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

Responsible Care

Report 2005

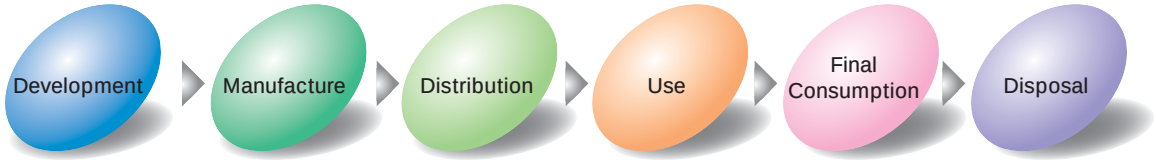
レスポンシブル・ケア®

The Japan Responsible Care Council

Do You Know Responsible Care?

What Is Responsible Care?

Chemical substances are now an indispensable part of our livelihood. However, when improperly handled, they are also latently hazardous substances that threaten human health and the environment.
Although concerns over the health, safety and environment have become widespread as a result of the expansion of global environmental problems and the growth of industrialized regions, technological developments continue to face new dilemmas. Given these circumstances, chemical substances regulations have become limited in their capacity to fully preserve the health, safety and environment. Presently the public call for handlers of chemical products to take responsible and voluntary action to protect the health, safety and environment is greater than ever.
In response, the global chemical industry, comprising a multitude of corporations that handle chemical substances the world over, is working voluntarily to preserve the health, safety and environment in every process, from the development of chemical substances through their manufacture, distribution, use, final consumption and disposal as well as conducting dialogue and discussion with the public by openly disclosing the results of these efforts. These efforts are known collectively as Responsible Care.



Responsible Care was initiated in Canada in 1985. The year 1990 marked the establishment of the International Council of Chemical Associations (ICCA). The 52 countries around the world initiate Responsible Care (as of October 2005). In 1995, the Japan Responsible Care Council (JRCC) was established within the Japan Chemical Industry Association (JCIA) by 74 corporations, primarily manufacturers and handlers of chemical substances. With the JRCC's establishment, corporate efforts to address environmental and safety concerns were united and intensified, and the goal of enhancing public understanding was undertaken. As of October 2005, the JRCC comprised 105 corporate members.

The Responsible Care Logo

The logo, depicting a pair of hands and a model of a molecule, expresses the key message of handling chemical substances with care and the ICCA has adopted the logo as the common insignia of international corporations and associations that implement Responsible Care. Permission to use the logo has been granted to the chemical industry associations of 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.

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Responsible Care Implementation Items

The JRCC and its members collectively take action in five principal areas:
- Environmental preservation (protecting the global nature and the health)
- Process safety and disaster prevention (striving to prevent disasters at industrial facilities)
- Occupational safety and health (protecting the safety and health of workers)
- Product stewardship (clearly identifying the properties and handling methods of chemical products and protecting the health, safety and environment of all persons who handle these products, including customers)
- Distribution safety (preventing accidents during transportation of chemicals and protecting the human health, safety and environment).

The JRCC and its members also maintain
- Dialogue with the community

by publicly reporting the results of these efforts.
These efforts are spearheaded primarily by the Planning and Management Committee. Under the committee, there are the Steering Committee and four working groups, which are responsible for Annual reports, Dialogue, Member experience exchanges, and International affairs.

★ Refer to the JRCC's web site, http//www.nikkakyo.org/organizations/jrcc/top-e.html

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Message from The JRCC Chairman

Mitsuo Ohashi
Chairman
The Japan Responsible Care Council

Japan Responsible Care Council (JRCC) met its 10th anniversary in April this year after its establishment.
In the meantime, the environment surrounding the chemical industry has changed greatly, but with the help given by a number of people, not to mention by the effort of each member of the JRCC, the JRCC activities have largely developed, which contributed to further enhance the understanding from the society on the business activities of the chemical industry. The number of the members has increased to 105 companies from 74 companies at its start, and at present more than 200 companies including group enterprises take the initiative for Responsible Care activities.

In addition, the JRCC, as a part of its 10th anniversary commemorating events, has recently summarized the results of "10 years of Responsible Care activities" into a DVD. We hope that a wide range of stakeholders, not to mention each member, will never miss a chance to watch the DVD.

Now, the JRCC, on the basis of "Responsible Care Global Charter (RCGC)" newly approved last year at the executive board of International Chemical Council Association (ICCA), has come to tackle the Responsible Care activities much broader than before.

The spirit of RCGC is, in order for mankind to continuously develop in harmony with the valuable earth, to verify the practice and results of heretofore Responsible Care activities, and further to exercise the synthetic control of chemical substances from more global point of view such as continuous improvement in performance and its publication, response to the question relating to the use of chemical products (promotion of assessment and management of risks to products, common possession of information, etc.), making advices from stakeholders as a reference.

For the purpose of promotion of Responsible Care activities grounded in this RCGC, we have to take the initiative in the following themes as key issues from now on:
1) Promotion of Responsible Care Global Charter and Product Stewardship;
2) Pervasion of Responsible Care activities and continuous improvement support;
3) Fulfillment of accountability by improvement of verification activities;
4) Further enhancement of the degree of recognition of Responsible Care activities to the society;
5) Advancement of capacity building (Support of overseas Responsible Care activities).

Making further review of these tasks by self-assessment and from the medium term viewpoint as well as listening to your voices given through disclosure to the public, we will take the initiative for more advanced Responsible Care activities and for its further enlargement in the future.

I sincerely hope that the JRCC Responsible Care Report 2005 will deepen your understanding about the JRCC's Responsible Care initiatives. I wish to take this opportunity to ask for your further support of the JRCC.

November 2005

Mitsuo Ohashi

Board Members of the Japan Responsible Care Council

Chairman	Mitsuo Ohashi	Chairman, the Japan Chemical Industry Association, President, Showa Denko K.K.
Vice Chairman	Shigetaka Komori	President, Fuji Photo Film Co., Ltd.
Auditor	Takanori Yoneyama	Honorable Advisor, Konica Minolta Holdings, Inc.
Auditor	Akira Ohira	Chairman, Mitsubishi Gas Chemical Company, Inc.
Secretary General	Masami Tanaka	Vice Chairman & Director General, the Japan Chemical Industry Association

The Course of The JRCC

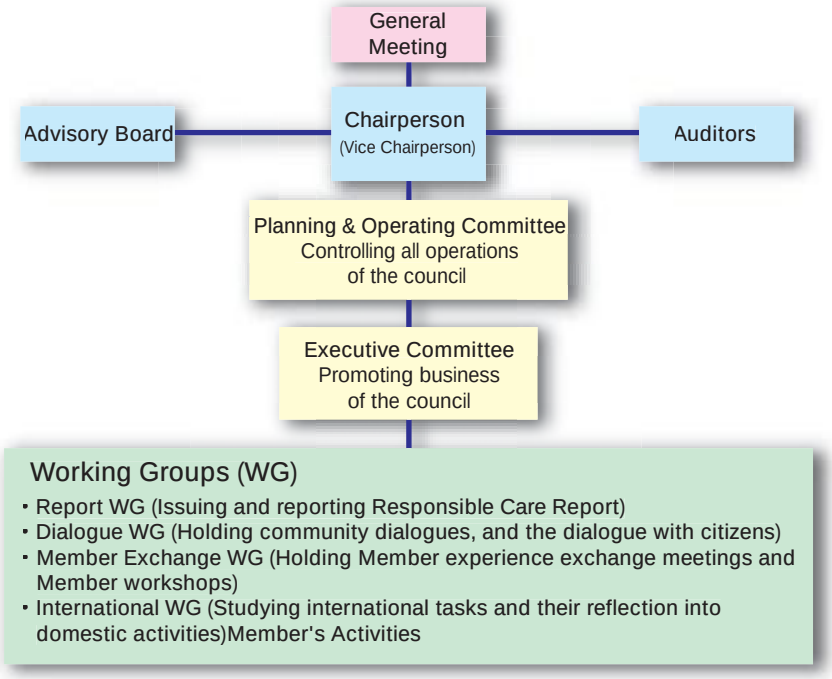
The JRCC, since its establishment in April 1995, has gradually expanded its field of activity to the society, and further to the world.
These 10 years up to date are looked back in a form of chronological table.

Apr 1995	● Establishment of the JRCC
	● The 1st JRCC Advisory Board meeting
Jul	● The 1st Planning and Operation Committee
Nov	● The 1st Member Experience Exchange Meeting (Tokyo, Osaka)
Feb 1996	● "JRCC News" issued (Thereafter quarterly issued)
May	● District explanatory meeting of Responsible Care (RC) at 9 major petrochemical complex districts started (1st: Kashima district)
Dec	● Responsible Care Report Fiscal Year 1995 issued (Thereafter yearly issued)
May 1997	● Asia Pacific Responsible Care conference (Tokyo)
	● ICCA/RC Leadership Group conference (Tokyo)
Oct	● Debriefing session of RC Reports (Tokyo & Osaka, thereafter yearly held)
Nov	● RC district explanatory meetings completed making a round of Japan (9 petrochemical complex districts). Thereafter continued and executed expansively.
Jun 1998	● Number of members reached 100 companies
Oct	● The JRCC website opened
	● Digest version of the RC Report issued
Nov	● The 1st dialogue meeting with consumers
Nov 1999	● Exhibited at INCHEM TOKYO (panel display, etc.)
Nov 2000	● Dialogue and interaction meeting commemorating 5th anniversary of the JRCC establishment
Feb - Mar 2001	● Implemented support activities for promoting Responsible Care in Thailand (for the 1st time)
Aug	● The 1st Member Workshop organized Theme: Environment Report (Tokyo)
Oct	● The 1st dialogue meeting with students' organization (AIESEC)
Dec	● Explanatory meeting of Responsible Care verification system
Apr 2002	● Responsible Care verification system officially started
Jun	● "25-Year History of Safety Awards" published
Oct 2003	● The 1st forum meeting with Kansai consumers
Nov	● "Environmental accounting for chemical enterprises" issued. Explanatory meetings held.
	● Started business cooperation with AOTS (The Association for Overseas Technical Scholarship)
Dec	● Started cooperation with JETRO for GHS capacity building
May 2004	● "Report on Experience at community dialogue meetings/Collection of information/Analysis & investigation" issued
Aug 2005	● Revised edition of "Do You Know Responsible Care?" published
Nov	● Responsible Care Report 2005 (fiscal 2004 report) published
	● Lecture meeting commemorating 10th anniversary of the JRCC establishment
	● ICCA/RC Leadership Group conference (Tokyo)

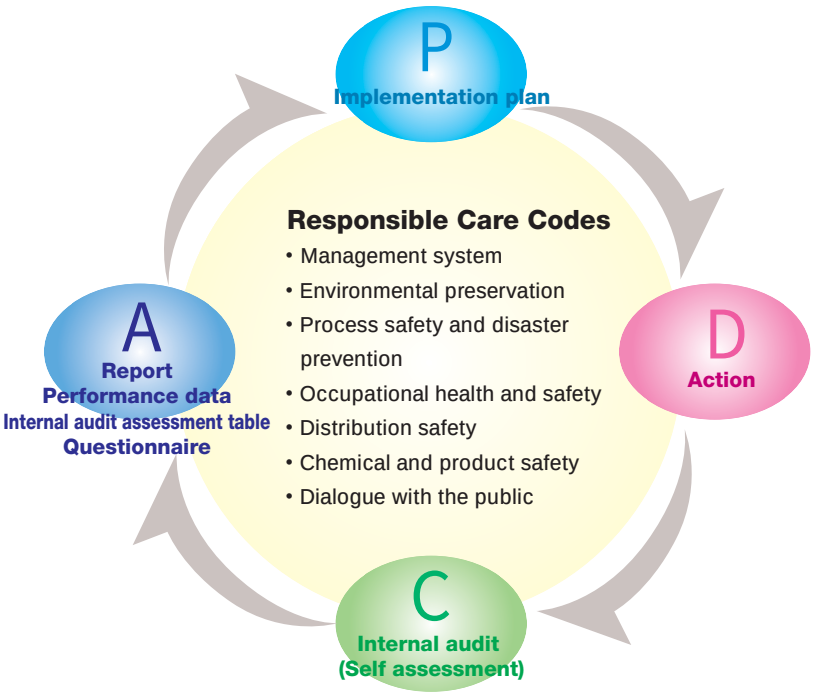
Operation of The JRCC

Responsible Care activities are managed by the Executive Committee positioned under the Planning & Operating Committee of the JRCC and four Working Groups (WG). And depending on the situation, a task force is organized temporarily.

Organization Chart



Member's Activities



The member, following the seven "Responsible Care Codes" which provide fundamental implementation items upon practicing Responsible Care, engages in its activity by rotating PDCA cycle by itself.
It makes up an annual implementation plan (Plan), carries out the activities (Do), makes self-assessment by internal audit (Check), and makes an annual activity report as well as performance data, etc. (Act) and then reports to the JRCC.
The internal audit assessment table is made to mark Responsible Care codes, based on the check list respectively, on a five-point system. Their total results are reported in this Report as graph "Member's Self-assessment."

Assessment points and classification of the self-assessment
Over 4.5 points
Satisfactorily completed
Over 3.5 points and not more than 4.5 points
Almost satisfactorily completed
Over 2.5 points and not more than 3.5 points
In progress
Not more than 2.5 points
Improvement needed

Member's Management System

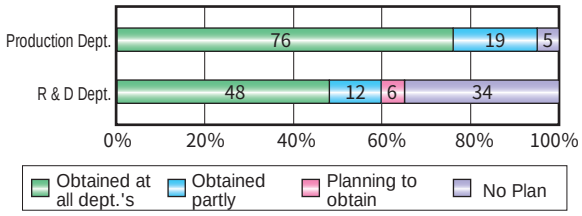
Implementation of Responsible Care is made by rotating Plan (design) - Do (implementation) - Check (assessment) - Act (improvement), namely, in line with P-D-C-A cycle. As a tool for it, introduction of Environment Management System (EMS) such as ISO14001, etc. is in progress. Recently members that tackle introduction of Occupational Safety and Health Management System (OSHMS) have been increasing in number.

Member's Status of Introducing Management System

The Status of Introducing Environment Management System (EMS)

As a result of a questionnaire survey the JRCC members (92 companies answered), the members that have obtained ISO14001 or other EMS certification at all of their production departments (plants) amount to 76%, and adding 19% of those that have obtained such certification at part of their production departments, 95% of the answered members have obtained the certification. And, 48% of the answered 84 companies have obtained some sort of EMS certification at all of their R & D departments.

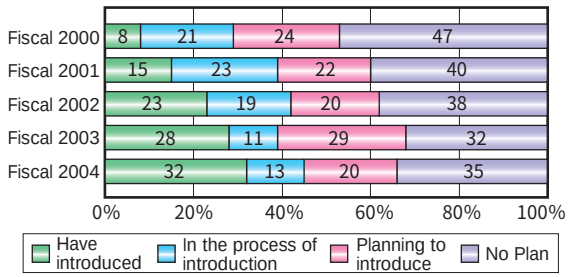
Status of Obtaining EMS Certification



Movement of Introducing Occupational Safety and Health Management System (OSHMS)

The movement to eliminate labor accidents has been risen year after year by the introduction of OSHMS, and accordingly by intending to reduce latent dangers and to raise safety and health levels. The figure on the right shows the graphed transition of the results of a questionnaire survey in regard to OSHMS the JRCC conducted to its members. The number of the members that have introduced OSHMS increased to 30 companies in fiscal 2004 from 8 companies in fiscal 2000. They also confirm that the system has been established in themselves by obtaining outside certification or by internal examination. 40% of the members that have already introduced or are in the process of introduction are proceeding with obtaining outside certification such as OHSAS18001.

Transition of OSHMS Introduction

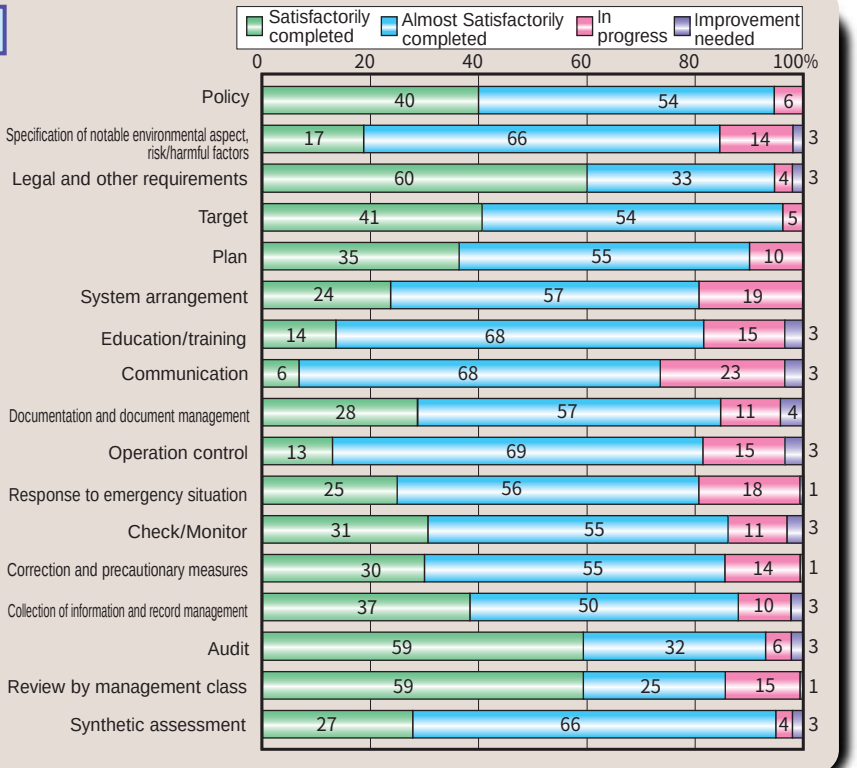


Member's Self-assessment

Management System

Introduction of management system such as ISO14001, ISO9000, and OHSAS18001 has been in progress, and accordingly, almost satisfactory levels have been generally reached. Especially with the items of policy, specification of requirements, audit, and review by management class, nearly half items reached satisfactory levels.

On the other hand, items such as education/training, communication, and operation control scarcely won "satisfactory" assessment, and their leveling up will be the task to solve hereafter.



The JRCC Activity Plan and Its Implementation Status

The JRCC has passed 10th year since it was established in April 1995. In fiscal 2005, it has a plan to have some events commemorating its 10th anniversary. In addition, "Responsible Care Global Charter," which International Chemical Council Association (ICCA) has tackled since last year and makes a new fundamental guideline for Responsible Care activities, was approved in May 2005 at the general meeting of the JRCC. Hereafter we try hard to penetrate it into the members.

The JRCC's Activity Policy

① Increase the transparency of Responsible Care activities and encourage information disclosure and communication with the public
② Pervasion of Responsible Care
③ Play a leadership role in Asian nations
④ Improve its performances continuously

	Plan for Fiscal 2004	Implementation Status in Fiscal 2004	Plan for Fiscal 2005
Information Disclosure	•Draft and publish reports •Support members to issue environmental reports; increase issuing members	•Drafted reports •Held an annual report meeting in Osaka and in Tokyo •67 members in total issued environmental reports	•Draft and publish reports
Communication	•Continue existing dialogue forums (communities, citizens) • Expand dialogue partners and dialogue communities • Utilize dialogue support tools; enrich dialogues	•Held dialogue-forums at 7 locations •Held a dialogue forum with 2 student organizations together •Held dialogue forums with consumers in Tokyo and Kansai •Organized a training course of risk communication for the first time	•Continue existing dialogue forums (communities, citizens) •Enrich dialogue with consumers and with students • Continuously organize training course of risk communication
Promote Responsible Care activities	• Implement the group registration system in full scale, and support Responsible Care activities by member's affiliates	•No new members •Number of group registration companies 104 companies	•Penetration of RC Global Charter •Making RC publicity DVD
International Activities	•Support Asian countries •Positively participate in the ICCA/RCLG activities •Support and continue APRO (Secretariat of APRC conference)	•Implemented support for Asia such as Philippines •Issued a pamphlet collecting examples of activities •Attended RCLG conference in Rome	•Holding RCLG in Tokyo •Positively participate in the ICCA/RCLG activities •Participate in Philippine conference of APRC (Asia/Pacific RC) •Support Asian countries
Chemical & product safety	• Implement providing appropriate information and communication	•Continued dialogue with the electrical machinery and automobile industries on the subject of green procurement	•Enrich Product Stewardship activities
Support Responsible Care activities of members	•Hold experience exchange meetings and workshops meetings for members •Urge participation of outsider companies	•Held exchange meetings: in Tokyo on the theme of "CSR" and in Osaka explained RC report • Held workshops on the theme of "Risk communication"	•Hold the event commemorating 10th anniversary • Hold experience exchange meetings and workshops for members
Responsible Care verification	• Promote the spread of verification to members •Verification undertaking raises reliability of Responsible Care activities	•Implemented verification of 13 companies	•Increase the number of the verification undertaken •Verification undertaking raises reliability of Responsible Care activities

Direction of The JRCC Members' Responsible Care Initiatives

Direction of items of recent activities by the JRCC member companies is introduced here from their implementation plans and reports.

① Items Newly Challenged

Review of Responsible Care provisions, Participation in and response to HPV program, Building-up of safe transportation management system, Strengthening of risk management/compliance, etc.

② Items in which Challenging Members has been Increasing

Third party verification, Repletion of safety and health risk assessment, Distribution safety education/transporters education, Introduction/adjustment/repletion of container Yellow Card, Green purchase/procurement, Maintenance/reduction of CO_2 emissions, response to VOC control, Introduction of OSHMS, Promotion of modal shift, Response to Europe REACH, Repletion of disaster prevention/training including earthquake measures, Mental health activities, etc.

About the Responsible Care Report 2005

This report is an overview and summary of the JRCC's activities as a whole, while focusing primarily on the individual activities of the JRCC members.
The quantitative presentation of Responsible Care activities has been compiled on the basis of performance data supplied by the JRCC member companies, while the qualitative presentation of Responsible Care activities has been compiled based on written reports of fiscal 2004 the JRCC activities, including surveys carried out among the JRCC member companies. This is the JRCC's tenth publication since fiscal 1996.

Topics

・Introduction of Environment Management System (EMS) advanced
As a result of a questionnaire survey of the JRCC conducted to its members, the members that have obtained ISO14001 or other EMS certification at all of their production departments (plants) amount to 76%, and adding 19% of those that have obtained such certification at part of their production departments, 95% of the answered members have obtained the certification. →P7

・Unit energy consumption: the goal in fiscal 2010 attained 87% of that in fiscal 1990
The chemical industry set the goal to reduce unit energy consumption to "90% of that in fiscal 1990 by fiscal 2010." Member companies' actual results in fiscal 2004 turned out to be 87%, which have attained the goal by moving up the schedule. →P12

・Reduction of total nitrogen/total phosphorous emissions progressed
The Member companies have tackled reducing emissions of total phosphorous and total nitrogen since fiscal 2001. Compared with fiscal 2002 in which had almost the same number of data reporting companies, approximately 6,000 tons of total nitrogen and approximately 160 tons of total phosphorous have been reduced. →P16

・The number of plant accidents shows an increasing trend
The number of plant accidents per a member company marked the highest number of accidents after fiscal 1995. The government working together with the private sector has been endeavoring to prevent accidents by establishing "Meeting on Industrial Accidents" consisting of competent authorities and the industry, and what not. →P18

・Occupational health and safety Severity rates decreased Frequency rates almost the same as in the previous year
Severity rates in fiscal 2004 substantially decreased, and especially at contractors it showed the lowest value in the past. Frequency rates at member companies slightly reduced than in previous fiscal year, while at member contractors it showed for these several years an increasing trend. →P20

・Initiative on HPV Japan Challenge Program initiated
In 2005, the framework (Japan Challenge Program) that industry and government collected in cooperation regarding safety information of chemical substances and report such information widely to the general public has been initiated. →P22

・Introduction of container Yellow Card progressed
According to the survey by the Japan Chemical Industry Association, introduction of container Yellow Card has rapidly progressed compared with the previous year. →P24

・The amount of investment in the environment/process safety showed an increasing trend
Investment in environmental preservation in fiscal 2004 amounted to the total approx. ￥71 billion, 5.6% increase compared with the previous year. In addition, investment in safety/security and disaster prevention measures amounted to the total approx. ￥50 billion, 21% increase compared with the previous year, which resulted in a substantial increase compared with the previous fiscal year. →P25

・Community dialogue Risk communication training session held
A training session aiming at enhancing the level of presentation skill of the speakers at the workplace setting up the community dialogue was held for the first time. →P26

・Member experience exchange meeting held in Kita-Kyushu
As holding such meeting outside of Tokyo and Osaka, this was the 2nd time after year 2003. RC report commentary was made as requested since way back. →P32

・Responsible Care verification: the total number of 40 companies undertook as of September 2005
As a recent tendency, undertaking of RC report verification has increased. →P33

・Opinions of intellectuals carried
On the subjects of Responsible Care activities and Responsible Care Report, comments from Professor Kokubu of Graduate School of Kobe University and Mr. Nakamura, a senior staff writer of Nihon Keizai Shimbun, Inc. were given. →P34

Environmental Preservation (Reduction

Plan for Reduction of Industrial Waste

According to the survey of the status of emission and treatment of industrial waste (results in fiscal 2003) by the Ministry of the Environment, as a result of decrease in final disposal volume for these several years, estimated number of remaining years of final disposal sites of industrial waste in Japan total amounted to 4.5 years, which shows a gradual increase. However, it should be invariably important hereafter the same as before to further proceed with reducing industrial waste for the purpose of establishing a sound material-cycle society as emitters. As a matter of fact, in line with the Nippon Keidanren's (Japan Business Federation) Voluntary Action Plan on the Environment, the JCIA is working to attain the goal of "reducing final waste treatment volumes by approximately 88% compared to fiscal 1990 levels in fiscal 2010."

Since its foundation, the JRCC has steadily worked to reduce industrial waste by setting regulations that integrate waste reduction into each member company's annual and long-term plans. Each member company aiming at achieving these targets, has respectively made its reduction plan and strives to implement it. Each member has been progressing synthetically its waste management activities such as enlightenment of its employees' consciousness through establishment of projects and a propelling organization inside the company, or holding presentation meetings, as well as promotion of reduction of generation volumes (reduce), repeated use (reuse), and recycling waste (recycle) through thorough categorization of waste.

Current Progress and Programs for Waste Generation

Reduction of Waste Generation Volumes

As reduction at generating sources of waste, a detailed review of manufacturing processes and improvement in facilities have been implemented. Examples of concrete measures are reduction of waste containers by reuse of raw material containers, volume reduction by condensation of waste liquid, and reduction of generating sludge by introduction of new activated sludge treatment facilities.

Generated volumes of industrial waste in fiscal 2004 represented approximately 29% decline compared to the fiscal 1990, and approximately 15% decline compared to the fiscal 2003 volumes generated. This decline is considered to have been brought about partly by coming to handle the sludge as weight after dewatering* from fiscal 2004, in addition to the efforts for reducing waste generation.

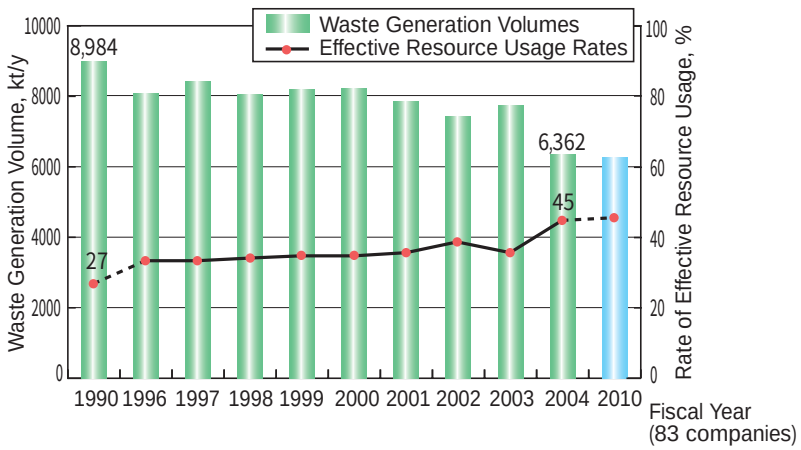
*Conventionally, in terms of sludge, the weight before dewatering was treated as generated volumes, but from fiscal 2004, based on "Law for Promotion of Effective Utilization of Resources," the weight after dewatering become to be handled as generated volumes.

Effective Resource Usage Rates

Each member company has been actively promoting recycling activities. Implemented examples of effective resource usage are use of inorganic sludge for cement materials, reuse of waste acid and alkali, recovery of waste solvent through distillation, change of waste plastics into solid fuel, chemical recycling, thermal recycling (heat recovery), etc.

The rate of effective resource usage (ratio of effective use volumes of resource to generated waste volumes) in fiscal 1990 was 27%. In fiscal 2004, this rate was raised to 45%. As a cause of elevation of the effective usage, the aforesaid decline in waste generated volumes is also considered to affect.

Industrial Waste Generation Volumes and Effective Resource Usage Rates

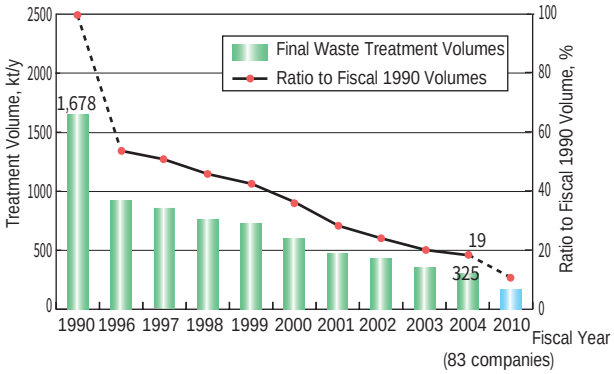


# of Industrial Waste)

Final Waste Treatment Volumes

The volume of final waste treatment for fiscal 2004 was approximately 325,000 tons which represented 81% reduction compared with the fiscal 1990 figure.
The prospect for fiscal 2010 is 188,000 tons which represent a 89% reduction compared with the fiscal 1990 figure. This JRCC's fiscal 2010 prospect is higher than the reduction target for fiscal 2010 of the JCIA, which is approximately 88%.
Together with reduction of final waste treatment volume, appropriate management of waste treatment has been strengthened year after year. Implemented are confirmation of delivery and collection of the industrial waste management card (manifesto) and on-the-spot inspection of final waste disposal places.

Final Waste Treatment Volumes



Aiming at Establishing a Sound Material-Cycle Society

Each member company not only strives to reduce waste generated by itself, but also conducts activities for contributing to establishing a sound material-cycle society by its proprietary recycling technology through taking in post use waste outside the company. Examples of those recycling are accepting waste tire to use as fuel for incinerators, accepting sludge, etc. as cement materials, collection and recycling of expanded polystyrene, thermal recycling of post use plastics, recycling of chlorine and bromine from collected waste liquid, recycling of waste TV glass, recycling of fibers by chemical recycling, building-up of waste paint recycling system, etc.

Case Studies of Each The JRCC Member Company's Efforts

Container Recycling	**Kyowa Hakko Kogyo Co., Ltd.**
	For the achievement of zero emissions, environmental consideration of container packaging is important. As far as the containers for bulk products such as amino acid are concerned, the system, that the fiber drum with metal upper lid which is difficult to be recycled has been changed to all-fiber drum recyclable as paper resources, has been developed to domestic production sites, and further to overseas sites.
Sludge Re-use	**Toagosei Co., Ltd.**
	At its Nagoya Plant, salt water mud (inorganic sludge) generated by electrolysis of salt was previously disposed by landfill. On promoting recycling of industrial waste, the sludge itself could be recognized as being harmless and at present by mixing it with various soil, as "Reclaimed soil" it is reused for soil for afforestation, etc.
Resource Recycling	**Tosoh Corporation**
	This company operates exclusive facilities reclaiming chlorine and bromine from various waste liquid generated in its own manufacturing process and collected from pharmaceutical/agrochemical and chemical makers. Hydrogen chloride and hydrogen bromide produced by such are used as raw materials for vinyl chloride monomer and flame retardant, and the heat generated in the process is utilized as steam.

Environmental Preservation (Energy

The JRCC members, by means of improving energy efficiency of facility/equipment and improving operation method, throw their energy into energy saving and control of CO_2 emissions. Also, through development/provision of energy-saving products as well as reduction of greenhouse gases, they have positively been taking initiative for global warming countermeasures.

Energy-Saving

Target and Results of Energy Saving

According to the energy statistics in fiscal 2000, the chemical industry accounted for approximately 8% in the whole of Japan in energy consumption. The chemical industry, based on the Nippon Keidanren's (Japan Business Federation) Voluntary Action Plan on the Environment, set up in 1996 the target to reduce unit energy consumption to 90% of that in fiscal 1990 by fiscal 2010.
The graph on the right is based on data collected from 73 JRCC member companies. Unit energy consumption has been improving gradually year by year since fiscal 1990, and in fiscal 2002 the goal in fiscal 2010 could be achieved moving forwardly. In fiscal 2004 improvement further progressed, and the consumption reduced to 87% compared with fiscal 1990.

CO_2 Emission Volume

While the production index in fiscal 2004 increased by 27% compared with fiscal 1990, as a result of energy saving efforts, CO_2 emission volumes stayed at 11% increase.

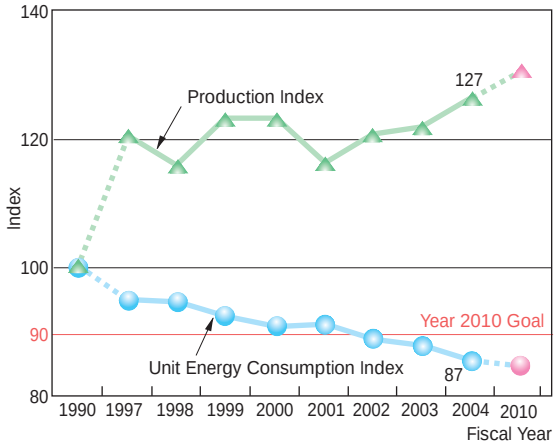
〈Factors of CO_2 Emission Volume Increase〉

Analysis of factors of CO_2 emission volume increase/decrease is shown below.
Compared with the data in fiscal 2003 inside ( ), contribution of the save energy efforts has further grown.

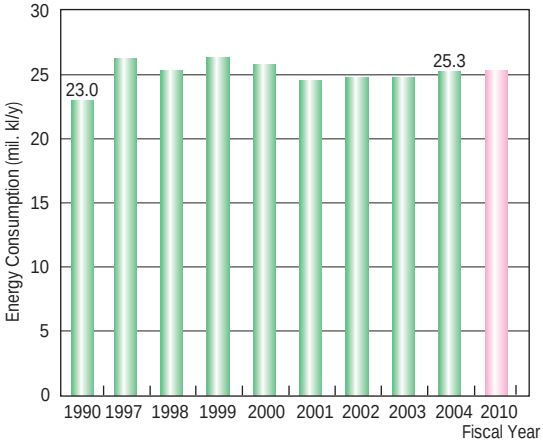
Increase by expansion of production	24.7% (19.8%)
Save energy efforts	-14.8% (-10.4%)
Change of CO_2 emission factor of fuel/power	1.3% (-0.7%)
Total	10.1% (10.1%)

(Reference)
It was decided at the COP3 conference (the 3rd Session of the Conference of Parties to the UN Framework Convention on Climate Change) in 1997, that all countries would reduce their volumes of greenhouse gas emissions (including Carbon dioxide, Nitrogen monoxide, Methane, Hydrofluorocarbons, Perfluorocarbons and Sulfur hexafluoride). In line with this decision, it was decreed that Japan would reduce its overall emissions of these greenhouse gases by 6% compared to 1990 levels in the commitment period of 2008 to 2012. In April 2005 "Kyoto Protocol Goal Attainment Plan" was adopted at the Cabinet, followed by the amendment of Energy Saving Law and Law Concerning the Promotion of the Measures to Cope with Global Warming, commencing practical move toward attaining the goal set by the Kyoto Protocol.
As a challenge at the industrial sector, further improvement in energy efficiency in manufacturing processes, contribution of reduction to the civil and transportation sectors through the activities for reducing emissions, etc. in the whole product life cycle, and clarification of the tasks to tackle at each individual company and its initiative in action plan including environmental education to its employees are sought for.

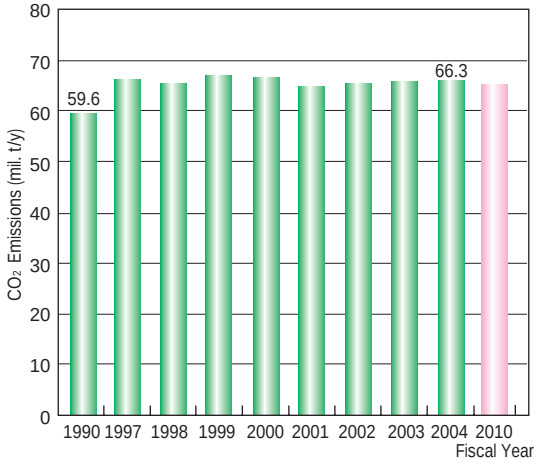
Trends and Forecasts in Unit Energy Consumption Index and Production Index



Energy Consumption (as crude oil)



CO_2 Emissions

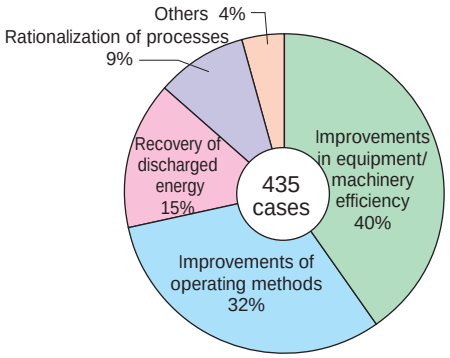


Saving, Global Warming Countermeasures)

Energy-Saving Achievements and Effect

Many JRCC member companies have participated in "Voluntary Save-Energy Action Plan for Environmental Conservation" which intended for energy saving/ CO_2 emission control (the JCIA settled). According to the summary of this follow-up, ￥34 billion was invested in the measures for energy saving/CO_2 reduction. Examples of implemented energy saving measures amounted to 435 cases, accompanying energy reduction effect turned out to be 315 thousand kl (crude oil conversion). Improvements in equipment/machinery efficiency accounted for approximately 40% of examples of energy saving measures.

Examples of Energy Saving Measures



Global Warming Countermeasures

As global warming countermeasures, the following initiatives have been in process:

(1) Reduction of emissions of Greenhouse Gases other than CO_2

In Fiscal 2004, total emissions of 3 gases* such as HFC (gas production enterprises) reduced 86% compared with fiscal 1995, and a whole of Greenhouse Gases adding CO_2 reduced 13% compared with the standard year.

*HFC (hydrofluorocarbon), PFC (perfluorocarbon), and SF6 (sulfur hexafluoride)

(2) Development/offer of energy saving products

・High thermal insulation multi-layer glass resin sash

・Materials for green tires which contribute to upgrading automobile's fuel consumption rate

(3) Initiatives taken in office buildings

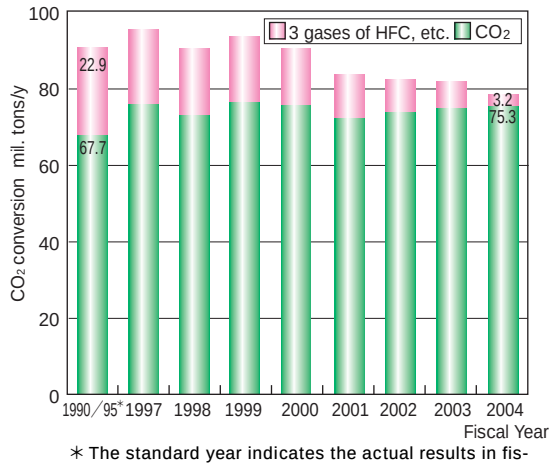
・Recommendation of setting air-conditioned temperature at 28℃ and light dress in the summer season

・Unstinting power-saving measures and introduction of lighting equipment with automatic switch by human-sensor

(4) Initiatives taken in the transportation sector

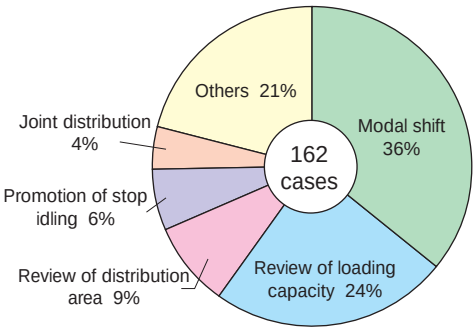
・Modal shift and review of loading efficiency

Transition of Greenhouse Gases Emissions (JCIA data)



∗ The standard year indicates the actual results in fiscal 1990 for CO_2 and those in fiscal 1995 for 3 gases of HFC, etc.

Initiatives taken in the transportation sector



Progress of Environmental Preservation Measures in Overseas Business Activities

In overseas business activities, the JRCC member companies have been not only endeavoring to transfer the latest energy-saving technology and high-efficiency machinery, but also proceeding with energy saving activities through educating local employees.

Environmental Preservation (Reducing

The JRCC has taken initiatives for voluntarily reducing emissions of chemical substances such as harmful air pollutants, PRTR, etc. In addition, it started to tackle reduction of VOC emissions.

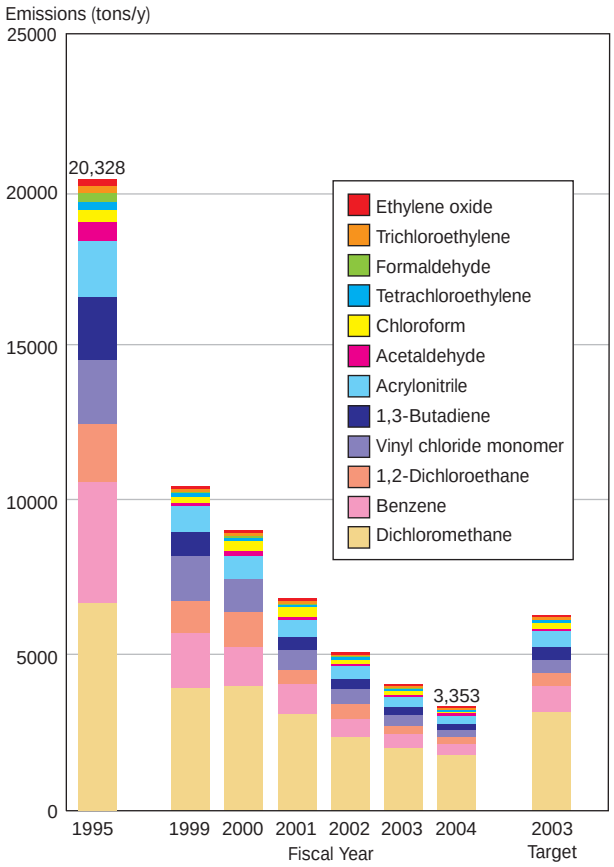
Initiatives taken for reducing harmful air pollutants

The JCIA carried out Voluntary Management Plan for 2 terms from fiscal 1995, and has taken the initiative in reducing emission volumes of the 12 substances to tackle by priority. At the 2nd Term Voluntary Management Plan making fiscal 2001 as the initial fiscal year, against reduction target in fiscal 2003 average 30%, the actual emission results turned out to be 45 - 79% per substance, which achieved high reduction rates.
This fine result was highly appreciated by the Ministry of Economy, Trade and Industry in fiscal 2004 as having achieved reduction exceeding the target and produced excellent results.
The 12 substances to tackle by priority are also PRTR specified substances, and hereafter we plan to implement them including in the PRTR program.

What are the 12 substances to tackle by priority?

22 substances were listed up at the Central Environment Council as "Substance to tackle by priority" out of harmful air pollutants which are in danger of giving harm to human health even at low concentration through long-term intake. Of these, the 12 substances were selected considering potentiality of carcinogenicity, production or import in quantities above a specified amount, actual detection in the environment, etc. These are voluntarily managed items by businesses. The chemical industry has replaced nickel compounds with ethylene oxide.

Transition of Emission Volumes of Harmful Air Pollutants

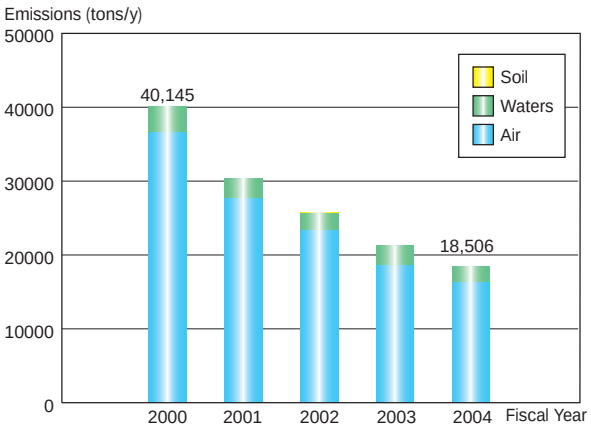


Voluntary PRTR Efforts

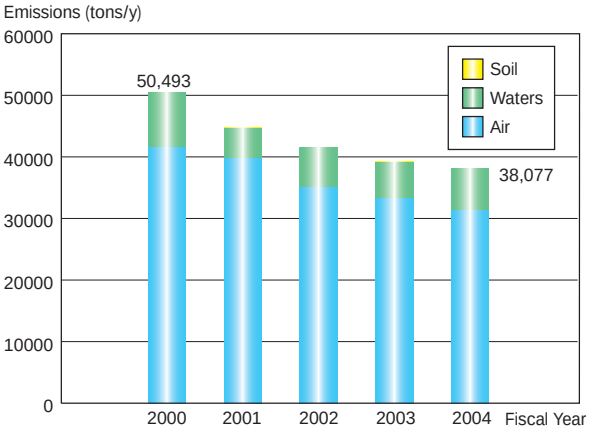
In 1992, the JCIA voluntarily conducted survey on PRTR programs in other countries and started a pilot survey on 13 chemical substances in Japan. In 1994, the JCIA established survey guidelines, compiled basics of calculation methods to commence survey, and announced the survey results at the Ministry of Economy, Trade and Industry. The object chemicals for survey increased gradually and reached 284 substances in 1998.The object substances for survey have reached 480 kinds since 2000, including 354 chemical substances specified by The Law Concerning Reporting, etc., of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (the PRTR Law).
Illustrated are the emission volumes for the period fiscal 2000 - 2004 of chemical substances specified by the PRTR Law at the JRCC member companies and the JCIA's voluntary survey substances.
The emission volumes in fiscal 2004 of PRTR specified substances (354 substances) amounted to 18,500 tons, which is a reduction of 54% compared with that in fiscal 2000. As breakdown of the emission volumes, 88% were emitted into the air, 12% into waters, and 0% into soil.
And, the emission volumes of the JCIA's voluntary survey substances (126 substances: of 480 substances, excluding PRTR specified substances) amounted to 38,000 tons, which is a reduction of 25% compared with that in fiscal 2000. As breakdown of the emission volumes, emission into the air was the most and 82%, 18% were emitted into waters, and 0% into soil.
Based on such survey results, the members are proactively promoting such actions as prevention of leakage of harmful substances, the improvement of waste collection and recycling rates, the conversion to alternative substances, etc. and are making efforts to further reduce emission volumes into the environment.

Emissions of Chemical Substances)

Emission Volumes of Law Specified Substances



Emission Volumes of Voluntary Survey Substances



Data in detail of major 10 substances appear in the website shown below.
http://www.nikkakyo.org/organizations/jrcc/report/2005/data.html

The PRTR Law

PRTR(Pollutant Release and Transfer Register) Law provides, regarding the chemical substances which may have harmful risks to human health and ecosystem, CEO or the undertaker of a business in person is obligated to grasp the emission volumes of such chemical substances into the environment (air, waters, and soil) from the business units as well as the transferred volumes to outside of the business units in the form of wastes, and to report such data to the government. The government bodies, based on the reported data and estimation, have to totalize the emission volumes/transferred volumes, and disclose them to the public.

Initiatives taken for reducing emission volumes of VOC

Reduction of VOC emissions has become to be implemented by best mix of regulatory measures and voluntary management by Air Pollution Control Law.

At the JRCC each member company is scheduled to respond to legal control, and, by making voluntary management plan, to cope with VOC reduction.

VOC (volatile organic compounds)

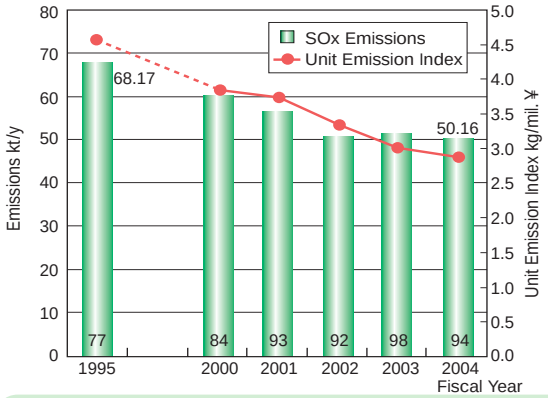
VOC is a general term of organic compounds which have volatility and turn into a gaseous body in the air. There are various substances such as toluene, xylene, ethylacetate. These are considered as one of the causes to generate "suspended particulate matter" and "photochemical oxidant," which are concerned about some harm to human health.

Environmental Preservation (Reducing

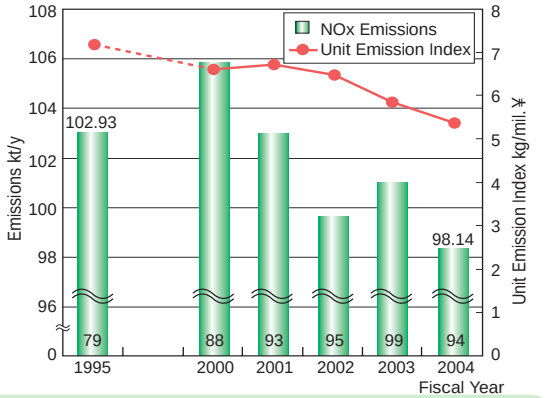
Efforts for preventing air pollution/water contamination

Since the 1970s, the chemical industry, from the point of view of preventing pollution, has achieved substantial reduction of air and water pollutants emission. Similarly after 1995, the JRCC members have continued to strive to maintain lower emission levels than official standards by complying with agreements with local governments and setting up their own standards severer than legal restrictions.
Members' primary environmental impact items to air and waters were worked up into the graphs below. As total emissions are affected by production volume and variation in the composition of data reporting companies, the proportion of emissions to sales amount is also shown as an index of unit emission; by the efforts of each member company, the unit emission index has steadily been improved. In addition, each member company has tackled emission reduction of total phosphorous and total nitrogen as waters' environmental impact since fiscal 2001. Compared with fiscal 2002 having almost the same number of data reporting companies, approximately 6,000 tons of total nitrogen and approximately 160 tons of total phosphorous were reduced.

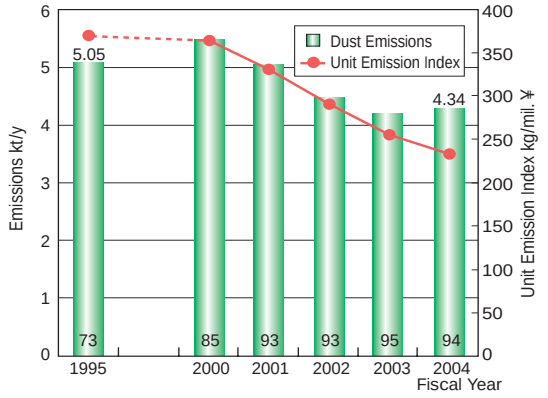
SOx Emissions



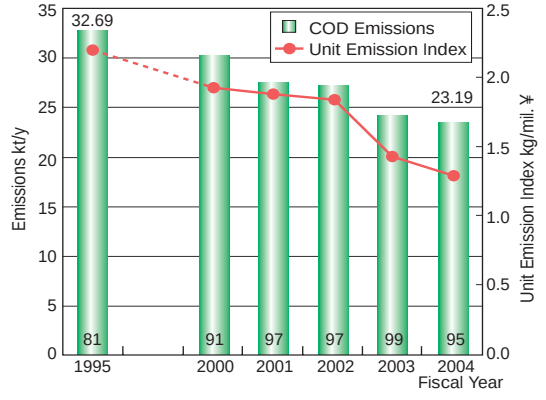
NOx Emissions



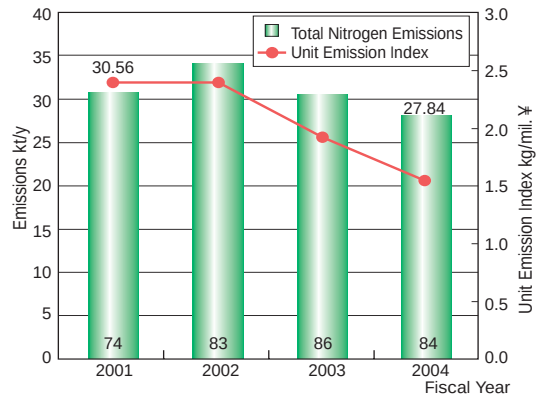
Dust Emissions



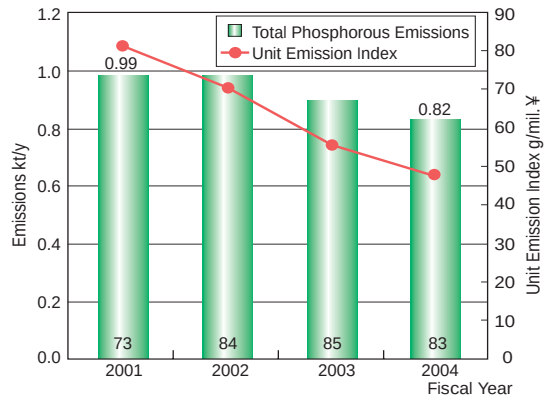
COD Emissions



Total Nitrogen Emissions



Total Phosphorous Emissions



∗ Figures at the bottom part of the column chart indicate the number of data reporting companies.
∗ Unit emission index: Business fields of member companies vary so much that environmental impact levels could not be expressed by the same production volume unit, therefore they were compiled as an index by sales amounts (million yen).

Emissions of Chemical Substances)

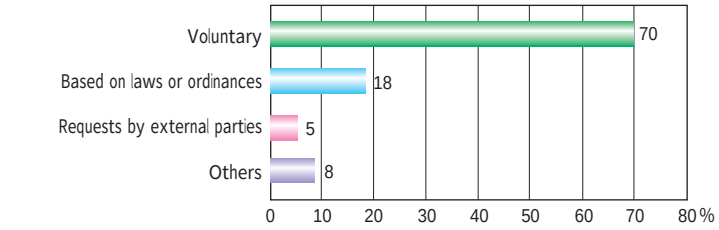
Soil and Underground Water Contamination

Each JRCC member company has been proceeding with voluntary research and measures or based on the Soil Contamination Countermeasures Law put in force in 2003. 91 member companies answered to the questionnaire, of which 58 companies, equivalent to 64%, conducted investigation in fiscal 2004 on soil and underground water contamination at 108 places in total. Of these, at 30 places (28%) in total by 23 companies' investigation, contamination exceeding the reference value was discovered.

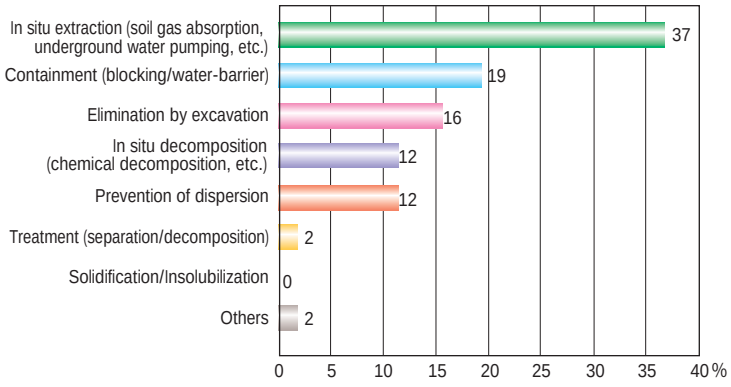
As motives for investigation, voluntary investigation occupies highest 70% of the motives, and 18% was for the investigation based on laws or ordinances (by duplicate answers, the upper graph). And, as regards the subject substances of investigation, 18 cases were examples investigated more than the substances specified in the Soil Contamination Countermeasures Law.

30 companies took the antipollution measures at 45 places in fiscal 2004 including the investigated places in the past, and the methods of the measures were as described in the lower graph.

Motives for Conducting Investigation (multiple answers)



Anti-pollution Measures (multiple answers)



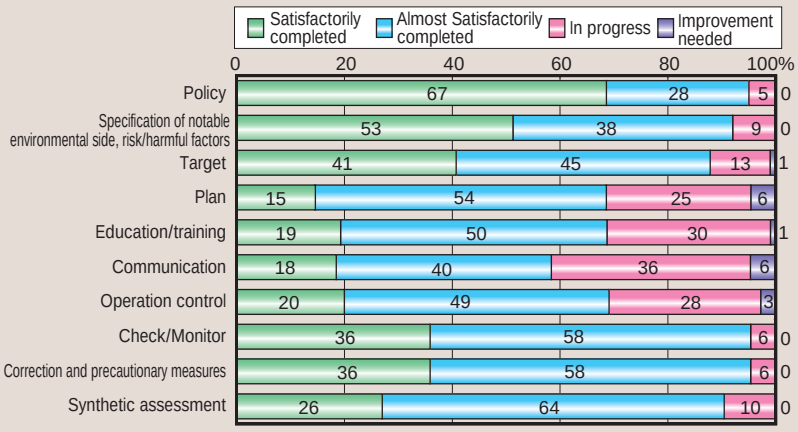
PCB

91 member companies answered to the questionnaire, of which 77 companies (85%) preserve/control PCB wastes (waste of PCB or equipment, etc. containing PCB). 2 member companies started to dispose such PCB wastes during fiscal 2004. In the near future, with the full-scale promotion of the PCB wastes disposal business, member companies to launch such disposal will increase in number.

Member's Self-assessment

Environment Preservation

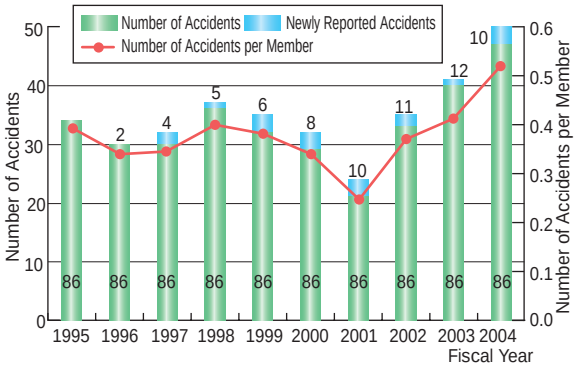
Overall trend was the same as in last year, with the items of Specification of notable environmental side, risk/harmful factors; Check/Monitor; and Correction and precautionary measures, approximately 90% reached satisfactory status. And, an improving trend has been seen with Communication, further refinement will be required.



Process Safety and Disaster Prevention

Since a succession of serious plant accidents occurred in the manufacturing industries in fiscal 2003, "Industrial accident corresponding conference" has been set up at the competent authorities, and further "Meeting on Industrial Accidents" has been set up adding the industries, holding accident information in common, accident prevention has been endeavored with the government working together with the private sector. In line with this movement, the JRCC members have been furthermore promoting process safety and disaster prevention system, especially promoting "Safety management activity on top's own initiative."
The number of annual plant accidents per a member company has shown an increasing trend for the last three consecutive years, and as a lot of small accidents occurred in fiscal 2004, the year marked the most number of accidents after year 1995.

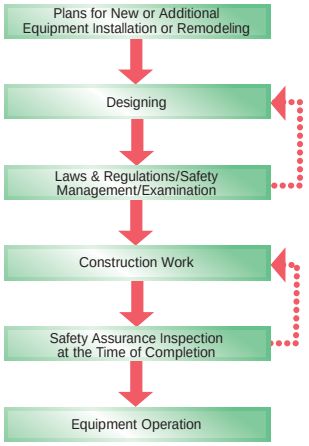
Plant Accidents (explosions, fires, leaks, etc.)



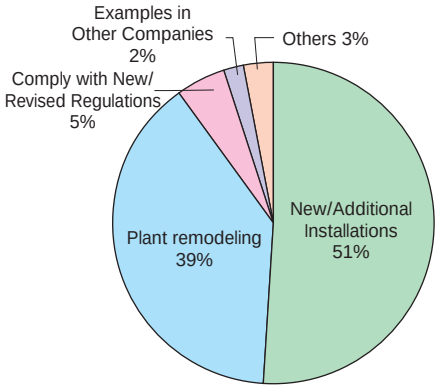
Number of data reporting companies since fiscal 1995 amounts to 86, and after 1995 participated companies are treated as new increment, the number of which is listed in the upper portion of the bar graph.

Prior Facilities Management and Assessment

As a result of survey by questionnaire, it turned out that more than 90%, the same as in the last year, of member companies conducted prior facilities safety assessment. 90% of execution motives consist of installing new or additional equipment or of remodeling equipment. Many member companies as shown in the flowchart, before starting the construction work, implement a prior thorough check to eliminate or minimize any dangers from many angles in addition to legally specified procedures. And when the work finishes, they assure certain implementation status including prior checked measures. Thus they make efforts to prevent plant accidents.



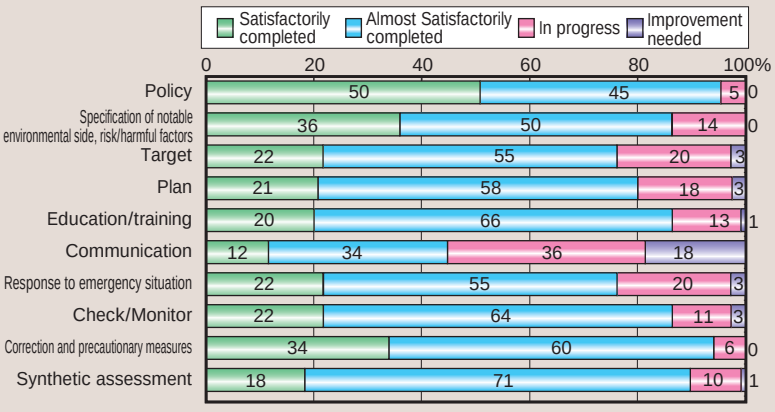
Reasons for Prior Plant Safety Assessments in Fiscal 2004



Member's Self-assessment

Process Safety and Disaster Prevention

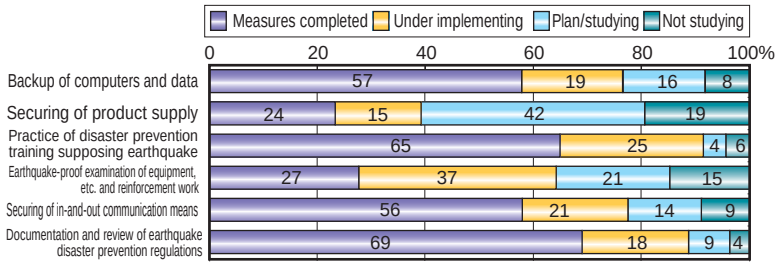
At each item "In progress" has decreased and "Satisfactorily, or Almost Satisfactorily" has increased, thus the runs of the efforts can be seen. Of these, with the item of Communication, improvement could be seen than in last year, but the item remains to have still more to be brushed up.



Responding to Large-scale Earthquakes

In fiscal 2004 also, earthquakes occurred frequently in places to begin with Chuetsu in Niigata Prefecture, and necessity of making various preparations for earthquakes on a day-to-day basis is increasing. According to the JRCC member's answer to questionnaire, as a whole compared with the previous year, preparations have been steadily advanced. With Backup of computers and data, combining "Measures completed" and "Under implementing," outfitting has advanced from 69% in the previous year to 76%. On the other hand, with Securing of product supply, many are still under "Plan/studying" and its repletion will be an issue hereafter.

Results of questionnaire as regards earthquake measures in fiscal 2004



Emergency Response Training

Each member company has been systematically executing emergency drills such as communication training, disaster prevention training, emergency response training, etc. on a day-to-day basis providing against an emergency. Photos show part of such examples.

All-round disaster prevention training at a petrochemical complex

Not only fire-fighting activities, but communication to the concerned departments, shutdown of roads, measures for preventing secondary accidents, prevention of drain water's effluence into rivers, etc. all-round drills have been periodically conducted. Many of them have been executed jointly with the parties concerned such as police/fire department of municipalities, etc.

Sufferers' rescue drill

To approach the site, wearing protectors such as airline mask is indispensable. The wearing speed is also an important task for training.

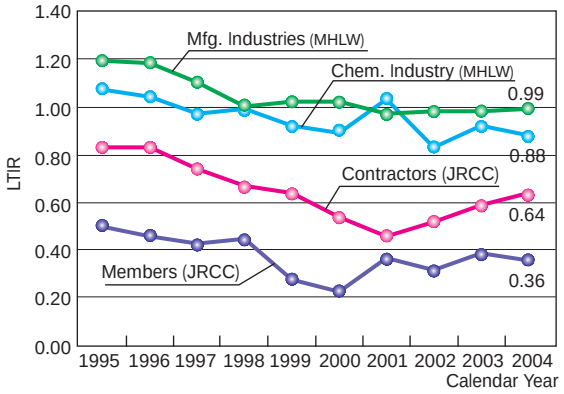
Training of summons at night

In order to gather quickly and be ready to work at an emergency, not only maintenance of communication network, but summons training has been made periodically.

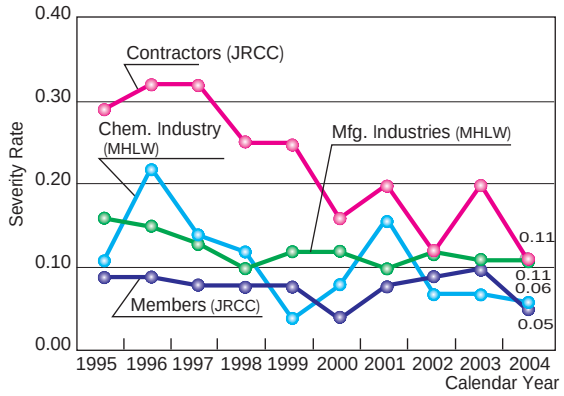
Occupational Health and Safety

Labor accidents have substantially decreased in number both in all manufacturing industries and in all chemical industries since 1970 (Ministry of Health, Labour and Welfare survey).
Although the frequency rates of both JRCC member companies and member's contractors had been lower than the whole manufacturing industries' average, member companies have remained on almost the same level, and member's contractors have been on an increasing trend.
On the other hand, as regards the severity rates, despite variations existed by fiscal year, it substantially reduced in fiscal 2004, and especially in the case of member's contractors, it recorded the lowest value in the past. Even though the number of labor accidents increased, it is presumed that serious accidents decreased.
Hereafter, at each company, continuous efforts for enhancing safety level should be required the same as before for attaining zero accident.
In terms of the number of fatalities due to labor accidents, a low level has been kept for these several years, but aiming at achievement of zero death accident, activities for further improvement must be required.

Frequency Rates



Severity Rates



Number of Fatalities

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Member Companies (JRCC)	2	3	4	3	3	2	1	1	2	1
Member Company Contractors (JRCC)	4	6	5	9	4	1	3	1	3	2
Chemical Industry (MHLW)	35	39	34	30	28	26	24	22	25	22
Manufacturing sector (MHLW)	417	405	351	305	344	323	326	275	293	293

MHLW=Ministry of Health, Labour and Welfare

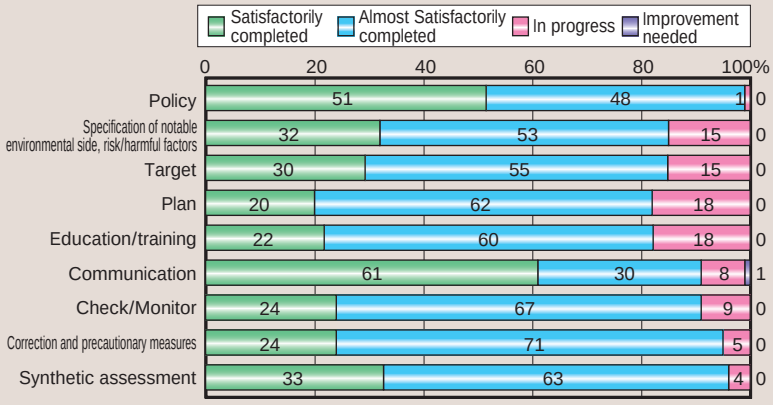
$$\text{Frequency Rates} = \frac{\text{Number of lost time injuries}}{\text{One million working hours}}$$

$$\text{Severity Rates} = \frac{\text{Lost days}}{\text{One thousand working hours}}$$

Member's Self-assessment

Occupational Health and Safety

As regards Occupational health and safety, as a result of the efforts made up to now and introduction of OSHMS having been promoted, at "the Synthetic assessment" 96% assessed as "almost satisfactorily completed." At the code of "Communication" inside the company activities are also assessed, higher evaluation than the other codes is given.



Occupational Health and Safety (Safety Awards and Symposiums)

To protect health and secure safety of working people is one of the important activities of Responsible Care. The JRCC, jointly with the JCIA, has made "safety awards" and has held "safety symposiums" based on case studies by winning companies since 2000.

Safety Awards and Safety Symposiums

The system was originally set up in 1977 by the JCIA, as part of efforts to encourage independent Process safety and disaster prevention as well as Occupational health and safety. Since that year, awards have been made annually to factories whose excellent safety records make them models for others. This year (2005) marked the 29th time since the contest established, and the commendation ceremony was held in May.

It is firmly considered that the Safety Awards have settled as the chemical industry's voluntary award system, and as the driving force of process safety and disaster prevention/ occupational health and safety activities at the workplace, and in its turn influence the leveling-up of the entire chemical industry.

This year's winners were:

● Safety Award	Toray Industries, Inc. Gifu Plant
● Safety Effort Award	K & D Fine Chemical Corporation
	Tonen Chemical Corp. Kawasaki Plant
	Nippon Kayaku Co., Ltd. Kashima Plant
	Nippon Kayaku Co., Ltd. Functional Chemicals R&D Laboratory

Toray Industries, Inc. Gifu Plant

150 people including those who did not belong to the JRCC attended "Safety Symposium" held at Hatsumei Kaikan Hall June 16 2005. In addition to detailed presentations on the winners' safety activities, the panel discussion entitled "How to maintain an accident-free record" was held with Honorary Professor Yoichi Uehara of Yokohama National University in the chair.

Followings are winners' brief outlines and their safety activities:

★ Toray Industries, Inc. Gifu Plant

This plant is located in Godo-cho, Anpachi-gun, Gifu Pref., and manufactures artificial leather. Taking the opportunity of a fatal accident in 1988, "Safety the highest priority" was enforced, and combining strong leadership and bottom-up activities, safety culture of the plant has been constructed. Risk assessment is thoroughly made, and measures are taken for sure. It employs 338 people, and has continued zero accident for 16 years.

★ K & D Fine Chemical Corporation

As a joint corporation of JFE Chemical Corporation and Daiichi Kogyo Seiyaku Co., Ltd., it is located in Chiba Ironworks of JFE Steel Corporation, and engaged in manufacture and sale of naphthalene sulfonate formalin condensate. All employees are temporarily assigned, and while personnel changes take place frequently, president's leadership drives activities. It employs 16 people, and has continued zero accident for 18 years since its startup.

★ Tonen Chemical Corp. Kawasaki Plant

This plant is located in Kawasaki Chemical Complex district, and as a subsidiary of Exxon Mobil, together with Tonen General Petroleum Co., Ltd. in the same district, and executes safety activities in a unified form. It manufactures petroleum products and petrochemical products. It advances unique activities promoting Exxon Mobil's slogan "Nobody gets hurt." It employs 365 people, and has continued zero accident for 9 years.

★ Nippon Kayaku Co., Ltd. Kashima Plant

It is located in part of Kashima Petrochemical Complex, and manufactures original agrochemicals, pharmaceutical preparations of pesticides/sterilizers, etc. As it is engaged in batch production and often related with new products, the plant makes it a rule to confirm safety comprehensively at the Safety Examination Committee. It utilizes the data base of accidents as Nippon Kayaku Co., Ltd./HHK (near miss & worrisome), and tries application to similar processes. It employs 62 people, and has continued zero accident for 22 years since its startup.

★Nippon Kayaku Co., Ltd. Functional Chemicals R&D Laboratory

It is located in a residential area at Kita Ward, Tokyo, and engaged in R & D of functional resins, pigments, functional films, etc. for semi-conductor use. Because the workplace is a laboratory, considering person's skill-up as significant, and in group activities, it is pushing forward an original KY (Risk prediction) activity. It employs 144 people, and it holds a zero accident record of 34 years.

Both the details of presentations by each winner and the minutes of panel discussions appear in the JCIA's website (General page) "Environment/Safety" → "Initiative taken for safety" → "Safety symposium."

http://www.nikkakyo.org/show_category.php3?category_id=278&navRow=2

Chemicals and Product Safety

To secure Health, Safety and Environment at all stages from product development through disposal by way of manufacture, distribution, use and final consumption, the JRCC and its each member company strive to implement "Comprehensive voluntary safety management of chemical substances" through diversified initiatives.

Legal Control etc., Trend and the Japan Chemical Industry Association's Efforts

REACH response: EU in October 2003 publicized a final draft of REACH* (European new chemicals control). In February 2005 an amendment draft of European Parliament was publicized, which incorporates, regarding deep concern substances for carcinogenicity, etc., substitution to have priority, notifying obligation when molded part contains such substance, establishment of conformity mark with REACH regulation, etc. The JCIA in 2003 presented comments on the draft of REACH, "REACH-responsive council" was established both in Japan and Europe in September 2004, and plans to make approaches to European Parliament, etc.

*REACH: Abbreviation of Registration, Evaluation and Authorization of Chemicals. Several years later, by legalization of this regulation, it is foreseeable that it cannot help implementing the following strict measures: ① For a manufacturer or an importer of not less than 10 tons chemical substances to obligate making up the chemicals safety assessment sheet; ② To transfer the duty to implement risk assessment to industries; ③ To obligate to make the same registration and evaluation to the existing chemical substances as to the new chemical substances, etc.

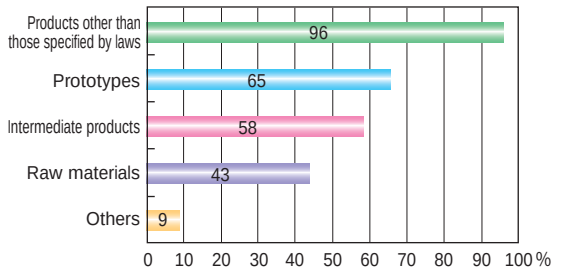
Surveys and Research on Chemical Substance Safety

Efforts for HPV: OECD (Organization for Economic Cooperation and Development) has been proceeding with the project about the substances lacking basic hazardousness data to acquire data and to make initial hazard assessments preferentially from the existing chemical substances with a large scale of production (HPV: High Production Volume Chemicals, annual production volume in a country is not less than 1,000 tons).
In Japan, as of March 2005, 112 companies starting with the JRCC member companies cooperated in investigation activities. And, in 2005 a framework (Japan Challenge Program) which the industry in cooperation with the government gathers safety information of chemicals and reports such information widely to its nation started.
LRI activities: The chemical industries in the world have cooperatively been proceeding with long-term voluntary research on "the effects of chemical substances on human health and the environment" the LRI (Long-range Research Initiative). This activity is a voluntary one which publicly collects research themes on the important problems for the chemical industry such as "Endocrine disrupting chemical substances", "Chemical carcinogenesis", "Hypersensitivity", etc., and intends to solve the problems. In 2005, a summary of researches made up to date were worked up into a pamphlet. The status of LRI activities can be viewed on the following web site: http://www.j-lri.org/eng/

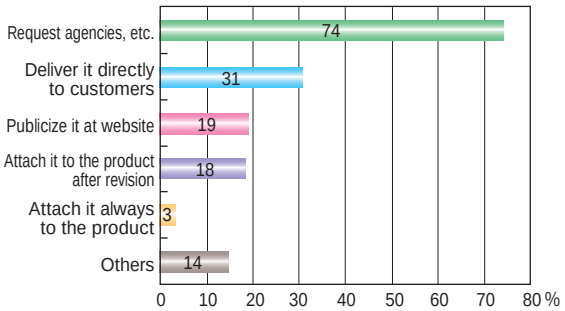
Status of Maintenance and Distribution of MSDS

In order for implementing Responsible Care, in distribution, sales, and post-use disposal, for the purpose of reducing the influence to human and the environment, the activities to provide information and give education, etc.- Product Stewardship-is indispensable element. MSDS (Material Safety Data Sheet) is an explanation which supplier of chemical products provides necessary information for handling chemical products safely to an enterprise handling chemical substances for the purpose of preventing accidents to occur and to be issued as per the applied product. This constitutes one of the important means of product stewardship. MSDS is revised from time to time based on amendment of relevant laws, acquisition of new risk information, provision of information from manufacturers, etc.
The substances to which MSDS must be provided are specified by PRTR Law, Industrial Health and Safety Law; and Poisonous and Deleterious Substances Control Law, but 89 companies out of 93 survey object companies voluntarily issue MSDS for other substances (products) than those specified by laws.

MSDS Application to Other than Those Specified by Laws



Method of Delivering MSDS to Customers at the time of its Revision



As regards the delivery method of MSDS to customers at the time of its revision, delivering it from outside such as agencies is the most and accounts for 74% of all. The proportion of delivering it directly to customers amounts to 31%, and the enterprises which publicize MSDS at their website account for 19%. It is also important for letting customers handle chemical products safely that manufacturers grasp how customers use or process their products; as what final products their original ones are delivered to consumers; etc. The grasping status of 93 companies surveyed this time is as shown at the right, and companies of 85% replied as "grasped over 80%."

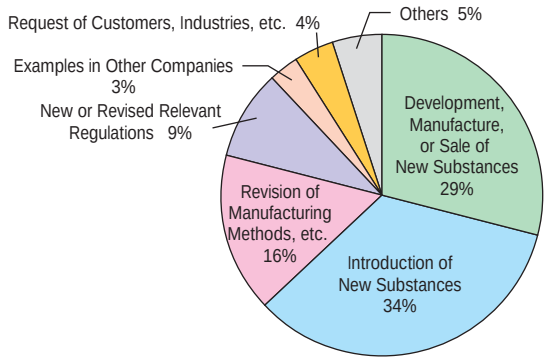
Grasping Status of Customers' Applications of Provided Products

Grasping over 80%	85%
Grasping over 50%	11%
Grasping less than 50%	3%
Not grasped	1%

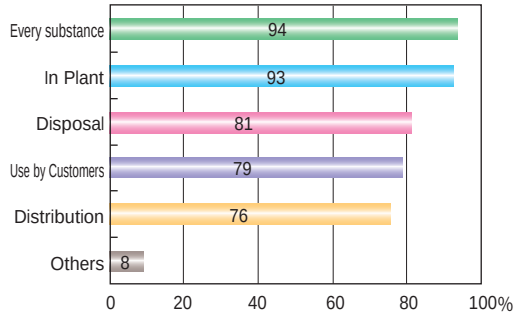
Prior Chemical Substance Safety Assessments

Prior chemical substance safety assessments, which focus on safety of chemical substances (explosion, fire, acute and chronic toxicity, etc.) and assess the effects to the people handling them and to the environment, are applied to the existing products as well as new chemical substances. Such assessments are useful not only for risk reduction measures but also for response in emergencies. 94% of member companies have their own prior safety assessment codes.

Motives for Conducting Prior Safety Assessments



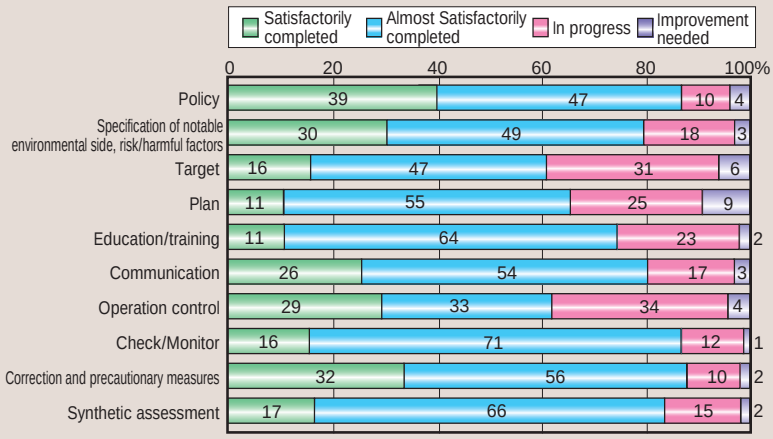
Objects of Codes of Prior Safety Assessments (Plural Replies)



Member's Self-assessment

Chemicals and Product Safety

At the synthetic assessment more than 80% of the members replied as almost satisfactorily completed. The items of "Target," making and promoting "Plan," and "Operation control" containing cooperation to overseas on Responsible Care as well as technology transfer marked lower assessment than other items, and improvement of these may be an issue hereafter.



Distribution Safety

For the purpose of decreasing risks on the environment/ safety during transportation of chemicals which may influence on the environment, the JRCC members have continuously taken steps to urge the persons concerned with distribution such as workers at business sites, transporters, contractors, etc. to prepare Yellow Card and carry it with them, and at the same time to conduct emergency drills to readily take appropriate measures.

Status of Preparation of Yellow Card/Container Yellow Card

The JCIA is promoting to utilize an Emergency Response Card that contains information on appropriate measures for the persons concerned such as trailer drivers, fire fighters, and police in case of an accident during transportation of chemical substances and high pressure gases. As written on a yellow card in order to be identified easier in an emergency, this card is called "Yellow Card".

Meanwhile, when vessels and packaged goods are transported together, plural Yellow Cards are carried simultaneously, and in this case, for the purpose of facilitating quick and sure identification of the exact goods in an emergency, to affix it as a label (Container Yellow Card) to the container is recommended.

Status of Carrying Yellow Card

Replies were received from 93 member companies. Of these, 94% of members confirmed carrying Yellow Cards.

Status of Implementing Container Yellow Card (Labeling Style)

Container Yellow Card system started to be put in practice in fiscal 2002. According to the JCIA's survey, 75 companies (70%) of the replied 105 companies had already introduced it. Compared with 42% of the survey results in the previous year, it can be evaluated that each company took in the system in this one year. In addition, by comparison with the use rate to the object product, it elevated to 56% from 39% last year, which supports pervasion of use progressing.

Container Yellow Card
(Small container)

Emergency Manual/Communication System/Training Status

Members, preparing for the occurrence of accidents, have been making efforts to secure safety during transportation by setting up 24 hours emergency communication system and joint accident response services between a fire department/police and related enterprises as well as by conducting emergency drills, and so on.

① Status of Possession and Pervasion of Emergency Response Manuals

97% of members possess emergency response manuals.

② Status of Setting up of 24 Hours Communication Network

95% of members maintain 24 hours communication network.

③ Execution of Emergency Response Drills

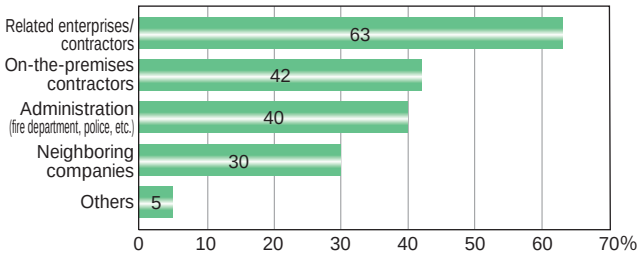
90% of members have executed emergency response drills.

Joint Accident Response Services

Responding to emergency, 84% of members maintain joint accident response services.

Object substances are flammable solids/liquids/gases and high-pressure gases, corrosive substances, acutely toxic substances, etc. and the counterparts that jointly respond to accidents are Related enterprises/contractors, On-the-premises contractors, and Administration (fire department, police, etc.).

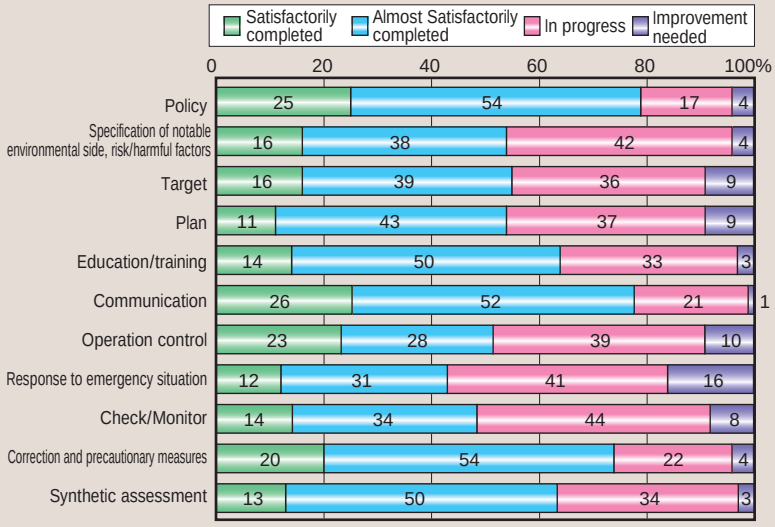
Counterparts Jointly Respond to Accidents (Plural Replies)



Member's Self-assessment

Distribution Safety

While with setup of distribution safety policy; Correction and precautionary measures; and Communication, approximately 80% of the members assessed as almost satisfactorily completed, in the practical business correspondence aspect such as Response to emergency situation; Check/Monitor; Operation control, etc. only approximately 50% of the members considered as being in satisfactory level.

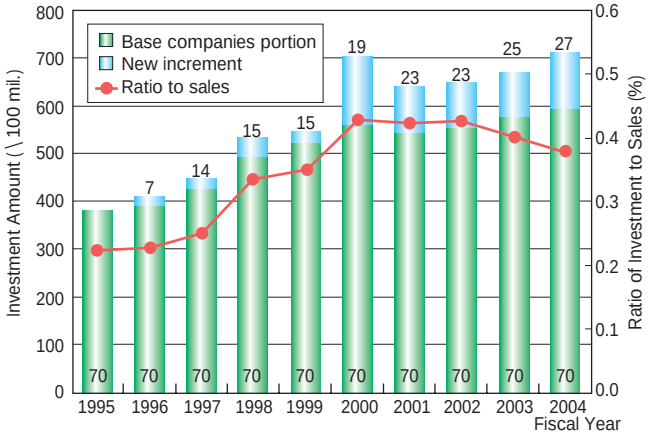


Investment in Environmental Preservation and Security

Investment in the Environment

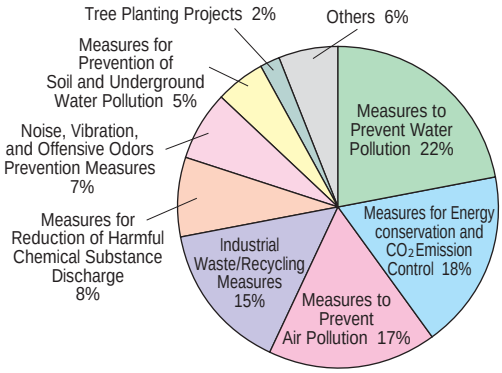
The JRCC members recognize the importance of the environmental preservation and have continuously invested in environmental preservation at high level.
The amount of investment in environmental preservation in fiscal 2004 was approximately 71 billion yen in total, 5.6% increase compared with the previous fiscal year, and the ratio of the amount of investment to sales was approximately 0.4%.
Breakdown of the investment is as shown in the chart below. In the same order as in fiscal 2003, Measures to prevent water pollution (COD measures) accounted for 22% of total, Measures for Energy conservation and CO2 Emission Control for 18%, Prevention of Air Pollution for 17%, and Industrial Waste/Recycling Measures for 15%. With Investment in Measures for Reduction of Harmful Chemical Substance Discharge, Noise Prevention Measures, and Measures for Prevention of Soil/Underground Water Pollution, as each member company has positively responded to chemical substance management, and soil contamination prevention, etc., those respectively increased compared with the previous fiscal year, and accounted for 8%, 7% and 5%.

Investment in Environmental Preservation



*Numbers in the lower portion of the bar graph indicate the number of member companies reporting data for fiscal 1995.
*Numbers in the upper portion of the bar graph indicate the increase in the number of member companies reporting data compared to fiscal 1995.

Breakdown of Investment in Environmental Preservation for fiscal 2004

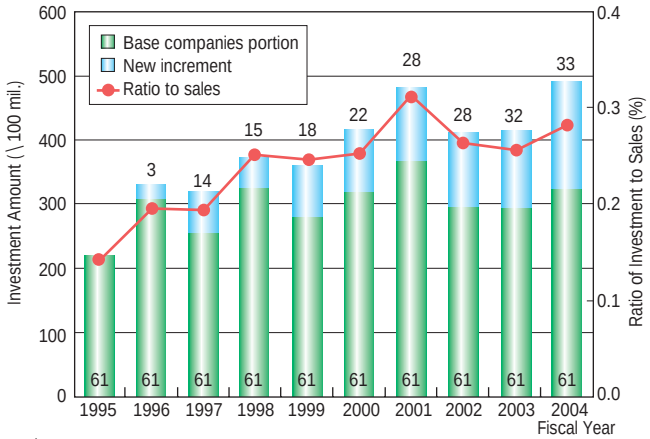


Process Safety and Disaster Prevention

Each member company maintains high level of investment, not only in software phase such as safety control measures, but also in hardware phase of equipment improvement.
Investment by members in process safety and disaster prevention in fiscal 2004 amounted to approximately 50 billion yen, an increase of 21% compared with the previous fiscal year. Investment ratio to sales likewise increased from 0.25% to 0.28%.

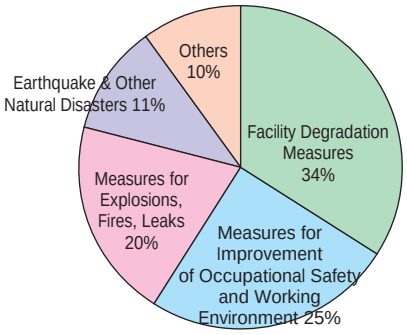
Breakdown of the investment in process safety and disaster prevention is as shown in the chart below. In the same order as in fiscal 2003, Facility Degradation Measures accounted for 34%, Measures for Improvement of Occupational Safety and Working Environment for 25%, and Measures for Explosions, Fires, and Leaks for 20%. Investment in Measures for Earthquake & Other Natural disasters accounted for 11%, showing an increase from the previous fiscal year, because each member company implemented earthquake-resisting measures on the assumption of occurrence of a large scale earthquake.

Investment in Safety and Disaster Prevention



* Numbers in the lower portion of the bar graph indicate the number of member companies reporting data for fiscal 1995.
*Numbers in the upper portion of the bar graph indicate the increase in the number of member companies reporting data compared to fiscal 1995.

Breakdown of Investment in Process Safety and Disaster Prevention Measures in Fiscal 2003



The JRCC Activities (Dialogue with the Public)

As far as Responsible Care activities are concerned, it is important to insure clear understanding of society through public disclosure of the results of activities and communication with society.
Each JRCC member company has been promoting dialogues with society with this aim. The JRCC also, through its Dialogue Working Group, has been promoting Community Dialogues and Dialogue Meetings with consumers groups and students.
In addition, the JRCC has been engaged in public relation activities such as issuance of the quarterly brochure to promote understanding of the JRCC's activities.

Community Dialogue

In 15 districts throughout Japan, including the 9 major petrochemical complex districts, the JRCC has organized "Community Dialogue Meetings" with the participation of the representatives of local municipalities as well as the residents of each community and has been continuing its efforts to introduce and seek understanding on Responsible Care and the activities of the JRCC member companies' each business place.
In fiscal 2004, setting the target of further conversion to discussion-style forums, the JRCC held the community dialogue meetings in 7 districts (in held place order, Yamaguchi East, Chiba, Okayama, Kashima, Hyogo, Osaka, and Aichi) from November 2004 to March 2005. At each district, not to make it only an explanation, but to make it dialogue, prior survey of residents' concern by questionnaire, synthetic questions and answers based on the survey, and panel discussions were attempted.
In response to the proposal of "Collection/Analysis Study Report of Experience/ Knowledge of Community Dialogue" in the previous fiscal year (fiscal 2003), a training session was held for the first time, aiming at leveling up the presentation skill of the presenter. Narrowing the theme, presentation using as few technical terms as possible, and ingenuity to acquire concern and understanding of community residents was made.

Dialogue Meetings

The dialogue meeting with "Consumers Japan" counted eighth at this time. For fiscal 2004, as regards what kind of examinations is ordinarily made when an enterprise starts merchandising, 3 companies presented in the contents of "Assessment method of environmental impact," "Reducing measures, etc. of environmental load of detergent," and "Safety assessment for the development of agrochemicals," for which discussions were made. An exchange of opinions was made actively, and a certain level of understanding of the initiatives taken by enterprises and their efforts was obtained.
The 2nd forum meeting with Kansai consumers groups was held in Osaka, following the previous year. This time discussions were made on the contents of the RC report, and incorporating requests from consumers, it was confirmed to continuously proceed with improvement toward the future.
On the other hand, the "Environmental dialogue and interaction" with the students, for fiscal 2004, held in Tokyo a joint dialogue meeting of the "AIESEC Japan", an organization of economic/commercial science students, and "IAESTE Japan" an organization of science, engineering, and agriculture line students. With a chemical plant tour incorporated in the schedule for the first time, students' interest was high and active exchange of opinions was made.

Public Relations Activities

To have the activities and achievements of the JRCC, its members and members' facilities as well as international trend of Responsible Care known widely to the general public including its members, the JRCC publishes the quarterly JRCC News.
In addition, the JRCC website makes available an introduction of Responsible Care "About Responsible Care," "Japan Responsible Care Council," "Responsible Care Reports," "JRCC News*," and at "Information Pages*" the JRCC has been endeavoring to timely deliver the information of the JRCC's activities.

*Japanese version only
http://www.nikkakyo.org/organizations/jrcc/top_e.html

Member's Dialogue with the Public (Responsible Care Report)

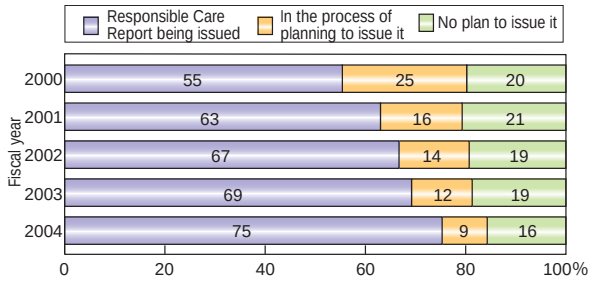
The JRCC members issue "Responsible Care report,"* in which they publicize their corporate policies, contents of Responsible Care activities, their performances, respectively, etc. By pursuing those, they have been making efforts for gaining understanding from the society.

*Responsible Care report means a report or information in which all or part of Environment/Safety/ Health is described irrespective of whatever the name is, which is publicized out of the organization, and is available to the public in general.

Issuance of Responsible Care Report

In fiscal 2004, 67 companies, 4 more companies than the previous year (approximately 75% of the answered members) issued Responsible Care reports. The number of issuing members has steadily been increasing.

Issuance of Responsible Care Report

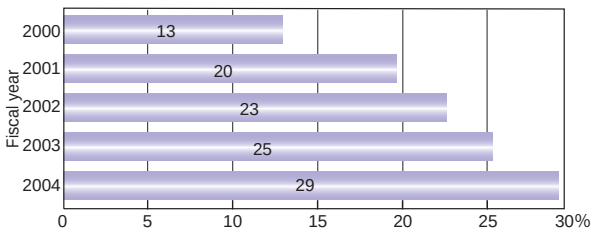


Issuance of Local Edition Responsible Care Report

The number of member companies issuing local edition(site report) is steadily increasing year after year. In fiscal 2004, 26 companies equivalent to approximately 29% of the answered members (3 companies increased compared with the previous fiscal year) issued it, which indicates the site report has become utilized as a means of communication with the community residents.

In addition, the members who have prepared pages for site in their company-wide edition and describe site data there account for approximately 67% (45 companies) of the report issuing members, and many of the described data are Waste/energy (37 companies); PRTR (35 companies); Compliance status of legally regulated items such as air/waters (35 companies), etc.

Issuance of Local Edition Responsible Care Report



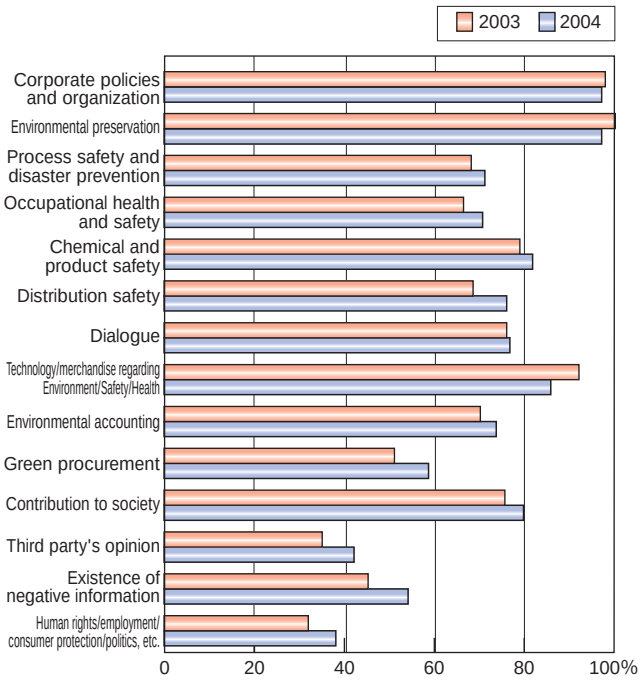
Described Contents

In terms of each of the implementation items of Responsible Care (Environmental preservation, Process safety and disaster prevention, Occupational health and safety, Chemical and product safety, Distribution safety, and Dialogue), more than 70% of the members described. Even on the other items the proportion of carrying in the report was elevated in general more than the previous year, which is likely to indicate the intended improvement of the report.

The carrying proportion of Negative information and Third party's opinion was elevated and Information disclosure/ accuracy of contents was sought. Especially as regards Third party's opinion which greatly increased in the previous year, it increased also in this fiscal year (from 24 companies to 28), and 42% of report issuing members carried it. The members who undertake the third party verification at Responsible Care Verification Center are increasing.

Affected by the elevated interest in CSR (Corporate Social Responsibility), articles on social initiatives such as Human rights/Employment/Consumer protection/Politics, etc. have been increasing, and carrying rate has approached 40%.

Report Contents



Member's Dialogue with the Public

The JRCC member companies recognize the importance of harmony with local communities and proactively and voluntarily take various initiatives to earn the trust of the communities.

The member companies have been striving to contribute to the local communities by coming in contact with people in the communities through participation in, cooperation and providing facilities to, local events and volunteer activities.

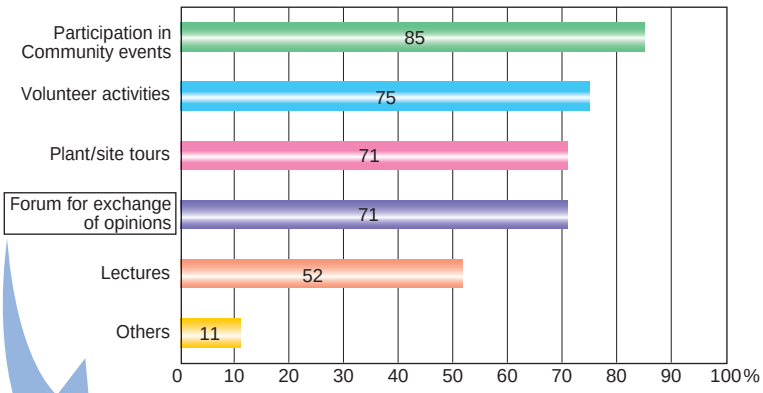
Likewise, by preparing a forum of exchanging opinions with people in the communities, by giving chemistry classes to local elementary and junior high school students as well as through lecture meetings with open lectures at a university to the public and lectures for citizens, the members have been engaged in such activities to let the people in the communities further deepen understanding of "Chemistry" and "Responsible Care."

In fiscal 2004, compared with fiscal 2003, the member companies which prepared a place of exchanging opinions increased to 71% from 65%, and members who organized lecture meetings, etc. increased to 52% from 39%, thus an attitude to strive more positively to have communications with local communities was shown.

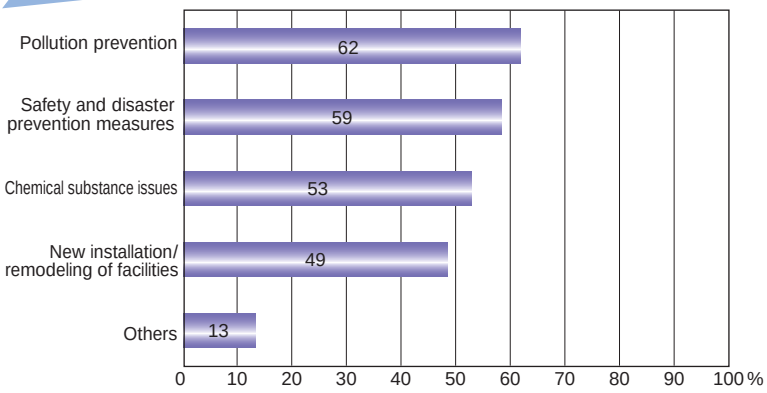
At exchanging opinions, in addition to Pollution prevention, Safety and disaster prevention measures to begin with accidents/disasters-response, Chemical substances relation including PRTR, Prior explanation and advance negotiation for new extension/remodeling of facilities have been picked up as themes, and dialogues have been made.

In fiscal 2004, compared with fiscal 2003, at each item of Safety and disaster prevention (from 48% to 59%), Chemical substance issues (from 44% to 53%), New extension/remodeling of facilities (from 41% to 49%), the rate has largely increased. On the subjects of initiatives taken for accident prevention, and for earthquake measures as well as safety activities for chemicals, the state of affairs of the members to emphasize the explanation to outside the company, and to positively intend to have dialogue with the community has been achievable.

Means of Communication (multiple answers)



Themes at Forum for Exchange of Opinions (multiple answers)



Member's Self-assessment

Dialogue with Communities

While on the item of policy 82% of the members assessed almost satisfactorily completed, with the items of target, plan, and education/training etc., the members who replied as "almost satisfactorily completed" became low at 36 - 63%, which showed the recognition that more practical action is still much to be required. The dialogue with the communities is the subject strongly emphasized now, and its development hereafter should be expected.

(Communication with the Community)

All-round disaster prevention training with community residents' participation

A get-together with community residents

Plant tour of elementary school students

Explanation meeting regarding initiatives for the environment

Chemical experiment class

Seashore cleaning with community residents

Town planning with flowers and green

Dispatch chemistry lessons at school

International Activities

Pervasion of Responsible Care (RC)

The JRCC has been supporting Responsible Care activities of ASEAN countries by making a road map per country extending over many fiscal years. In both fiscal 2001 and 2002 the JRCC supported Thailand. Currently, in the Philippines the plan in fiscal 2003 through 2006 has been in progress. Further, from fiscal 2005 onward, the support for Vietnam has started based on the 5-year plan. Requests for support arrived from the countries which are about to begin RC from now such as Myanmar, Laos, and Cambodia, and from the countries which have already been implementing RC such as Indonesia and Malaysia. The JRCC makes up respective road maps corresponding to RC development status of each country, and carries out its support in turn.

For instance, in Thailand, the JRCC supported the introduction of Responsible Care Management System (RCMS). In Philippines, it has been supporting the introduction of RCMS and the verification system. In Vietnam, it started from support of setting up RC Association and RC enlightenment education. Normally, these supports are carried out by the following 4 methods: Firstly, holding of a seminar at the site, for association staff, government officials, and local enterprise employees in charge. This aims at gaining general understanding of RC. Secondly, for the purpose of deepening degrees of understanding, by narrowing the scope of object persons, a Workshop is held. Thirdly, conducting verification/survey of individual enterprises, the JRCC provides managers and responsible officials of the related enterprise with advices for directing for enhancing consciousness and upgrading technical level. Fourthly, taking advantage of the system of AOTS (The Association for Overseas Technical Scholarship), the JRCC invites overseas trainees into Japan and gives them education of consciousness as well as arranges visits to enterprises in terms of RC.

Topics in Fiscal 2004

An enterprise in the Philippines started RC from zero, but showed excellence in its introduction speed, completed the risk assessment in 3 years, and has reached the status to afford reception for tour from other enterprises.

A dust handling plant in Vietnam has not yet experienced such activities as named as RC, but has been carrying out 5S activities, and its cleaning status has reached a level yielding to none even in comparison with Japan.

Workshop (the Philippines)

Plant verification/survey (Vietnam)

Pervasion Activities of GHS

GHS (Globally Harmonized System of Classification and Labelling of Chemicals) is a new system of managing chemical substances started by the initiative of UN. This system literally classifies chemicals on the worldwide common standard, based on which the display label is to be made. The UN advocates implementing GHS on the world scale to start in 2008, and Chemical Dialogue of APEC has made an arrangement to start in 2006, advancing to the UN proposing start year.

GHS was adopted at the UN Economic and Social Council as the resolution, and adoption by major countries such as OECD, etc. is said to be for sure.

Growth of the chemical industries in Asia has been remarkable, and international trade volumes have been increasing year after year. To maintain this favorable status GHS is indispensable to be adopted. The JCIA in 2002 made a survey of GHS preparation status in Southeast Asia by the entrustment of the Ministry of Economy, Trade and Industry, and as a result, readiness of the correspondence turned out to be impracticable.

Accordingly, the JCIA participated in the planning of GHS project of 3 year plan starting 2003 under JETRO's JEXSA business. This project aims at nurturing GHS leader class for constructing an independent system of each country, and by a kind of method called Capacity Building it has been engaged in curriculum organization, teaching material development, and dispatching lecturers.

The Year 2005 is the final year for this project, and activities started setting up the target of nurturing 24 leaders at each country. The features of this project are as follows:

- To organize curriculum step-by-step under a multiyear plan
- Not staying within the framework of JETRO, but to form an organic alliance with other organizations such as AOTS, ICETT, etc.
- In each country public-private partnership is being made
- To be able to draw a prospect toward the future

As items warranting special mention of future prospect, building-up of international cooperation through web between the members participated in the project is given.

Communication among Members

The JRCC implements information exchanges, panel discussions, small group discussions and lectures by outside lecturers in Member Experience Exchange Meetings and Member Workshops among its members to improve the quality of Responsible Care activities. Especially, an introduction of member's best practice, an exchange of opinions on specific themes in small groups within the members, and setup of forums for frank dialogue of personal experience in dealing with troubles with each other have been contributive to leveling up each member company's Responsible Care activities.

Member Experience Exchange Meetings

In fiscal 2004, the JRCC held Member Experience Exchange Meetings twice (July 27, 2004 in Tokyo, and February 3, 2005 in Kita-Kyushu).

Tokyo meeting had 111 participants. After the explanation was made on the subjects about the change of the environment surrounding Responsible Care, especially VOC emission regulation, green procurement and RoHS regulation, REACH, etc. status as well as an introduction of the JRCC's recent activities, and activity plan in fiscal 2004, a lecture on CSR and at separate meetings divided into 6 as per theme an exchange of opinions were had. The lecture on CSR was made by Mr. Hiroo Wakai, Director of Japanese Standards Association, entitled "Recent trend of CSR," and talked about negotiation process at the international conference regarding standardization of CSR and tasks hereafter. Even at the separate meetings held thereafter, at 2 of them out of the 6 divisions, further deeper exchange of opinions was had on the subject of "In terms of relations between CSR and RC." At the other four , under the 4 themes of "A Meeting to Read Environmental Report of Kao Corporation," "Risk Communication and PRTR," "Labor Safety/Process Safety," and "Green Procurement," active exchange of opinions was made under the chairperson of each separate meeting. At the member experience exchange meetings in fiscal 2003, setup of holding separate meetings was not prepared, and by strong demand of participants for re-opening, it was revived. At the hearing thereafter, many voices appreciating the revival were given to the promoter.

The holding of the meeting at Kita-Kyushu was the second time following Okayama in January 2003 as such holding out of Tokyo and Osaka. By having the members having workplaces in each Prefecture in Kyushu and Yamaguchi Prefecture, not to mention local neighborhood Fukuoka, participated in the meeting. After reported on RC activities, commentary of RC Report was made. This was the response to the request to hold such explanatory meeting of RC Report, which had been held in Tokyo and Osaka up to now, in other areas. At the latter half of the day, separate meetings were held the same as holding the meeting in Tokyo. Their themes were four of "Chemical substance management and risk communication," "Waste/recycling," "Labor safety/process safety," and "Global warming countermeasures." One of the features this time may be that many of plant managers and persons in charge from each member company participated in the meeting.

After the discussions at the site of the member experience exchange meeting, both in Tokyo and Kita-Kyushu, convivial parties were held, which provided the opportunity for participants to follow up insufficient argument in the daytime part by individual level.

Member Workshops

On October 5, 2004, the workshop was held in Tokyo with 96 participants on the theme of community dialogue. At the workshop we requested Mr. Ikumi Nakayama of Office Iris who actually made a survey and an analysis of "Collection/analysis & survey of experience and knowledge in community dialogue" the JRCC made up in March, to analyze the characteristics of the representing 7 districts selected from the community dialogue currently under way, and give commentary to how the community dialogue should be and what not. After the commentary, on the subject of the community dialogue each member company independently proceeding, making the result of the questionnaire the JRCC conducted to the members as a base, collection method of participants and taken up themes, etc. the actual status of the members' risk communication was explained. Next, by Sumitomo Chemical Co. Ltd. on the subject of "Community dialogue as Sumitomo Chemical" made at its Osaka Workplace, and by Tokuyama Corporation presentation by an example of "The JRCC's community dialogue at Yamaguchi east district" was made, and lastly, under the coordination of Mr. Kameoka (Fuji Photo Film Co., Ltd.), the head of the JRCC Dialogue WG, a panel discussion by full cast of lecturers, and example presenters was made.

Member Experience Exchange Meeting (Tokyo)

Lecture by Mr. Wakai

Verification Program of Responsible Care Activities

The Responsible Care Verification started from April 2002, and as of September 2005, has been undertaken by the total number of 40 companies. Recently, undertaking by report increased.

The Status of Undertaking Verification during Apr 2004 - Sept 2005

Undertaken year and month	Name of the company	Undertaken year and month	Name of the company
May 2004	Kao(report)	Feb 2005	Kuraray (activities)
May 2004	JSR(report)	May 2005	JSR (report)
Jun 2004	ASAHI KASEI(report)	May 2005	ASAHI KASEI (report)
Jun 2004	Kyowa Hakko (report)	May 2005	Sanyo Chemical Industries (report)
Aug 2004	Asahi Denka (activities)	Jun 2005	Nippon Shokubai (report)
Aug 2004	KANEKA (report)	Jun 2005	KANEKA (report)
Sep 2004	Showa Denko(activities)	Jun 2005	Kyowa Hakko (report)
Sep 2004	Dainippon Ink & Chemicals(report)	Jul 2005	Tokuyama (report)
Oct 2004	Hokko Chemical(activities)	Aug 2005	Ube Industries (report)
Dec 2004	Chugoku Kayaku(activities)	Aug 2005	Nippon Zeon (report)
Dec 2004	Daicel Chemical Industries(report)	Sep 2005	Daicel Chemical Industries(report)
Jan 2005	Sumitomo Chemical(activities)	Sep 2005	Dainippon Ink&Chemicals(report)

Verification's Advantage

At the initiation stage of Responsible Care, advantage of Responsible Care often came up in conversation. We were told, "What is done cannot be undone. It would cost more for measure. Therefore let's do it." The same thing can be said to the advantage of the undertaking. It may result in linking to prevention from occurring, or discovery of risks. From the enterprises which undertook verification, there has come out an opinion, "It's good to have undertaken verification. We could discover risks which were unable to be noticed by ourselves."

Procedure for Undertaking Verification

The Verification starts from a proposal by an enterprise wishing undertaking verification.
In the case of verification of activities, a questionnaire correspondent per unit activity is sent to the undertaking enterprise. After the answers to the questionnaire arrived, the undertaking enterprise is paid a visit, and an opinion paper will be issued in about 3 weeks.
In the case of verification of report, after the arrival of a draft of the report, the questionnaire is sent, and in 5 weeks including plant visits an opinion paper will be issued.

Site Tour and Repeated Undertaking with Activity Verification

What is characteristic in the case of recent activity verification is the site tour and repeated undertaking. By making a tour at the site, problems which cannot be found on a paper become able to be pointed out. And, in the case of repeated undertaking, improvement level can be assessed objectively. Such undertaking enterprises' intention may lie in the leveling up of Responsible Care activities, and assessing the degree of betterment and their own level objectively.

Examples of Improvement Required Items from Verifier

- Policy is to be publicized, and it is necessary to be written in the expression easy to understand, and to make it available to the public.
- With risk assessment, "Exposure of risks" is scarce, and the scope of execution is narrow. Measures should be carried out from the point appearing effective.
- Communication is bi-directional, and some contrivance is required to facilitate receipt of opinions from local community residents and employees.
- Why didn't the serious accident come out in "Exposure of risks"? Pursuit is insufficient.
- Even extremely low concentration PCB contaminator should be contained in an airtight metal container for preventing dispersion.
- Traceability to material such as vouchers, receipts, etc. which make basis of figures should be improved.

Site tour at report verification

Expecting of Responsible Care

By Enhancing Environment Communication Capability Let's Elevate Enterprise Value!

Kobe University Graduate School Business Administration
Professor Katsuhiko Kokubu

Environmental Preservation activities for enterprises are not a negative task, but now have become understood as a means to elevate the enterprise value. As the chemical industry is the one which is required accountability for the environmental load and risks, positive response is needed.

Responsible Care Report intelligibly explains the entire industry's environmental performance, and as a means to carry out accountability of the industry, it is finely finished for effective communication tool. In terms of the reduction of the environmental load of the industry, not only the status in general, but the questionnaire to the member enterprises becomes precious as a source of information to convey individual status. In addition, the JRCC has made positive efforts to the dialogue with the local community, and the contents of such activities are reported as well, which is highly appreciated.

Hereafter, I would like to expect that the JRCC will further develop these activities to spread out in the direction of elevating the value of both the industry and chemical enterprises. For such purpose, I would consider that, not only individual performance, but also, though it may be difficult, the assessment at such overall level as integrating the environmental load which chemical industries give would provide an important issue. The assessment at the environmental phase of entire industries is a very precious activity linking the assessment of enterprise unit and the assessment of country/district unit.

By the same token, it is important how the results of communication with society be fed back to the tackling of the industry and respective enterprises. The fundamentals of environmental activities and social activities are to listen to the voices of the society, and to respond to those. Networks with society cultivated by Responsible Care will be said precious assets for that purpose. Dialogue with society looks like an issue currently concentrated on, but I would expect that the communication activities of the whole industry would make up a model to promote the communication of individual enterprises.

What Hope for Responsible Care Activities

Nihon Keizai Shimbun, Inc. Senior staff writer Masami Nakamura

In 1988, EPA (Environmental Protection Agency) in the U.S. made up "Basic Principles of Risk Communication." This shows indispensable requirements when an organization embracing risks gets communication. Included are, "To make closer cooperation with civil groups/community residents," "To listen to people's voices," and "To become honest, frank, and open." I consider these are very important.

It is a matter of course, but communication comes into existence on condition that both the provider (of information) and the receiver have a sense of trust. The basic principles mentioned above are all required to build up trust between an enterprise and consumers (community residents). Although the present society exists and functions with a lot of chemicals, people tend to see the negative side of such chemicals, and are rather unconscious of their positive side. In order to enlighten those, too, incessant efforts for giving birth to trust sense are indispensable. I think Responsible Care activities are means to bring those to life.

In the basic principles of EPA the essential factor of "To understand media's request" is set forth. In media's assertions there are many that represent voices of consumers in general. To listen to media's request may be the same as to listen to the voices of consumers. And in general, people in media have little knowledge of chemicals. You may say it inattentive, but compared with professionals, we certainly have much inferior accumulation of knowledge. Therefore, associate with us patiently and please listen to our request.

For another thing, it may importune you for nothing, but how to handle outsiders. In the case of chemicals and what not, those who bring about troubles are outsiders of the industry. When those have brought about disgraceful actions, the enterprise which has been engaged in Responsible Care activities is apt to be placed on the same level. I would like to consider together how we have to do with such matter.

The JRCC Members List

Total 105 companies in alphabetical order as of October 2005

Air Products Japan, Inc.
Akzo Nobel K.K.
Asahi Denka Kogyo K.K.
Asahi Glass Co., Ltd.
ASAHI KASEI CORPORATION
BASF Japan Ltd.
Bayer Ltd.
Central Glass Co., Ltd.
Chisso Corporation
Chugoku Kayaku Co., Ltd.
Ciba Specialty Chemicals K.K.
Dai Nippon Toryo Co., Ltd.
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, Incorporated
DAISO CO., LTD.
Denki Kagaku Kogyo Kabushiki Kaisha
Dow Chemical Japan Limited
DuPont Kabushiki Kaisha
DuPont-Mitsui Fluorochemicals Company Limited
DuPont-Mitsui Polychemicals Co., Ltd.
Fuji Photo Film Co., Ltd.
Hitachi Chemical Co., Ltd.
Hodogaya Chemical Co., Ltd.
Hokko Chemical Industry Co., Ltd.
Idemitsu Kosan Co., Ltd.
Ishihara Sangyo Kaisha Ltd.
Japan Acrylic Chemical Co., Ltd.
Japan Carlit Co., Ltd.
JSR Corporation
Kanebo GOHSEN, LTD.
KANEKA CORPORATION
Kansai Paint Co., Ltd.
Kanto Denka Kogyo Co., Ltd.
Kao Corporation
Koei Chemical Company, Limited
Konica Minolta Chemical Co., Ltd.
Konica Minolta Holdings, Inc.
Kuraray Co., Ltd.
KUREHA CORPORATION
KUREHA PLASTICS CO., LTD
Kyowa Hakko Kogyo Co., Ltd.
Lion Corporation
Maruzen Petrochemical Co., Ltd.
Mitsubishi Chemical Corporation
Mitsubishi Gas Chemical Company, Inc.
Mitsubishi Pharma Corporation
Mitsubishi Rayon Co., Ltd.
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 Company Limited
Nippon Zeon Co., Ltd.
Nissan Chemical Industries, Ltd.
NOF Corporation
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 Japan Ltd.
Sumika Bayer Urethane Co., Ltd.
Sumitomo Bakelite Co., Ltd.
Sumitomo Chemical Co., Ltd.
Sumitomo Dow Limited
Sumitomo Seika Chemicals Co., Ltd.
SunAllomer. Ltd.
Takeda Chemical Industries, Ltd.
Taoka Chemical Company Limited
Tayca Corporation
Techno Polymer Co., Ltd.
Teijin Limited
The Inctec Inc.
The Nippon Synthetic Chemical Industry Co., Ltd.
Toagosei Co., Ltd.
Tokuyama Corporation
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
Wilbur-Ellis Co., (Japan) Ltd.

レスポンシブル・ケア®

You can access for further information

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