tokyo • Held the 3rd risk communication training • Held a meeting for general citizens to read the Responsible Care Report • Revised the brochure on Responsible Care 	<ul style="list-style-type: none"> • Continuation of dialogue meetings with local communities • Review of the details of the dialogue meetings with citizens and implementation of the meetings • Continuous provision of risk communication training
Dissemination of Responsible Care Activities	<ul style="list-style-type: none"> • Encouragement of group registration by members 	<ul style="list-style-type: none"> • Number of companies that registered as a group: 144 (Increased by 21 compared with the preceding year) 	<ul style="list-style-type: none"> • Active promotion of group registration by members
International Activities	<ul style="list-style-type: none"> • Participation in RCLG's annual meeting in Chile • Participation in India Chem 2006 • Support to Asia 	<ul style="list-style-type: none"> • Participated in RCLG's annual meeting in Chile • Exhibited at India Chem 2006 • Gave support to Asian countries, including the Philippines and Vietnam 	<ul style="list-style-type: none"> • Participation in RCLG's annual meeting in Paris • Participation in the 10th Asia Pacific Responsible Care Conference (APRCC 2007) • Support to Asia
Chemicals and Product Safety	<ul style="list-style-type: none"> • Further enhancement and promotion of product stewardship (PS) 	<ul style="list-style-type: none"> • Participated in a meeting to examine programs to implement product stewardship (PS) based on the GPS* developed by the ICCA 	<ul style="list-style-type: none"> • Further enhancement and promotion of PS • Promotion of specific measures at the Product Stewardship WG in cooperation with the JCIA
Support of Members' Responsible Care Activities	<ul style="list-style-type: none"> • Organization of interaction meetings and study meetings • Examination and implementation of a Responsible Care commendation program 	<ul style="list-style-type: none"> • Held interaction meetings for members in Nagoya and Tokyo • Held a study meeting in Tokyo • Launched a Responsible Care commendation program • Awarded the first commendation under the program 	<ul style="list-style-type: none"> • Organization of interaction meetings and study meetings • Implementation of the Responsible Care commendation program
Responsible Care Verification	<ul style="list-style-type: none"> • Increase in the number of members undergoing verification • Higher credibility of Responsible Care activities through verification 	<ul style="list-style-type: none"> • Conducted verification in 21 companies (increased by 6 companies compared with the preceding year) 	<ul style="list-style-type: none"> • Increase in the number of members undergoing verification • Improvement of the verification details • Improvement of training provided to those engaged in verification

The Global Product Strategy (GPS) is a strategy for voluntary activities to be conducted for the comprehensive management of chemical products.

Environmental Protection <Industrial Wastes Reduction>

Reduction Program

Based on the Annual Report on the Environment and a Sound Material-Cycle Society in Japan 2007, the reduction in the final disposed waste volume over the past few years has expanded the remaining capacity of Japan's industrial waste disposal sites, as of the end of 2004 from the preceding year. The site's remaining life span has been extended by approximately one year, over the national average, to 7.2 years. However, this does not change the fact that it is still important for the creation of a recycling society to continue reducing industrial waste. In compliance with the Voluntary Environmental Action Plan of the Japan Keidanren, the JCIA has accepted the target of an 88% reduction in final disposed waste volume from the 1990 level, by the year

2010. Further, in 2004, the final disposed waste volume of the chemical industry accounted for approximately 8% of that of all industries.

From the outset the JRCC, by defining standards, has encouraged its members to establish voluntary targets that incorporate the JCIA annual and long-term targets for the reduction of the volume of industrial waste. The JRCC members have been promoting activities to reduce, reuse and recycle waste. Surveys show that more than half of the members have established a voluntary definition of zero-emission for simple incineration and final disposed volume.

Status and Performance: Waste Generation Volume, Rate of Effective Use of Resources and Final Disposal Volume

Waste Generation Volume and the Rate of Effective Use of Resources

The JRCC members have taken various initiatives to reduce industrial waste at source, such as the improvement of production yields by reviewing raw materials and production processes, and the recovery and reuse of waste into the manufacturing process. The industrial waste volume in 2006 was reduced by approximately 33% from the 1990 level. However, this was approximately a 2.6% increase over the 2005 level.

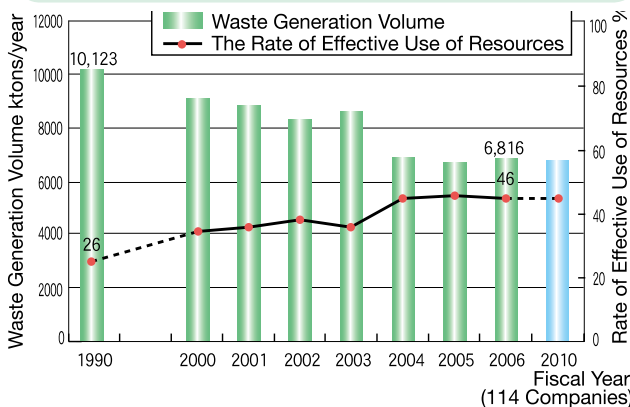
Further, members actively engage in recycling sludge into raw material for cement and re-using waste oil and plastics. The rate of the effective use of resources (ratio of the volume of resources effectively used in the generated waste volume) was approximately 26% in 1990. The rate improved to approximately 46% in 2006.

Final Disposed Volume

The final disposed volume of waste generated by members in 2006 was approximately 349,000 tons, 52,000 tons less than in 2005. This is a reduction of approximately 83% from the 1990 level. The final disposed volume for 2010 is predicted to be approximately 87% reduction from the 1990 level.

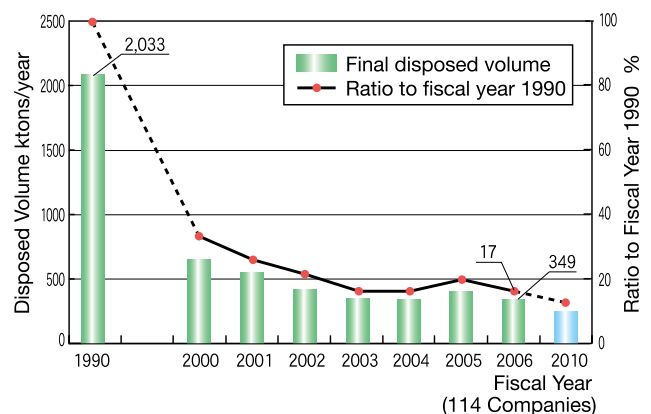
Reduction in the final disposed volume and appropriate disposal management are strengthened every year. The verification of recovery of industrial waste manifests and local patrolling of the final disposal area are being performed.

Industrial Waste Generation and the Rate of Effective Use of Resources (JCIA data)



Based on the Law on Promoting Effective Use of Resources, the volume of sludge has been computed after drying since 2004.

Final Disposed Volume (JCIA data)



Creating a Recycling Society

Other than voluntarily reducing the volume of waste, the JRCC member companies also accept waste from outside, contributing to the creation of a recycling society by using its own recycling technologies. Examples of recycling include the use of waste tires for fuel, the use of sludge for raw

material in cement, recovery and re-use of waste styrofoam, re-use of waste plastics, recycling of chlorine and bromine from waste solutions, re-use of television glass, chemical recycling of chemical fibers and the establishment of a recycling system for waste paints.

Examples of Member Companies' Initiatives

Zero emissions of packaging materials

Asahi Kasei Homes Corporation

Asahi Kasei Homes has worked to achieve zero emissions from packaging materials (cardboard packaging) at home construction sites. Zero emission has been achieved by developing reusable, returnable packaging materials, in cooperation with home furnishing and building material suppliers, and by making the control of returnable packaging material easier at construction sites, with the development of an IC tag-based packaging material tracking system. By means of a small reader/writer, the system enables on-site reading and writing of historical information about packaging material – such as when the material was first used, how many times it has been re-used, and whether it was cleaned or repaired – from an IC tag attached to returnable packaging material.

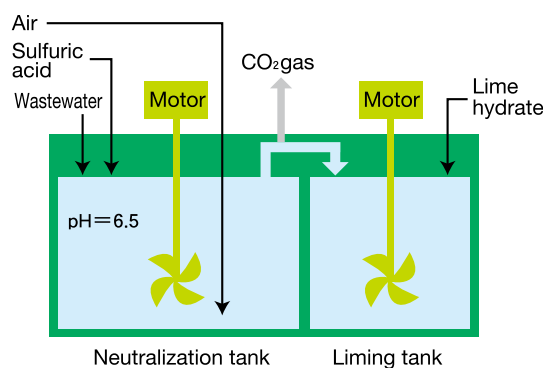


A drastic reduction in sludge (drainage process)

Sumitomo Chemical Co., Ltd.

At Sumitomo Chemical's Oita Plant, phosphorus is removed as sludge by treating wastewater with lime hydrate. In this process, the reaction of carbon dioxide remaining in the wastewater with lime hydrate generates a large volume of sludge as a by-product. Sumitomo Chemical has succeeded in decarboxylation by introducing a new treatment method: sulfuric acid is added to wastewater before the lime hydrate to adjust the wastewater's pH to a constant level and air is bubbled through the mixture. By using this method, the company succeeded in drastically reducing the amount of sludge (4,000 tons annually).

Decarboxylation Facility (wastewater treatment equipment)



Recycling of PTP packaging materials

Mitsubishi Tanabe Pharma Corporation

The MP-Technofarma Corporation's Ashikaga plant, an affiliate of Mitsubishi Tanabe Pharma, uses three types of materials for PTP (press through package) packaging: PP (polypropylene), PVC (polyvinyl chloride), and PVDC (polyvinylidene chloride), according to the characteristics of products. Although PVDC sheeting has excellent moisture-proof properties, the recycling thereof is difficult because it contains chloride. From March 2006, PVDC was used at the plant and disposed of in landfills. However, since December 2006, PVDC sheets have been recycled entirely by outside recycling companies.

PTP Sheet Recycling at the Ashikaga Plant

Type	Volume Generated (tons)	Recycling Rate	Recycled materials	Usage
PP	18.8	100%	Recycle plastic fuel	13/ Fuel for boilers, etc.
PCV	8.1	75%	Building material	Plastic tiles, etc.
PVDC	4.3	100%	Gas, electricity, and industrial salt	Fuel used to generate power. material for soda

Environmental Protection <Energy Conservation

With the first commitment period for the Kyoto Protocol (from 2008 to 2012) drawing near, industry was required to make contributions not only by conventional energy conservation measures in production, but also by employees taking measures in offices and non-production sectors, and even in the household sector, in fiscal year 2006. In particular, the chemical industry has approximately 400,000 employees and their spill-over effect in their households is significant. The JCIA, therefore, will embark on energy conservation activities targeted at the household sector through chemical companies' employees.

The JCIA endeavors to reduce the emission of greenhouse gases by implementing two voluntary action plans, not only for reducing CO₂ emissions from fossil fuel consumption through energy conservation activities, but also by reducing the emission of CFC substitutes (HFC, PFC and SF₆). It also supplies materials that can facilitate energy conservation in automobiles, electric home appliances and housing industries.

Energy Conservation Targets and Performance

Based on the Nippon Keidanren Voluntary Environmental Action Plan, the JCIA, in 1996, set a target to reduce the unit energy consumption by 2010 to 90% of the 1990 fiscal year level. The members attained this goal ahead of schedule, in 2002, with the unit energy consumption steadily improving thereafter, to the point that in 2006 the performance achieved was 82% of the 1990 level.

The JCIA has set an ambitious target as a non-binding goal: a reduction to 80% of the 1990 level by 2010. In 2006, this improvement in unit energy consumption paved the way for a 320,000-kl reduction in energy consumption and a 170,000-ton reduction in CO₂ emission from the 2005 level.

Energy Conservation Measures

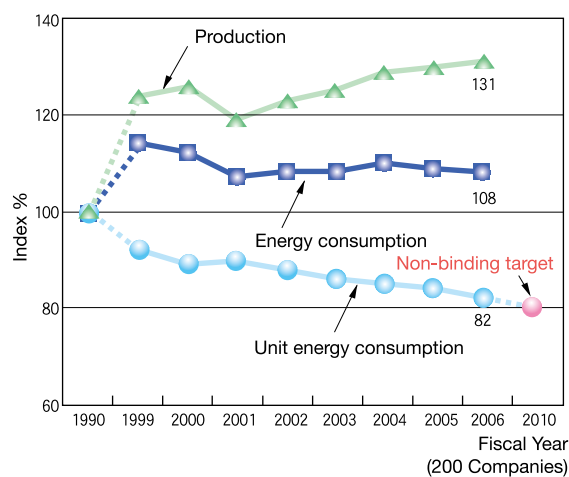
The 2006 fiscal year performance survey of the JCIA shows that there were 353 cases of energy conservation and CO₂ reduction, with investments amounting to more than 43 billion yen. This reduction in energy, converted to crude oil, amounted to 285,000 kl. Among energy conservation measures, those that accounted for a particularly large share, amounting to almost 80%, were improvements in equipment/machinery efficiency and operation and the recovery of waste heat energy.

Reduction in Greenhouse Gas Emission

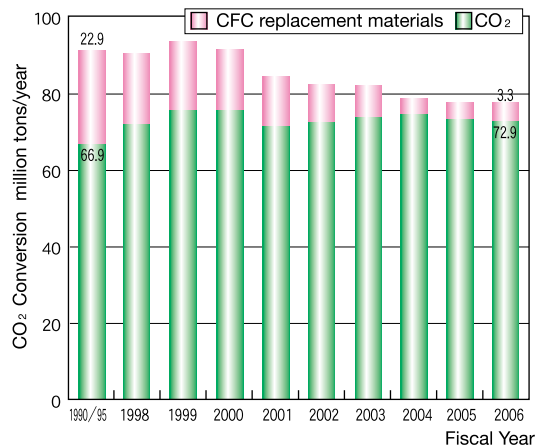
The volume of CO₂ emission by the JCIA in fiscal year 2006 was reduced by 170,000 tons from the previous year, although in comparison to the 1990 level, it increased by 9.0%.

However, if a reduction in the emission of chlorofluorocarbon replacement materials, achieved in cooperation with the Japan Fluorocarbon Manufacturers Association is taken into account, greenhouse gas emissions were reduced by 15% from the 1990 level.

Trends in and Forecasts of Unit Energy Consumption, Energy Consumption, Production (assuming that the FY 1990 index is 100: JCIA data)



Greenhouse Gas Emissions (JCIA data)



Moreover, many chemical companies have private power generation facilities. In recent years, wood biomass has been used together with fossil fuel in these facilities to reduce CO₂ emissions from fossil fuel combustion.

and Global Warming Preventive Measures)

International Contribution

To prevent global warming, it is necessary to take measures at both domestic and global levels. China and India, which are showing remarkable economic growth, are also expected to play a major role in this effort. The JCIA has prepared a library of energy-conserving and environment-related technologies, owned by Japanese chemical companies, and has started introducing such technologies to those who need them. Specifically, the JCIA participated in the Japan-China Energy Conservation and Environmental Issues Forum held in Beijing in September 2007, announced the establishment of the library of successful cases, and presented some of the cases. The JCIA expects that these technologies will be used in China.



Examples of Member Companies' Initiatives

Biomass power generation

Kuraray Co., Ltd.

Kuraray's Kurashiki Plant introduced biomass fuel (scrap wood from dismantled buildings) for boilers as an alternative to coal in 2002. After securing a stable supply of scrap wood and overcoming technological issues, the company improved its facilities. Kuraray has expanded the annual use of biomass fuel from 1,000 to 16,000 tons and the operation is now on track. This has reduced the plant's environmental impact by reducing CO₂ emissions by 22,000 tons. The plant will expand the use of biomass fuel even further to reduce the use of coal, aimed at reducing CO₂ emissions. The plant was commended by the General Director of the Kurashiki Regional Development Bureau for this project.



Cross-Company Energy Conservation Activities

Sumitomo Chemical Co., Ltd.

Japan has already achieved the world's highest level of energy conservation and it was considered virtually impossible to achieve further savings within the conventional framework, where conservation activities were being planned and implemented in an uncoordinated manner by each plant.

Sumitomo Chemical Co., Ltd., in cooperation with Fuji Oil Co., Ltd. located in the oil refining and petrochemical complex in Chiba, achieved dramatic energy conservation

equivalent to 10,700 kl of crude oil per year, thus reducing CO₂ emissions by 28,000 tons annually. Employing Chiyoda Corporation's method of analyzing heat usage, the two companies shared exhaust heat (lower than 150°C) at their plants.

The three companies won the Agency for Natural Resources and Energy Director-General Award jointly for their exceptional, multi-site project that transcended company boundaries.

Environmental Protection <Chemicals Emission

The JRCC has been involved in voluntary projects to reduce emissions of chemical substances.

Introduction of a System of Pollutant Release and Transfer Register (PRTR)

In 1992, the JCIA investigated the PRTR system in foreign countries and started conducting a pilot study on 13 substances in Japan. In 1994, the JCIA established guidelines for investigation and estimation instructions and commenced practical investigations. The results were announced through the Ministry of Economy, Trade and Industry. Afterward, the number of substances subjected to investigation was gradually increased and reached 284 in 1998. Since 2000, a total of 480 substances, including 354 substances specified by the PRTR Law, have been investigated.

The figures below show the JCIA member companies' emissions of the substances specified by the PRTR Law and those subjected to the JCIA voluntary investigations during the period 2000 to 2006.

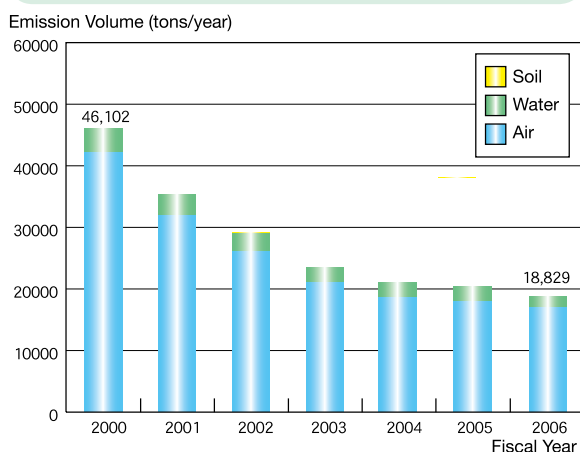
Total emissions of the 354 substances specified by the PRTR Law were 18,829 tons in fiscal year 2006,

representing a 59% reduction from the 2000 fiscal year levels. Emissions into the air, water and soil accounted for 90%, 10% and less than 0.1%, respectively.

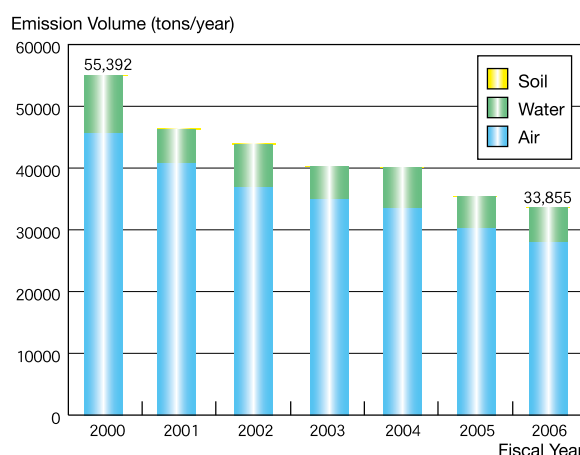
The total emissions of the substances subjected to JCIA voluntary investigations (126 substances: those specified by the law were excluded from the 480 substances) were 33,855 tons in fiscal year 2006, representing a 39% reduction from the 2000 fiscal year levels. Emissions into the air, water and soil accounted for 83%, 17% and less than 0.1%, respectively.

The member companies have examined the results of the investigation and have attempted to achieve further reductions in emissions to the environment by actively promoting various programs such as the prevention of the leakage of hazardous substances, improvements in recovery/recycling and the introduction of alternative substances.

Emission of Substances Specified by the PRTR Law (JCIA data)



Emission of Substances Subjected to Voluntary Investigation (JCIA data)



Data for ten major substances appear on the following website:
<http://www.nikkakyo.org/organizations/jrcc/report/2007/data.html>

Efforts to Reduce Toxic Air Pollutants

The JCIA carried out the voluntary management program for two terms from fiscal year 1995 and tried to reduce the 12 substances designated as priority target substances. In the second program, which started in fiscal year 2001, the total volume of the 12 substances was reduced from 10,482 tons in the 1999 standard year, to 4,080 tons according to the performance in fiscal year 2003, representing a high reduction rate of 61%, although the mean target reduction

rate of the 12 substances was set at 30% in fiscal year 2003.

Since fiscal year 2004, continuous efforts have been made to reduce the 12 priority target substances within the framework of PRTR activities. In fiscal year 2006, the total volume of the 12 substances was 3,595 tons and efforts for further reductions have been made.

12 Priority Target Substances

The Central Environment Council designated 22 substances as priority target substances among toxic air pollutants. Of these, the following 12 substances were selected according to the following criteria: the carcinogenic potential, amount of production/importation and detection in the environment.

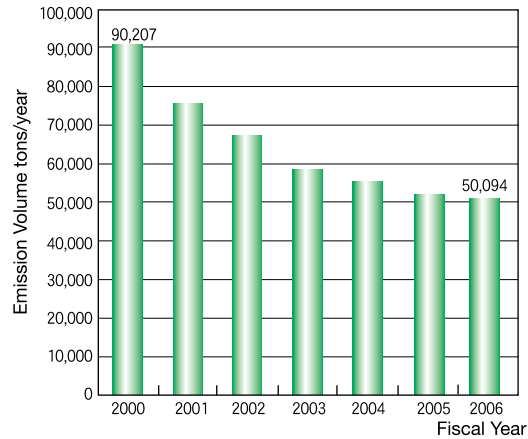
- ① Acrylonitrile,
- ② Acetaldehyde,
- ③ Ethylene oxide,
- ④ Vinyl chloride monomer,
- ⑤ Chloroform,
- ⑥ 1,2-dichloroethane,
- ⑦ Dichloromethane,
- ⑧ Tetrachloroethylene,
- ⑨ Trichloroethylene,
- ⑩ 1,3-butadiene,
- ⑪ Benzene,
- ⑫ Formaldehyde

Efforts to Reduce Volatile Organic Compounds (VOC)

The Air Pollution Control Law, promulgated in April 2006, provides for the control of emission of volatile organic compounds (VOC). The law specifies that the emission of VOC into the air should be reduced by approximately 30% from the 2000 fiscal year level (standard year) by fiscal year 2010 by means of the best mix of regulatory control and voluntary initiatives by industry. The Law aims to prevent the adverse effects of photochemical oxidants.

The JCIA has accumulated members' numerical targets and estimates that it can reduce VOC emission by 51% in fiscal year 2010, compared with the 2000 fiscal year level. According to the result of the investigation in 2006, the JCIA member companies emitted a total of 50,094 tons of VOC and achieved a 44% reduction, compared with the level of the standard year. It is estimated that these figures reflect the member companies' efforts such as installation of VOC emission control facilities and process improvements.

VOC Emission (JCIA data)



Volatile Organic Compounds (VOC)

VOC is the generic term used to refer to organic compounds that are volatile and become gases in the air. Major VOC are used in paints, printing ink, adhesives, and cleaning agents as organic solvents. There are about 200 substances classified as VOC such as toluene, xylene and ethyl acetate.

Examples of Member Companies' Initiatives

Reduction in VOC emissions through facility renovation

Sumitomo Chemical Co., Ltd.

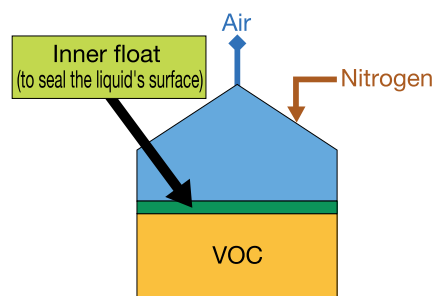
Sumitomo Chemical's Chiba Works is systematically promoting measures to reduce chemical substances (PRTR substances and VOC) released into the environment.

Of the PRTR-targeted substances, the plant emitted vinyl acetate the most. To deal with this substance, Chiba Works added a flare stack* to incinerate waste gas from the ethylene vinyl acetate emulsion plant in fiscal year 2006. Moreover, remodeling is being done to treat waste gas from their polyethylene plant with boiler facilities. The remodeling is scheduled for completion in February 2008. These measures are expected to reduce the release of vinyl acetate into the air by approximately 70% from the 2002 fiscal year level.

Chiba Works will install inner floats in VOC storage tanks to control the volatilization volume. The plant also treats the waste gas from drying facilities of a synthetic rubber plant with a heat storage incinerator to reduce the atmospheric VOC release. These measures are expected to reduce VOC emissions by approximately 30% of the 2000 fiscal year level by 2010.



Waste gas from the plant is incinerated in a flare stack



Controlling the volatilization volume by installing inner floats in a VOC storage tank

*Flare stack: a facility to incinerate waste gas generated in a plant, remove harmful substances, and release safe gas into the air

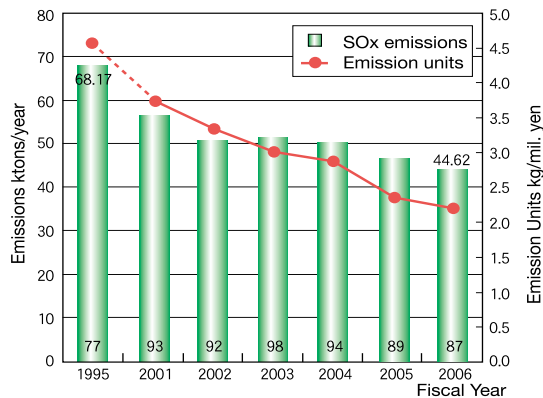
Environmental Protection <Chemicals Emission

Efforts to Prevent Air and Water Pollution

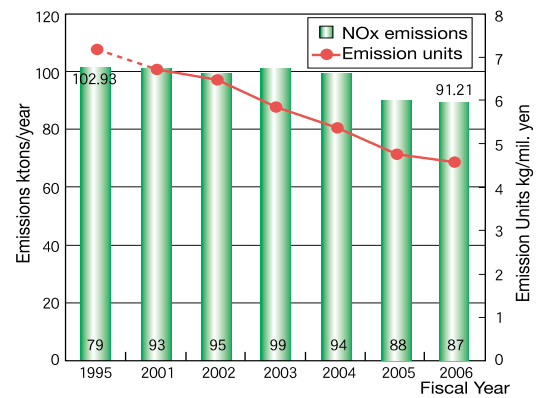
Thus far, domestic chemical companies, from the perspective of pollution prevention, have reduced the emission of air and water pollutants significantly. Since 1995, the JRCC member companies have established voluntary management standards more stringent than those provided for by law.

By complying with agreements with local governments, members are working to further reduce emissions. The member companies have achieved a remarkable reduction in all substances, compared with the levels of the standard year.

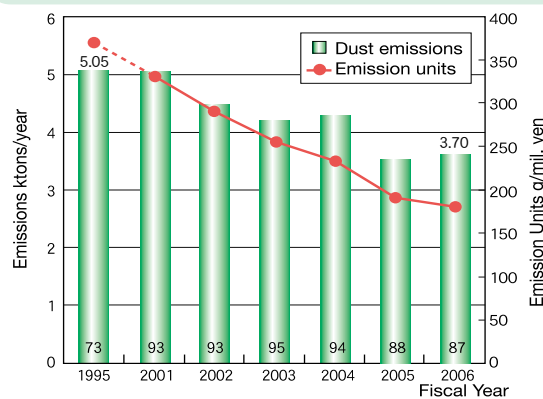
SOx Emissions



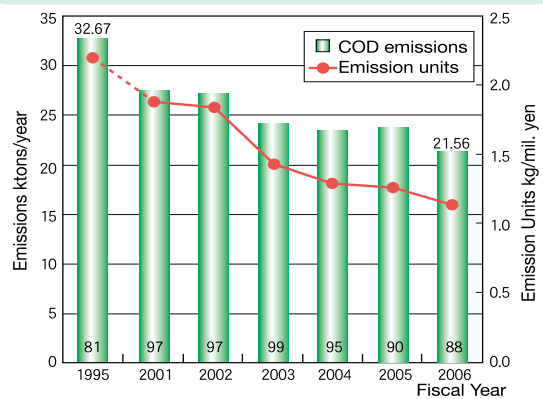
NOx Emissions



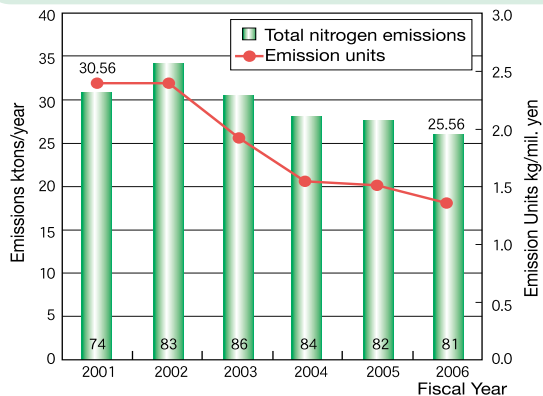
Dust Emissions



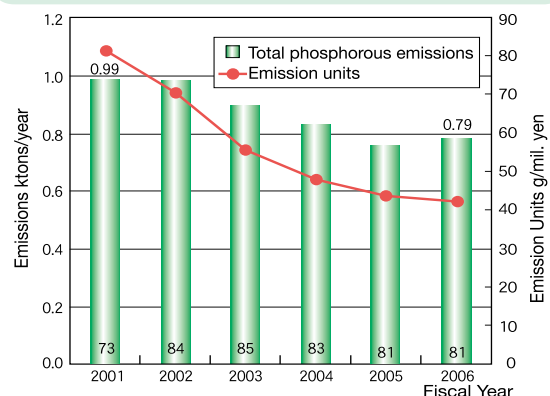
COD Emissions



Total Nitrogen Emissions



Total Phosphorous Emissions



- ※ The figures in the bars indicate the numbers of companies that submitted data.
- ※ Emission Unit: Since members' businesses are varied and the production unit cannot be indicated as one, the index is designed to show units per sales (million yen).
- ※ Collection of data for total phosphorous and nitrogen emissions started in fiscal year 2001.

Initiatives on Soil and Groundwater Contamination

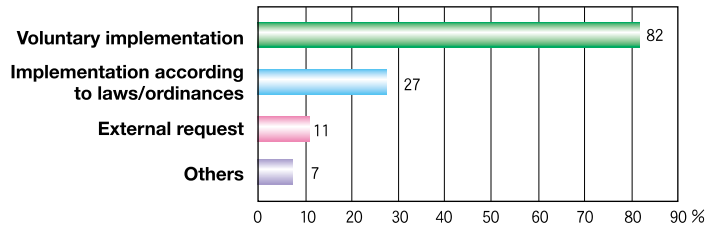
The JRCC member companies promote voluntary investigation/countermeasures, as well as regulatory investigations/countermeasures according to the Soil Contamination Countermeasures Law.

Of the 87 companies who responded to the questionnaire survey, 45 investigated contamination of soil/groundwater at 87 sites in fiscal year 2006. Twenty one of the 45 companies detected contamination that exceeded the environmental standards at 29 sites.

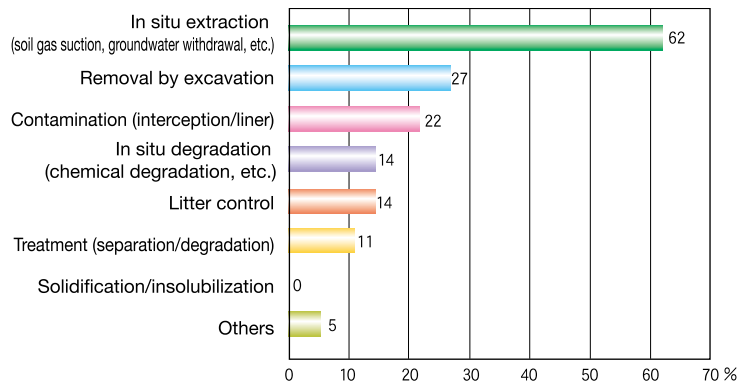
The reasons for implementing the investigation were also queried in the survey. Voluntary implementation of the investigation ranked first and accounted for 82%, while implementation according to the law or ordinance accounted for 27%. Substances other than those specified by law were also examined in 16 investigations.

In fiscal year 2006, 37 companies carried out contamination countermeasures at 55 sites, including sites where contamination had been detected before. In addition to removal by excavation, contamination is being addressed by in situ extraction, containment, in situ degradation and various other methods.

Reasons for Implementation of Investigation (multiple answers allowed)



Countermeasures against Contamination (multiple answers allowed)



PCB initiatives

Of the 89 companies that responded to the questionnaire survey, 80 (89%) retain PCB waste (PCB waste or discard devices containing PCB).

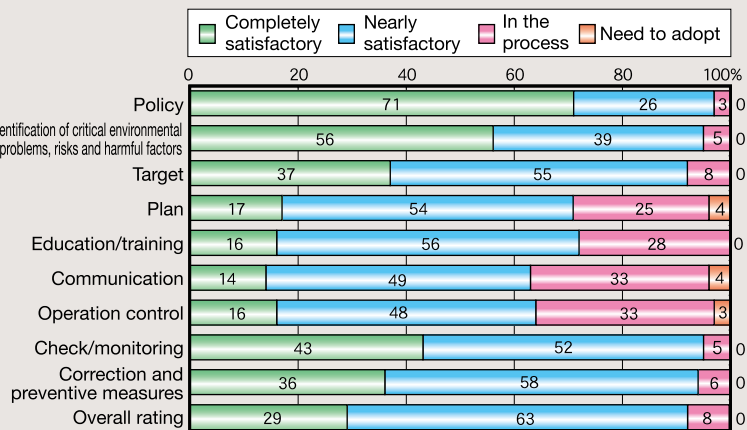
In fiscal year 2006, the number of members that conducted

PCB waste treatment increased from the previous year, to nine companies. Because the Japanese Government is implementing the PCB waste treatment project fully, the number of member companies engaging in PCB waste treatment is expected to increase.

Members' Self-Assessment

Environmental Protection

The overall pattern is almost the same as that of the previous year. The percentage of "need to adopt" companies, however, decreased. With regard to the items for which many companies selected "in the process," their selection indicated that they presumably do not meet all of the wide-ranging, various requirements specified in the check list. (For example, in "plan" and "education/training," there are many check items. For "communication," the scope covered by the item is specified as "information relating to the emission of wastes and chemical substances" and for "operation control," extensive activities covering design, development and procurement are required.)



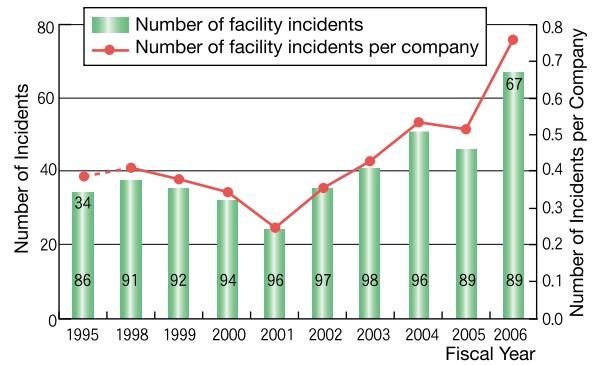
Process Safety and Disaster Prevention

In recent years, the numbers of serious accidents has increased in the manufacturing industry in general. Since the establishment of the Coordinating Committee for Industrial Accidents through public-private partnership in 2004, efforts have been made to prevent accidents. Information on accidents is shared across industries, and information is exchanged on the roles of management, methods of transmitting skills, and facility risk management.

The number of facility incidents per member company reached a low in fiscal year 2001. However, this has showed an upward trend since then. In fiscal year 2006, the number exceeded that of fiscal year 2004, reaching a record high level.

The JRCC member companies regard security and disaster prevention as an important management mission and top executives actively promote safety control activities. They are also investing aggressively in security, process safety and disaster prevention. Last year, this investment reached a record high, amounting to 68.7 billion yen.

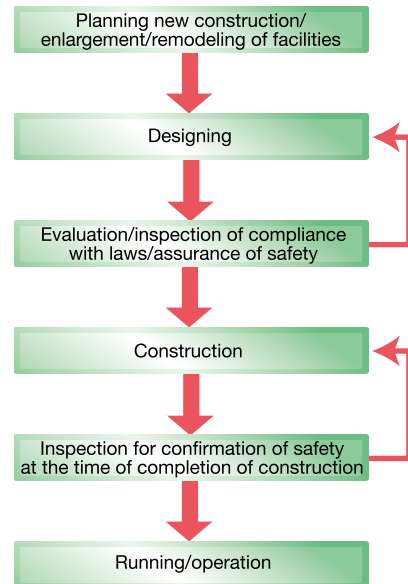
Facility Incidents (Explosion, Fire, Leakage, etc.)



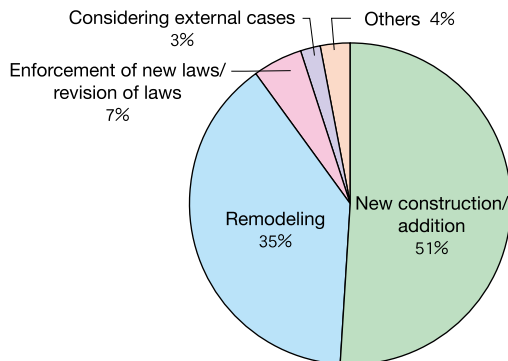
The figures in the bars indicate the numbers of companies that submitted data.

Prior Facility Evaluation and Management

To prevent accidents, it is important to conduct risk assessment. One of the forms of risk assessment is the prior evaluation of facilities. The survey results show that 90% of the members conduct prior evaluations of their facilities. Upon construction of new facilities and enlargement or remodeling of facilities, member companies conduct a comprehensive inspection of their facilities prior to operation. As illustrated by the flowchart on the right, safety is confirmed from various perspectives in the design and construction phases, in view of eliminating or mitigating risks.



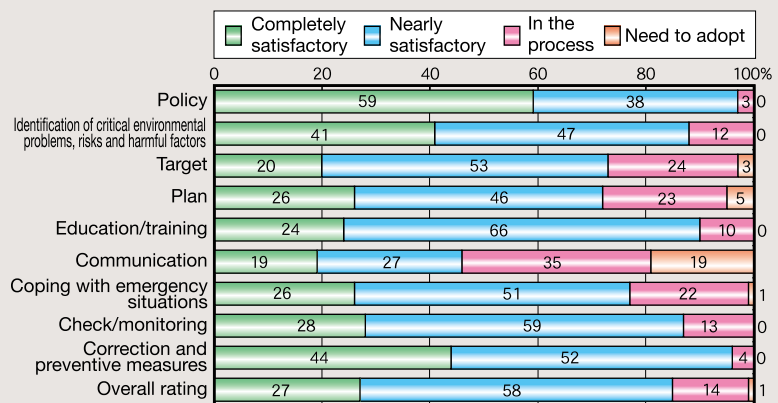
Reasons for Conducting Prior Facility Evaluation



Members' Self-Assessment

Process Safety and Disaster Prevention

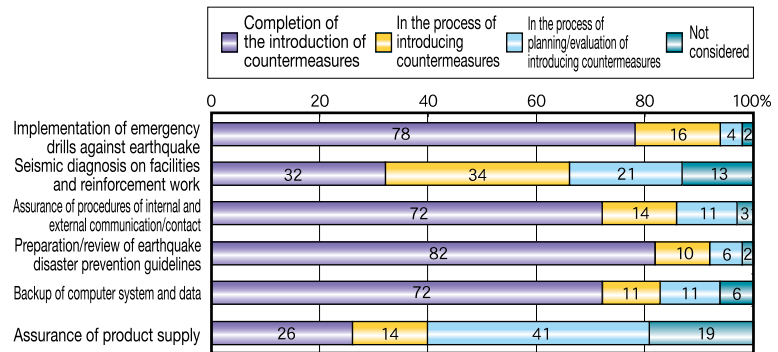
Generally, the proportion of each rating is almost the same as the previous year. However, there are some items for which the percentage of "in the process" increased. For "overall rating," the combined percentages of "in the process" and "need to adopt" increased by nine points from the previous year. Regarding "communication" under which dialogue with residents is required in the check list, improvements still need to be made for the items for which "in the process" and "need to adopt" were selected.



Countermeasures for Large-scale Earthquakes

Some scientists say that Japan is now in a seismically active period. In recent years, earthquakes have occurred frequently and the general public has taken a keen interest in how companies respond to earthquakes. According to the member companies' responses to the questionnaire survey, more than 80% of them have completed, or are in the process of introducing, countermeasures: implementation of emergency drills against earthquakes; seismic diagnosis on facilities and reinforcement work; and preparation/ review of earthquake prevention guidelines. Meanwhile, 60% of members are planning, evaluating or have not considered measures to assure product supply in case of large-scale earthquakes and this issue remains a future challenge.

Responses to Questionnaire on Earthquake Countermeasures in Fiscal Year 2006



Emergency Drills

Member companies regularly conduct various emergency drills such as report contact drills, disaster prevention drills and emergency measure drills.



The drill for rescuing injured persons
Drills for rescuing injured persons in unexpected disasters and accidents are performed.



Comprehensive disaster prevention drill
In addition to drills within a self-protection, disaster prevention organization within a company, comprehensive drills are performed for large-scale accidents and disasters, in cooperation with group companies, adjacent companies, the police and fire station.



Wide-area crisis management drill
Companywide drills are performed so that information, reports and instructions are properly conveyed between plants and a head office in case of earthquakes and other major disasters.



Occupational Health and Safety

The prevention of labor accidents is a major industry-wide commitment to be fulfilled. Each JRCC member company constantly strives to improve its safety levels, intending to achieve the complete elimination of occupational accidents.

★ Transition in the frequency rate (frequency rates of accidents)

The frequency rates of accidents in the JRCC member companies and their affiliates are lower than the frequency rates of accidents in the manufacturing sector and the chemical industry. In recent years, the frequency rates have remained almost constant in member companies.

The frequency rates in affiliate companies have been on the increase in recent years. In 2006, however, the rate decreased from the previous year.

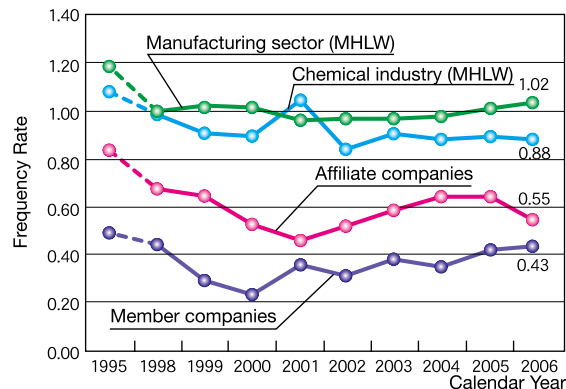
★ Transition in the severity rate (severity of accidents)

Although the severity rate recorded by member companies was lower than those for the manufacturing sector and the chemical industry, the rate increased slightly in fiscal year 2006 from the previous year.

The rate for members' affiliate companies increased significantly from the previous year, which was an all-time low. This is because of an increase in fatalities caused by occupational accidents.

The causes of occupational accidents that occurred were thoroughly investigated at each relevant company. They have taken measures to prevent such accidents from recurring. Member companies continue to improve safety levels, both at their own sites and those of affiliate companies, aiming at enhanced safety and the complete elimination of accidents.

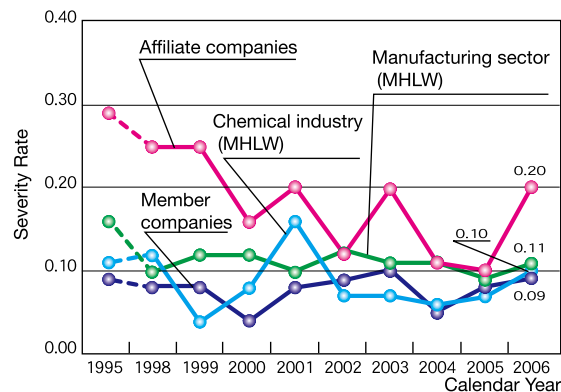
Transition in the Frequency Rate Frequency Rate = $\frac{\text{Number of lost-time injuries}}{\text{Total work hours (per million hours)}}$



The Number of Fatalities in Labor Accidents

	1995	1998	1999	2000	2001	2002	2003	2004	2005	2006
Member companies	2	3	3	2	1	1	2	1	1	2
Affiliate companies	4	9	4	1	3	1	3	2	2	5
The chemical industry (Ministry of Health, Labor and Welfare: MHLW)	35	30	28	26	24	22	25	22	22	25
The manufacturing sector (MHLW)	417	305	344	323	326	275	293	293	256	268

Transition in the Severity Rate Severity Rate = $\frac{\text{Lost days}}{\text{Total work hours (per thousand hours)}}$

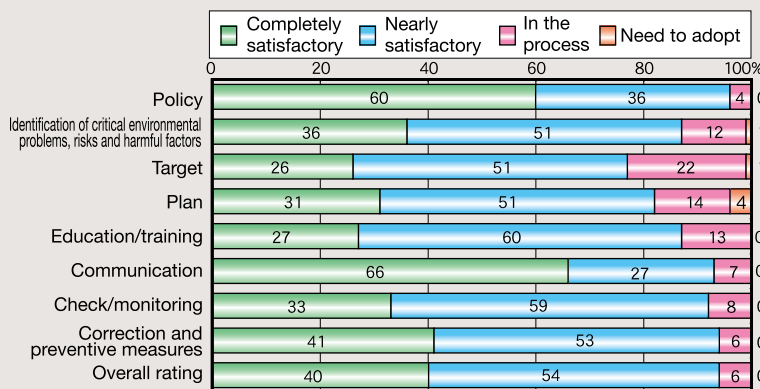


Members' Self-Assessment

Occupational Health and Safety

The overall rating is almost the same as that of the previous year.

Compared with the previous year, the total of "in the process" and "need to adopt" answers increased by eight points. The ratios of "completely satisfactory" answers increased in Policy and Communication by 5 points and 6 points, respectively.



Introduction of Alternatives to Asbestos Products

The JCIA is promoting the introduction of alternatives to asbestos products for safety reasons, the use of which is permitted for the time being, such as in sealing materials. Based on reports from its member companies, the JCIA makes public alternative products with proven performance, so that a switch to non-asbestos products can be made,

firstly for applications where safety has been confirmed. In cooperation with member companies, the JCIA started demonstration experiments last year to assess the quality and safety of prospective alternative products for use in extremely harsh conditions.

Occupational Safety and Health (Safety Awards/ Symposiums)

In 2000, in collaboration with the JCIA, the JRCC started to honor companies that devoted special efforts to assure safety and to hold a safety symposium in which the winners report their safety assurance activities.

Safety Awards/ Symposium

As part of a voluntary campaign for the promotion of process safety and health in the chemical industry, in collaboration with the JCIA, the JRCC honors exemplary companies that conduct excellent safety activities. For the 31st awards in 2007, 13 companies participated in the award competition. In the safety award meeting (held by the JCIA and the JRCC), the following five companies were selected. The awarding ceremony was held as part of the JCIA General Assembly in May 2007.

Safety Award:	Ichihara Works, Mitsui Chemicals, Inc.
Safety Effort Award:	Chiba Plant, Kawasaki Works, Asahi Kasei Chemicals Corporation Tomobe Plant, Asahi Kasei Metals, Ltd. Corporate R&D Center (Toke), Showa Denko K.K. Goi Factory, Chisso Petrochemical Corporation

On June 21, 2007, 130 people participated in the safety symposium in Hatsumeikaikan. The symposium consisted of two parts. In the first session, the directors of the five sites that received the awards reported on their activities. In the second session, a panel discussion entitled "How to Maintain Conditions without Disasters, Focusing on the Roles of Top Executives" was held.

For details, please visit the JCIA website or see JRCC News No. 46.

- JCIA website: (General page) "Environmental Safety" → "Safety Assurance Measures" → "Safety Symposium"
<http://www.nikkakyo.org>
- JRCC News: http://www.nikkakyo.org/organizations/jrcc/news/index_46.html

The activities promoted in the Ichihara Works of Mitsui Chemicals, Inc., the winner of Safety Award, are explained below.



Located in the Keiyo industrial complex in Ichihara City, Chiba Prefecture, Mitsui Chemicals' Ichihara Works has unified the management of its operation with a General Management System (GMS) that integrated management systems for the environment (ISO14001), quality (ISO9001), occupational health and safety (OHSAS18001) and security, based on its principle of attaining safe and stable operations. Unique initiatives of the Works include nurturing a Safety Engineer (SE) to raise the level of safety technology. SEs who have studied a one-year safety engineering course at universities, play a central role in safety activities at the plant. The SEs are also responsible for educating the worksite and shift SEs.

Moreover, a simulator to hand down operational skills has been developed and used to train engineers who have not yet experienced plant startups. The simulator allows such engineers to virtually experience problems at the plant and helps teach them both theory and practice. Efforts are also being made to computerize shift workers' reporting tasks for enhanced efficiency and accuracy.



Chemicals and Product Safety

As a responsible supplier of chemical products, the JRCC clearly explains the properties of products and their handling procedures and engages in activities that assure and protect the safety and health of persons who handle such products, including its customers, and that preserve the environment. On the basis of the concept of product stewardship, and in cooperation with the JCIA, the JRCC organized a working group to promote its activities to realize the concept of product stewardship: the manufacturer of a product assumes the responsibilities of a business operator, through the product's supply chain, in the user's health, safety in use, and environmental preservation throughout the life cycle of the product.

Investigation/Research on the Safety of Chemical Substances

HPV: The Organization for Economic Cooperation and Development (OECD) has instituted a data gathering and testing project to assess chemical hazards for approximately 4,800 high production volume chemicals (HPV chemicals, the annual production of which is above 1,000 tons, or 1 million pounds in the United States). The JCIA expressed its decision to participate in the project in 1998 and encouraged its members to join. Presently, approximately 120 Japanese chemical companies take part in the project. Japanese companies have been involved in the initiative as the leading companies for 50 chemicals.

The Japan Challenge Program: In 2005, this industry-government collaboration program was established as a framework for collecting safety information about chemical substances and disseminating the collected information widely to the public. About 700 substances, which are produced or imported annually in Japan in quantities exceeding 1,000 tons, are selected as priority substances for information collection. The safety information will be collected in line with similar overseas programs until 2008. These results will be compiled into a database by the government and made widely available to the public.

LRI: The chemical industries in Japan, the United States and Europe cooperate to conduct long-term voluntary research on the influences of chemical substances on human health and the environment (LRI: long-range research initiative).

The LRI aims to fulfill the following goals through research:

- To expand scientific knowledge on chemical substances and their impact on health and the environment
- To develop new testing and screening methods to enhance the chemical industry's capabilities of managing products

- To support governments in their science-based decision-making on public policies, thereby fulfilling part of the industry's responsible care tasks

Using funds contributed by member companies, the JCIA supports long-range research initiatives, taking into account unique situations in Japan, focusing on themes of special importance to the chemical industry, such as endocrine disruptors, neurotoxicity, chemical carcinogenesis, and immunotoxicity. Research themes are solicited from the public and research results are made public in an annual report. A meeting to report on research projects is also held once a year. For further information, visit the LRI website operated by the JCIA (<http://www.j-lri.org/>).

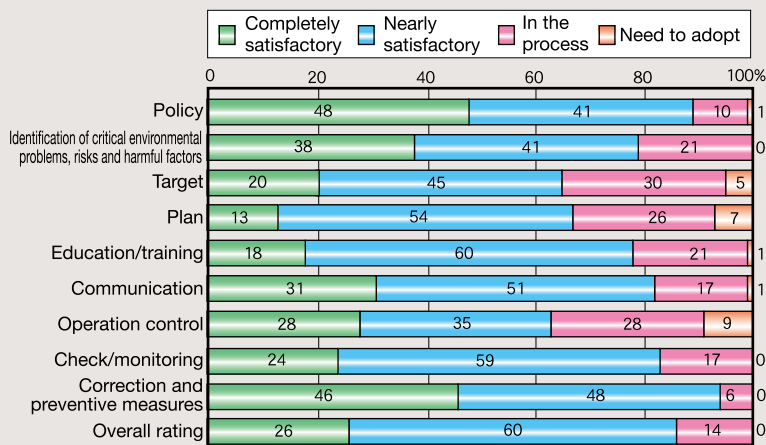


Members' Self-Assessment

Chemicals and Product Safety

Generally, the composition is almost the same as that of the previous year.

For Targets, Plans and Operation controls, requirements on the check list are yet to be met.



The Provision of Product Information

Preparation and Distribution of Material Safety Data Sheets (MSDSs)

An MSDS is an instruction manual to be distributed by a supplier of chemical products to user companies. It provides them with the information necessary for the safe handling of chemical products and prevention of accidents (properties of chemical substances contained in products, how to handle the products, emergency measures, applicable laws, etc.). MSDSs are revised as necessary when a related law is revised, new information about toxicity is obtained or related information is provided by manufacturers.

Although substances for which MSDSs are to be submitted are specified in the PRTR Law, the Industrial Safety and Health Law, and the Poisonous and Deleterious Substances Control Law, 87 of 91 JRCC member companies that responded to the questionnaire voluntarily issue MSDSs for substances (products) which are not subjected to these laws and distribute these to their customers, based on the concepts of responsible care and product stewardship.

When an MSDS is revised, the member companies provide the revised contents to their customers. Generally, the member companies provide such information through their distributors (67 companies, accounting for the largest percentage), sending revised MSDSs to customers directly (25 companies), and through the websites of suppliers (23 companies). Nineteen companies attach MSDSs to products upon shipment.

Suppliers of chemical products should advise their customers how to handle such products safely. For this purpose, from the viewpoint of responsible care, they must

know how their customers use or process the chemical materials, what commercial products are made from such materials, and what products are provided to consumers. As to what a chemical product is used for, of the 91 companies, 79 companies said that they collected information on more than 80% of the products they supplied and 9 companies said they collected information on more than 50% of their products. As to how a chemical product is used, 47 companies indicated they obtained information on more than 80% of the products they supplied, while 28 indicated they obtained information on more than 50% of their products.

Provision of Information for User Sectors

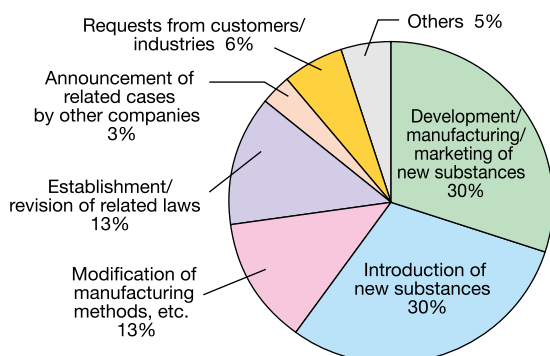
An increasing number of customers recognize the importance of "green procurement" investigation and request suppliers to submit a report about the management of chemical substances and a report detailing the "contents of specified chemical substances" in the supplied materials. This has had a significant impact on the chemical industry, which supplies raw materials and ingredients. Accordingly, the JCIA voluntarily organized a working group to discuss a practical, effective method for disclosing information and proposed the use of MSDSs and information sheets on the contents of specified chemical substances. Member companies have adopted the method, as these sheets provide their customers with the information the customers most need. For further information, visit the JCIA website (<http://www.nikkakyo.org/>).

Prior Chemical Substance Safety Assessment

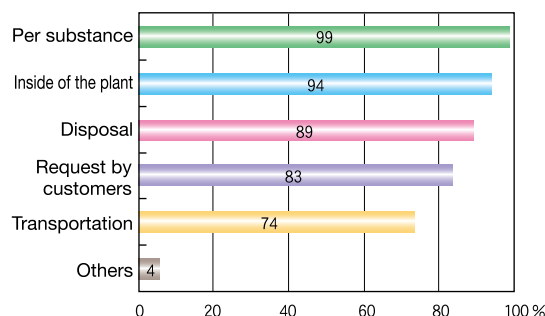
A Prior Chemical Substance Safety Assessment is conducted to identify the safety issues and concerns of chemical substances (explosiveness, inflammability, acute/chronic toxicity) and evaluate their effects on the users' health and the environment. Not only new substances, but also existing substances are subjected to this assessment

when they are introduced in their own processes, or when methods of manufacture, transportation, use, and disposal have been changed. This assessment can be introduced as a measure for emergency response as well for risk reduction. Approximately 80% of member companies have prior assessment standards.

Reasons for the Implementation of Prior Assessment



Application of Prior Assessment Standards (Multiple answers allowed)



Chemicals and Product Safety

Preparing for REACH

The Regulation, Evaluation, Authorization and Restriction of Chemicals (REACH), a new European chemical substance regulation, was adopted in December 2006 and entered into force on June 1, 2007. The implementation of REACH has had a widespread influence on the safe management of chemical substances, which reaches beyond the EU and all along the supply chain. Therefore, it is necessary to take prompt and appropriate action to meet the specific requirements of REACH.

In consideration of REACH's impact on the chemical industry, the JCIA organized the Japanese Chemical Companies Council in Europe in September 2004 and has lobbied for appropriate requirements of the regulation through various channels.

The JCIA also held workshops on REACH to provide up-to-date information to member companies on August 9, 2006 and April 26, 2007.

Furthermore, in order to reinforce a framework to support the chemical industry's compliance with REACH, the JCIA set up a REACH Task Force Team within the Association on April 1, 2007. The JCIA supports its member companies registering with REACH, provides information, and



communicates with related companies and associations. The JCIA also facilitates cooperative work with related government agencies, industry associations, and other countries associated with the ICCA.

Implementation of GHS

The GHS is a system that aims for an internationally harmonized approach to classification and labeling of chemical substances. The United Nations recommends that each member country adopt the GHS by 2008.

Japan is studying whether or not to incorporate the GHS mechanism into relevant Japanese laws. Firstly, the Industrial Safety and Health Law was amended to adopt GHS-labeling requirements and the GHS-MSDSs of designated chemical substances. Labeling, especially, has also been required for chemical substances covered by the Industrial Safety and Health Law. Upon this revision, labeling in accordance with the GHS has become obligatory.

The JCIA, in cooperation with other industry associations, has made the utmost effort toward the smooth operation of the GHS. The JCIA has cooperated with governments by holding seminars to disseminate the GHS, reinforcing consulting services and providing a list of FAQs on its website.

The JCIA has also prepared guidelines to help members comply with the GHS and provided support by introducing the guidelines and holding seminars. The guidelines are under review by the JCIA, in response to the revision of the United Nations' document in July 2007.



Distribution Safety

The JRCC conducts a variety of activities to reduce environmental and safety risks involving the distribution of chemicals. The JRCC evaluates the influence of chemical products and transportation facilities to prevent accidents and implements emergency drills so that those involved in distribution can promptly cope with emergency situations, including unexpected leakage during transportation. In addition, the JRCC encourages related parties to prepare and carry Yellow Cards to provide emergency response crews with chemical information.

Preparation of a Yellow Card/ Container Yellow Card

For chemicals covered by the Poisonous and Deleterious Substances Control Law and the High Pressure Gas Safety Law, transporters are required to carry official transportation documents. The JClA considers the possibility of unexpected accidents during transportation of substances other than controlled substances and encourages its member companies to utilize emergency contact cards containing the necessary measures to be taken by those concerned, including tanker drivers, firefighters and police officers. Because such important measures are printed on a piece of yellow paper, the contact card is called a Yellow Card.

Chemical products may be put in containers for transportation and a large variety of chemical products may be transported simultaneously. In this case, several Yellow Cards may be carried by one transporter. In view of such possibilities, the JClA prepared a label (Container Yellow Card) to identify the product concerned promptly and accurately, and be able to respond quickly in emergency situations. It encourages those concerned in distribution to paste Container Yellow Cards on the containers of chemical products.

Carrying of Yellow Cards

Member companies were asked whether they confirmed that Yellow Cards are carried and 91% of 92 members answered "yes."

The Implementation of Container Yellow Cards (label type)

Container Yellow Cards were introduced in fiscal year 2002. 73% of the members, including those with partial introduction, have introduced Container Yellow Card. After the introduction of the GHS system, these labels are continuously used to provide important information for persons who have to handle emergency situations.

Manual for Emergency Situations, Emergency Contact System, and Drills

Member companies strive to sustain around-the-clock emergency contact and mutual support systems with the

fire and police departments and related companies, and implement emergency drills so that they can cope with unexpected accidents promptly and assure safety during transportation.

(1) Preparation of manuals for coping with emergency situations/dissemination of such manuals

Ninety-nine percent of member companies have prepared their own manuals for emergency situations.

(2) Establishment of around-the-clock contact networks

Ninety-seven percent of member companies have established their own around-the-clock contact networks.

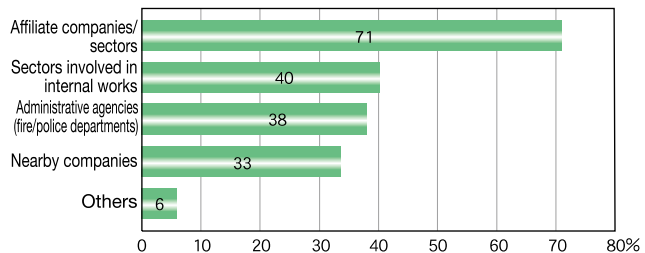
(3) Implementation of drills for coping with emergency situations

Eighty-eight percent of member companies have implemented drills for coping with emergency situations.

A Mutual Support System for Emergencies

Eighty-seven percent of member companies have established mutual support systems for emergency situations. The substances covered by this system are combustible solids/liquids/gases, high-pressure gas, corrosive substances and acutely toxic substances. Mutual support partners include affiliate companies/plants, the sectors involved in internal works and administrative agencies (fire/police departments).

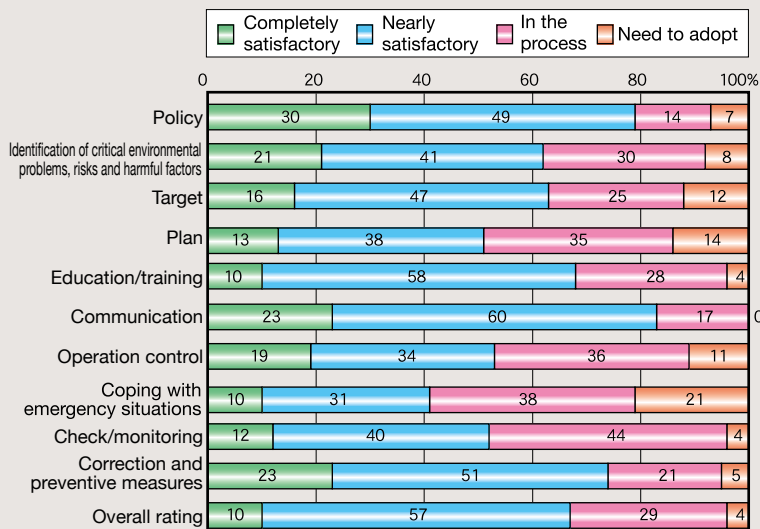
Sectors/Agencies that Member Companies Support Mutually in the Event of Accidents (Multiple answers allowed)



Members' Self-Assessment

Distribution Safety

Generally, the composition is almost the same as that of the previous year. For "coping with emergency situations," the check list requires dialogue with local residents, support in drills performed by suppliers, and setting and enhancing targets for the performance of drills, in addition to the development of emergency response manuals and organizations.



Investment in Environmental Protection and Safety

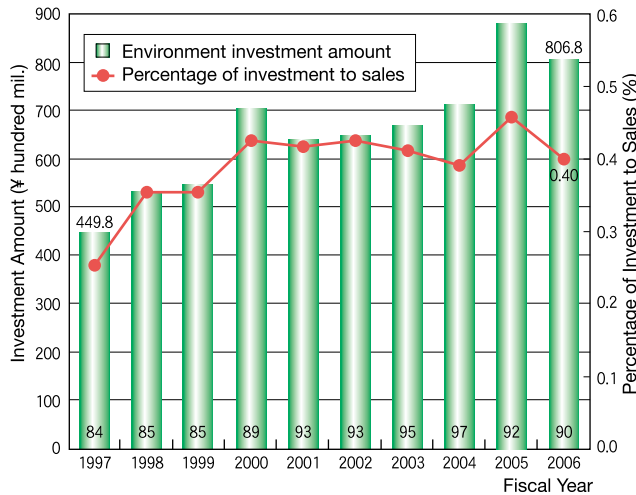
Trends in Investment in Environmental Protection

The JRCC member companies recognize the importance of environmental protection and continue to invest in environmental measures.

In fiscal year 2006, the total investment in environmental

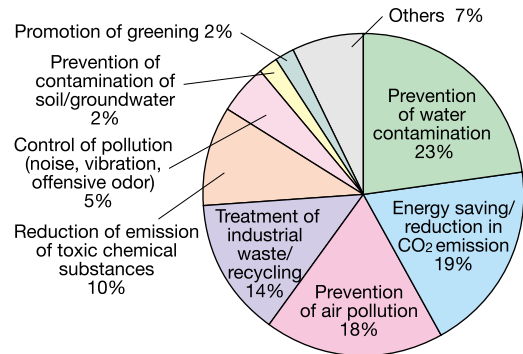
measures was about 80.7 billion yen (a 9.5% decrease from the previous year). The percentage of investment to sales was 0.4%, thus remaining at a high level.

Investment in Environmental Measures



The figures in the bars indicate the number of companies that submitted data.

Categories of Investment in Environmental Measures in Fiscal Year 2006



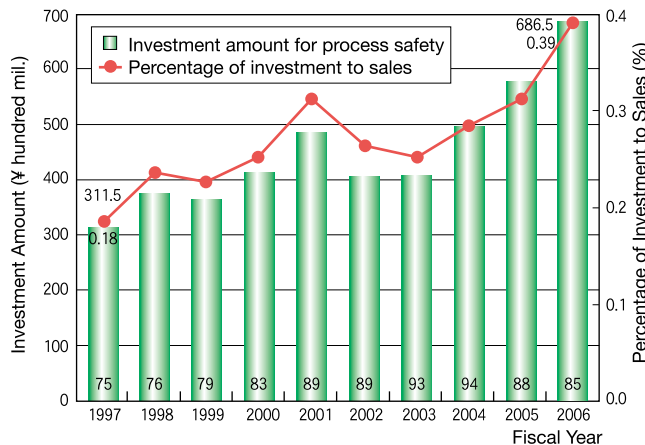
Trend in Investment in Process Safety and Disaster Prevention

The prevention of occupational and facility accidents is a major industry-wide commitment to be fulfilled.

Each member company continues investing extensively, not only in the worker-related aspect of environmental measures including countermeasures for safety management, but also in the hardware aspect of the measures, including

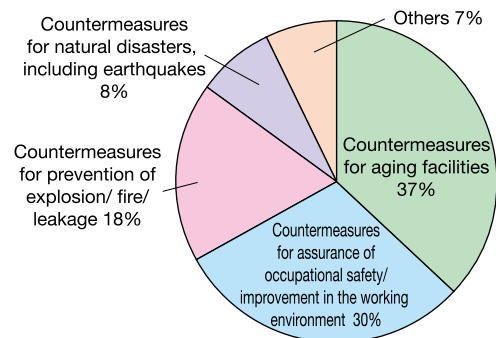
the improvement of facilities. In fiscal year 2006, the total investment in countermeasures for process safety and disaster prevention reached about 68.7 billion yen (a 19% increase from the previous year). The percentage of investment to sales was 0.39%. Investment in terms of both amount and percentage was a record high.

Investment in Process Safety and Disaster Prevention



The figures in the bars indicate the number of companies that submitted data.

Categories of Investment in Countermeasures for Process Safety and Disaster Prevention



Members' Management System

Responsible Care entails the implementation of the Plan (program), Do (perform), Check (evaluate), and Act (improvement) cycle (the so-called PDCA cycle). As an implementation tool, an increasing number of organizations are introducing environmental management systems (EMS), including those based on ISO 14001 and occupational safety and health management systems (OSHMS).

Status of Members' Adoption of Management Systems

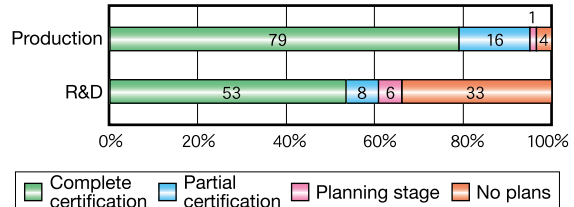
The Status of Adoption of Environmental Management Systems (EMS)

According to the results of a survey targeting JRCC members, 79% of 90 respondents have acquired some certification for their EMSs, such as ISO 14001 certification, at all their production sites (plants). This figure is up three points from the previous year, and 53% of 79 respondents have acquired some certification for their EMSs at all their R&D sites, which is the same percentage as the previous year.

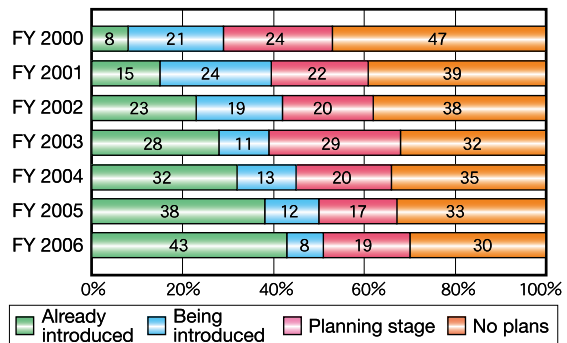
Introducing the Occupational Safety and Health Management System (OSHMS)

Every year the movement to aim for zero accidents intensifies as companies adopt an OSHMS in order to reduce latent risks and raise health and safety standards. In the questionnaire survey, 43% of 92 respondents have introduced OSHMSs and verified these systems by means of external certification or internal audit. Of the members who have introduced or are introducing systems, 36% have already received certifications from external certification bodies, including OHSAS 18001 certification and 72% have conducted internal audits on their OSHMSs.

Status of EMS Certification



Trend in OSHMS Adoption

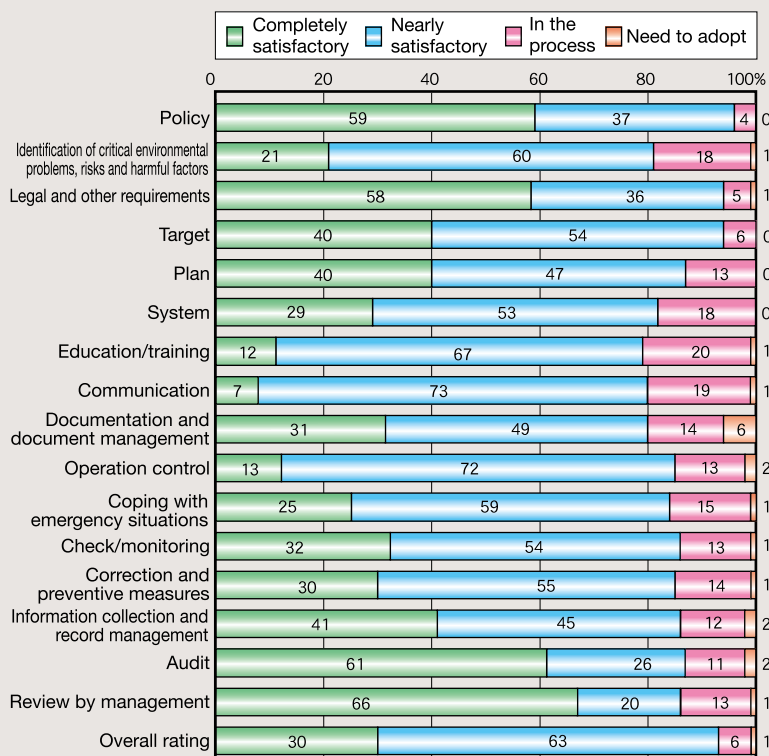


Members' Self-Assessment

Management System

The adoption of management systems, such as ISO 14001, ISO 9000s and OHSAS 18001 management systems, is advancing and is now almost at a satisfactory level.

The percentage of respondents who answered "Completely satisfactory" regarding their education/training, communication, and operation control have each decreased, perhaps because there are so many procedures and criteria to be followed according to the internal audit checklist, and even members who have introduced management systems cannot meet all the requirements.



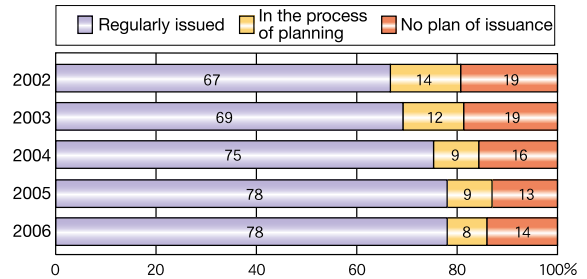
Member's Dialogue with the Public <Responsible Care Report>

The JRCC member companies publicly disclose in their Responsible Care reports their specific Responsible Care activities and results, thereby increasing public awareness of their contributions to society.

Issuance of Responsible Care Reports

In fiscal 2006, a total of 72 member companies (78% of 92 respondents) issued Responsible Care reports, the same percentage as in the previous fiscal year. In addition, some members issued site reports as a means of communication with community residents. In fiscal year 2006, 28 member companies (33% of the respondents) issued site reports. Also, as many as 63% (compared to 58% in the preceding year) of the company-wide reports included pages devoted to site data, such as that concerning the PRTR Law and waste.

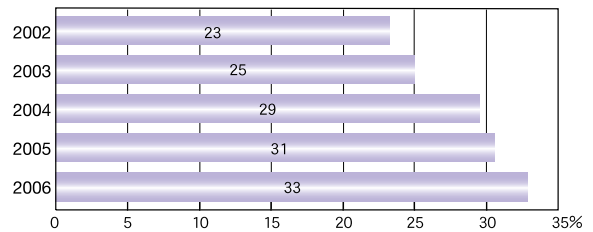
Issuance of Responsible Care Reports



Contents of Reports

As in the case of the results in the previous fiscal year, more than 70% of the reports included the six responsible care items (environmental preservation, security and disaster prevention, occupational safety and health, safety of chemicals/products, safety of distribution, and interaction/communication with community). In fiscal year 2006, an increasing number of member companies reported data on waste and energy as well as on social contribution activities, all of which are now of significant public interest. This indicates that Responsible Care reports are being used more actively to communicate with the public.

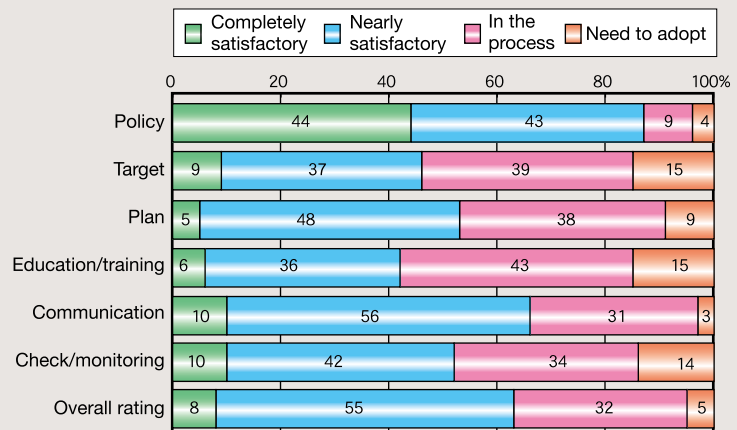
Issuance of Site Reports



Members' Self-Assessment

Interaction/Communication with the Public

Member companies' self-ratings are relatively low in most of the evaluation items. The reason could be that the questionnaire requires specific details about activities such as setting targets and plans, communications skills training, opening communication channels with local communities, and awareness of external evaluation.



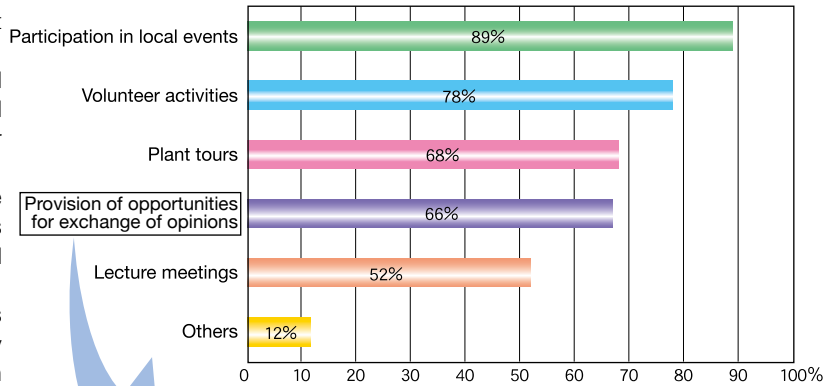
Member's Dialogue with the Public <Communication with the Community>

The JRCC member companies recognize the importance of harmonization with local communities and promote various communication activities to establish relations of trust with community residents.

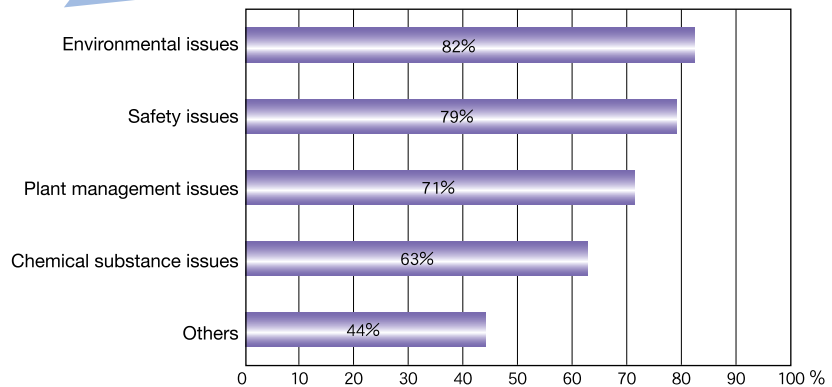
In order to promote communication with local community residents, the member companies participate in or support local events and voluntary activities, arrange plant tours for the residents and elementary/junior high school students, hold lecture meetings in schools and sponsor educational programs in adult courses. Furthermore, many companies provide opportunities for exchange of opinions to promote communication with local communities.

In fiscal year 2006, a total of 372 meetings for exchange of opinions were held by member companies in 131 areas (an increase of 15 meetings compared with the preceding year). In these meetings, the participants discussed mainly the following issues which were closely related to their community: environmental issues, safety issues including the countermeasures against earthquakes and other disasters, plant management issues including addition of facilities and changes of land and issues concerning chemical substances, including PRTR Law-related matters. All of the above activities demonstrate the commitment of member companies with regard to open communication with local communities about their business operations.

Means of Communication (Multiple answers allowed)



Issues Discussed in the Meetings for Exchange of Opinions (Multiple answers allowed)



Plant tour held as part of a briefing on environmental measures



Disaster prevention training held with the participation of local junior high school students



Students performing an experiment in a work experience program



Forestation for the conservation of water resources

JRCC Activities <Dialogue with Society>

Companies in the chemical industry are voluntarily implementing environmental protection, safety and health measures in their Responsible Care activities and communicating the results of these activities to the public, thereby improving mutual understanding with society. The JRCC supports these activities through its Dialogue WG and holds training sessions for its members to improve their skills in communicating with local communities. The JRCC itself also discloses the results of its activities through its quarterly journal JRCC News and this Responsible Care Report.

Dialogue with Local Communities

The JRCC has been holding dialogue meetings with local communities, the first of which was held in the Kashima area in 1996. To date, these meetings have been held in 15 areas across the country with the participation of community residents and local government officials. The JRCC has been holding these meetings for some time and these are now playing an important role as a forum for mutual understanding between the Council and the public.

In fiscal year 2006, the JRCC held dialogue meetings in eight areas (Yamaguchi Higashi, Okayama, Chiba, Hyogo, Aichi, Kashima, Osaka, and Niigata Kita) with the aim of achieving the "implementation of interactive communication." In the Yamaguchi Higashi, Chiba, Hyogo, and Niigata Kita areas, many local residents participated in the meetings, which demonstrates that the meetings have been well received by the local communities. In the Chiba area, a panel discussion took place with community residents and a lively Q&A session was held. In the Hyogo area, a lecture on risk communication was given from the viewpoint of housewives. This easy-to-understand lecture was greatly appreciated by the audience. In the Niigata-Kita area, a lecture on earthquakes attracted much attention from participants, as a very relevant theme to the area. In other areas, meetings were held for the implementation of interactive communication, including plant tours and prior questionnaire surveys.

In the Yokkaichi area, the JRCC has suspended dialogue meetings because of the illegal disposal of industrial waste by a former JRCC member, but the Council is now making preparations to resume these meetings.



Dialogue meeting with local communities held in the Chiba area

Dialogue with Citizens

In addition to holding dialogue meetings with local communities, the JRCC has also been actively organizing dialogue meetings with general citizens/consumers and students.

The Council held dialogue meetings with consumers in Osaka on November 14, 2006 and in Tokyo on December 13, 2006. Participants in these meetings included those from Consumers Japan, the Japan Housewives' Association, Consumers Kyoto, and other NPOs. At the meetings, discussions were held on the disposal of plastic waste, desirable disclosure of corporate information, and approaches to risks and hazards. Participating citizens expressed their opinions, giving both candid advice and praise to companies for their commitment to environmental protection and product safety, which topics were introduced in an easy-to-understand manner in the meetings.

The Council also held a dialogue meeting with students in the Kao Corporation's Tokyo Plant on November 27, with the participation of 23 students from AIESEC in Japan and IAESTE Japan. Participants discussed the chemical recycling of plastics and other themes at the meeting.

The JRCC will continue these dialogue meetings to promote the exchange of frank opinions and mutual understanding between citizens and the JRCC member companies, thereby ensuring mutual trust as a fundamental building block of communication.



Dialogue meeting with consumers held in Osaka

The JRCC Activities 〈Report Presentation〉

The JRCC has been holding meetings to present the contents of its Responsible Care Report in Tokyo and Osaka every year since 1997. The Council invites not only members, but also general citizens to these meetings, and conducts questionnaire surveys among participants to incorporate their opinions into future Responsible Care Reports and activities.

Report Presentation

The JRCC held meetings to present its Responsible Care Report in Tokyo on December 11 and in Osaka on December 14, 2006. These meetings were attended by 140 and 110 people respectively, including those from government agencies, consumer groups, labor unions, universities, and mass media companies.

After the JRCC presentation, three member companies of the Council (Sumitomo Chemical, Sekisui Chemical, and Mitsubishi Rayon) presented their CSR reports and introduced their CSR activities as case studies. Finally, Hidenori Imazu of Toppan Printing gave a lecture on his analysis of the recent trends in CSR reports.

* For details, please refer issue No. 44 of the JRCC News and the following web page:

<http://www.nikkakyo.org/organizations/jrcc/index.html>

According to the results of the surveys of participants, 90% of 127 participants said that their understanding of Responsible Care "greatly improved" or "improved," while no respondents answered that they "cannot understand." The JRCC will continue to examine measures to improve its meetings, including the details of presentations, case studies, and lectures.



Report presentation in Tokyo



Report presentation in Osaka

Organization of a Meeting to Read the Responsible Care Report

In order to improve the understanding of general citizens of Responsible Care activities and receive their opinions to improve its Responsible Care Report, the JRCC held its first meeting to read the Report at the JCIA on February 8, 2007. At the meeting, the Council exchanged opinions with ten members of the Keizai Koho Center's Social Survey Network and received frank opinions, constructive criticism and encouragement from these members. The meeting was thus useful to the Council.



International Activities

Capacity Building (Dissemination of Responsible Care)

The JRCC has a dissemination project that implements capacity building (human resources development and skills upgrading) for Responsible Care and GHS in the ASEAN region.

Indonesia

As part of its assistance program for Responsible Care in Indonesia, which is an RCLG member, the JRCC examined the possibility of helping that country establish a Responsible Care verification system.

With 10 candidate verifiers, the Council visited five local companies to investigate their Responsible Care activities. The companies, which were all foreign-based, including a Japanese company, were engaged in advanced Responsible Care activities. The Council therefore decided to support the establishment of a Responsible Care system in Indonesia and to launch the training of verifiers in fiscal year 2007.



Myanmar

The assistance program for Responsible Care in Myanmar commenced in fiscal year 2006. In that year, the Council conducted a feasibility study on Responsible Care in Myanmar to examine whether long-term assistance for local Responsible Care activities will bring about the desired effect.

GHS Dissemination

The JRCC lists playing a leading role in Responsible Care in the Asian region as one of its priority issues. Since the beginning of 2000, the Council has been implementing a capacity-building program in cooperation with the Japan External Trade Organization (JETRO) and the Association for Overseas Technical Scholarship (AOTS), in which experts are dispatched to countries in the Asian region. This program is the core of the Council's activities in the Asian region, and forms part of its assistance to the region. The Council is promoting the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) in the region.

The capacity building program initially targeted five ASEAN countries (Thailand, the Philippines, Indonesia, Malaysia and Vietnam) and is now expanding to Cambodia, Laos and Myanmar as more is being achieved in the aforementioned five countries.

In addition to dispatching lecturers overseas and holding training seminars there, the Council has also been inviting those who attend local training seminars to Japan for higher-level training. Trainees who are invited to Japan from various other countries receive group training and work on various themes, which will enhance their abilities and help build a multinational human network.



India Chem 2006 (Mumbai from November 8 to 10, 2006)

The JCIA exhibited at India Chem 2006, in November of that year. India Chem is a biennial international trade fair that is held in Mumbai, India with over 250 companies participating, and it is one of the largest chemical exhibitions in that country. In 2006, 35 Japanese companies, including independently-participating companies, exhibited at the fair. At the Association's booth, which was staffed by two people, activities were introduced by using panels and a DVD program, created to introduce the JCIA activities in commemoration of its 10th anniversary, was shown continually.

In addition to introducing Responsible Care, relevant activities and the results through panels, the Association distributed copies of its brochure, the Responsible Care Report, and other materials, such as a document explaining the Japanese chemical industry graphically, to visitors to the booth.

There were over 1,000 visitors to the booth in the three-day exhibition period, and so the event was useful in raising public awareness of the JRCC activities.



JRCC staff member engaging visitors at the booth

The ICCA/RCLG Annual Meeting in Chile

The JCIA belongs to the RCLG of the Internal Council of Chemical Associations (ICCA) and is engaged in activities to solve various problems with the cooperation of 52 chemical industry associations around the world.

In fiscal year 2006, the RCLG held its annual meeting in Santiago, Chile from November 6 to 8, which was attended by members from Asia, Europe, the Americas, Oceania, and South Africa.

Participants in the annual meeting gave presentations and discussed mainly the following matters:

- Increasing the number of signatories to the Declaration of Support for the Responsible Care Global Charter
- Responsible Care management systems and their verification, indicators for achievements, and communication of relevant information

- Protection of the Responsible Care logo
- Global Product Strategy (GPS)
- Capacity building (building and improving organizational capabilities) to support RCLG member associations in implementing the Global Charter
- The introduction of local Responsible Care activities by RCLG member associations from France, Venezuela, Indonesia and Chile

RCLG: Responsible Care Leadership Group



Interaction among Members

Responsible Care Award

The Responsible Care Award was introduced in fiscal year 2006 to commend individuals or groups of individuals who contributed to the promotion and improvement of Responsible Care activities. This Award is intended to increase the motivation of those engaged in Responsible Care activities and to further encourage these activities. Award winners (more than one) are selected annually from among those nominated by the JRCC member companies. Award winners for the first year:

Award Winner	Details of Activity
Iwao Tsurutani, Shuzo Fujikawa, Masahiro Abe Environment & Safety Department, Ube Industries, Ltd.	Activation of RC communication in the Ube area
Tsuneo Nara Responsible Care Office, Sumitomo Chemical Co., Ltd.	Promotion of advanced RC activities ahead of other chemical companies
Naoshi Hada Yokkaichi Plant, JSR Corporation	RC activities in the Yokkaichi area
Toshiro Suzuki, Nobuyuki Matsui and Kazuyuki Yakushiji Oita Plant, Showa Denko K.K.	Deepening of communication with local communities in the Oita area, mainly through dialogue on RC
Yoko Kita Society and Environment Division Konica Minolta Holdings	Dialogue with citizens, risk communication and promotion of RC activities

The commendation ceremony was held as part of the JRCC interaction meeting for member companies, which was held at the Dojima Hotel in Osaka on July 4, 2007 to look back on the first half of fiscal year 2007. From the five companies listed above, six award winners attended the ceremony. After receiving commendations from the Council's Planning and Management Committee, the winners gave presentations on the activities for which they won the awards. The presentations were useful as inducements for other companies to improve their own Responsible Care activities.



Responsible Care Award winners

Interaction Meeting for Member Companies

The Member Relations WG holds interactive and study meetings to promote information exchange and the upgrading of skills among members. In fiscal year 2006, the WG held interactive meetings in Nagoya on June 1, and in Tokyo on February 20, 2007, to look back on the first and second halves of the year, respectively. It also held a study meeting in Tokyo on July 3, 2006. Each meeting was attended by approximately 70 to 80 people.

At the interactive meetings, participants exchanged opinions in groups of 10 to 20 people for in-depth discussions, and they actively debated such themes as "industrial waste," "dialogue with local communities," "from hazard-based management to risk-based management" and "occupational safety." In each of the groups, the person who proposed the discussion theme first introduced some specific examples for the theme and then all the participants actively exchanged their opinions, listing the problems that their companies were facing and giving examples of activities that had proved to be effective.

At the study meeting on the theme of "compliance," Mr. Yoichiro Hamada, who is a lawyer, gave a lecture on corporate compliance and the audience listened attentively.



Responsible Care Verification

Responsible Care Verification for Fiscal Year 2006 (April 2006 ~ March 2007)

Activity verification (eight companies): Shin-Etsu Chemical, Denki Kagaku Kogyo, Ube Industries, Koei Chemical, Teijin, Hokko Chemical Industry, NOF and Kansai Paint

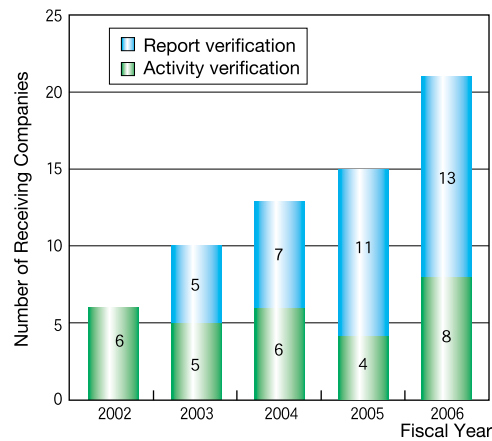
Report verification (13 companies): JSR, Sanyo Chemical Industries, Daicel Chemical Industries, Kaneka Corporation, Asahi Kasei, Showa Denko, Nippon Shokubai, Toagosei, Shin-Etsu Chemical, Kureha, Kyowa Hakko Kogyo, Dainippon Ink & Chemicals and ZEON

Responsible Care activities are voluntary activities and their results are objectively evaluated through Responsible Care verification (RC verification).

In fiscal year 2006, RC verification was conducted for a fifth year, with the number of companies undergoing verification increasing steadily.

As a unique feature of RC verification conducted in Japan, RC reports are verified in addition to RC activities. Report verification entails the evaluation of the rationality of data gathering methods, the accuracy of data and the appropriateness of report contents. In recent report verification, the details of RC activities may also form part of the verification.

Activity verification comprises management system audits, such as those conducted for ISO certification, and performance audits in which the details of RC activities and their results are audited. In addition, the appropriateness of activities and the effectiveness of the procedures are also audited in activity verification, which is intended to



continuously improve RC activities. Furthermore, the JRCC is always improving its verification process to reflect current trends.

Evaluation of RC Verification by Receiving Companies

The JRCC conducted a questionnaire survey of companies that underwent RC verification in fiscal year 2006. According to the results, respondent companies generally evaluated the verification highly in the five-grade evaluation, as shown in the following table. Some, however, pointed out that the explanations of the aim and details of the verification system were not sufficient and that some questions asked in the verification process were difficult to understand. The Council will incorporate these opinions to improve verification.

Evaluation Item	Average Score (Activity Verification)	Average Score (Report Verification)
The verification was useful for identifying problems regarding the system's operation.	4.2	3.8
The verification gave tips for higher performance.	3.8	4.0
The verification gave an educational opportunity to the receiving department (site).	3.9	4.3
The verification helped clarify ideas, including the recognition of RC	4.2	4.1



Verification at Showa Denko

Our Expectations for Responsible Care

As a journalist who has followed Responsible Care at the global level for more than 15 years, it has been a fascinating journey tracking its evolution and extension to over 50 countries around the world. Yes, it has its weaknesses but I do not believe there is a comparable voluntary industry initiative that has achieved the same degree of widespread commitment over such a long period at local, national, regional and international level. From the HSE performance improvement and community outreach successes of individual production sites around the world, to global performance reporting achievements, Responsible Care has played, and continues to play, a valuable role.

The Responsible Care Global Charter was rolled out to industry in 2005, and the commitment made by 52 Responsible Care associations through an official Declaration of Support for the Charter aims to strengthen and extend the initiative. It remains to be seen whether all 52 associations who have signed manage to honour those commitments, but I do believe that the Japan Responsible Care Council is one of the signatories that will do its utmost to. The JRCC was swift to respond to the Charter with the revision of the JCIA Guiding Principles for Improvement of Environmental, Health and Safety Conditions for the first time in 15 years; the JRCC 2006-2008 plan is based on the updated policy.

Among other activities, I have been impressed by the extent of JRCC capacity building efforts over the years. They have been targeted at a number of countries including the Philippines, South Korea,

Thailand, Indonesia, Vietnam and others, and sometimes undertaken in cooperation with other Japanese agencies. They also span a range of activities, from initial development and implementation of a Responsible Care program, through to developing external verification processes, and a three-year project working towards



Debbie Jackson
journalist and communications consultant

adoption of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). As Asia Pacific's largest chemicals producer and with a well-established, highly regulated chemicals sector, Japan has a vast amount of experience and knowledge that it can, and does, share through the Responsible Care network.

The challenges posed by implementing the Global Charter will require a renewed effort on the part of JRCC, not just in the area of capacity building but also chemicals management, stakeholder outreach, performance improvement, extending Responsible Care throughout the chemical industry's value chain, and more. Such efforts will effectively demonstrate the JRCC ongoing commitment to the Responsible Care ethic of 'doing the right thing'.

As a special feature of Responsible Care activities in Japan, dialogue meetings have been held with local communities in 15 areas, mainly industrial complexes. I have been participating in the dialogue meetings held in three areas in Yamaguchi Prefecture for several years, and have recognized that those in charge of these meetings are continuously striving to improve the understanding of local inhabitants of the chemical industry's environmental and safety measures, while being concerned about the fact that the meetings are becoming a cliché. Through my involvement in these meetings, I have come to feel strongly that to preserve the environment and ensure safety, doing the right thing on a continuous basis is of the utmost importance. When an accident takes place and the cause of the accident is investigated, it is often revealed that it was caused because what should obviously have been done was not actually done. People and organizations tend to cut corners, which eventually leads to negligence and serious non-compliance. I think that a series of consumer frauds recently reported in Japan, such as construction fraud and falsification of expiration dates of food, demonstrates that it is fundamentally necessary and difficult to do the right thing on a continuous basis.

It is regrettable that the dialogue meetings have been suspended in a certain area for several years. A background factor for this suspension seems to be the serious violation of law by a company operating in the area. The company has failed to do the right thing. In the face of this problem, the chemical industry must publicize its measures against



Kenichi Togawa
Professor of Law, Kumamoto University

such non-compliance to local inhabitants, who are concerned, and regain and maintain people's trust in the industry through its Responsible Care activities. I am particularly disappointed about the suspension of the meetings. It will take more time for RC activities, which are valuable activities in doing the right thing on a continuous basis at most of the sites, to be understood by general citizens. The dialogue meetings with local communities are indeed facing a crucial moment.

The JRCC Members List

103 companies as of October, 2007

ADEKA Corp.
Air Products Japan, Inc.
Asahi Glass Co., Ltd.
Asahi Kasei Corp.
BASF Japan Ltd.
Bayer Ltd.
Central Glass Co., Ltd.
Chisso Corp.
Chugoku Kayaku Co., Ltd.
Ciba Japan K.K.
Daicel Chemical Industries, Ltd.
Daihachi Chemical Industry Co., Ltd.
Dai-ichi Kogyo Seiyaku Co., Ltd.
Daikin Industries, Ltd.
Dainichiseika Color & Chemicals Mfg. Co., Ltd.
Dainippon Ink & Chemicals, Inc.
Dai Nippon Toryo Co., Ltd.
Daiso Co., Ltd.
Degussa Japan Co., Ltd.
Denki Kagaku Kogyo K.K.
Dow Chemical Japan Ltd.
DuPont Kabushiki Kaisha
DuPont-Mitsui Fluorochemicals Co., Ltd.
DuPont-Mitsui Polychemicals Co., Ltd.
Flexis Co., Ltd.
FUJIFILM Corp.
Hitachi Chemical Co., Ltd.
Hodogaya Chemical Co., Ltd.
Hokko Chemical Industry Co., Ltd.
Idemitsu Kosan Co., Ltd.
Japan Acrylic Chemical Co., Ltd.
Japan Carlit Co., Ltd.
JSR Corp.
Kaneka Corp.
Kansai Paint Co., Ltd.
Kanto Denka Kogyo Co., Ltd.
Kao Corp.
Koei Chemical Co., Ltd.
Konica Minolta Holdings, Inc.
Kuraray Co., Ltd.
Kureha Corp.
Kureha Plastics Corp.
Kyowa Hakko Kogyo Co., Ltd.
Lion Corp.
Maruzen Petrochemical Co., Ltd.
Mitsubishi Chemical Corp.
Mitsubishi Gas Chemical Co., Inc.
Mitsubishi Rayon Co., Ltd.
Mitsubishi Tanabe Pharma Corp.
Mitsui Chemicals, Inc.
Mizusawa Industrial Chemicals, Ltd.
Nankai Chemical Industry Co., Ltd.
Nihon Nohyaku Co., Ltd.
Nippon Bee Chemical Co., Ltd.
Nippon Chemical Industrial Co., Ltd.
Nippon Kayaku Co., Ltd.
Nippon Paint Co., Ltd.
Nippon Petrochemicals Co., Ltd.
Nippon Polyurethane Industry Co., Ltd.
Nippon Shokubai Co., Ltd.
Nippon Soda Co., Ltd.
Nippon Steel Chemical Co., Ltd.
Nippon Unicar Co., Ltd.
Nissan Chemical Industries, Ltd.
NOF Corp.
Polyplastics Co., Ltd.
Rohm and Haas Japan K.K.
Sakai Chemical Industry Co., Ltd.
Sanyo Chemical Industries, Ltd.
Sekisui Chemical Co., Ltd.
Sekisui Plastics Co., Ltd.
Shell Chemicals Japan Ltd.
Shikoku Chemicals Corp.
Shin-Etsu Chemical Co., Ltd.
Showa Denko K.K.
Showa Highpolymer Co., Ltd.
Showa Tansan Co., Ltd.
Sika Ltd.
Sumika Bayer Urethane Co., Ltd.
Sumitomo Bakelite Co., Ltd.
Sumitomo Chemical Co., Ltd.
Sumitomo Dow Ltd.
Sumitomo Seika Chemicals Co., Ltd.
SunAllomer Ltd.
Takeda Pharmaceutical Co., Ltd.
Taoka Chemical Co., Ltd.
Tayca Corp.
Techno Polymer Co., Ltd.
Teijin Ltd.
The Inctec Inc.
The Nippon Synthetic Chemical Industry Co., Ltd.
Toagosei Co., Ltd.
Tokuyama Corp.
Tonen Chemical Corp.
Toray Industries, Inc.
Tosoh Corporation
Toyo Ink Mfg. Co., Ltd.
Toyo Kasei Kogyo Co., Ltd.
Tsurumi Soda Co., Ltd.
Ube Industries, Ltd.
UMG ABS, Ltd.
Wilbur-Ellis Co., (Japan) Ltd.
ZEON Corp.



レスポンシブル・ケア[®]

Japan Responsible Care Council (JRCC)

Sumitomo Rokko Building, 1-4-1 Shinkawa, Chuo-ku, Tokyo 104-0033, Japan

Tel: 81-3-3297-2578 Fax: 81-3-3297-2615

URL: http://www.nikkakyo.org/organizations/jrcc/top_e.html

