

CSR Report 2007

The NSK Group's Vision and Initiatives for Society and the Environment



Editorial Policy

This report outlines the NSK Group's commitment to society and the environment and shares the status of the group's current initiatives to contribute to the creation of a sustainable society. The CSR Report Working Team oversaw the production of the report, with leaders from various divisions responsible for planning the report's content.

There are two special features in this report: NSK Approach, which describes the NSK Group's vision for environmental protection and social development, and Group Initiatives, which covers in detail the status of the group's fiscal 2006 initiatives. An effort was also made to give the report a more human "face" with the inclusion of employees of the NSK Group.

NSK considers this report a valuable tool for maintaining dialogue with the company's stakeholders. NSK would like to deepen communication with the readers of the report, and would gladly welcome opinions and feedback sent by e-mail to csr-report@nsk.com.

What is CSR?

Corporate Social Responsibility. The NSK Group interprets CSR as "activities undertaken to enable the sustainable growth of society and NSK by meeting the expectations of a wide array of interested people through corporate activities."

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Referenced Guidelines

Sustainability Reporting Guidelines 2002 by the Global Reporting Initiative (GRI); and *Environmental Reporting Guidelines* (2003 edition) by the Ministry of the Environment of Japan were referenced in preparing this report.

Period of Coverage

April 2006 to March 2007

Some sections of this report include information pertaining to dates after April 2007. In such cases, the dates are indicated.

Scope of Coverage

As a general rule, this report covers all the bases of operation for the NSK Group, including those outside Japan. The Environmental Report section examines the plants that manufacture products for NSK and other group companies, product manufacturers, machinery manufacturers, and a distribution-related company, in which NSK holds a 50% or greater equity stake, as well as the group companies that manufacture NSK brand products.

Scope of Coverage for Environmental Report

• NSK Ltd. (Fujisawa Plant, Ohtsu Plant, Ishibe Plant, Saitama Plant, Kiriwara Branch)

Companies Manufacturing NSK Brand Products

• NSK Fukushima Co., Ltd. • NSK Steering Systems Co., Ltd. • NSK Precision Co., Ltd. (Maebashi Precision Machinery and Parts Plant, Saitama Precision Machinery and Parts Plant)
• NSK Micro Precision Co., Ltd. • NSK Micro Precision Co., Ltd.(Nagano) • NSK Needle Bearing Co., Ltd.
• NSK Kyushu Co., Ltd. • NSK-Warner K.K. • Inoue Jikuu Kogyo Co., Ltd.

Companies Performing Pre-processing

• Chitose Sangyo Co., Ltd. • Asahi Seiki Co., Ltd. • Shinwa Seiko Co., Ltd.

Companies Manufacturing Steel Balls

• Amatsuji Steel Ball Mfg. Co., Ltd.* • AKS East Japan Co., Ltd.*

Machinery Manufacturing Company

• NSK Machinery Co., Ltd.

Logistics Company

• NSK Logistics Co., Ltd.

Manufacturing Companies Outside Japan

• Production sites in which NSK holds a 50% or greater equity stake and sites that have been in operation for at least five years are included in the scope of coverage.

* In April 2006, Amatsuji Steel Ball Mfg. and AKS East Japan were made wholly consolidated companies and added to the scope of coverage.

Date of Issue

September 2007 (previous report, *CSR Report 2006*, issued September 2006; next report scheduled for September 2008)

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Related Information

Related information is provided in the following publications. Please use the above contact information to request copies.

- *Annual Report 2007, 2006, 2005* (available in English and Japanese)
- *Company Overview* (available in English, Japanese, and Chinese)
- *CSR Report 2006, Social and Environmental Report 2005, 2004* (available in English and Japanese)
- *Environmental Report 2003, 2002, 2001* (available in English and Japanese)
- *Lessons from Professor Bearing: A Primer on Bearings* (available in Japanese only)
- *The Story of Bearings* (a picture book available in Japanese only)
- *Smooth Sailing for BEARING: Exhibition catalog* (available in Japanese only)
- *Motion & Control* No. 18, No. 17, No.12 (available in English)

NSK Group Web site: www.nsk.com



On the Cover NSK in Our Lives

The NSK Group's products are used in vehicles, home appliances, and other goods that sustain modern lifestyles. Depicting an everyday scene with playing children, the cover design represents how the NSK Group's products are an integral part of our way of life. It also expresses NSK's hope that the products that incorporate its technology will help shape a sustainable world in which there is true richness as they come into contact with people's daily lives.

The NSK Group's CSR

Corporate Philosophy

NSK's corporate philosophy forms the cornerstone of CSR at the NSK Group. This philosophy aims to protect the environment while improving the well-being of society, and is the basis for all of the NSK Group's business activities.

Mission Statement

NSK aims to contribute to the well-being and safety of societies and to protect the global environment through its innovative technology integrating Motion & Control. We are guided by our vision of NSK as a truly international enterprise, and are working across national boundaries to improve relationships between people throughout the world.

Management Principles

1. To serve our customers through innovative and responsive solutions, taking advantage of our world-leading technologies.
2. To provide challenges and opportunities for our employees, channeling their skills and fostering their creativity and individuality.
3. To identify the needs of the times and of the future and to use all of NSK's resources to meet those needs by being versatile, responsive and dynamic.
4. To work together with our employees and contribute to the communities in which we operate.
5. To manage our business from an international perspective and to develop a strong presence throughout the world.

Corporate Message

Responsive and Creative
Motion & Control

Corporate Slogan

Beyond Limits, Beyond Today

The NSK Group's Roles in Environmental Protection and Social Development

The NSK Group's primary role is to control and facilitate the movement of objects through its bearings and automotive products, and precision machinery that integrates its bearings, as well as fully utilize bearing-related technology. In other words, the essence of the group's mission is to reduce the power needed for rotation, to lessen the friction that results from moving objects, and to convey energy with maximum efficiency. This means reducing the energy needed to move objects, and lowering energy loss to as close to zero as possible.

The R&D and manufacturing divisions at the NSK Group help customers reduce the energy consumption of their mechanical devices by developing and manufacturing products that facilitate smoother mechanical movement. By pursuing products with greater durability, the NSK Group is extending the working life of customers' mechanical devices and reducing resource usage.

The sales and marketing divisions in the NSK Group contribute to reducing society's overall energy consumption by aggressively and globally promoting NSK solutions-oriented products that reduce the energy needed to move objects.

By cooperating with its customers and suppliers, the NSK Group is reducing energy consumption in all manner of mechanical devices, and thereby reducing the world's energy burden. This is the contribution to sustainable development* made by the NSK Group's main business.

*Sustainable Development

Sustainable development means satisfying the needs of the current generation, while still ensuring the viability of future generations. The World Commission on Environment and Development, also known as the Brundtland Commission, published the report *Our Common Future* in 1987, which has become an important roadmap for today's efforts to protect the global environment.

Business Overview

Business Overview for the NSK Group

Founded in 1916, NSK Ltd. introduced Japan's first domestically produced ball bearings, and since then has grown into a major manufacturer of roller bearings, the company's main products. The business has also expanded into the fields of automotive products and precision machinery and parts, by utilizing high-precision processing technology it accumulated from producing bearings.

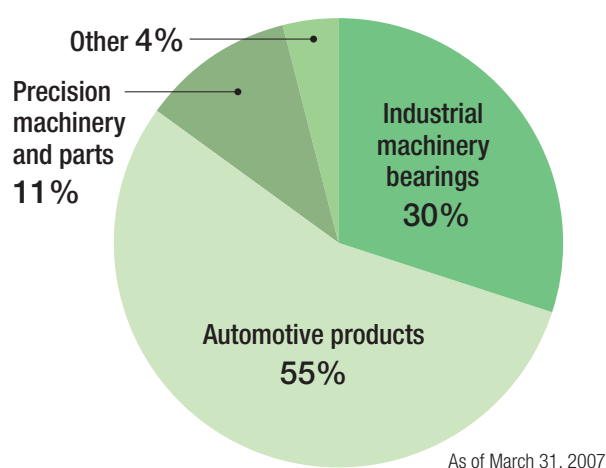
Bearings are important components used in the rotating mechanisms of all kinds of machinery. NSK is currently Japan's leading bearing manufacturer, and one of the foremost bearing manufacturers worldwide.

In the 1960s, the NSK Group expanded aggressively around the globe in order to respond to the diverse needs of different regions. The group now operates in over 150 locations around the world, where it conducts R&D, manufacturing, and marketing activities. Through its international presence, the NSK Group is supporting industrial development and consumer lifestyles everywhere.

Corporate Overview

Company name	NSK Ltd.
Head office	Nissei Bldg., 1-6-3 Ohsaki, Shinagawa-ku, Tokyo, 141-8560, Japan
Established	November 8, 1916
Capital	67.1 billion yen (as of March 31, 2007)
Net sales	
Consolidated:	717.2 billion yen (year ended March 31, 2007)
Non-consolidated:	446.6 billion yen (year ended March 31, 2007)
Employees	
Consolidated:	23,413 (as of March 31, 2007)
Non-consolidated:	4,519 (as of March 31, 2007)
Group companies	
Within Japan:	22
Outside Japan:	60 (as of March 31, 2007)
Shareholders	26,033 (as of March 31, 2007)

Net Sales by Business Segment (Consolidated)



Business Segments

Industrial Machinery Bearings

The industrial machinery bearings business supplies bearings in a wide variety of shapes and sizes, from miniature ball bearings to extra-large bearings. To better meet the needs of customers, the NSK Group develops and supplies bearings to be used in various special environments, in addition to those used in normal environments.

The main business areas for this segment include: general industrial machinery, such as steel industry applications, railway cars, and machine tools; electrical equipment and IT products, such as home appliances and personal computers; as well as aftermarket services for maintenance and repair needs.



Automotive Products

The automotive products business features automotive bearings, such as hub unit bearings and needle bearings, as well as automotive components, such as electric power steering (EPS) systems and automatic transmission (AT) parts.

The NSK Group continues to provide high-performance, high-quality products from its worldwide production sites, improving the safety, comfort and fuel-efficiency of automobiles, all of which are demanded by society.



Precision Machinery and Parts

The precision machinery and parts business features linear motion products. These mainly include ball screws and linear guides that enable high precision and rapid positioning, mechatronics products such as XY tables and megatorque motors, and photofabrication equipment for the manufacture of liquid crystal display (LCD) color filters that utilizes ultra-precise positioning technology.

Precision machinery and parts are used as core components in semiconductor and LCD manufacturing equipment, industrial robots, machine tools, and medical devices. In this way, the NSK Group is meeting the diverse advanced-technology requirements of customers around the globe.

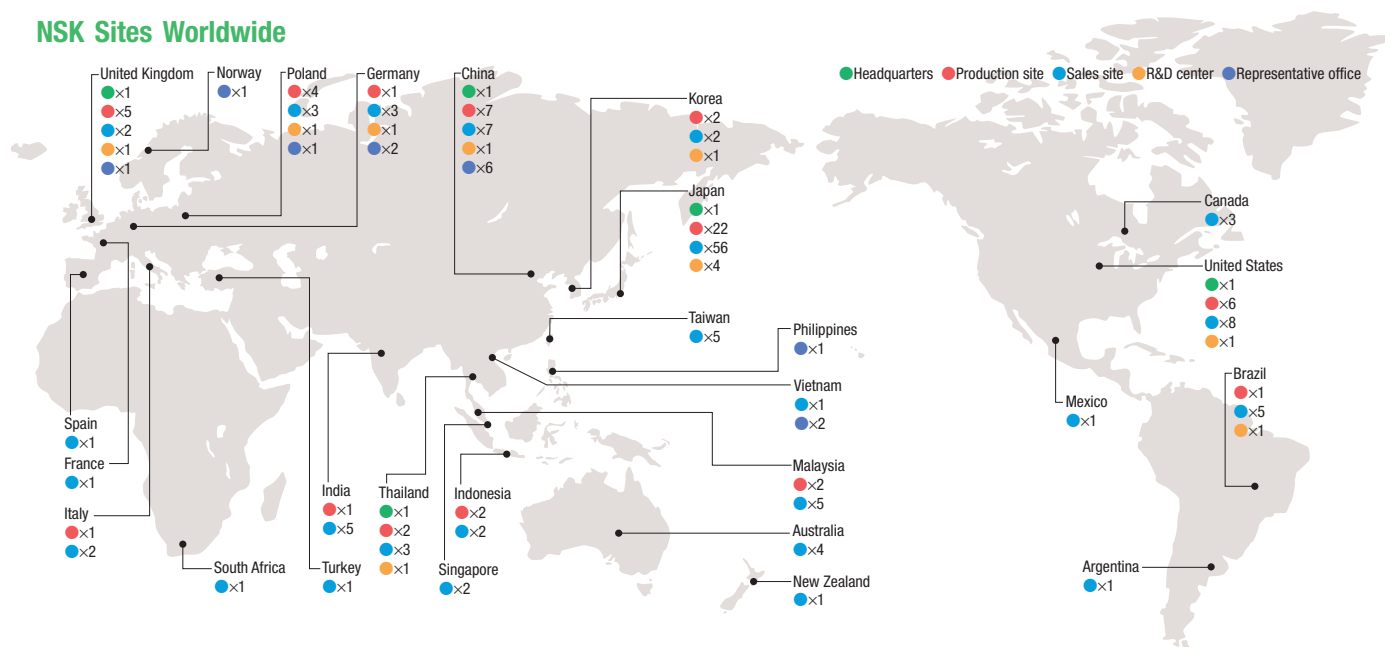


Global Business Sites

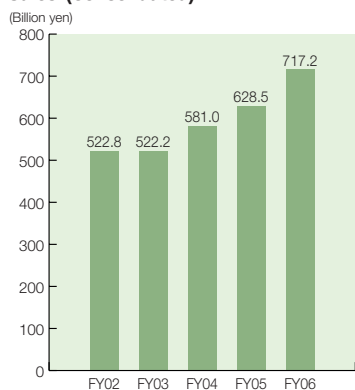
The NSK Group has established 56 production sites in 13 countries, 125 sales offices in 25 countries, and 12 technology development centers in 9 countries. This global network is coordinated from regional headquarters responsible for the Americas, Europe, ASEAN, and China, which provide responsive business management to meet the needs of each region in a timely manner. Through close cooperation with the business and functional headquarters in Japan, the group's global network is promoting strategic operations in order to achieve its objectives in each business area.

In developing its business globally, the NSK Group is promoting its corporate activities with the aim of always being a necessary and contributing member of the societies and regions where it operates.

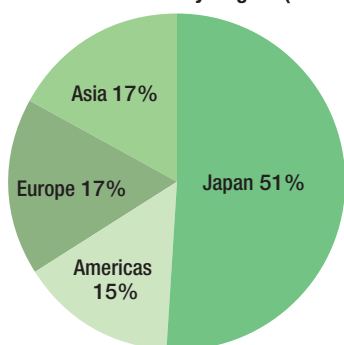
NSK Sites Worldwide



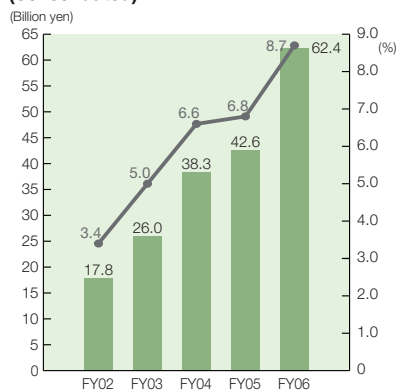
Sales (Consolidated)



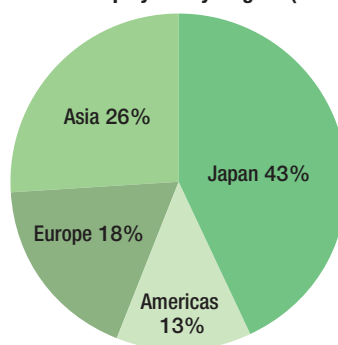
Breakdown of Net Sales by Region (Consolidated)



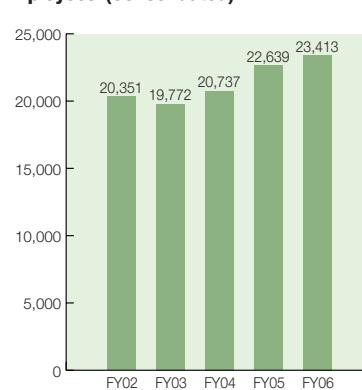
Operating Income, Operating Income Margin (Consolidated)



Breakdown of Employees by Region (Consolidated)



Employees (Consolidated)



* Based on location of customers

* Excluding temporary employees

As of March 31, 2007

The NSK Approach



Committed to Remaining an Entity Necessary to Society

The NSK Group has grown with the development of industry around the world. Today, our products are used wherever things are put into motion—from home appliances such as vacuum cleaners and washing machines to transportation equipment such as automobiles, trains, and airplanes, as well as industrial machinery used in the manufacturing sector. In 2006, NSK celebrated its 90th anniversary. I would like to talk about the roles the group should play in the future in order to remain a company that is necessary to society.

With the extreme weather and a mild winter worldwide, fiscal 2006 aggressively stressed the need to focus on global warming. The problem of global warming was taken up by the United Nations and the Davos Forum,* and discussions on the topic will inevitably increase. Looking ahead, the continued pursuit of further energy conservation is vital in reducing CO₂ emissions.

In 1991, we established a mission statement that reads, “NSK aims to contribute to the well-being and safety of societies and to protect the global environment through its innovative technology integrating Motion & Control. We are guided by our vision of NSK as a truly international enterprise, and are working across national boundaries to improve relationships between people throughout the world.” This mission statement makes clear our commitment to contributing to the protection of the global environment and the development of humanity and society. This is, in other words, the objective of NSK’s very existence.

The NSK Group’s mission is to control friction and reduce energy loss in mechanical devices to as close to zero as possible. I now keenly appreciate that our greatest corporate social responsibility is to deliver to the world products that fulfill this mission. With that goal in mind, we are driving NSK’s business forward, aiming to have the group’s products incorporated into machines all over the world.

NSK's Global Operations Provide the Highest Quality Products and Services to Reduce Energy Loss Worldwide

Enhancing Total Quality to Fulfill NSK's CSR

In our mid-term business plan established in 2006, we specified our vision to become No. 1 in the industry in terms of total quality. This is a declaration of the NSK Group's determination to give shape to its mission statement and fulfill its social responsibility by remaining completely committed to quality, which is the fundamental principle of manufacturing. This commitment to quality extends beyond product quality and means being able to guarantee the highest quality in all tangibles and intangibles produced by NSK, including services and information. It also means being able to provide the greatest satisfaction to stakeholders in and outside the company.

Enhancing the quality of our business services and work processes in the areas of production, sales, technology, and management is critical to this commitment. Accordingly, it is important that all employees take initiative and engage in their daily work with a sense of challenge, all moving toward the goal of becoming No. 1 in total quality.

Manufacturing is reliant upon such earnest employee enthusiasm and built upon their day-in and day-out efforts. Going forward, we will continue to focus on building and developing our manufacturing and human capital, which together form the basis of the group's efforts to provide customers and other stakeholders with satisfaction through the highest quality products and services, while also contributing to the prevention of global warming.

Innovation through a Change in Perspective

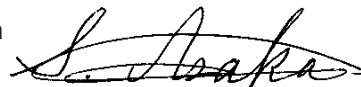
Looking hard at our vision for the NSK Group in 2016, the year the group will celebrate its 100th anniversary, "Changing Your Perspective" was made a key slogan in the current mid-term business plan. This slogan is a message that expresses the need for a change in thinking—the need to take a completely new view, a different way, and a new approach. I want each employee to channel this slogan into innovation, creating future technology of instrumental value to the world.

This mind-set was given form when NSK held the "Smooth Sailing for BEARING—NSK Bearing Art Exhibition" in the Omotesando area of Tokyo in November 2006. This collaboration of artists and NSK engineers led to the creation and display of works of art made by adding the ideas, colors, and designs of artists to NSK's products. It was thrilling to see what for us had been familiar-looking products transformed before our eyes into interesting and fun objects through the ingenuity of the artists. I think NSK's employees and many other visitors got a sense of the functions of bearings and the possibilities of this technology.

I would like us to embrace changing perspectives in the future, and to create a virtuous cycle in which the playful spirit of engineers is brought to life and given to society.

July 2007

Seiichi Asaka
President and Chief
Executive Officer



*Davos Forum

Annual meeting of the World Economic Forum held in the Swiss resort of Davos, where political and business leaders from around the world gather to discuss global politics and the economy.

NSK in the Car

The automobile has become indispensable to modern life. The NSK Group contributes to the reliability, safety, and comfort of automobiles and to environmental friendliness by researching, developing, and producing many of the parts involved in running, turning, and stopping cars. Including the 100-150 or so bearings used in each automobile, the group is continuing to deliver to the world high performance and high-quality products that determine the quality of cars.

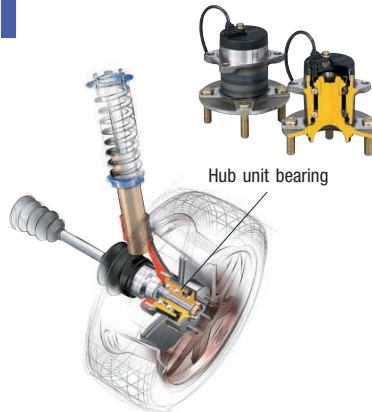
Chassis

Electric Power Steering (EPS)



EPS uses the motor's power to aid in the operation of the steering wheel. This system helps save energy compared to hydraulic steering because the motor is activated only as much as needed according to the movement of the steering wheel. The NSK Group views the ideal system as one that gives a sense of the car being an extension of the driver, and translates the data it obtains during test-drives into advanced electronic controls, which make comfortable driving a reality.

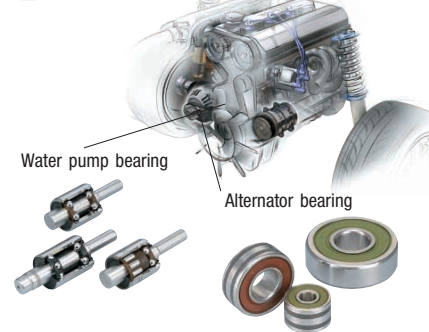
Hub Unit Bearing



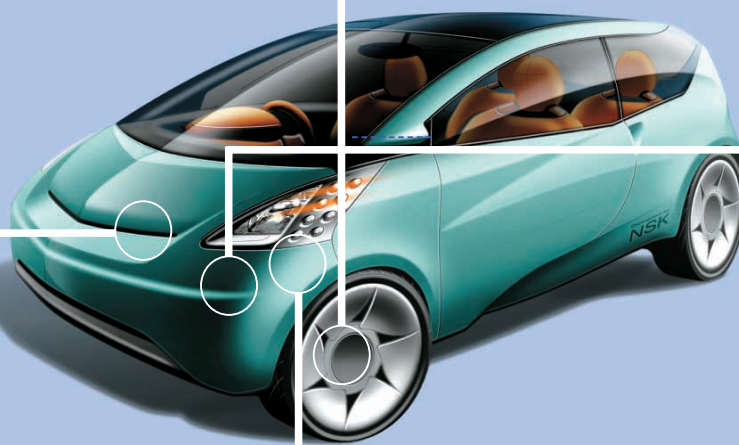
Wheel bearings are important parts that enable tires to turn while supporting the weight of the car. The hub unit bearing is a product that brings these wheel bearings and the surrounding parts together into a single unit, making the parts smaller while maintaining their durability. By also incorporating a high quality antilock brake system (ABS)* sensor, NSK's hub unit bearings contribute to safe and comfortable driving.

Power Train

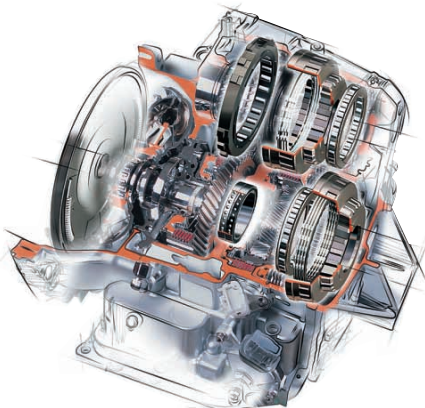
Engine Parts and Electrical Accessories



The bearings and related parts that are incorporated into a car's engine, which is called upon to provide high performance and reliability, and the surrounding electrical accessories, such as the air conditioning compressor that enables a comfortable cabin temperature, must be highly durable to withstand exposure to the extreme temperature and vibrations produced by the engine. The NSK Group's advanced technology gives life to the bearing for the water pump, which continually circulates coolant through the engine, the alternator bearing, which provides a steady supply of electrical power, and other bearings.



Drive Train



Automatic Transmission (AT) Parts

The AT automatically shifts gears depending on the speed of the car and the state of acceleration or deceleration. Complicated and delicate technology known as friction control is needed to efficiently transmit the engine's rotational force and shift gears smoothly. The NSK Group's AT parts, which contribute to improved fuel economy, are introduced in detail on pages 9-10.

AT Advancement

By freeing the driver of the need to change gears, and providing an environment in which he or she can concentrate on operating the steering wheel and brakes, ATs make possible the manufacture of cars that anyone can easily drive. Further, every year developments in AT technology are improving vehicle fuel economy, which used to be a challenge. At present, the prevalence of AT cars in Japan has reached 95%, a figure that would seem to indicate carmakers have responded to the needs of the market.

*ABS: A device that uses electronic controls to prevent the wheels from locking when braking abruptly or when braking on a slippery road.

What NSK Can Do About Global Warming

Global warming is becoming a major concern nowadays, and automobiles are considered to be one of the causes. What can the NSK Group, whose automobile-related products account for 55% of total sales, do to reduce CO₂ emissions from cars? Below is an account of how a variety of people who work at the NSK Group are taking up the challenge of preventing global warming, using AT parts—for which the NSK Group commands a large share of the market—as an example.

Rapidly Advancing Global Warming

Recent years have witnessed the occurrence of abnormal weather, including more intense hurricanes and extremely warm winters, which are raising concerns about the effects of global warming. With the first commitment period*¹ for the reduction of greenhouse gases established under the Kyoto Protocol set to begin in 2008, the prevention of global warming has increasingly come to be recognized as an important challenge for all of humankind. Naturally, as a responsible member of society, the NSK Group is committed to reducing the emission of greenhouse gases from its business activities. At the same time, the group sees that aggressively helping to solve the global warming problem through the production of more environmentally friendly products and services is highly important.

Lead-up to Energy Conservation in Automobiles

CO₂ emissions comprise the majority of greenhouse gases. In Japan, the transportation sector accounts for about 20% of CO₂ emissions, of which automobiles account for about 90% (Figure 1). Recent trends related to the reduction of CO₂ emissions from automobiles include revisions to the Act Concerning the Rational Use of Energy and the adoption of tax breaks for low-emission vehicles (LEVs). Consumers, especially those who are highly aware of environmental issues, are increasingly opting for more environmentally friendly cars, such as LEVs and hybrid vehicles. Accordingly, the demand for improved fuel economy in automobiles is growing year by year. In response to

this demand, the NSK Group is aggressively recommending its technology that can help increase fuel economy to car manufacturers.

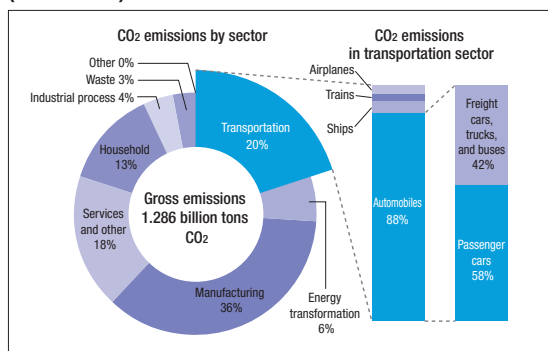
Contributing to Improved Fuel Economy through Development of AT Parts

Means for improving fuel economy include increasing engine efficiency; decreasing vehicle weight; reducing air resistance, rolling resistance of tires, and drive train loss; and improving fuels. It is said that in Japan, ATs, which automatically shift the gear ratio in the transmission—the core of the drive train system—have a prevalence of over 95%. The NSK Group supplies many of the parts that go into these ATs. Increasing the performance of each of these parts will help reduce energy loss worldwide.

With an AT, the higher the number of speeds, the better the engine can maintain an efficient rpm rate, which has the benefit of increasing fuel economy. However, increasing the number of parts creates the challenges of increased weight and a larger AT. An increase in the number of gears, a reduction in size and weight, and improved efficiency all need to be achieved to attain both good fuel economy and a comfortable, roomy passenger cabin.

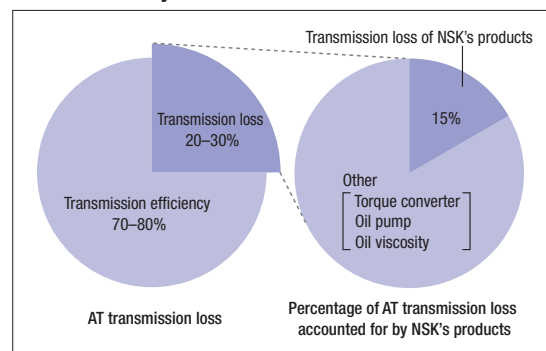
There is a high level of parts integration in an AT, and so increasing the performance of each individual part is critical to overcoming these challenges and meeting the demands of society. The NSK Group is taking up the additional challenge of increasing automobile fuel economy by bringing together technologies to control friction and make steady improvements, aiming to reduce transmission energy loss to zero.

Figure 1 Breakdown of CO₂ Emissions in Japan (Fiscal 2004)



Prepared from data from the National Institute for Environmental Studies and the Greenhouse Gas Inventory Office of Japan (GIO).

Figure 2 Percentage of AT Transmission Loss Accounted for by NSK's Products



*1 **First commitment period:** The period during which the quota for reducing average greenhouse gas emissions against 1990 levels should be met (2008–2012). Japan's quota is a 6% reduction.

NSK Group's Efforts to Increase Fuel Economy

Below is a description of NSK Group AT parts that particularly increase fuel economy as well as an account of NSK's efforts to create these parts.

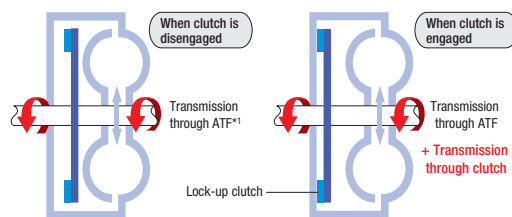
Lock-up Clutch

A device known as a torque converter is used in the AT to enable the vehicle to run smoothly. But, while the torque converter allows smooth transmission of power, it also creates energy loss through slippage. A lock-up clutch functions to improve fuel economy by limiting slippage and transmitting the engine's drive power with a minimum amount of waste. The lock-up clutch's performance depends on a composite called friction material that is just 1 millimeter thick.

Every day we grapple with the development of friction materials that enable smooth motion while resisting wear and tear and withstanding an extreme temperature range from sub-zero to instances that exceed 300 degrees

Celsius. There are cases in which friction materials developed by the NSK Group have improved automobile fuel economy by about 1% by facilitating smooth operation from low gear. Although there are many difficulties, they only make the work more worthwhile.

Lock-up clutch mechanism



Takayuki Watanabe
Staff Assistant Manager,
Friction Products Group,
Products Technology Office,
Engineering Department
NSK-Warner K.K.

Needle Roller Bearing

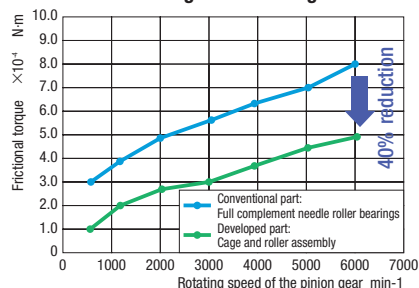
Planetary Shaft

The AT has a complicated mechanism, since it takes the place of the driver and automatically changes the combination of gears.

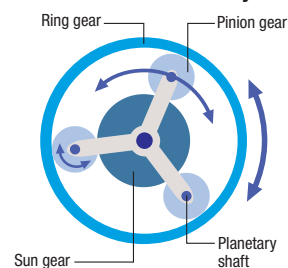
There is a push to increase the number of gears while also making them lighter and more compact in order to improve automobile fuel economy. However, this creates harsh conditions for the bearings, including high-velocity rotation and miniaturization, which results in increased friction torque and shortens bearing life.

The bearings in a part known as a planetary gear endure particularly severe conditions. In response, we have developed a special heat-treated planetary shaft that attaches to a cage*2 and needle roller bearing assembly. The shaft succeeded in reducing friction torque by about 40% while ensuring durability. Every day we work to develop bearings that are durable and yet slim enough to fit in the limited space within the AT, and are thrilled when trial results turn out good.

Comparison of Frictional Torque Between Conventional Bearings and Bearings with a Cage



Cross section of a Planetary Gear



Aya Kikuchi
Needle Roller
Bearing Technology
Department,
Automotive Bearing
Technology Center

Producing Better Products with Cooperative Manufacturing rather than Contract Manufacturing

Manufacturing

Many new materials have been developed to increase the durability of products. Also, rotational torque needs to be reduced to increase fuel economy. Processing new materials is not easy, and it is difficult to achieve stable and consistent high-precision processing while maintaining productivity. However, we have opened up the way to mass production by steadily repeating a variety of tests designed to overcome this challenge. We struggle during the trial period, but are greatly relieved once we enter mass production and achieve stable production. We are committed to maintaining a close exchange of information in order to produce new products that meet the advanced requirements of R&D centers and engineering divisions. The number of instances in which feedback from us to the engineering division has been accepted has increased. We work hard every day, believing that cooperation among departments is necessary to produce better products.



Akihiko Kashiwazaki
Assistant Manager,
2nd Production Section,
Saitama Plant

*1 **ATF**: Automatic transmission fluid. The fluid in the torque converter that transmits the drive power.

*2 **Cage**: A part that maintains the space between rolling elements (balls or rollers) as they roll between the inner and outer rings, preventing the rolling elements from contacting each other.

Research

Accumulation of Studies and Experiments Leading to Highly Reliable Bearings

The size and torque of bearings need to be reduced to increase fuel economy. At the same time, making bearings smaller and thin-walled generally decreases their durability and shortens their lifetime. When bearings take heavy loads and are used for a long time, metal fatigue occurs on the surface of the balls and rollers where they come into contact, which can result in damage known as spalling. I am researching how to maintain the durability of bearings even under harsh conditions by studying the cause and mechanism of spalling.

I think R&D generally projects a strong image of creativity. There are times, however, like this, when the need for development is stimulated from the damage materials suffer. When I clarify the cause of breakage based on detailed studies and propose certain measures, I am sometimes concerned whether my ideas were really correct. I am very happy and relieved when I hear reports that my measures were implemented and that they decreased problems. In the future, I will continue to research bearings that can provide greater reliability and improved fuel economy in order to meet more sophisticated customer requirements



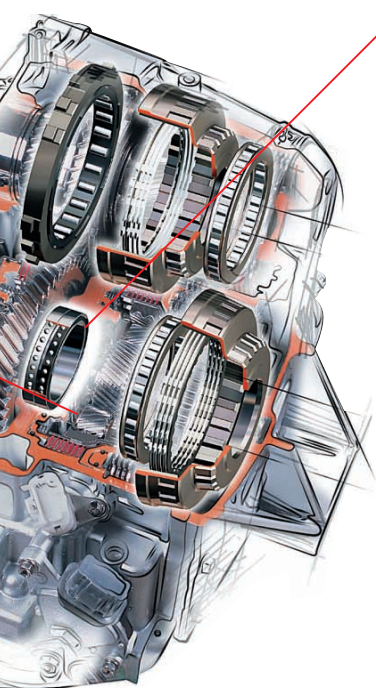
Hideyuki Uyama
Materials Laboratory,
Basic Technology Research
Center, Corporate Research &
Development Center

Ball Bearings and Tapered Roller Bearings

The NSK Group uses NSK BRAIN, the group's own bearing performance simulation software, to pursue the most appropriate designs to meet customers' actual needs. The group is contributing to improved fuel economy by developing bearings that cut torque 20-40% more than conventional products. This is done by using materials with longer operating lives, employing special heat treatment techniques, revising the microgeometry inside bearings, and improving processing precision.

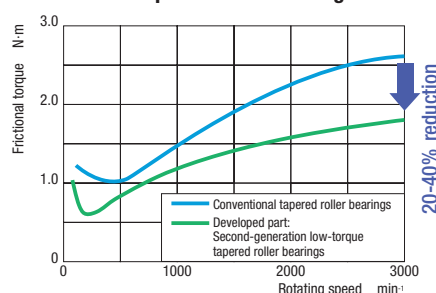
In my daily work, I meet repeatedly with people in research and manufacturing to help overcome technical

challenges based on data obtained from experiments and analyses. With increasingly stringent customer requirements, we are working to make optimal designs, achieving longer operational lives, lighter weights, and lower torques.



Kenichi Abe
Manager, Drive Train Bearing
Technology Department,
Automotive Bearing
Technology Center

Comparison of Frictional Torque between a Conventional Tapered Roller Bearing and a Low-Friction Tapered Roller Bearing



Marketing

Moving towards a Proposal-Based Business that Showcases NSK's Technical Prowess

Marketing's most important role is to be quick to identify customers' needs and to accurately communicate that information to each concerned department within the group. Accordingly, it is important to visit customers often and to build good relationships.

In order to grasp customers' needs accurately, one needs to acquire knowledge of a wide range of topics, not only about the NSK Group's products, but also automobiles, ATs, and regulatory trends in general, both in and outside of Japan. It is only after meeting with customers repeatedly, armed with this knowledge, that one can truly understand customers' needs.

I am determined to continue challenging myself to reach an even higher level of marketing prowess. As part of that effort, I want to undertake a proposal-based business, which will make an aggressive appeal on behalf of the NSK Group's technology.



Daisuke Kataura
Mid-Japan Automotive
Department

Trends in the AT Market

Improving automobile fuel economy has increasingly become an important issue as society's environmental awareness grows, as fuel economy regulations are strengthened around the world, and as the use of cars spreads rapidly in emerging markets such as China and India.

Car manufacturers are responding aggressively by creating more fuel-efficient vehicles, as typified by the development of the hybrid car, and various other technologies are anticipated to be rapidly developed in the future.

Future Path the NSK Group Should Travel

The NSK Group has developed a number of technologies that contribute to improved fuel economy, but it must now meet increasingly strict requirements.

From now on, the NSK Group needs to not only improve the performance of each of its individual products, including increasing efficiency and decreasing weight, it must also achieve these goals while considering integration with related parts. To that end, different departments and business sites, and sometimes customers and business partners, need to transcend their established barriers and work together to build products. The development of products and technologies based on completely novel ideas will also become necessary.

With production and sales bases located worldwide, the NSK Group will form even stronger partnerships with carmakers and parts manufacturers in different countries and regions than it has in the past. The global adoption of fuel-efficient technologies proposed by the NSK Group will accomplish the group's stated goal of reducing energy loss worldwide.

The NSK Group is dedicated to the steady work of reducing energy loss worldwide.

Customer Comment

Innovative Technology Development that Contributes to the Global Environment

Aisin AW Co., Ltd., whose strength is in ATs, has continually worked to develop new technologies in order to deliver to the world the products that the times demand. During that process, we have sometimes sought the cooperation of NSK. NSK has superior technical capabilities, and if the people at NSK say something would be difficult, their credibility lets us believe it.

In 2006, after a three-year development period, our company finished developing a highly fuel-efficient eight-speed AT, having added two speeds to the previous six-speed AT and increased the torque capacity by 22%. NSK provided the bearings and friction material needed to decrease the size of the components while increasing efficiency. I believe the eight-speed AT is an ideal, but the needs of the market will be inexhaustible. We will continue to count on NSK's innovative technical capabilities to exceed the high standards of the marketplace.

Among the younger generation, which is highly aware of the environment, the market needs have shifted to hybrid cars and light cars that produce minimum exhaust fumes. These cars make use of the knowledge and technology that Japan has built up due to its lack of resources. Both Aisin AW as a company, and I as an individual engineer, want to continue to pursue with NSK the development of technology that will contribute to the global environment. I think that simultaneously contributing to the global environment and providing drivers with an uninhibited and comfortable driving experience that unleashes the fun of automobiles is precisely how we engineers can best make use of our knowledge.

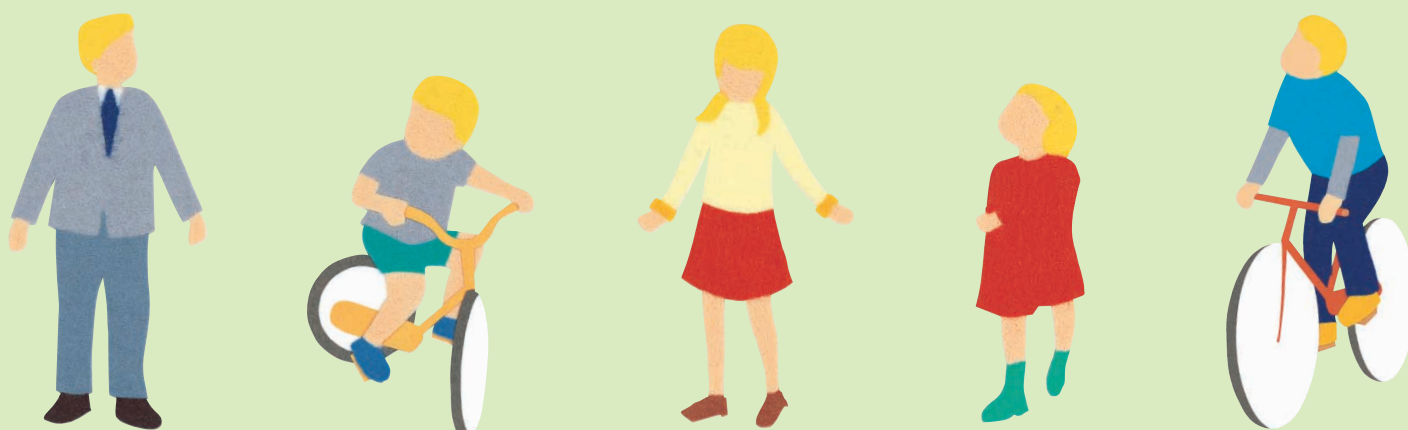
Innovation occurs by continuing to challenge new frontiers. The high quality and superior technology born of that effort will invariably be passed on to future generations. I am eager to continue working for a better environment and strive every day to create ATs that lead the world.



Kazuhisa Ozaki
Director, Deputy Engineering Division
Director, AISIN AW CO., LTD.

Group Initiatives

Management and Performance



Corporate Governance

The NSK Group is promoting reform of its management structure, because it views corporate governance as an important management issue, and simultaneously as the foundation for CSR. The following is an overview of NSK's corporate governance approach and framework.

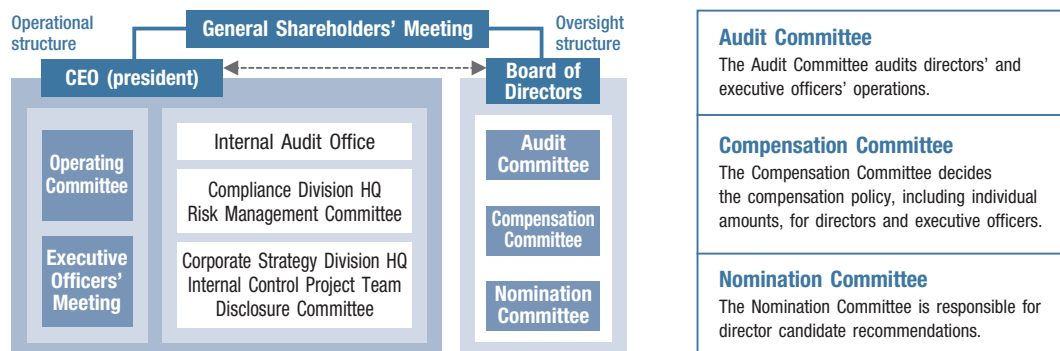
Corporate Governance Approach

The NSK Group defines corporate governance as a structure under which its executive organization can focus on business expansion and profitability improvement under the supervision of the Board of Directors. The NSK Group sees corporate governance as the foundation of CSR, and Article 1 of NSK Group's Corporate Governance Code stipulates that the NSK Group shall increase the transparency and soundness of its management, support the sustainable growth of the company, and further enhance shareholder value by continuing to fulfill the group's CSR and ensure an appropriate profit as a company.

Corporate Governance Framework

NSK operates under a company with committees system. There are three committees in charge of auditing, compensation, and nomination, and each consists of two independent directors and one internal director. The chairpersons of the Audit and Compensation Committees are both independent directors. Ultimate decision-making regarding business execution is carried out by the CEO, following deliberation with the Operating Committee. The Executive Officers' Meeting functions as a forum to share information among the management on matters such as the direction of business development.

Governance Framework



Internal Controls and Group Governance

NSK is based on a business division headquarters system. With clearly assigned responsibilities for each division, each headquarters coordinates the NSK Group worldwide. The NSK Group Management Rules provide a framework for group management. They foster improvement of internal controls for the entire NSK Group, increase the soundness and transparency of management, and promote efficient management.

Sections in Charge of Internal Controls

In order to maintain and improve internal controls, the NSK Group established the following departments to oversee internal auditing and risk management.



Internal Audit Office	The Internal Audit Office supports the activities of the Audit Committee while remaining independent from the operational structure. In conjunction with the Audit Committee, it conducts internal audits on the legality, appropriateness and efficiency of business operations. The office also provides guidance and makes proposals for improvements based on the audit results.
Compliance Division HQ Risk Management Committee	The Compliance Division HQ monitors the company's observance of laws, regulations, and corporate ethics regulations, while carrying out the necessary planning and execution of compliance initiatives. The Risk Management Committee investigates measures to prevent disasters and accidents, while also dealing with unforeseen emergencies when they arise.
Corporate Strategy Division HQ Internal Control Project Team Disclosure Committee	The Corporate Strategy Division HQ controls management risks, planning of management policies, monitoring of policy implementation, and achievement status. The Internal Control Project Team carries out verification of operational processes relating to financial reporting, while the Disclosure Committee ensures the proper and timely disclosure of company information.

Compliance and Risk Management

The NSK Group believes that compliance and risk management is the key to earning the confidence of stakeholders. Therefore, the group is working hard every day to ensure the effectiveness of its compliance and risk management systems.

Compliance

NSK Code of Corporate Ethics

The NSK Group requires that its directors and employees adhere to the NSK Code of Corporate Ethics. In fiscal 2006, the NSK Group made major progress in building a global compliance system, as many of the group companies outside Japan established local versions* of these ethics regulations.

Compliance Framework and Employee Education

The Compliance Division Headquarters of NSK creates compliance regulations, provides education, and conducts audits of the compliance status for the NSK Group. With the goal of raising compliance awareness, the headquarters began an e-learning course in fiscal 2005, and expanded the range of personnel required to take the course in fiscal 2006. As a result, almost all the directors and employees of the NSK Group in Japan have taken the course. In addition, the group has held seminars on individual compliance topics, published feature articles in the company newsletter, *NSK Group News*, and made other proactive efforts.

Compliance Hotlines

With the goal of discovering illegal conduct as soon as possible and taking appropriate actions, the NSK Group operates a hotline for reporting compliance concerns. In fiscal 2006, a new hotline staffed by an outside lawyer was established, in addition to the in-house hotline. The system allows callers to remain anonymous, and they are protected from any negative repercussions that may arise from reporting information.

* Versions that are modified or supplemented as necessary to reflect local cultures.



NSK Group News

A company newsletter that featured articles on the prevention of insider trading and the protection of personal information.

NSK Code of Corporate Ethics

[1] NSK Corporate Ethics Policies

- 1) NSK aims to continue to prosper as a company that can be respected and trusted, by being sincere and fair within international and regional societies.
- 2) NSK will comply with laws that are related to its various corporate activities. Moreover, as a corporate citizen, NSK will conduct itself in the highest ethical manner.

[2] NSK Code of Conduct concerning Legal Compliance (Main Categories)

- 1) Compliance with anti-trust laws
- 2) Compliance with export-related laws
- 3) Prohibitions of commercial bribery
- 4) Transaction with the public agencies and handling of political donations
- 5) Accurate recording and processing
- 6) Prohibitions of insider trading
- 7) Handling of intellectual property
- 8) Prohibition of illegal activities and anti-social behavior
- 9) Protection of company assets
- 10) Handling of corporate secrets
- 11) Honest relationships with customers
- 12) Fair Trading with suppliers
- 13) Fair competition with competitors
- 14) Cultivation of a sound workplace

[3] Penal Regulations and the Establishment of Liaison Office

- Penal Regulations
- Establishment of a Liaison Office



A compliance education session for new employees

Risk Management

Approach to Risk Management

The NSK Group considers risk management to be an especially important activity, in order to prepare for unforeseen circumstances such as natural disasters, accidents, and contagious disease epidemics. When planning risk-management measures, the highest priority is placed on human life in the event of an emergency. The group also takes measures to fulfill its responsibility to maintain a stable supply of products to customers.

Risk Management System

In 2002, the Risk Management Committee was established reporting directly to the NSK president. Its purpose is to broadly manage any kind of risk that might be encountered relating to the businesses managed by the NSK Group. The Risk Management Committee enables the management team to deal with the significant risks posed by earthquakes, fires, and environmental pollution. The committee also evaluates and implements prevention and maintenance measures, while also examining and carrying out the proper actions during an actual emergency.

Fiscal 2006 Measures

As part of the business continuity plan at the time of a large-scale disaster, the group built a system in fiscal 2006 that can maintain the head office functions in the event of a major catastrophe in the Tokyo region. Furthermore, the NSK Group has been drafting a business continuity plan that is premised upon an earthquake in the Tokai region. Outside Japan, a disaster-prevention network is also being constructed to help protect production plants.

Message from the Executive



Gaining trust from stakeholders,
we are aiming to be No. 1 in the industry
in terms of total quality.

Kazuo Matsuda

Senior Vice President
Head, Business Development Division Headquarters
Head, Compliance Division Headquarters

The NSK Group's business is supported by and dependent on a wide range of stakeholders, including customers, suppliers, shareholders and other investors, members of local communities, and all employees who work at the NSK Group. With the support and cooperation of these stakeholders, I would like the NSK Group to get back to the basics of manufacturing, and steadily fulfill its responsibility as a manufacturer to realize its vision of becoming No. 1 in the industry in terms of total quality, as declared in the group's mid-term plan.

As an important effort toward that end, in fiscal 2006 we provided systematic quality education to employees engaged in manufacturing, as well as to employees in technology departments and headquarters divisions. Quality refers to across-the-board quality in each employee's work process in addition to product quality. Manufacturing is not only dependent on people directly involved in production, but also the people who support it indirectly. To become No.1 in terms of total quality, I believe it is important to enhance all the employees' work levels. Further, I would like to create lively work environments by establishing a Diversity Development Team and increasing diversity among employees and work styles.

In the old days, our plants were located in rural areas, but the spread of urbanization changed our surroundings drastically and increased the importance of our relationship with the community surrounding us. In fiscal 2006, we invited local elementary school students to a science class for children. The children, who will lead the future, had the opportunity to experience the fun and excitement of science experiments with friction.

In the future, as we actively engage in dialogue with stakeholders, we will continue pursuing the goal of becoming No. 1 in total quality.

Activities of the CSR Project Team

The CSR Project Team has continued to regularly hold group-training sessions, introduce activities contributing to local communities to employees via NSK's intranet, and help prepare the CSR report in order to diffuse CSR awareness throughout the NSK Group. In addition to these activities, in fiscal 2006 the team held a combined science class for children as well as plant tours (see page 25 for details) aiming to communicate with local communities and foster the next generation. Many of the elementary school students, teachers, and guardians expressed their gratitude, saying how much fun the class was and requested that NSK hold similar events in the future. NSK views this event as a valuable opportunity for employees and people from surrounding neighborhoods to interact, something they normally don't have the chance to do.

Inception of the CSR Office

In June 2007, NSK established a CSR Office with the CSR Project Team as the parent organization to further strengthen the group's CSR activities. By further disseminating NSK's corporate philosophy within the group and supporting the clarification and handling of CSR issues, the CSR Office will work to ensure that each employee can contribute to society through the NSK Group's main business.



Group training sessions for new employees
(with sign-language interpreting)

Building Stable Relationships with All Stakeholders

In recent years, there has been growing concern over the practice of corporate buyouts intended for the purpose of short-term gain at the expense of stakeholder interests. In order to prevent any damage to NSK's own corporate value and also build stable relationships with stakeholders, the NSK group has established the following policy:

Basic Policy Concerning Parties Who Control NSK's Decisions on Financial and Business Policies

The NSK Group is built upon a wide array of mutual relationships with various stakeholders, including shareholders and other investors, customers, suppliers and distributors in and outside Japan, local communities, and employees. NSK believes that the NSK Group's mission is to increase corporate value by devoting itself to its main business while fulfilling its social responsibilities to all stakeholders by keeping the NSK Group's operations optimally balanced in all aspects of society, the environment and the economy.

NSK is a joint-stock corporation that is publicly traded on the stock market. Accordingly, NSK understands that the shareholders who have invested in NSK also entrust NSK's management to function as its executive team. In line with this understanding, NSK regards parties who control decisions on NSK's financial and business policies as ultimately subject to shareholders' judgment. Therefore, NSK believes that decisions to approve or reject the acquisition of a large amount of NSK's stock should ultimately be left to the judgment of the shareholders.

However, NSK recognizes that a growing number of such large-scale stock acquisitions are being revealed in Japan's recent capital market, as motivated by individuals' desire for short-term gain while ignoring the existence of the stakeholders who make up the very basis of the targeted company's corporate value. NSK cannot deny the possibility of such abusive large-scale stock acquisitions. If NSK should receive a proposal to buy a large volume of stock, after deliberations about the propriety of such proposals, the executive team would offer the shareholders and investors the results of the discussion as well as its opinion, enabling shareholders and investors to form proper judgments. The executive team sees it as its responsibility to do so, as the shareholders have entrusted it with NSK's management.

The foregoing is NSK's Basic Policy Concerning Parties Who Control NSK's Decisions on Financial and Business Policies (hereinafter referred to as the "Basic Policy"). NSK is currently considering implementing specific measures to realize this Basic Policy. Specifically, NSK is considering forming a project team composed of members including outside professionals such as lawyers and financial advisers who are knowledgeable about corporate buyouts. The team would monitor the status of the company's stock trading on a daily basis, and analyze and assess moves to acquire large volumes of the company's stock when the signs of such moves are identified. This would create an in-house system that could enable NSK's executive team to flexibly deliberate the propriety of proposals to buy a large volume of NSK's stock when they are received, and to provide shareholders and other investors with the results of those deliberations and its opinions.

NSK will make an announcement about these measures in an appropriate and timely manner, in conformity with applicable laws, regulations, and securities exchange rules, once an official decision has been made.

In addition, based on the philosophy expressed in NSK's mission, in February 2006 NSK established a three-year mid-term plan that will be in force until 2008 (hereinafter referred to as the "Mid-Term Plan"), with the purpose of increasing NSK's corporate value. In this Mid-Term Plan, NSK has set out "To Become No. 1 in Total Quality." Being No. 1 encompasses the quality of all services in addition to the quality of products, which is the foundation of NSK's reputation as a manufacturer. In an effort to achieve this mid-term vision, based on NSK's two major basic policies of driving forward its growth strategies and profitability enhancement on structural reform, NSK is pursuing profitability-focused growth and striving to build a company that is strong regardless of a larger size. This comes in addition to intensively promoting a policy of: (1) reinforcing manufacturing capability; (2) reinforcing product development capability; (3) reinforcing overseas profitability; and (4) reinforcing global management capability. Moreover, NSK sees its social responsibility as reducing the world's energy waste through its business. Accordingly, NSK is striving to steadily raise the level of its environmental management and build relationships of trust with various stakeholders. In this way, NSK will contribute to the protection of the global environment and the sustainable development of society.

The NSK Group's Stakeholders

The NSK Group is built upon interpersonal relationships with a wide range of stakeholders, and believes that it is important for the group to build better relationships with these stakeholders through communication.

Environment

Society

Shareholders and Investors

In recent years, shareholders and investors have been increasingly calling for management to maintain a good balance among social, environmental, and economic factors. Meeting these diverse and varied expectations and disclosing appropriate information in a timely manner are part of the NSK Group's mission.

**Shareholders
and Investors**
p.26

Future Generations

The NSK Group sees children and students, the bearers of the future, as important stakeholders. The group hopes to hand over an abundant and sustainable environment and a stable society to future generations.

**Future
Generations**
p.25

Local Communities

With business sites in over 150 locations around the world, the NSK Group conducts global business operations. The NSK Group values communication with the residents of communities where it establishes business sites, and endeavors to build good relationships that carefully balance social, environmental, and economic factors.

**Local
Communities**
p.24

NSK

Customers pp.19-20

Customers

The NSK Group's customers are companies and the final consumers who use the devices and machines that are built with NSK's products. The group contributes to a sustainable society by identifying the needs of customers and always providing high quality, safe, and reliable products.

Suppliers pp.19-20

Suppliers

The NSK Group conducts its business based on cooperative ties with a wide array of suppliers—from steel manufacturers who provide the main raw material for the group's products and parts to lubricant makers and component manufacturers.

Employees pp.21-23

Employees

The NSK Group regards it as its responsibility to respect individuality and to create conditions in which all employees, whether full-time, temporary, or part-time, can contribute to their fullest potential.

Bearings Cross Over to the World of Art NSK Bearing Art Exhibition

In November 2006, NSK held the "Smooth Sailing for BEARING—NSK Bearing Art Exhibition" in Aoyama, Tokyo as an event to commemorate the group's 90th anniversary.

What would happen if you crossed art with the NSK Group's technology, two things that seem to have nothing in common at first glance? This event was born of this kind of grand experimental spirit. The cooperation of artists, who have innovative ways of thinking, and NSK's engineers, who perpetually push forward technological development, resulted in an exhibition that produced unexpected discoveries and excitement. With more than 10,000 visitors over the five-day period, many people enjoyed the joint exhibition of bearings and art.

The NSK Group will continue to support cultural and arts activities through opportunities such as this exhibition, and to create occasions to obtain novel ideas that could produce the technology of the future.



Relationship with Customers and Suppliers

The NSK Group's business activities are dependent upon its partnerships with customers and suppliers. This section presents the overall picture of the group's relationships with its customers and suppliers as well as a description of current initiatives.

Approach and Policy

The NSK Group is steadily enhancing its solution-providing capabilities so that it can offer advanced customer-focused solutions. The group is also working to deepen its positive and close cooperative relationships with customers and suppliers. Moreover, the NSK Group is committed to upholding its high moral and ethical standards in its dealings with both customers and suppliers, to conducting fair trade, and to maintaining the integrity of all its businesses.

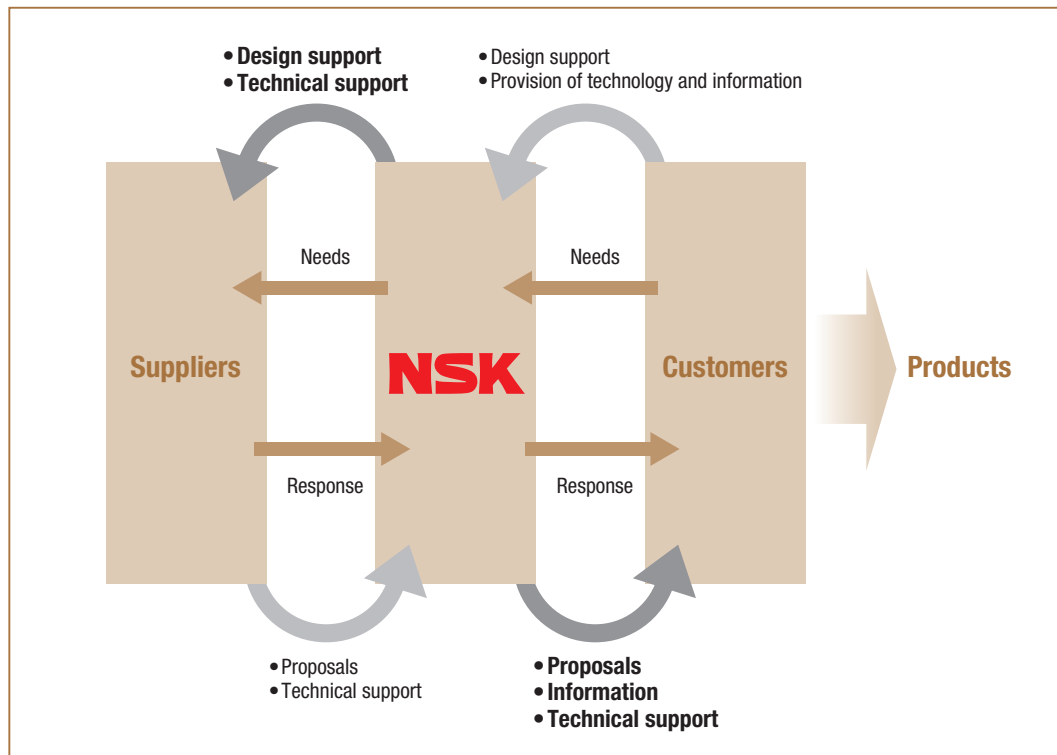
Partnerships

The NSK Group's business is dependent upon its partnerships with customers and suppliers.

When an NSK Group customer is in the process of developing and designing forward-looking products, NSK personnel will maintain a steady exchange of information with the customer and participate in technology meetings at the customer's sites. When the group works closely with its customers, it is able to offer solutions that draw upon and combine together the group's information, technology, and know-how. In a mutual fashion, the NSK Group is able to upgrade its overall level by improving its own development, design, and manufacturing capabilities using the information, design support and technology provided by its customers.

Conversely, in order to meet the needs of its customers, the NSK Group communicates its own needs to its suppliers, whom it requests to perform development, design, and manufacturing work. In this relationship, the NSK Group provides design support, the supplier proposes a range of product designs, and both sides give and receive technical support, all of which translates into enhanced technology and product value throughout the supply chains of the NSK Group.

Relationship with Customers and Suppliers



Customer Satisfaction

The NSK Group is endeavoring to raise customer satisfaction by being exhaustively particular about quality—not just the quality of products, which are a manufacturer's basic concern, but total quality, including all the information and services provided by the group. NSK wants customers to take pleasure in using high quality products and to be repeat buyers. To that end, the Quality Assurance Division-Headquarters is leading an effort to build a system for raising employee awareness with the aim of becoming an even stronger company that is trusted by customers and society at large.

NSK Product Development System

The NSK Product Development System (NPDS) ensures the efficient and stable production of high-quality products requiring advanced technology all along the flow path from the receipt of an order through development, design, and trial manufacturing to mass production. The NPDS Council is convened when a new request for consideration is received from a customer. Members of the relevant departments, including sales, technology, plants, and quality assurance, thoroughly discuss the matter from a wide range of angles, including the customer's requests, product technology and production challenges, sales and profitability, capital investment, and related patents. These discussions reveal the issues and problem areas and serve to ascertain whether NSK can produce products that fit the customer's requests.

Once the council accepts an order, the project is ranked by degree of difficulty. Difficult projects are tackled by a multidisciplinary team that is formed with members selected from the relevant departments. At each juncture in the process from development to mass production, the status of the project is reviewed and a decision is carefully made as to whether the project can move on to the next step. In this way, the work is pushed forward reliably and swiftly, leading to stable production early on.

Quality Education Program

High-quality products are dependent upon the high-quality work of each individual employee. In order to heighten total quality, including the quality of information and services, the NSK Group is actively and widely expanding educational programs to deepen understanding of its philosophy and initiatives on quality. These programs are conducted for the benefit of personnel who work in the head office and other administrative divisions, in addition to those who work in manufacturing divisions.

In fiscal 2006, managers from the plant production divisions, technology design divisions, and administrative divisions attended the programs. These educational programs not only impart knowledge; they also include a training component in which participants must teach what they have learned to their subordinates.

The NSK Group believes that this program leads to the creation of workplaces where employees can work enthusiastically by raising awareness among more employees and energizing workplace communication.



Quality education class

Proposals, Provision of Information, and Technical Support for Suppliers

The high quality of the NSK Group's products ensures that its customers achieve an optimum level of reliability and energy savings in their own products. Suppliers who approach design, development, and manufacturing with a focus on quality-improvement directly impact the performance of the group's products, and ultimately contribute to heightened product performance for customers. Accordingly, the NSK Group provides its suppliers with all the necessary technical support and places great importance on close cooperation.

Moreover, the NSK Group has put great effort into the Advanced Production System (APS) activities being carried out in cooperation with its suppliers. The main objective of the APS activities is to raise corporate value. These activities, which involve all employees, are designed to thoroughly eliminate *muda*, *mura*, and *muri* (waste, unevenness, and overburden) in all processes, from product ordering through to delivery. By improving quality-management technology and management practices, this approach enables the group to offer customers better products that are competitively priced and delivered on a timely basis.

Since fiscal 2001, the group has been expanding the scope of its APS activities outside the group to include sharing them with its suppliers. Going forward, the group will continue working to establish the APS concept and expand the scope of its activities.

Relationship with Employees

The NSK Group undertakes a range of initiatives to enable employees, who underpin the group's business operations, to fully exercise their abilities. Below is a description of the group's relationship with its employees and the initiatives the group is undertaking to build up that relationship.

Approach and Policy

The NSK Group sees its human resources as the foundation of the company. The group aims to cultivate the next group leaders and create a stimulating environment that will motivate employees with a sense of purpose and job satisfaction.

Human Resources Development Initiatives

The NSK Group's fundamental human resources policy is to give employees—particularly those who show initiative in their thoughts and actions—the time and opportunity to improve themselves. In line with this policy, the group offers a variety of educational and training programs.

New Employee Training

The first two years in the company are designated as the developmental period, during which new employees are encouraged to acquire needed knowledge and skills, focusing on on-the-job training (OJT). Each employee is assigned an OJT manager and a mentor who systematically oversee daily routine work to nurture the development of the new employee. Just before the end of the development period, new employees go through a “gate check”—this is a time for them to sound out their potential and discuss their next career step in consultation with supervisors and the Human Resources Department.

Developing the Next Generation of Leaders (NSK Management College)

The NSK Group has adopted a year-long program for developing the next generation of executives. In fiscal 2006, 12 mid-career employees participated in the Manager Course and 12 management-level employees participated in the General Manager Course. Through group training sessions the participants, who are recommended by their workplace supervisors, obtain knowledge and skills needed as business leaders. What is more, they plan measures to solve management issues currently faced by the NSK Group and submit a report to top management.

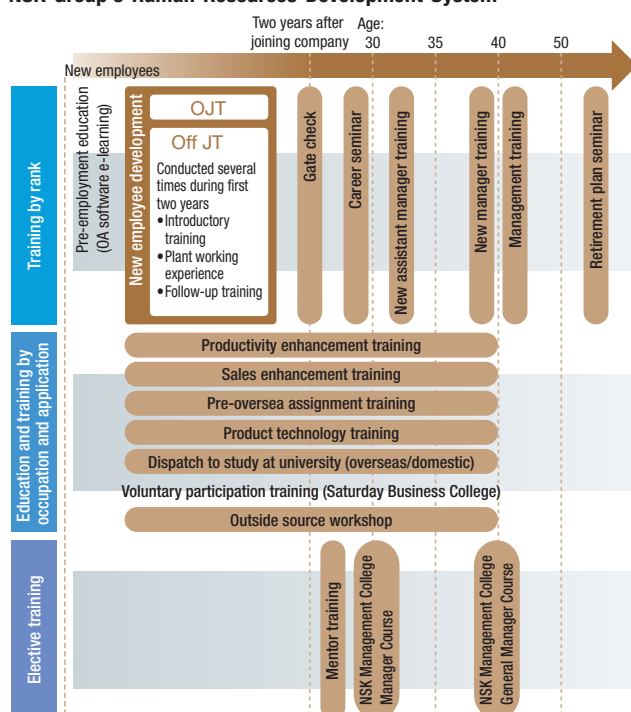
Voluntary Participation Training (Saturday Business College)

In October 2006, NSK adopted a voluntary participation training system aimed at improving the business skills of young and mid-career employees. Training sessions covered topics that are useful in the practice of business, including business accounting, business communication, and presentation skills. A total of 148 people have participated.

Dispatch to Study at University and Other Training Programs

The NSK Group also makes available opportunities for study at universities and graduate schools in and outside Japan, foreign language training, and other specialty training programs in order to foster highly professional human resources and personnel who are competent in the global arena.

NSK Group's Human Resources Development System



Submitting a report to top management



Saturday Business College

NSK Manufacturing Education and Training Center

The transfer of technical skills and the improvement of skills levels have become important challenges at manufacturing sites amid intensifying global competition and the mandatory retirement of the baby boomer generation. In May 2005, the NSK Group*¹ established the NSK Manufacturing Education and Training Center at its Ishibe Plant in Shiga Prefecture with the aim of developing manufacturing professionals, and also opened an intermediate technicians course.



Training of measurement of bearing clearance

In fiscal 2006, NSK started a professional maintenance course and established a second center at its Fujisawa Plant in Kanagawa Prefecture, where it began a beginner plant engineer course with the aim of raising production engineering skills. The group also expanded the area subject to training, and accepted 10 course participants from NSK Korea Co., Ltd., in order to strengthen the development of global human resources. Since its establishment, a total of 131 people have been trained at the Center, and are now active in all the group's plants.

*1 Excluding NSK Sales Co., Ltd., NSK Human Resources Services Co., Ltd., NSK Logistics Co., Ltd., and NSK Net and Systems Co., Ltd.

Human Resources Assessment Initiatives

The NSK Group's*² human resources system fairly assesses the performance of employees, as well as the approach and processes that each employee takes in trying to achieve goals. As a matter of principle, the group provides multifaceted support to forward-looking workers willing to take on challenges.

Performance Agreement System

The NSK Group adopted a performance agreement system, which is primarily for main career track employees, in order to conduct efficient business activities by aligning the trajectories of the company's and employees' goals. This system goes beyond personnel assessment to help develop human resources through mutual reviews by supervisors and subordinates from the time goals are set through completion to results follow-up. Each year, a questionnaire is given to appraisees in order to enhance the system. The level of satisfaction in the feedback increases every year, but the group will nevertheless continue striving to make further improvements.

Results of the Fiscal 2006 Performance Agreement System Questionnaire

Questionnaires distributed	3,055
Questionnaire recovery rate	92%
Response rate	97%
Level of satisfaction in feedback	78%

(excluding managers)

Self-Reporting System

The NSK Group adopted a self-reporting system to enable employees to demonstrate their full abilities. This system gives employees an opportunity to submit a self-report directly to the Human Resources Department once a year, informing it of problems in their current workplace environment, their wishes concerning future departments and work, personal information that the company should know, and other concerns. Moreover, employees may have an interview with the Human Resources Department if they so desire; the department will give them suggestions for solving problems and advice about their future self-development.

Internal Recruiting System

The NSK Group adopted an internal recruiting system to support employees who take the initiative to develop their careers while also invigorating the company. The offered conditions and number of people sought is announced through the Human Resources Department, to which applicants can apply directly. The system enables employees to voluntarily and proactively challenge themselves to take on work they are interested in.

Initiatives for Labor-Management Relations and the Work Environment

Employees of the NSK Group are represented by a unitary organization, the NSK Labor Union. Regular labor-management consultations are conducted by a company-wide labor-management committee (Central Management Council) three times a year, and by labor-management committees at individual business sites (Single Unit Management Councils) once a month. These labor-management committees exchange opinions on a range of topics, including the improvement of working conditions, the company's management policies, and daily business activities, thereby invigorating labor-management communication.

Initiatives for Diversity and Equal Opportunity

The NSK Group promotes a range of diversity initiatives designed to motivate workers by respecting their values, individuality, and diverse backgrounds.

*2 Excluding NSK Sales Co., Ltd., and NSK Logistics Co., Ltd.

Senior Re-Employment System

Since April 2001, the NSK Group has been providing a place of employment to persons over the age of 60, having adopted a re-employment system (A Seniors) for union members. The company had been employing senior managers temporarily on an individual basis as needed; but with the enforcement of the Revised Law concerning Stabilization of Employment of Older Persons in April 2006, NSK adopted a new re-employment system for managers (M Seniors). As a general rule, the group offers a place of employment up to the legally mandated obligated employment age, and attempts to match employees' desires regarding type of work and work location with proposals from the company. The NSK Group offers a place where healthy people with a strong eagerness to work can display the rich careers and advanced skills they cultivated in the group for the benefit of younger workers.

Number of Senior Persons at Work (As of March 2007)

A Seniors (former union members)	68
M Seniors (former managers)	7
Others (part-time employees, etc.)	72
Total	147

Establishment of a Diversity Development Team

With the establishment of a Diversity Development Team in June 2006, NSK started building a framework that makes possible the utilization of a wide spectrum of human resources in line with the company's management stance of respecting the individuality and potential of each employee. In fiscal 2006, NSK conducted a survey and analysis to review the workplace environment and systems to create a balance between work and childrearing. Based on the survey results, the company plans to proceed with efforts to reform awareness in the workplace and publish a handbook about childrearing support systems during fiscal 2007.

Initiatives for Health, Safety, and Healthcare

In an effort to create surroundings where employees give full rein to their strengths while remaining healthy in mind and body, the NSK Group is working to ensure workplace safety and is actively promoting the health of its employees. Securing workplace safety is the basis of management on the manufacturing floor. To that end, the NSK Central Occupational Health and Safety Council—held at regular intervals with labor and management representatives—takes the lead in

Number of On-the-Job Accidents

	FY2004	FY2005	FY2006
Accidents not resulting in absence from work	25	26	20
Accidents resulting in absence from work	0	3	6
Total	25	29	26

encouraging the creation of a safety-first culture that is embraced by all. At the same time, the top management at each business site conducts safety diagnoses. In these ways, the group makes both subtle and substantial efforts to promote the health and safety of employees, including their mental health.

Human Rights Initiatives

The NSK Group provides education about sexual harassment and moral harassment to create environments in which all employees can work with peace of mind. The group is making an effort to prevent these types of harassment, especially by managers. By incorporating this kind of education in training sessions for new employees and new managers, it is also making an effort to heighten awareness among more employees that sexual harassment and moral harassment are acts of infringement on human rights. Although the group strives to avoid these problems in the first place, it has established a precautionary harassment help-line where victims can seek consultation anonymously. If the victim so desires, help-line personnel will immediately investigate the matter under strict confidentiality. If facts on the issue can be verified, the company will seek the victim's consent and take the appropriate measures necessary.

The "Relationship with Employees" section covers the following companies:

- NSK Ltd.
- NSK Steering Systems Co., Ltd.
- NSK Logistics Co., Ltd.
- NSK Sales Co., Ltd.
- NSK Precision Co., Ltd.
- NSK Net and Systems Co., Ltd.
- NSK Fukushima Co., Ltd.
- NSK Human Resource Services Co., Ltd.

Relationship with Local Communities

The NSK Group, which has business sites at over 150 locations worldwide, is reliant upon the understanding of members of the communities where the company is based.

The group pursued the following initiatives in fiscal 2006 to maintain a harmonious coexistence with these communities.

Approach and Policy

Resolute in its desire to be a responsible corporate citizen, the NSK Group undertakes corporate activities designed to contribute to the communities where the group operates. Leveraging experience gained in the course of its normal business activities, the group is actively involved in a wide range of social programs. In addition, the corporate environment fostered at the NSK Group is one that facilitates employee participation in social activities.

Social Gatherings with Orphanages (Japan)

Since 1994, NSK Fukushima Co., Ltd., and the labor union have been jointly holding social gatherings with the Horikawa Aiseien orphanage. At the 20th event, held in October 2006, 23 employees participated and interacted with the children. The Horikawa Aiseien sent a thank you letter, saying, "The barbeque and softball game were fun. Please come again next year."



Interacting with children through sports

United Way Day of Caring: Participating in Local Volunteer Activities (United States)

For over 10 years the NSK Corporation has been donating to, participating in, and supporting the volunteer activities of the United Way Foundation, an NGO in the United States. The NSK Corporation encourages active employee participation by treating these volunteer activities as work time. In fiscal 2006, 15 employees participated as volunteers in a building repair project at the Perry Nursery School, which is attended by children from low-income families. The volunteers worked up a sweat setting up play equipment on the playground and painting.



Employees who participated in the building repair project

Women's Charity Marathon for Breast Cancer (France)

Seven NSK France employees participated in a women's charity marathon for breast cancer held in Paris, France in September 2006. NSK France covers the registration fee (30 Euros per person) for this event. The registration fees are used to further breast cancer research. Cheered on by their colleagues, the participants ran a 6 km course to the Eiffel Tower. NSK France will continue to support this event.



Female employees who participated in the women's charity marathon for breast cancer

Developing Together with Local Communities: NSK Brasil Ltda's Initiatives

NSK Brasil believes that promoting social contribution activities rooted in the local community invigorates employees as well as the community. Since the company was established in 1970, it has carried out CSR activities focused on four core themes: the local community, the environment, education, and support for economically challenged families. The company provides education about the environment, accident prevention, and traffic safety to local children, as well as nutritional guidance, health diagnoses, and legal consultation to local residents. In addition to these activities, the company also donated 11 tons of food and 1,300 garments to local aid organizations in fiscal 2006. At NSK Brasil, everyone will continue to unite their strengths in activities that support the development of the local community and the protection of the environment.



Children who receive food allowances

Engaging Future Generations

The NSK Group sees children and students, who are the leaders of the future, as important stakeholders. Below is an introduction to the initiatives relating to the education and nurturing of future generations conducted by different business locations of the NSK Group.

Approach and Policy

The NSK Group wants future generations to inherit an abundant and sustainable environment and society, even as the group contributes to the development of the present generation. The group conducts its business activities while always keeping future generations in mind, and is making efforts to provide them with educational and cultural support.

Children's Science Class (Japan)

In November 2006, the NSK Fujisawa Plant invited 117 third graders from a nearby elementary school for a visit, and provided them with a science class to learn about friction, and a plant tour. About 40 people from NSK's technology department and Fujisawa Plant participated in the event. For the science class, NSK personnel devised experiments that the children could perform to give them an understanding of science while having fun, and that would encourage their interest in science. NSK will continue holding this class and is also thinking about expanding it to other plants.



Children's science class
Performing an experiment
pulling the weight of an adult



I participated in the science class from the planning stage and was a member of the class staff on the day of the event. The other staff members and I used trial and error to devise experiments—emphasizing fun and safety—that would enable the children to learn about friction. Although I had a lot of uncertainties, they were swept away by the children as they eagerly greeted me. The children's faces glowed when they were allowed to hold the bearings. I think that the children had fun learning, as their smiles and exclamations of "I get it" and "cool" filled the room during the science class. It may have been even more fun for me than the children.

Sachiko Noji

Basic Mechanics Laboratory, Basic Technology Research Center, Corporate Research & Development Center

Cooperation in the Maebashi Robot Contest (Japan)

NSK Precision Co., Ltd., and NSK Steering Systems Co., Ltd., cooperate in the Maebashi Robot Contest, in which children compete for points with robots of their own making, in order to cultivate rich creativity in children.

In fiscal 2006, the NSK Group dispatched 12 volunteers who planned the contest, instructed the participants on robot making, and sponsored the prizes.



Maebashi Robot Contest in which 174
teams (454 people) participated

Donation of Sports Equipment (Thailand)

Since 2005, NSK Bearings (Thailand) Co., Ltd., has been donating and delivering by hand sports equipment such as balls for games to schools that are experiencing difficulty due to a lack of government support. In fiscal 2006, the company received cooperation from customers, and 13 customers and seven employees visited a school in Nakornarachasima in northeastern Thailand to present the students with sports equipment.



Sports equipment presentation ceremony

Supporting Technical High School Students with Scholarships (Korea)

Since 2001, NSK Korea Co., Ltd., has been providing scholarship support to students of technical high schools in the surrounding area, including Changwon City. Students who meet the scholarship conditions—children from financially troubled families, serious students who lead an exemplary life, and students who are recommended by their teachers—are each awarded one million won. In fiscal 2006, 30 students were granted scholarships, which brings the total number of supported students to 120.



Scholarship awarding ceremony

Relationship with Shareholders and Investors

Below is a report on the NSK Group's initiatives for building solid relationships with shareholders and investors as well as increasing its corporate value.

Approach and Policy

The NSK Group strives to remain a company that lives up to the expectations of its shareholders and investors by disclosing business information in a timely and unbiased manner, and by providing stable returns.

*1 IR activities: The timely, equitable, and continuous provision of information needed by shareholders and investors to make investment decisions.

Investor Relations (IR) Activities*1

The NSK Group has established a full-time IR Department. In cooperation with each relevant department, the IR Department is making an effort to disclose clear business and financial information to help shareholders and investors make appropriate decisions.

IR Events

At its biannual Financial Conference and its Mid-Term Business Strategy Conference, the company reports its business performance, medium to long-term strategy and its progress. The company also communicates actively with shareholders and investors outside Japan by holding regular meetings on its business overview.

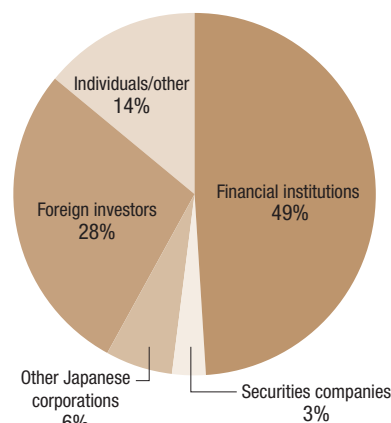
In addition, the company arranges other conferences and plant tours for investors to further understand its business operation.

Information Tools

The NSK Group publishes an annual report, the NSK Group Report (business report), and other reports in addition to this CSR report.

Also, reports and other information such as financial results and materials used in IR presentations are posted on the IR homepage. The company is committed to continuous and timely disclosure of IR information on the homepage as well as enhancement of the content.

Distribution of Shares by Shareholders
(Number of Shares Held)



As of March 31, 2007



Presentation

Dividend Policy

The return of profit to shareholders is an important management policy at NSK. The company's basic policy is to continuously make stable dividend payouts, which are based on the payout ratio and performance level on a consolidated basis.

*2 SRI: The concept and technique of evaluating social and environmental efforts and investing in companies that fulfill these responsibilities.

Socially Responsible Investment (SRI) *2

The NSK Group has been included in representative SRI indexes in and outside Japan. It has also been included in the Pension Fund Association's Corporate Governance Fund.

As of March 31, 2007

Dow Jones Sustainability World Indexes
www.sustainability-indexes.com



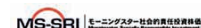
FTSE4Good Global Benchmark Index
www.ftse.com/Indices/FTSE4Good_Index_Series/index.jsp



Ethibel Sustainability Indexes
www.ethibel.org/index.html



Morningstar Socially Responsible Investment Index
www.morningstar.co.jp/sri/index.htm



For more information on NSK's business overview, please refer to the *NSK Annual Report 2007*.

Message from the Executive



In line with the Third Environmental Voluntary Action Plan, we are pushing forward our environmental activities hand-in-hand with our stakeholders both in and outside the company.

Norio Otsuka

Director and Senior Executive Vice President

The NSK Group's largest social responsibility is to reduce the world's energy loss and to carry out its business activities while searching for ways to alleviate global warming. To that end, we are driving through environmental activities in each of our business processes.

In fiscal 2006, we entered the period of the Third Environmental Voluntary Action Plan (fiscal 2006-2010), a mid-term plan for environmental activities. When we established this plan, we combined goals that had been established by NSK and group spun-off companies, as well as the other group companies in Japan, and decided to promote higher-level efforts. We also reconsidered the content of environmental guidelines for the environmental activities of group companies outside Japan and improved their management.

In fiscal 2005 we adopted three systems in an effort to achieve more efficient environmental management: a chemical substances management system; an environmental information sharing system; and a waste management system. Regarding the chemical management system, we established in-house management standards and green procurement standards by anticipating trends in laws and regulations for chemical substances and customers' procurement standards. We then put the system into operation with the first step being to roll it out to business sites in Japan. We are working intensively to build a database for bearings, first, and are then planning to extend to precision machinery and parts, then to automotive parts, and eventually to cover all of NSK's products.

Regarding the environmental information sharing system, in fiscal 2006 we made it possible for the Global Environmental Department to compile in a timely manner the environmental information collected at each business site by setting up the system at all manufacturing bases in Japan. In fiscal 2007, we will roll the system out to all manufacturing bases outside Japan. We started operating a waste management system at manufacturing sites in Japan, making it possible to monitor the status of waste disposal. We also implemented waste management education and improved the level of compliance.

Further, in October 2005, we implemented the NSK Group's first comprehensive environmental risk audits at 24 business sites in Japan, including our affiliates. The audits enabled us to get a handle on problems in the existing state of affairs, which we will use to determine important matters that should be given priority responses, and measures to be put into action.

The NSK Group is committed to the ongoing development of societies and industries. At the same time, we will continue to dedicate ourselves to protecting the global environment for future generations and to sustain all life on Earth. This is one of our challenges for the future, and we are prepared to make steady and concerted efforts to meet these challenges.

Environmental Management

The NSK Group is undertaking various measures to lessen its impact on the global environment. This section describes the group's philosophy regarding the environment, and the group's environmental management system.

Environment Policy

The NSK Group strictly adheres to the principle that environmental protection as outlined in the group's corporate philosophy must be an ever-present concern in all business activities. As a global enterprise, the NSK Group's underlying environment policy is to protect the global environment by developing products that are environmentally friendly, and to strive to produce them with minimal impact on the environment.

NSK Environment Policy

Our commitment to environmental management forms the basis of our existence and our pursuits. We are determined to take independent and assertive actions.

1. Overall Goals

To create harmony between people and the Earth by developing environmentally friendly manufacturing processes and technology, such as our tribology friction control technology, using the full efforts of all employees and all divisions in our company.

2. Reduction of Negative Environmental Impact

To establish and continually improve the environmental management system, comply with regulations, prevent pollution and reduce environmental impact.

3. Contribution to Societies

To be a good global corporate citizen, contributing to the social development of countries and communities where we operate, and also to advance the realization of affluent societies that are in harmony with the environment.

Environmental Code of Conduct

1. To reform environmental management organizations by improving operational systems and clarifying chains of responsibility.
2. To develop products and technology that will reduce environmental impact.
3. To tackle environmental protection more aggressively by setting and adhering to high internal standards in addition to complying with laws, ordinances and agreements.
4. To ensure energy and resource conservation, waste reduction, and recycling in all spheres of our business operations.
5. To convert from ozone-depleting and hazardous chemical substances to environmentally friendly alternative substances, and where possible, switch to alternative processes and technologies.
6. To communicate with environmental authorities and local communities in order to receive insightful and constructive options.
7. To contribute to local communities through participation in social environmental activities.
8. To encourage employees to understand our environmental policies and to ensure an environmental mindset in the company through education and internal communications.
9. To disclose the ongoing status of our environmental management activities to the public when necessary.

Originally compiled: December 12, 1997
Last revised: June 27, 2002

Progress of the Third Environmental Voluntary Action Plan

The NSK Group has been conducting activities under the Third Environmental Voluntary Action Plan in order to achieve its goals by fiscal 2010.

Amatsuji Steel Ball Mfg. Co., Ltd. (Main Works and Shiga Works) and AKS East Japan Co., Ltd., were added to the scope of data aggregation in fiscal 2006 and are reflected in the figures in the graphs and tables.

Third Environmental Voluntary Action Plan (Scope: NSK and group companies in Japan)

Area		Targets to be achieved by FY2010	Targets to be achieved by FY2006
Environmental management		Maintain ISO 14001 certification	Maintain ISO 14001 certification
		Improve environmental education	Hold waste risk management seminar for plant supervisors Provide education at NSK Manufacturing Education and Training Center for plant technology staff
Compliance and environmental risk control		Observe laws and regulations (zero legal violations)	Observe laws and regulations (zero legal violations)
		Maintain zero oil leak accidents	Maintain zero oil leak accidents
Development and design		Create environmentally friendly products and technologies	Create environmentally friendly products and technologies
		Reduce use of environmentally harmful substances (comply with RoHS and ELV directives)	Reduce use of environmentally harmful substances (comply with RoHS and ELV directives)
Green procurement		Promote green procurement and latest version of manual on standards management	Make the fourth revision of the <i>Green Procurement Standards</i> well known to suppliers
		Adopt guidelines for green purchasing	Raise the applicable green product purchasing rate to at least 90%
Manufacturing	Global-warming countermeasures	Reduce CO2 emissions per production unit (amount of CO2 produced per unit of value-added production) by 1% annually starting in FY1999	Reduce CO2 emissions per production unit by 6.8% (base year: FY1999)
	Waste reduction and recycling measures	Maintain zero emissions	Continue to maintain zero emissions
		Maintain waste recycling rate of 98% or more	Improve the waste recycling rate to at least 95%
	Environmentally harmful substance reduction	Reduce the number of liquid coolants containing PRTR-designated substances by 70% (base year: FY2000)	Reduce the number of liquid coolants containing PRTR-designated substances by 55% (base year: fiscal 2000)
		Reduce the number of liquid coolants with chlorine-based additives by 85% (base year: FY2000)	Reduce the number of liquid coolants with chlorine-based additives by 60% (base year: fiscal 2000)
	Logistics		Reduce energy consumed per production unit by 1% annually for distribution operations
Promote switch to environmentally friendly packaging			Switch from wooden boxes to cardboard for large products
Green office activities		Improve awareness of environmental conservation	Implement e-learning and provide education to new employees

Environmental Guidelines (Scope: group companies outside Japan)

Area		Targets to be achieved by FY2010	Targets to be achieved by FY2006
Environmental management		Obtain ISO 14001 certification at 32 sites (all production sites outside Japan as of March 31, 2007)	Obtain ISO 14001 certification at five sites
Compliance and environmental risk control		Observe laws and regulations	Observe laws and regulations
		Maintain zero oil leak accidents	Maintain zero oil leak accidents
Green procurement		Promote green procurement	Publish <i>Green Procurement Standards</i> in various languages
Manufacturing	Global-warming countermeasures	Reduce CO ₂ emissions per production unit by 1% annually	Ascertain data for 20 sites
	Waste reduction and recycling measures	Maintain waste recycling rate of 98% or more	Ascertain data for 20 sites
	Environmentally harmful substance reduction	Keep reducing number of liquid coolants with chlorine-based additives	Ascertain data

In fiscal 2006, the NSK Group achieved all of its targets except one. That one item, in the area of compliance with laws and regulations, was due to a delay in taking procedures established by regulations related to the commissioning of out-of-prefecture waste disposal. Regarding the reduction of environmentally harmful substances, the group conducted detailed inspections of all parts drawings and completed measures needed to comply with the RoHS and ELV directives. In the area of green procurement, the group put energy into holding briefing sessions for suppliers and endeavored to make the *Procurement Standards* well known to suppliers. Concerning waste and recycling measures, the group held a waste risk management seminar with the purpose of improving the level of compliance, and strived to maintain a sense of order. At group companies outside Japan, the group has been ascertaining data in order to promote efforts in line with environmental guidelines. In the future, the NSK Group will steadily continue to push its activities forward toward the achievement of its objectives.

	Performance in FY2006	Evaluation	Targets to be achieved by FY2007
	Maintained certification at all production bases	Achieved	Maintain certification at all production bases
	Held waste risk management seminar for 44 people Provided education at NSK Manufacturing Education and Training Center five times for 46 people	Achieved	Provide waste management education with expanded content Continue providing education at NSK Manufacturing Education and Training Center
	One ordinance violation	Not achieved	Observe laws and regulations
	Zero accidents	Achieved	Maintain zero oil leak accidents
	Created a total of 11 products and technologies	Achieved	Create environmentally friendly products and technologies
	Completed compliance with RoHS and ELV directives (completed checks of all design diagrams)	Achieved	Reduce use of environmentally harmful substances
	Held Green Procurement Seminars for about 700 suppliers Implemented Green Procurement System training for 293 suppliers, and then completed user ID registration for 272 suppliers.	Achieved	Expand operation of green procurement system and enhance data
	Green product purchasing rate of 96.6%	Achieved	Raise the applicable green product purchasing rate to at least 90%
	Reduced CO ₂ emissions per production unit by 13.9%	Achieved	Reduce CO ₂ emissions per production unit by 7.7% (base year: FY1999)
	Maintained zero emissions	Achieved	Continue to maintain zero emissions
	Recycling rate of 95.3%	Achieved	Improve the waste recycling rate to at least 96%
	Reduction of 56%	Achieved	Reduce by 60% (base year: FY2000)
	Reduction of 71%	Achieved	Reduce by 77% (base year: FY2000)
	122.7 million ton-kms	Achieved	Reduce CO ₂ emissions per production unit by 1% (base year: FY2006)
	Made switch for 50% of applicable products	Achieved	Promote switchover to environmentally friendly packaging
	Implemented e-learning for 781 people Provided education to new employees	Achieved	Provide guidance on and partially adopt environmental information sharing system

	Performance in FY2006	Evaluation	Targets to be achieved by FY2007
	Expanded certification to 26 sites with new certifications obtained at six sites	Achieved	Obtain ISO 14001 certification at two sites
	Zero legal violations	Achieved	Observe laws and regulations
	Zero accidents	Achieved	Maintain zero oil leak accidents
	Published in 6 foreign languages (English, Chinese, Korean, Thai, Portuguese, and Polish)	Achieved	Consider a green procurement system for outside Japan
	Obtained data from 26 sites	Achieved	Ascertain data for 28 sites
	Obtained data from 26 sites	Achieved	Ascertain data for 28 sites
	Obtained data from sites	Achieved	Ascertain data

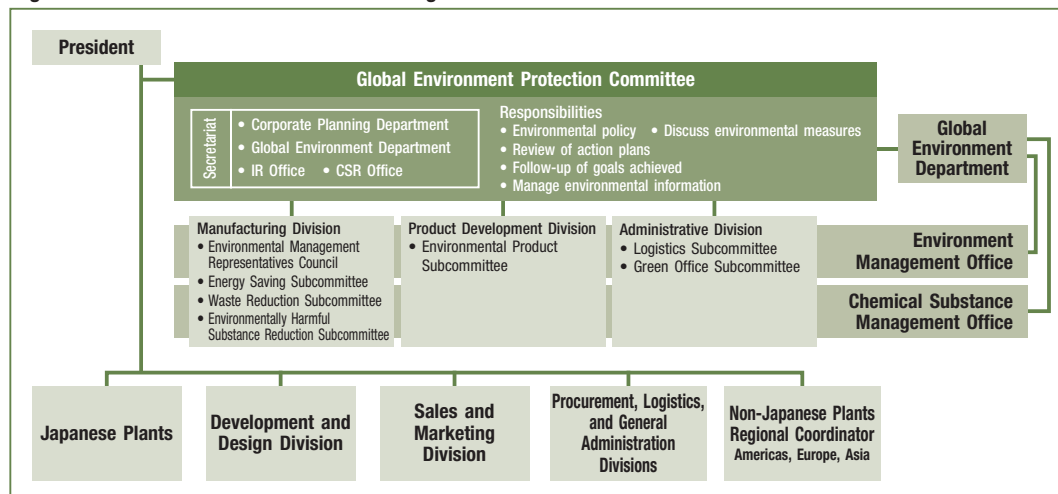
Environmental Management Organization

NSK Group Management Organization

The Global Environment Protection Committee administers the NSK Group's environmental management system. The ultimate decision-making organization for environmental issues, it is comprised of NSK directors and is managed by the Global Environment Department and its subcommittees.

In June 2007, NSK reorganized its Environmental Control Department into a Global Environment Department, within which it established an Environment Management Office and a Chemical Substance Management Office in an effort to make its global environmental management and control of chemical substances contained in products even stronger. The Toxic Substances Control Project Team and the Innovative Packaging Project Team, two company-wide project teams started in 2004, achieved their initial objectives during their three years of activities, and were then dissolved so that a better organization could be formed. The Chemical Substance Management Office took over green procurement and the control of chemical substances in products, which are matters of increasing importance, and the Logistics Subcommittee handles the improvement of packaging.

Organizational Chart for Environmental Management



Purpose of Each Subcommittee and Project Team

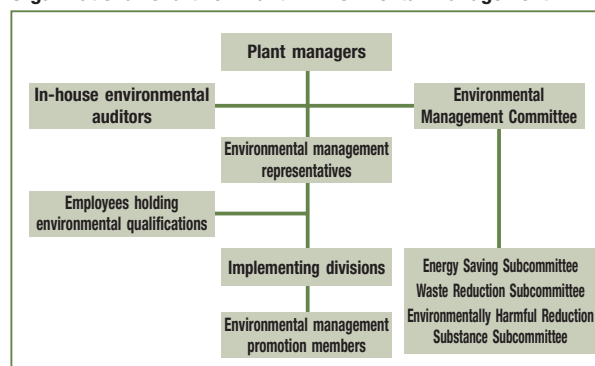
Subcommittee/Project Team	Purpose (policy determination and progress confirmation)
Environmental Management Representatives Council	To unify production sites' environmental management systems, ensure concrete action by subcommittees, and promote activities for lowering environmental risk
Energy Saving Subcommittee	To set policy and confirm progress for energy-saving activities and reducing greenhouse gas emissions
Waste Reduction Subcommittee	To contribute to a recycling-oriented society through application of the 3Rs (reduce, reuse, and recycle)
Environmentally Harmful Substance Reduction Subcommittee	To reduce the environmental impact of manufacturing processes, reducing hazardous chemical substances
Environmental Product Subcommittee	To promote product planning that contributes to the conservation of energy and resources
Logistics Subcommittee	To ascertain and promote the reduction of energy required for transportation
Green Office Subcommittee	To promote environmental protection activities (e.g., 3R promotion for waste materials, green purchasing, etc.) in the management and sales divisions

Management System for Each Plant

Each NSK Group plant has an Environmental Management Committee headed by the plant manager. These committees mainly promote activities, which are the responsibility of an "environmental representative."

The NSK Environment Management Office carries out environmental audits of each plant, before confirming the status of efforts and offering guidance as required. In the event of a problem, the Environment Management Office is ready to take immediate action.

Organizational Chart for Plant Environmental Management



Acquiring ISO 14001 Certification

The NSK Group's policy is to obtain ISO 14001 certification at sites that have been in operation for at least five years, for logistics companies, companies manufacturing NSK brand products, and manufacturing companies in and outside Japan in which NSK has at least a 50% equity stake.

As of July 2004, all 21 applicable sites in Japan had obtained the certification. Sites opened since then have also obtained the certification. Outside Japan, five sites obtained the certification in fiscal 2006, and one in June 2007. All 26 applicable NSK Group companies located outside Japan have now obtained the certification.

ISO 14001 Achievement

Site name		Date acquired	Site name		Date acquired
In Japan			Outside Japan		
NSK	NSK Ltd., Fujisawa Plant (including Technology Div.)	Sept. 1999	The Americas	NSK Corporation, Ann Arbor Plant	Nov. 2001
	NSK Ltd., Ohtsu Plant	Nov. 1999		NSK Corporation, Clarinda Plant	July 2002
	NSK Ltd., Ishibe Plant	Oct. 1998		NSK Corporation, Franklin Plant	Nov. 2002
	NSK Ltd., Saitama Plant/NSK Precision Co., Ltd., Saitama Precision Machinery and Parts Plant	Sept. 1998		NSK Corporation, Liberty Plant	June 2007
	NSK Ltd., Kiriwara Branch	Nov. 1999		NSK Steering Systems America, Inc.	Dec. 2002
Group companies	NSK Fukushima Co., Ltd./NSK Needle Bearing Ltd., Fukushima Plant	July 1998/ Oct. 2005		NSK Precision America, Inc.	Jan. 2007
	NSK Steering Systems Co., Ltd. Soja Plant and Akagi Plant	Dec. 1999		NSK-AKS Precision Ball Company	Nov. 2006
	NSK Precision Co., Ltd., Maebashi Precision Machinery and Parts Plant (including Technology Div.)	Dec. 1999		NSK Brasil LTDA., Suzano Plant	Jan. 2000
	NSK Micro Precision Co., Ltd., Fujisawa Plant	June 2001	Europe	NSK Bearings Europe Ltd., Newark Plant	July 2006
	NSK Micro Precision Co., Ltd., Matsukawa Plant	Apr. 2004		NSK Bearings Europe Ltd., Peterlee Plant	Feb. 1999
	NSK Needle Bearing Ltd., Takasaki Plant and Haruna Plant	July 2004/ Jan. 2001		NSK Steering Systems Europe Ltd., Peterlee Plant	Sept. 2001
	NSK Kyushu Co., Ltd.	Oct. 2000		NSK Precision UK Ltd.	May 2000
	Chitose Sangyo Co., Ltd.	Nov. 2003		AKS Precision Ball Europe Ltd.	Nov. 2006
	Asahi Seiki Co., Ltd.	Dec. 2003		Neueg Fertigung GmbH	Jan. 2001
	Amatsuji Steel Ball Mfg. Co., Ltd., Main Works/Shiga Works	Mar. 2001		NSK Bearings Polska S.A. Kielce Plant	Aug. 2004
	AKS East Japan Co., Ltd.	Sept. 2001		NSK Steering Systems Europe (Polaska) SP.ZO.O.	Dec. 2006
	Shinwa Seiko Co., Ltd. Shin-asahi and Kutsuki plants	Dec. 2002		AKS Precision Ball Polska Sp. ZO.O.	Apr. 2005
	NSK Machinery Co., Ltd.	Mar. 2003	Asia	P.T. NSK Bearings Mfg. Indonesia	Mar. 2000
	NSK Logistics Co., Ltd. (headquarters; logistics centers in Kanto, Chubu, and Kansai regions)	Oct. 2003		PT. AKS Precision Ball Indonesia	Sept. 2005
	NSK-Warner K.K.	Mar. 2001		NSK Bearings Mfg. (Thailand) Co., Ltd.	June 2004
	Inoue Jikuu Kogyo Co., Ltd.	Feb. 2001		Siam NSK Steering Systems Co., Ltd.	Nov. 2000
				NSK Micro Precision (M) Sdn. Bhd.	Jan. 2002
				ISC Micro Precision Sdn. Bhd.	Dec. 1999
				Kunshan NSK Co., Ltd.	Dec. 2003
				NSK Korea Co., Ltd., Changwon Plant/NSK Needle Bearing Korea Co., Ltd.	Dec. 1997/ Feb. 2006
				Rane NSK Steering Systems Ltd.	Nov. 2004

Internal and External Auditing

Internal audits are conducted to verify that the group is properly performing and continually improving its environmental management. External audits by a certified organization are also carried out to verify whether the internal audits are being properly conducted. The findings of the audits for fiscal 2006 revealed no serious problems.

Environmental Information Sharing System

NSK sped up the introduction of an IT-system for environmental work to ensure that work is performed correctly and efficiently. The group improved its strict legal compliance and information management with the adoption of a chemical substances management system, environmental information sharing system, and a waste management system.

Environmental Risk Management

	Targets to be achieved by FY2006	Performance in FY2006	Evaluation
NSK and group companies in Japan	Observe laws and regulations (zero legal violations)	One ordinance violation	Not achieved
	Maintain zero oil leak accidents	Zero accidents	Achieved

Environmental Risk Control Measures

In order to reduce environmental risks, the NSK Group has established its own standards for critical items related to environmental protection, in addition to complying with existing regulations, ordinances, factory environmental protection agreements, and laws relating to the environment. The group also puts effort into the prevention of accidents by conducting education, drills, and environmental risk audits based on its Risk Management Manual.

Oil Leak Prevention Measures and Emergency Response Drills

The NSK Group has inspected the air tightness of its underground tanks and pipes on a regular basis in order to prevent any possibility of oil leaks. All of the tests carried out in fiscal 2006 at the 73 facilities revealed no problems. Furthermore, there were no oil leaks in fiscal 2006.

Emergency drills are carried out at each site on a regular basis to check emergency response procedures and communication systems. Overall, the group performed 165 emergency response drills in fiscal 2006.



A class in handling oil spill prevention kits.

Environmental Risk and Compliance Measures

As in fiscal 2005, NSK performed environmental risk audits in fiscal 2006 at sites where underground tanks and pipes are located. Based on the audit results, the NSK Group is improving relevant equipment to prevent accidents.

With illegal dumping becoming a social problem, there is demand to establish stronger laws and ordinances and for tighter control of waste treatment. The waste management system adopted by the NSK Group in fiscal 2006 supports the execution of complicated controls and enables the group to comply reliably with laws and ordinances.

Results of Fiscal 2006 Initiatives

Air and Water Quality Protection

The NSK Group is striving to reduce its environmental impact by using natural gas, liquefied petroleum gas (LPG), and kerosene to fuel air-conditioning systems and metal furnaces. Fiscal 2006 measurements of soot and dust density, the concentration of NOx and the volume of SOx emissions indicate that all the NSK Group's sites were meeting emission regulations.

In March 2007, the Matsukawa Plant of NSK Micro Precision Co., Ltd., installed barrel wastewater treatment equipment and reduced its environmental impact through sewerage. The fiscal 2006 water quality tests indicated that all of the NSK Group's sites were meeting wastewater standards.

Measurement of Noise, Vibration, and Odor

Most of the NSK Group's sites are located in industrial areas. In recent years, however, residential developments have moved closer to manufacturing plants, and the group sometimes receives comments or inquiries about noise or odors. In fiscal 2006, the group received six inquiries about noise or odors. As a result, the group has made improvements to equipment and strengthened surveillance systems at the sites concerned and other plants.

Preventing Soil and Groundwater Contamination

As of fiscal 2003, the NSK Group had completely eliminated the use of chlorinated organic solvents at all of its sites. Nevertheless, soil testing conducted since 1997 uncovered contamination at three sites. Later, contamination was identified at two sites that had become consolidated companies in April 2006. In each case, there was no impact outside of NSK property. However, the group notified the local authorities and started taking steps to remediate the affected areas. At present, remediation has been completed at one site and is on-going at four sites. Regular monitoring is carried out at all five sites to ensure there is no impact outside of NSK property.

Environmental Education

	Targets to be achieved by FY2006	Performance in FY2006	Evaluation
NSK and group companies in Japan	Raise awareness of environmental protection	Special feature articles were included in <i>NSK Group News</i> , the <i>CSR Report 2006</i> was distributed to all employees, new employees were provided with environmental training, and environmental education was provided at the NSK Manufacturing Education and Training Center.	Achieved

Approach and Policy

In order to further deepen and develop environmental protection initiatives and make them more effective, the most important tasks are to raise the awareness of every single employee and to implement measures based on the proper information. The NSK Group is continuing to promote employee awareness-raising activities and to deepen understanding at every level of the organization.

Awareness-Raising Activities

The NSK Group endeavors to raise awareness by providing information on its environmental initiatives on the NSK website and in newsletters for employees and their families.

In September 2006, the group distributed its *CSR Report 2006* to all its employees. In issue No. 419 of the *NSK Group News*, the group published an article that summarized the *CSR Report 2006* in order to increase awareness and understanding of NSK's environmental activities. Moreover, the group used e-learning modules about compliance that include questions about chemical and waste management to give 781 group employees more knowledge and raise their awareness.

In September 2006, NSK Corporation in the United States published the *Environmental Newsletter*. The newsletter was published to introduce the plant's environmental initiatives and encourage employees to practice environmental protection.



Environmental Newsletter

Education for Each Organizational Level

The NSK Group provides specialized environmental education to people at every level of its organization, from new employees to management executives. The goal is to provide employees and directors with information relating to their environment and to the knowledge and skills they need for their individual positions and roles.

Number of Environmental Education Courses and Participants in Fiscal 2006

Course type	Number of participants	Number of sessions
Compliance with environmental laws and regulations	1,928	43
Raising environmental awareness	3,469	169
Acquisition of environmental qualifications	148	43
Environmentally friendly design and green purchasing and procurement	214	9

At each manufacturing plant, regular environmental education is carried out for employees and on-site supplier representatives. They are encouraged to consider the effect of their work on the environment in order to raise the level of initiative and participation.

Environmental Accounting

In fiscal 2006, NSK's environmental protection costs were approximately 3.2 billion yen in investments and approximately 9.5 billion yen in expenses. The group is pouring efforts into reducing environmental impact through its products by quantitatively understanding the effect of environmental protection, and by researching and developing environmentally-friendly products and technologies.

Fiscal 2006 Environmental Accounting

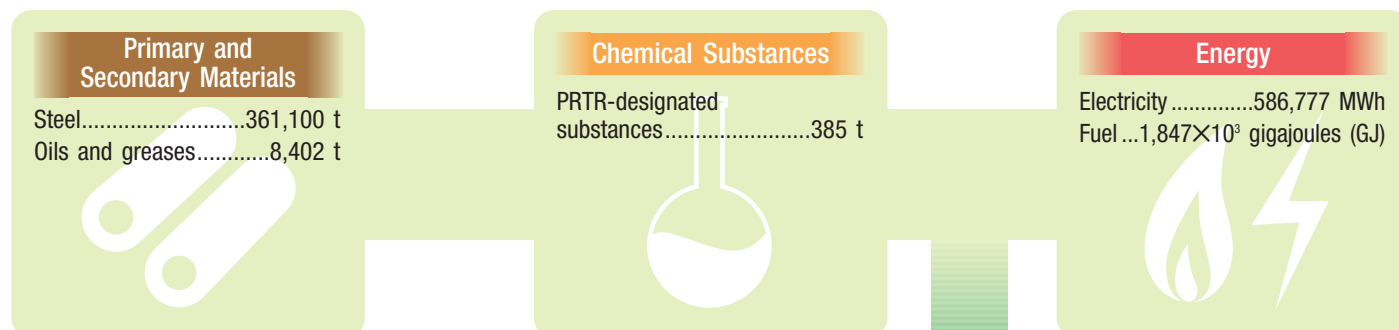
(Millions of yen)

Category	Investment		Expenses	
	FY2005	FY2006	FY2005	FY2006
Business area costs	629.1	1,291.4	1,446.8	1,653.1
Upstream and downstream costs	0.0	0.0	225.8	249.2
Management costs	48.9	66.6	487.5	567.2
Research and development costs	1,820.9	1,863.8	6,870.6	6,984.2
Social activity costs	0.0	0.0	41.1	51.1
Environmental damage costs	0.0	0.0	9.7	12.4
Total	2,498.9	3,221.8	9,081.5	9,517.2

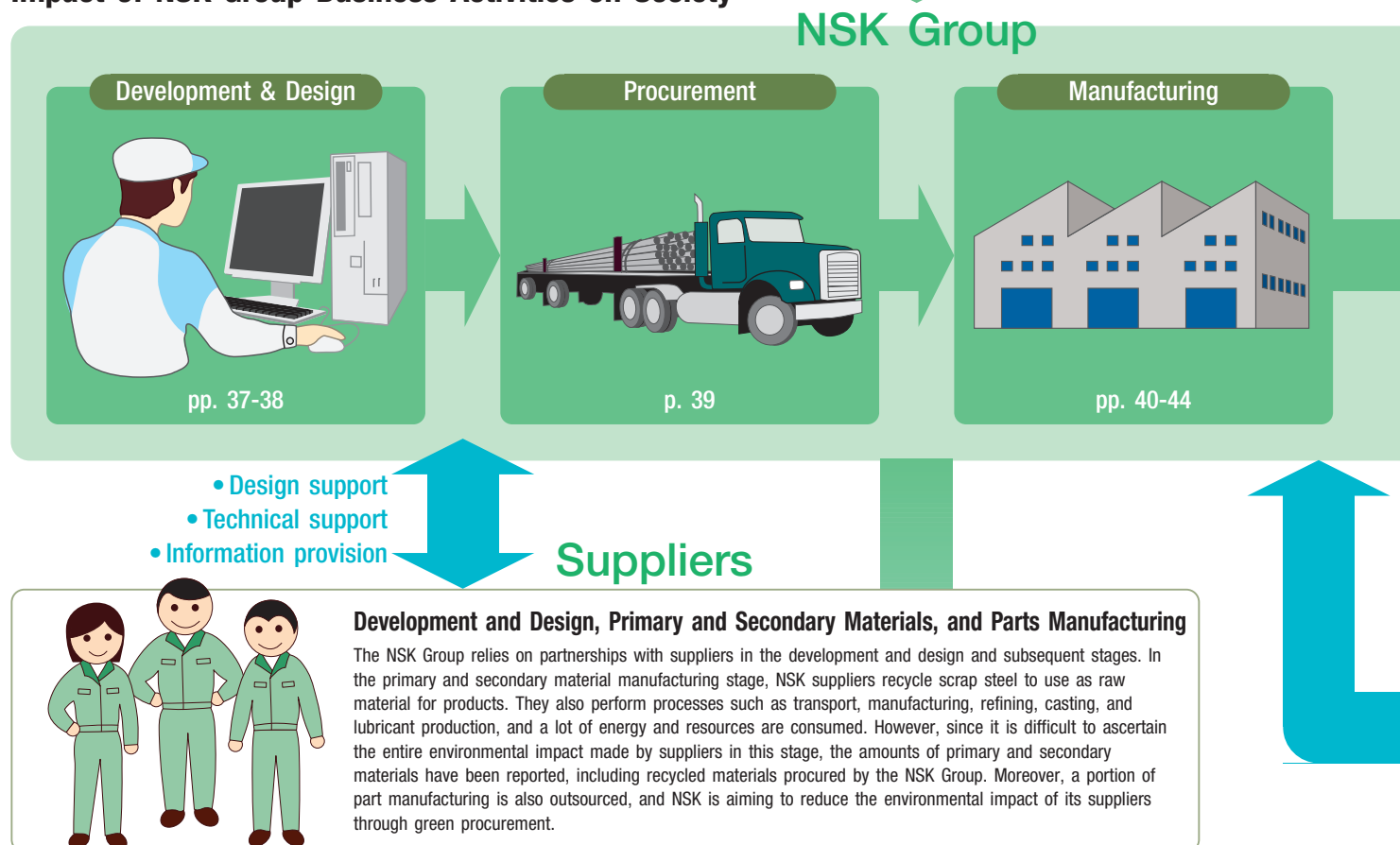
Environmental Impact Review

The following is an overall illustration of the different stages in the lifecycle of NSK Group products and how the group, through its business activities, reduces the environmental impact at each of those stages.

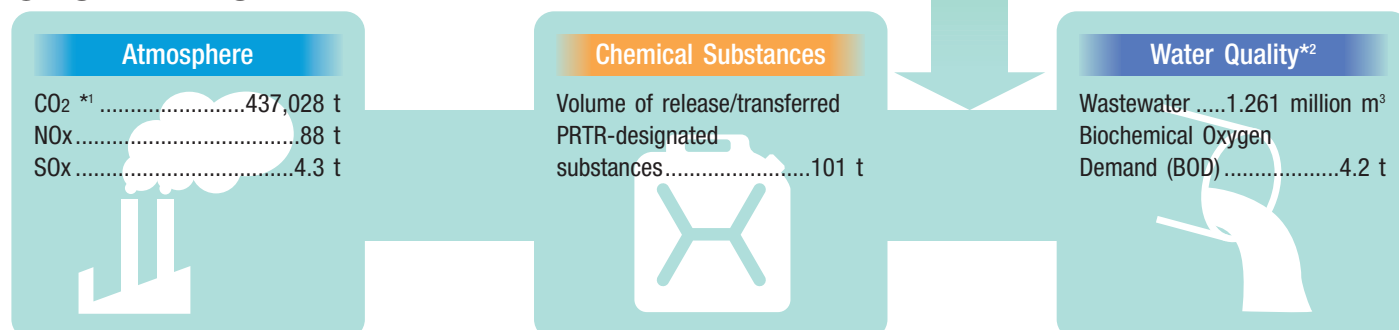
I N P U T



Impact of NSK Group Business Activities on Society



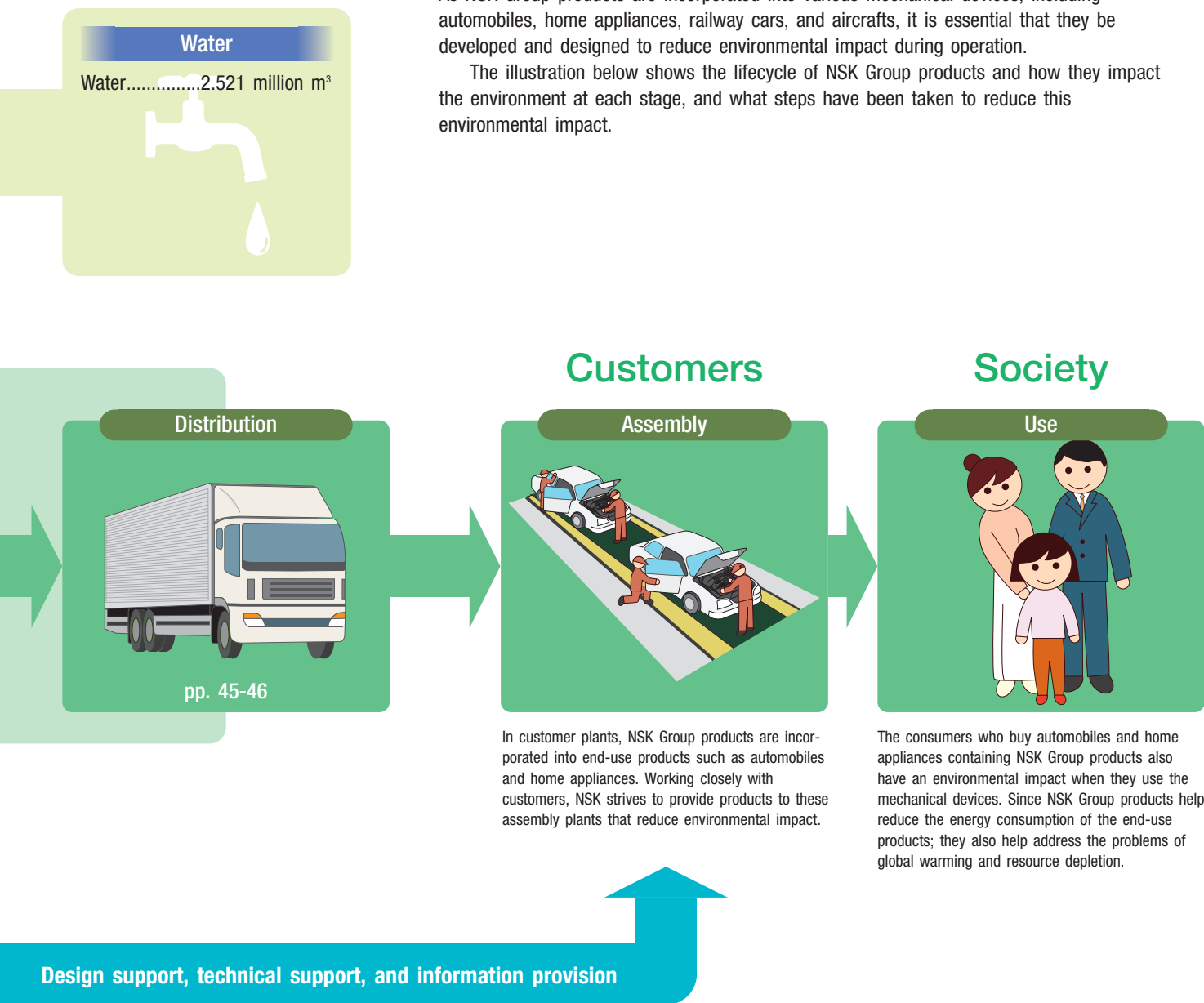
O U T P U T



Reducing Environmental Impact Throughout a Product's Lifecycle

The NSK Group considers it important to reduce the environmental impact of any stage connected to its business activities. In addition to reducing its own environmental impact in the manufacturing stages, the NSK Group believes that it must consider the environmental impact by suppliers in the material manufacturing and part production stages. The group also strives to lessen environmental impact during product assembly and customer use. As NSK Group products are incorporated into various mechanical devices, including automobiles, home appliances, railway cars, and aircrafts, it is essential that they be developed and designed to reduce environmental impact during operation.

The illustration below shows the lifecycle of NSK Group products and how they impact the environment at each stage, and what steps have been taken to reduce this environmental impact.



Waste

Total waste	90,861 t
• Recycled	86,607 t
• Landfill waste	112 t
• Incinerated waste	971 t
• Intermediate treatment	3,171 t

*1 The coefficient used for calculating the CO₂ quantity is taken from the calculation manual of the Law Concerning the Promotion of Measures to Cope with Global Warming.

*2 River discharge

Environmental Initiatives in the Development and Design Stages

NSK Group products help determine the environmental impact caused by the use of the mechanical devices that contain them. Therefore, environmental considerations are extremely important in the development and design stage for NSK products to minimize the environmental impact in the utilization stage. This section provides an overview of NSK initiatives to reduce the environmental impact in the development and design stages.

	Targets to be achieved by FY2006	Performance in FY2006	Evaluation
NSK and group companies in Japan	Create environmentally friendly products and technologies	Created a total of 11 products and technologies	Achieved
	Reduce use of environmentally harmful substances (comply with RoHS and ELV directives)	Completed compliance with RoHS and ELV directives (completed checks of all design diagrams)	Achieved

Approach and Basic Policy for Development and Design

In its Environmental Code of Conduct (p. 28), the NSK Group aims to develop technology and create products that reduce environmental impact. NSK Group products are incorporated into various machines and devices and have the ability to control friction and reduce the amount of energy consumed. In the product development and design stage, importance is placed on comfort, preservation of natural resources, and energy conservation at the end-user stage, as well as on reducing the environmental impact of the manufacturing process. Therefore, initiatives are being promoted to utilize the environmental features of NSK products. In fiscal 2001, a basic policy affecting all technical departments was established in order to steadily implement these goals.

Basic Policy for the Development of Environmentally Friendly Products

The NSK Group will minimize the environmental impact of its products at every stage—from R&D and design, to production, usage, and disposal—by upholding the following standards:

1. Each product should contribute toward the energy and resource conservation by the machine in which it is installed.
2. The amount of energy and resources required during product manufacturing should be minimal.
3. Environmentally harmful substances should not be used in products or manufacturing processes.
4. Products should contribute to the health and safety of end-users by having low emissions of vibration, noise, and dust.

Creation of Environmentally Friendly Products

NSK has developed environmentally friendly products, including compressor bearings for industrial machinery that last four times longer than conventional models, and ball screws for high-speed and high-intensity injection molding equipment with superior noise reduction, as well as compact high-output electric power steering systems.

Contributing to Environmental Protection by Meeting Customer Needs

Along with the worldwide increase in demand for wind-generated power, larger wind turbines are now being made. Huge bearings that exceed 2 meters in diameter are required for use in support towers 80 to 90 meters high, and with blade lengths of 40 meters. In order to produce such bearings, not only is it necessary to prepare for the manufacturing of large-scale components, but also complicated and advanced manufacturing technology is required. The NSK Group fulfills the needs of the market by using its own analysis techniques, as well as thermal processing technology and bearing materials that meet the demands of the marketplace. Through its technology for providing materials that are resistant to metallic wear particles in the wind turbine gearbox, NSK is able to ensure a longer service life.

Since it is extremely expensive to repair a wind turbine, the bearings must provide a high degree of reliability. Computer programs are used in the design stage to analyze bearing performance, and designs are tested. For practical testing, life-size bearings are produced, and NSK then strives to incorporate the customer's requests. The accuracy of the analysis technology is further enhanced by using the results from the practical testing as feedback to the computer programs.

The wind turbine market is still developing, and customers are waiting for the development of maintenance-free bearings and bearings that can operate at even lower levels of torque. In the future, NSK will continue to utilize its own core technologies for materials and analysis, and develop bearings that help promote further protection of the environment.



Bearing for wind turbines



Wind turbine



Shinichi Natsumeda
General Manager,
Clean-Energy Bearing
Technology Department,
Industrial Machinery Bearing
Technology Center

Reducing Environmentally Harmful Substances

***1 End of Life Vehicles (ELV):** A European Union regulation that aims to reduce the amount of waste from vehicles, ensure proper disposal, and restrict the use of hazardous substances in vehicles.

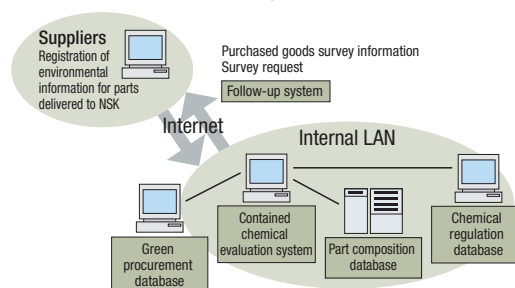
***2 Reduction of Hazardous Substances (RoHS):** A European Union regulation that sets the maximum concentration limits on hazardous materials used in electrical and electronic equipment.

***3 International Material Data System (IMDS):** A global system for the management of chemical substances in all automobile parts.

To meet customer requirements, the NSK Group is striving to create products that use no environmentally harmful substances. NSK is also adhering to laws and regulations relating to environmentally harmful substances, such as those stipulated in the EU ELV^{*1} and RoHS^{*2} directives.

In January 2007, the NSK Group began operation of a Chemical Substances Management System to realize green procurement and environmentally friendly design in fiscal 2006. Thanks to this system, it is now possible to rapidly respond to questions from customers concerning environmentally harmful substances, and requests for the inputting of data into the International Material Data System (IMDS^{*3}). The Chemical Substances Management System has enabled the unified management of chemical substances for suppliers and the NSK Group by having suppliers perform online registration of data concerning environmentally harmful substances contained in the parts they deliver to NSK. There are future plans to expand this system to NSK's overseas subsidiaries.

Chemical Substances Management System



Progress on Reduction of Environmentally Harmful Substances

Here is an overview of initiatives to date, and some representative examples of environmental products, from fiscal 2006.

Environmentally Friendly End Bearings for One-way Clutches

A one-way clutch transmits torque in just one rotating direction, and remains idle during rotation in the opposite direction. End bearings are parts that are incorporated into the side of the one-way clutch, and are composed of an alloy containing 1.5 wt% lead in order to achieve the necessary sliding characteristic. However, going a step ahead of the ELV Directive, NSK has now made these parts lead-free.



Lead-free end bearing made from special high-strength brass

New PS Series Megatorque Motor

The new PS series Megatorque Motor features an improved electronic circuit design, and uses lead-free soldering. The motor is employed in parts for robot joints and conveyors in LCD and semiconductor conveyor systems. Although industrial machinery is not covered by the RoHS Directive, NSK has made this product lead-free in order to satisfy customer requests.



New PS Series Megatorque Motor

Progress on Eliminating Environmentally Harmful Substances

Product category	Specified substance	Specified part/product	Alternative introduced
Bearings	Hexavalent chromium	(Surface treatments) • Bearing shield • Core plate for bearing seals • Pulley units • Bolts for hub unit bearings	Mar. 2003 Mar. 2004 Mar. 2005 (excluding prior customer specifications) Dec. 2004
	Lead	• Grease additives • Pulley unit coating	Mar. 2003 Dec. 2004
	Diocetyl phthalate (DOP)	• Rubber seal	Alternative currently being phased in
Automotive components	Hexavalent chromium	• Steering column joints • EPS parts (electronic) • EPS parts • Manual steering gear parts	Dec. 2006 Dec. 2004 Dec. 2006 Mar. 2007
	Lead	• Cation coating for steering components • End bearings for one-way clutches • Electroless nickel plating for EPS parts • Electroless nickel plating for steering joint	June 2004 Alternative currently being phased in Apr. 2007 May 2007
Precision parts	Hexavalent chromium	(Surface treatments) • Small screw processing for general precision instruments • Linear guide seal cored bar • Linear guide seal collar • Ball screw • Mono-carriers K1 protect cover	June 2005 July 2005 Mar. 2004 Mar. 2006 Apr. 2006
	Lead	• Linear guide under seal adhesive • Support unit surface treatment • Ball small screw, pin, brass part	May 2005 Dec. 2005 Feb. 2006
	Cadmium	• Brass parts for general precision instruments	Feb. 2006
Mechatronic products	Lead	• Solder*	Alternative currently being phased in
	Hexavalent chromium	• Surface treatment for metal panels and connecting components	Alternative currently being phased in
	Polybrominated biphenyl (PBB), polybrominated diphenyl ether (PBDE)	• Wiring covering material	Mar. 2004
	Cadmium	• Nickel-cadmium batteries	June 2006

*Excluding high-melting-point solder with 85% or more lead content

Environmental Initiatives in the Procurement Stage

Procurement is an activity that significantly affects the manufacturing processes of our customers and suppliers, and therefore impacts the environment. It can also affect how consumers use our products and, by default, affect the environment. The NSK Group is thus dedicated to green procurement*¹ as a means of reducing the environmental impact throughout its entire supply chain*².

	Targets to be achieved by FY2006	Performance in FY2006	Evaluation
NSK and group companies in Japan	Make the fourth revision of the <i>Green Procurement Standards</i> well known to suppliers	Held Green Procurement Seminars for about 700 suppliers Implemented Green Procurement System training for 293 suppliers, and then completed user ID registration for 272 suppliers.	Achieved
	Raise the applicable green product purchasing rate to at least 90%	Green product purchasing rate of 96.6%	Achieved

*1 Green procurement: a program that gives priority to purchasing environmentally friendly products from companies that are actively engaged in environmental protection. The objective is to spread environmental protection activities throughout the supply chain.

*2 Supply chain: a series of operations, including development, distribution, purchasing, and sales, that connects everyone, from the raw-materials provider (supplier) to the consumer (customer).

Green Procurement Policy

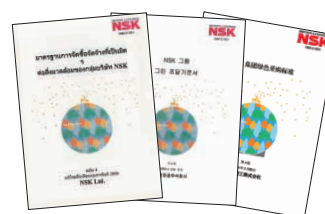
The NSK Group actively procures products, parts, and materials based on environmental considerations. By managing environmentally harmful substances with its suppliers, NSK is strengthening its environmental quality assurance system for its products.

Green Procurement Standards

The NSK Group must deliver products that ensure satisfaction and meet the ever-stricter requirements of customers and European regulations. Therefore, NSK has established standards for procurement such as the Master Purchase Agreement and the *Green Procurement Standards*, based on the idea that ecological considerations for parts and material procurement are indispensable to environmental protection. The company has asked its suppliers to cooperate in this effort.

In order to obtain the support of overseas suppliers, the *Green Procurement Standards* have been translated from Japanese into six other languages, English, Chinese, Korean, Thai, Portuguese, and Polish.

Based on these standards, the NSK Group evaluates suppliers' environmental initiatives, as well as the environmental aspects of products it procures, before deciding to order any materials. Suppliers are asked to agree to the requirements of the *Green Procurement Standards*, and to participate in the Green Procurement System.



Green Procurement Standards in multiple languages

Green Procurement Seminars

The NSK Group held a total of eight Green Procurement Seminars in various locations across Japan for about 700 suppliers, in order to explain revisions in the fourth edition of the *Green Procurement Standards*. In addition, NSK carried out training for those in charge of interfacing with the Green Procurement System from 293 suppliers; user ID registration was carried out for 272 suppliers.



Green Procurement Seminar

Source Management of Harmful Substances Contained in Products

The NSK Group asks its suppliers to adopt the same standards as the NSK Group, based on the *Green Procurement Standards* and the NSK Hazardous Substance List, as part of quality assurance efforts for the management of environmentally harmful substances contained in or attached to products. There are seven areas that require management: (1) processes; (2) new products; (3) process change; (4) irregular circumstances; (5) suppliers; (6) traceability; and (7) information disclosure. It is a mechanism that enables management of the entire supply chain, by asking direct suppliers to manage their parts and material suppliers in the same fashion as the NSK Group. Moreover, suppliers are asked to perform independent inspections and provide chemical analyses of products they deliver. Onsite inspections by NSK are also performed for surface-treatment as well as plastic- and rubber-product suppliers.

Green Purchasing

In accordance with its established Green Purchasing Guidelines, the NSK Group pursues green purchasing by selecting environmentally friendly products for general needs such as stationery, office equipment, and vehicles.

NSK Group Initiatives in the Manufacturing Stage

This section outlines the various environmental measures and initiatives that the NSK Group implements in its manufacturing stages.

Global Warming Countermeasures

	Targets to be achieved by FY2006	Performance in FY2006	Evaluation
NSK and group companies in Japan	Reduce CO ₂ emissions per production unit by 6.8% (base year: FY1999)	Reduced CO ₂ emissions per production unit by 13.9%	Achieved

Global Warming Countermeasures

Contributing to the prevention of global warming, as measured by reduction in CO₂ emissions, through the efficient use of energy and switching to cleaner energy sources

Main Activity Areas

- Shifting to clean energy sources
- Encouraging energy conservation activities
- Converting to highly energy efficient facilities and equipment

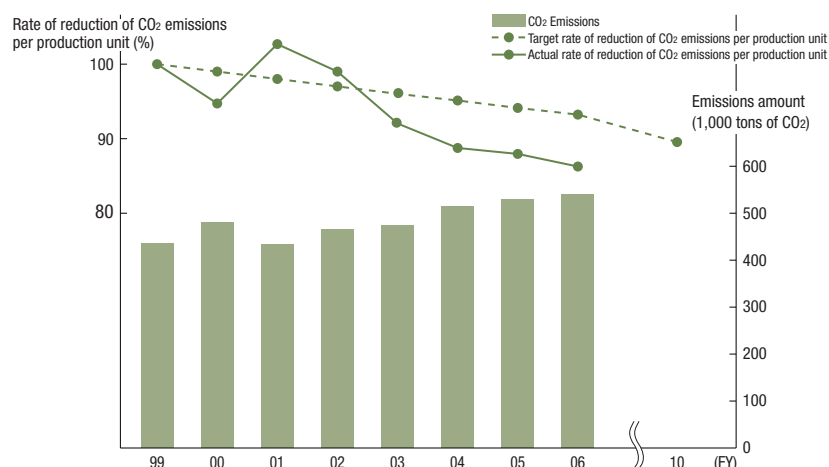
Changes in CO₂ Emissions Per Production Unit and Overall CO₂ Emissions

Initiatives of NSK and Group Companies in Japan

While the amount of value-added production increased by 43% (base year: fiscal 1999), thanks to improvement efforts the amount of CO₂ emissions only rose by 23%. As a result, the NSK Group in Japan surpassed its target of a 6.8% reduction in CO₂ emissions per production unit, achieving a 13.9% reduction.

In the future NSK will continue to actively promote changeover to clean energy sources, the encouragement of energy conservation activities, and conversion to highly energy efficient facilities and equipment.

Changes in CO₂ Emissions Per Production Unit and Overall CO₂ Emissions (in Japan)



Notes: The CO₂ emissions per production unit refers to the amount of CO₂ emissions per one million yen value-added production unit. The amount of CO₂ emissions from purchased electricity is calculated using a thermal electricity conversion value. The CO₂-conversion values for municipal gas, LPG, kerosene, gasoline, diesel oil, and heavy oil A are based on data from the Ministry of the Environment of Japan.

Initiatives of Group Companies Outside Japan

The NSK Group ascertained the overall amount of CO₂ emissions of its 26 plants outside Japan that comprise the entire scope of plants for fiscal 2006. The total CO₂ emission amount for these 26 plants was 416,000 tons. Each site of group companies outside Japan sets targets to reduce CO₂ emissions according to local environmental guidelines, and is aiming to reduce costs as well.

Conversion to Clean Energy

The NSK Group is switching to natural gas in order to reduce the use of fuels that emit large amounts of CO₂, a major cause of global warming. At NSK Korea Co., Ltd.'s Changwon Plant in South Korea, the heating equipment was converted from kerosene to liquefied natural gas (LNG), which produces lower CO₂ emissions.



Heating equipment with converted fuel sources

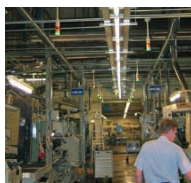
Promotion of Energy-saving Activities

The NSK Group is reducing unnecessary use of electricity and fuel, raising the operational availability of the production line by cutting down on energy waste (*muda*), and raising quality through facility maintenance activities. Moreover, NSK is continuing these steady efforts through additional measures such as controlling the number of machines used based on production load, and shutting down equipment during non-operating hours. As part of this effort, the NSK Manufacturing Education and Training Center holds facility maintenance training in order to improve personnel awareness and raise its practical levels of facility maintenance.

At the Peterlee Plant of NSK Bearings Europe, employee detection sensors are used to control lighting on the production line, so that the lighting only goes on when someone is in the area. At NSK Steering Systems Europe, the exhaust heat generated by air compressors is used to assist the heating system.



Equipment maintenance training at the NSK Manufacturing Education and Training Center



Personnel sensor lighting



Using air compressor exhaust heat

Converting to Highly Energy Efficient Facilities and Equipment

The NSK Group is promoting initiatives for the efficient use of energy, such as controlling pump motors with inverter technology.

At the Jakarta Plant of P.T. NSK Bearings Manufacturing Indonesia, inverters are used for controlling the pumps that supply coolant water, based on the production line load, in order to reduce the use of electricity.



Inverter that controls pump motors

Global Warming Countermeasures at the Fujisawa Plant

As a result of energy conservation activities at the Fujisawa Plant over the past few years, annual CO₂ emissions have been reduced by 450 tons. These measures include the progressive replacement of old turbo refrigerating machines for air-conditioning with new high-efficiency models, in order to comply with the total ban on chlorofluorocarbon (CFC) refrigerants. Since the kerosene used as fuel for heating-system hot-water boilers at the plant contain PRTR-designated substances with high CO₂ emission coefficients, the system will be converted to use cleaner fuels such as municipal natural gas, which has a low CO₂ emission coefficient. The plan is to reduce CO₂ emissions by 1,100 tons per year. We also want to promote energy-saving activities by encouraging employees to improve production efficiency through activities such as reducing the number of defective products.



Itsuro Hirukawa
Production Engineering
Section, Fujisawa Plant



High-efficiency turbo refrigerating machine

Waste Reduction and Recycling Measures

	Targets to be achieved by FY2006	Performance in FY2006	Evaluation
NSK and group companies in Japan	Improve the waste recycling rate to at least 95%	Recycling rate of 95.3%	Achieved
	Continue to maintain zero emissions	Maintained zero emissions	Achieved

Waste-Recycling Policy

By adhering to the 3Rs (reduce, reuse, and recycle) and using proper handling procedures, the NSK Group is reducing the risk associated with waste disposal. NSK is lowering the amount of waste sent to landfills to almost zero, and is contributing to the creation of a recycling-oriented society by improving the company's recycling rate.

Zero Emission Status

The NSK Group defines zero emissions as the situation whereby "the direct landfill disposal amount is no more than 1% of total emissions." The amount of direct landfill waste also includes the landfill waste after intermediary processing, such as compression, crushing, and dehydration carried out with the goal of meeting the landfill standards established by the Waste Disposal and Public Cleansing Law. In fiscal 2006, the NSK Group achieved zero emissions status with a total landfill waste amount of 112 tons, 0.1% of total emissions.

Initiatives in Japan

In Japan, incidents of large-scale illegal waste dumping have become a social issue. Businesses that produce waste need to observe waste disposal laws and carefully confirm that their waste is properly disposed. The Waste Disposal and Public Cleansing Law requires that businesses properly manage their waste so that unlawful dumping does not occur. Accordingly, NSK held a waste risk management seminar in September 2006, and gathered together the environmental representatives and relevant persons in charge from each NSK and group plant in Japan. The seminar presented examples of unlawful waste dumping and gave participants practical training in waste management, in order to improve daily management skills.

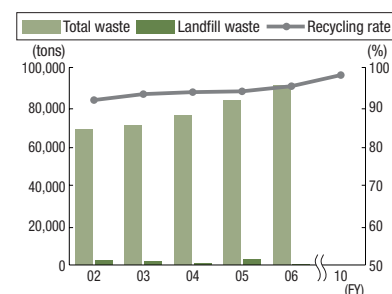
Through the introduction of a waste management system, the NSK Group improved its ability to ascertain and manage waste disposal conditions, and is now able to quickly confirm waste amounts and recycling rates.

Initiatives Outside Japan

The NSK Group established guidelines to achieve a recycling rate of at least 98% by fiscal 2010 and is promoting related initiatives for its overseas sites. In fiscal 2006, the total emissions amount for 26 plants outside of Japan that comprise the entire scope of plants was 63,374 tons, and their recycling rate was 86.9%.

UK-based AKS Precision Ball Europe launched an initiative to recycle sludge from the flashing process into steel-making raw material, by forming it into briquettes.*

Volume of Landfill Waste and Recycling Rates



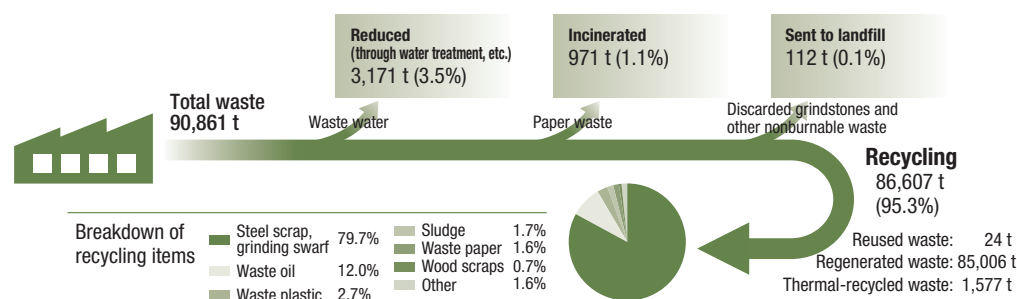
Waste risk management seminar



Briquette making equipment

* Briquette
Pressed steel from the manufacturing process that has not undergone grinding.

Waste Treatment Flow



*All figures are from group operations within Japan

Environmentally Harmful Substances Reduction

	Targets to be achieved by FY2006	Performance in FY2006	Evaluation
NSK and group companies in Japan	Reduce the number of liquid coolants containing PRTR-designated substances* by 55% (base year: fiscal 2000)	Reduction of 56%	Achieved
	Reduce the number of liquid coolants with chlorine-based additives by 60% (base year: fiscal 2000)	Reduction of 71%	Achieved

Environmentally Harmful Substance Policy

Along with proper management of the environmentally harmful substances used in its factories, the NSK Group is reducing its use of these substances, finding replacements for them, and lessening their environmental impact.

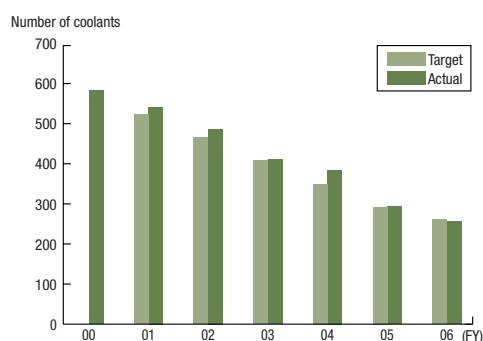
Reduction of Liquid Coolants Containing PRTR-Designated Substances

The NSK Group not only properly manages liquid coolants that contain chemical substances subject to management under the PRTR Law and strict in-house regulations, but NSK is also working on reducing the number of such coolants that it currently uses through the introduction of replacements. In fiscal 2006, the number of coolants used was reduced by 56% (base year: fiscal 2000), through the introduction of alternative grinding coolants that do not contain 2-aminoethanol, and by reducing the use of products with 1,3,5-trimethylbenzene.

Xylene and toluene account for 68% of the PRTR-designated substances used by the NSK Group. They are present in gasoline used to fuel forklifts, and in kerosene used for heating.

Phenol is used as a raw material for frictional material in automatic transmission parts for automobiles. However, by incinerating exhaust gas from the manufacturing process, NSK is controlling the amount of phenol emitted into the atmosphere.

Changes in the Number of Liquid Coolants Containing PRTR-Designated Substances



* Japan's Pollutant Release and Transfer Register (PRTR) Law: regulates emission volumes of designated chemical substances into the environment, and is based on a comprehensive approach to chemical substance management.

Survey of PRTR-Designated Substances (Fiscal 2006)

(kg/year)

Substance No.	Substance name	Handled volume	Released into atmosphere	Released into water	Transferred to sewer	Transferred as waste	Consumed	Recycled
16	2-aminoethanol	3,974	0	1,590	0	2,384	0	0
40	Ethylbenzene	4,866	310	0	0	166	4,390	0
63	Xylene	166,863	27,580	0	0	1,655	129,649	7,979
67	Cresol	2,453	2,230	0	0	175	48	0
144	Dichloropentafluoropropane	8,827	7,138	0	0	130	0	1,559
224	1,3,5-trimethylbenzene	1,856	1,228	0	0	0	101	527
227	Toluene	94,189	40,924	0	0	4,309	48,956	0
243	Barium	1,422	0	0	0	1,422	0	0
266	Phenol	100,862	2,106	0	0	7,212	91,544	0

Reduction of Liquid Coolants with Chlorine Additives

The NSK Group is working to reduce the number of liquid coolants it uses that contain chlorine additives, which pose the risk of generating dioxins when incinerated after use.

Liquid coolants that contain chlorine additives are mainly used in cutting and grinding processes. After repeated testing to ensure no negative impact on processing ability and quality, NSK adopted two new chlorine-free liquid coolants. This reduced the remaining number of such products used to 26. A 71% reduction (base year: fiscal 2000) was thereby secured, achieving the target. Such initiatives will continue to be implemented in the future.

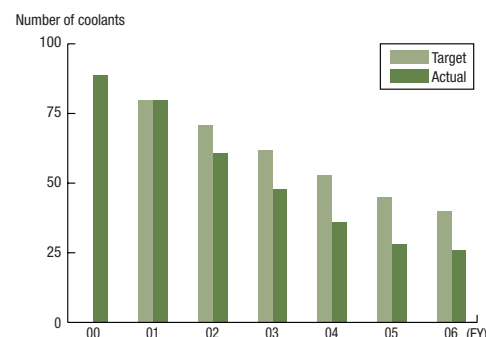
Complete Elimination of Ozone-Depleting Substances

The NSK Group is promoting efforts to completely eliminate halon-based fire extinguishers and CFC refrigerants, even though they are not normally released into the environment as part of NSK's operations. However, large-scale halon-based fire-extinguishing equipment that is considered indispensable by the Fire and Disaster Management Agency of Japan is exempt from total elimination.

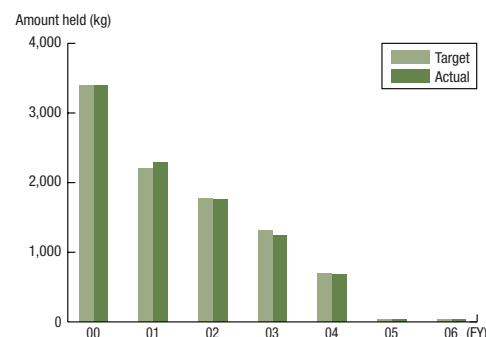
With the replacement of oil coolers in its machines, the NSK Group has introduced alternative refrigerants, thereby reducing the amount of harmful CFCs to 36 kg. NSK achieved a reduction rate for CFC refrigerants of 99% in fiscal 2006 (base year: fiscal 2000), and is aiming for total elimination by fiscal 2008.

Through initiatives to substitute CO₂-filled units in processing machines for the currently installed halon-based fire extinguishers, the NSK Group now has only 260 kg of halon gas remaining. The reduction rate for halon was 98% (base year: fiscal 2000), and removal efforts are continuing with the aim of total elimination by fiscal 2008.

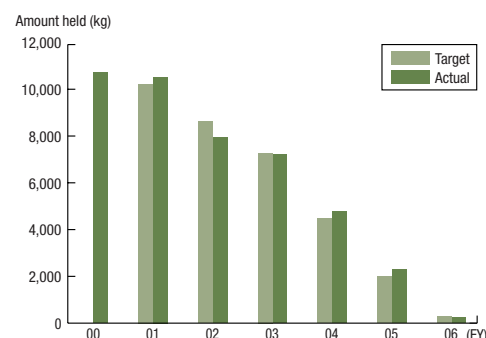
Changes in the Number of Liquid Coolants with Chlorine Additives



Stockpile of CFC Refrigerants



Stockpile of Halon-Based Fire Extinguishers

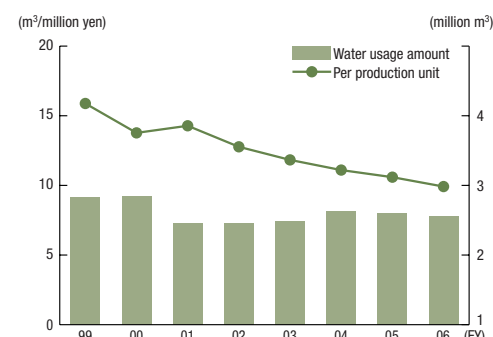


Water Usage

Water Usage Amount

The NSK Group's plants use water as a coolant in the grinding process and as a cleaning agent in the heat-treatment process. The group is working to gather and monitor the water used in order to prevent wastage.

Change in Water Usage



Environmental Initiatives in Logistics Stages

The NSK Group is reducing its environmental impact in the logistics stages by promoting the 3Rs for packaging materials, and by ascertaining and reducing its energy consumption during transportation.

	Targets to be achieved by FY2006	Performance in FY2006	Evaluation
NSK and group companies in Japan	Ascertain ton-kilometers* ¹ (product, procurement, and waste transportation)	Ascertained transportation volume in ton-kilometers (122.7 million ton-kms)	Achieved
	Switch from wooden boxes to cardboard for large products	Made switch for 50% of applicable products	Achieved

*1 **Ton-kilometers**: a unit that expresses transportation volume, found by multiplying the transported weight (tons) by the distance transported (kilometers).

Initiatives for Comprehensive Environmental Logistics

With comprehensive environmental logistics as a primary goal, the NSK Group is promoting environmentally friendly product packaging and the reduction of environmental impact caused by transportation. Furthermore, NSK Logistics, which primarily handles the NSK Group's logistics, operates a comprehensive management system that integrates the need for quality with consideration of the environment, and aims to raise its initiatives to an even higher level.

Environmental Logistics Policy

- To reduce CO₂ in the transportation process**
 - Improve loading efficiency through integration of product and procurement logistics
 - Reduce number of vehicles and kilometers traveled, based on introduction of joint transportation and milk-run*² deliveries
 - Promote eco-driving*³ and switch to low-emissions vehicles
 - Comply with revised Act Concerning the Rational Use of Energy
- To reduce environmental impact of packaging**
 - Apply 3Rs to packaging materials
- To actively protect the environment**
 - Continue to operate comprehensive management system at NSK Logistics for product quality and environmental protection

*2 **Milk-run delivery**: a transportation method that resembles a milk-delivery and bottle-collection route. A transport vehicle operates a circuitous delivery route including multiple destinations, bringing procurement items back to the company. This allows for reductions in driving distances and numbers of runs.

Reducing the Environmental Impact of Transportation

There are three main types of distribution within NSK's supply chain: procurement transportation from suppliers to NSK plants, completed-product transfers from NSK plants to warehouses, and deliveries from warehouses to customers. In fiscal 2006, the group put efforts into procurement transportation, such as "milk runs," in which a transportation vehicle has a circuitous route with stops at multiple suppliers to pick up procurement items, and joint transportation. In the future, the group will continue to reduce its environmental impact by cooperating with suppliers in procurement transportation. NSK Logistics handles all of the completed-product transfers and deliveries to customers for the NSK Group. NSK Logistics commissions transportation and deliveries to 96 contract transporters that have cleared strict standards relating to quality and the environment.

*3 **Eco-driving**: environmentally friendly driving that reduces fuel consumption by adhering to such practices as turning off the engine when the vehicle is stopped (no idling), as well as avoiding sudden and unnecessary braking and accelerating.

Adoption of Plastic Pallets

The NSK Group has been using wood pallets for transporting products. However, wood pallets have a number of flaws; they produce woodchips when broken, have a short life, and are difficult to reconvert into resources. In view of that, in fiscal 2006 the group began adopting plastic pallets, which are lighter and highly durable, in place of wood pallets, thereby reducing its use of wood by 150 tons.

Differences Between Wood Pallets and Plastic Pallets

	Wood pallets	Plastic pallets
Load capacity	1,000 kg	1,000 kg
Woodchips	Produces woodchips	None
Weight	15 kg	12.5 kg
Workability	2-way fork entry	4-way fork entry
Life	4 years	8 – 10 years
Recycling	Heat Recovery	Material



Wood pallet



Plastic pallet

Measures for the Revised Act Concerning the Rational Use of Energy

The revised Act to Promote Business Activities As a Rational Use of Energy, which came into effect in April 2006, designates consigners whose freight volume is 30 million ton-kilometers or greater as specified consigners and requires them to prepare an energy saving plan. Consigners are also required to regularly report energy use and volumes transported (ton-kilometers). In fiscal 2006, the group ascertained data based on the improved ton-kilometer method*⁴, a method of calculating energy consumption indicated by the new law, and established a system for quantitatively tallying energy consumption associated with NSK Group transportation. With a transport volume of 80 million ton-kilometers or more per year, NSK is a specified consignor and is obliged to reduce its CO₂ emissions by 1% per year. Going forward, the NSK Group will make an effort to achieve its objectives by focusing on three items: a modal shift from trucks to trains and ships, improving load efficiency through joint transportation, and shortening transportation distances.

*4 **Improved ton-kilometer method**
A method of calculating energy consumption from transported ton-kilometers by maximum loading capacity using load efficiency and type of vehicle fuel.

Reducing the Environmental Impact of Packaging

The NSK Group's product packaging differs according to delivery amount, product type and size, and customer requests. Between July 2004 and June 2007, the Innovative Packaging Project Team, which includes members from each of the divisions in the group, worked to reduce environmental impact and assure better quality packaging. The team developed sturdy all-cardboard packaging materials as an alternative to hard-to-recycle wooden boxes, and in fiscal 2006, the NSK Group achieved a 50% switchover rate for applicable products. The team also worked to develop packaging made of recyclable and reusable iron and plastic for products that weigh more than 100 kg and are too heavy for cardboard packaging, and packaging that is reusable over long periods if repaired. The group plans to gradually start introducing packaging that has been through trial manufacturing.

Green Packaging Manual

Customer requests for packaging have become increasingly varied and complicated with the spread of awareness of recycling and the need to reduce waste. In August 2006, the Innovative Packaging Project Team prepared the *Green Packaging Manual*, a pamphlet that addresses how to respond to these requests. The manual explains the need for environmental consideration of packaging, response policies and objectives, and ways to promote reusable, recyclable, and returnable packaging. The manual also explains each department's role in order to efficiently meet customer requests. The NSK Group is using this manual to strengthen its environmental measures for packaging, and to increase customer satisfaction. The group is pursuing the most suitable packaging to meet individual customer requests by standardizing work through collaboration among plants, and technology, logistics, and sales departments.



Green Packaging Manual

Role of Each Division

Division	Role
Production	To make easily recycled or reusable/returnable packaging, and to implement comprehensive packaging improvements, especially those that result in customer satisfaction, quality assurance, and packaging material cost efficiency
Sales	To increase customer satisfaction by ascertaining and understanding customer needs, disseminating this information to relevant departments, and switching to green packaging
Distribution	When used packaging is taken back from customers; to collect, sort, and scrupulously return empty packaging containers to their original manufacturing plants for reuse

Achievements of the Innovative Packaging Project Team

Customer requests regarding packaging have recently diversified and become more sophisticated. While this can be taken as an outcome of the broader and deeper diffusion of environmental concerns throughout society, the team's achievements from working on established issues are no more than mere stepping-stones. The NSK Group is expected to quickly and continuously apply knowledge and technology in responding to the latest "hot-topic" issues influencing customer requests brought about by changes in society. The team has been dissolved, but each department within the group will continuously work together to push innovative packaging based on the manual, winning a higher appraisal from stakeholders.



On-Site Initiatives

This report profiles four leading sites—in Japan, Europe, the Americas, and Asia—that illustrate the environmental protection activities being pursued by each manufacturing site in the NSK Group.

Japan: NSK Micro Precision Co., Ltd. Matsukawa Plant

Address: 2953, Motoojima, Matsukawa-Machi, Shimoina-Gun, Nagano
Number of employees: 230 (as of March 31, 2007)
Operations: Manufacturing ball bearings
ISO 14001 certification obtained: April 2, 2004

The NSK Micro Precision Co., Ltd. Matsukawa Plant produces 18 million bearings each month, primarily miniature ball bearings with external diameters of 10 mm or less, and ships them to markets worldwide. Many of those bearings play a key role in cutting-edge industries, being incorporated into fan motors and hard disk drives. The plant, located in the Ina Valley in southern Nagano Prefecture, is surrounded by an abundance of nature. We are determined to take care of this environment and are striving to produce products with lower environmental impact.

Nobuhiko Kiyota, Environmental Representative

NSK Micro Precision Initiatives

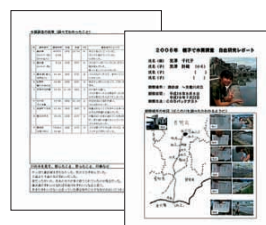
The Matsukawa Plant recognizes the importance of minimizing the use of chemical substances with a large environmental impact in the manufacturing process. In fiscal 2001, eight PRTR-designated substances were included in oils used in the manufacturing process. In fiscal 2006, however, the only PRTR-designated substance that was handled was xylene, contained in kerosene. The amount of xylene used by the plant is less than the one ton that must be reported to the government.

The plant has made one improvement after another to reduce the amount of oils used, including reusing spent oil after treating it in a purifier, and devising ways to collect oil that is discharged. Even when oil ultimately becomes waste oil, the contractor recycles it as high-quality fuel.

Every year at the end of May, about 90 companies in the local community hold a Tenryu River area cleanup campaign; a social contribution activity. About 40 NSK Micro Precision employees participate in this event. In addition, the plant distributes a reagent for easily measuring chemical oxygen demand (COD)*1 to the children of employees as a way of supporting their summer homework. The purpose is to spark environmental interest in children by going through the process of surveying the water quality of nearby rivers and preparing a report.



Participants in the Tenryu River area cleanup



Water quality survey report

*1 COD:

Used as an indicator to determine the density of organic water pollutants; indicates the oxygen consumed in order to oxidize the pollutants contained in the water.

Europe: AKS Precision Ball Europe Ltd.

Address: Davy Drive, North West Industrial Estate, Peterlee, Co. Durham, SR8 2PP, U.K.
Number of employees: 73 (as of March 31, 2007)
Operations: Manufacturing steel balls
ISO 14001 certification obtained: November 27, 2006

AKS Precision Ball Europe (hereafter, AKS UK) manufactures high precision steel balls used in bearings and many industries, including the automation industry. AKS UK has been working vigorously on environmental issues for a long time. In fiscal 2006, the company obtained ISO 14001 certification.

Clint Swinburn, Environmental Representative

AKS UK Initiatives

Since it started operations in 1989, AKS UK has produced a certain level of hazardous waste. As part of an AKS UK initiative, we decided to begin improvements by reducing the most abundant waste first. The largest problem was a paste-like sludge mainly consisting of metal, created in a process called flashing, which removes burrs. The waste is too heavy to be drawn up with a pump and too wet to be treated as solid waste, so the company used to dispose of it through landfills. The company discharges about 220 tons annually, and the disposal cost used to be 45 pounds sterling per ton. However, the number of disposal sites that accept this waste decreased drastically nationwide, resulting in the cost more than doubling.

In response, the company installed a briquette machine that can process the wet sludge into a solid by removing the water through pressurization. The processed solid briquettes can all be recycled as raw material for steelmaking. What is more, the briquettes are sold at 10 pounds per ton as raw material for steelmaking, which put an annual 27,619 pound loss 2,200 pounds into the black.



Briquettes made from sludge for recycling

^{*2} EPIC:
An acronym for
Environment, Prevent,
Improve, and Comply.

Americas: NSK Steering Systems America, Inc.

Address: 110 Shields Drive, Bennington,
VT 05201-8309, U.S.A.
Number of employees: 603 (as of March 31, 2007)
Operations: Manufacturing automotive parts (steering columns)
ISO 14001 certification obtained: December 19, 2002

NSK Steering Systems America's (hereafter, NSSA) environmentally friendly action plan is called EPIC^{*2}. This is an environmental policy for preventing pollution, continually making improvements, and complying with laws and regulations. With full employee participation activities, any NSSA employee can respond to questions about the site's environmental programs.

Mick Goldsmith, Environmental Representative

NSSA Initiatives

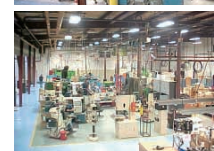
Our recycling activities are advanced, even compared to the other business sites within the NSK group. The company recycles all of its waste; it does not bury waste. About 200 pallets are ground each day and used as fuel in local greenhouses, and solid waste is burned off-site to produce steam that is used by a paper manufacturing company. In an effort to save energy, the company lowered the height of its lighting fixtures and switched to highly efficient fluorescent lighting, which has cut energy consumption by more than 175 kWh per year.

Further, the company recycles cell phones through the Project Against Violent Encounters (PAVE), a local organization dedicated to protecting women from violence. In this way, the company's environmental initiatives also promote activities that contribute to the local community. The money obtained from this initiative is used to help fund PAVE's activities.

The environmental managers from all of NSK Group's manufacturing sites in the United States hold a roundtable discussion at which they share success stories and challenges. In fiscal 2007, NSSA is scheduled to host the meeting.



Pallet grinding



Lighting before improvement (above)
and after improvement (below)

Asia: NSK Bearings Manufacturing (Thailand) Co., Ltd.

Address: 700/430 Amata Nakorn Industrial Estate,
Muangchonburi, Chonburi 20000, Thailand
Number of employees: 545 (as of March 31, 2007)
Operations: Manufacturing, importing, and marketing of automotive bearings
ISO 14001 certification obtained: June 17, 2004

NSK Bearings Manufacturing (Thailand) (hereafter, NBMT) has a vision to become the leading automotive bearing manufacturer in Asia and Oceania. The company's management policy calls for efforts to build a better environment and local communities in order to fulfill its social responsibility.

Chamroon Sukeewatana, Environmental Representative

NBMT Initiatives

The Thai government has certified NBMT as an environmentally friendly plant. It is the company's responsibility to comply with environmental regulations and meet customers' demands in order to become an important automotive bearing manufacturing base for the NSK Group and to become more competitive.

In fiscal 2006, the company held an energy conservation campaign, upgraded its wastewater treatment system, and made efforts to reuse and recycle packaging materials. Through the energy conservation campaign the company achieved a 5% reduction in electrical power consumption per production unit compared with fiscal 2005 in fiscal 2006. The company also regularly provided all employees with education about safety and the environment. In fiscal 2006, the company provided the same education to a supplier whom it commissioned to construct an NBMT plant, and also checked the workplace for safety issues. In addition, once a year the company holds firefighting and evacuation drills, recognizing the importance of ensuring employee safety on a daily basis.

NBMT sees that raising employees' environmental awareness and promoting safety, health, and environmental protection efforts will make the company even better.



Safety Week



Providing safety and environmental
education to a supplier



Firefighting drill

Reference Data

Scope of Coverage: NSK and group companies in Japan

Atmosphere

Site name	Item	Particulate-emitting facilities	Regulation requirements	NSK control value	Actual value
NSK Ltd., Fujisawa Plant (including Technology Div.)	NOx (ppm)	Boiler	150	135	104
		Metal furnace	200	180	116
	Soot and dust (g/m ³ N)	Boiler	0.3	0.27	0.0078
		Metal furnace	0.2	0.18	0.0197
	SOx (m ³ N/hr)	Boiler	3.2	2.9	0.02 or less
NSK Ltd., Ohtsu Plant		Metal furnace	1.03	0.93	0.01 or less
	NOx (ppm)	Boiler	180	120	84
	Soot and dust (g/m ³ N)	Boiler	0.3	0.05	0.006
	SOx (K value)	Boiler	8.76	5	0.02 or less
NSK Ltd., Ishibe Plant	NOx (ppm)	Boiler	150	120	73
	Soot and dust (g/m ³ N)	Boiler	0.1	0.05	0.01 or less
	SOx (K value)	Boiler	8.76	5	0.01 or less
NSK Ltd., Saitama Plant; NSK Precision Co., Ltd., Saitama Precision Machinery and Parts Plant	NOx (ppm)	Boiler	150	135	110
		Metal furnace	180	150	110
	Soot and dust (g/m ³ N)	Boiler	0.1	0.08	0.002 or less
		Metal furnace	0.25	0.15	0.011
	SOx (m ³ N/hr)	Boiler	1.26	0.6	0.001 or less
		Metal furnace	1.53	0.75	0.013
NSK Fukushima Co., Ltd.; NSK Needle Bearing Co., Ltd., Fukushima Plant	NOx (ppm)	Boiler	180	135	86
	Soot and dust (g/m ³ N)	Boiler	0.3	0.05	0.005 or less
	SOx (K value)	Boiler	17.5	1.5	0.67
NSK Steering Systems Co., Ltd., Soja Plant	NOx (ppm)	Boiler	180	150	61
	Soot and dust (g/m ³ N)	Boiler	0.1	0.05	0.004 or less
	SOx (K value)	Boiler	8	7	0.067 or less
NSK Steering Systems Co., Ltd., Akagi Plant	NOx (ppm)	Boiler	180	150	75
	Soot and dust (g/m ³ N)	Boiler	0.3	0.2	0.007 or less
	SOx (K value)	Boiler	8	7	0.072 or less

Site name	Item	Particulate-emitting facilities	Regulation requirements	NSK control value	Actual value
NSK Precision Co., Ltd., Maebashi Precision Machinery and Parts Plant	NOx (ppm)	Boiler	180	150	70
	Soot and dust (g/m ³ N)	Boiler	0.3	0.05	0.005 or less
	SOx (K value)	Boiler	8	1.5	0.084 or less
NSK Needle Bearing Co., Ltd., Takasaki Plant	NOx (ppm)	Boiler	150	140	47.7
		Diesel engine	950	900	730
	Soot and dust (g/m ³ N)	Boiler	0.1	0.09	0.003 or less
		Diesel engine	0.1	0.09	0.021
	SOx (K value)	Boiler	6	5	0.01 or less
		Diesel engine	6	5	0.05 or less
NSK Needle Bearing Co., Ltd., Haruna Plant	NOx (ppm)	Boiler	150	140	135
		Diesel engine	950	900	814
	Soot and dust (g/m ³ N)	Boiler	0.1	0.09	0.003 or less
		Diesel engine	0.1	0.09	0.009
	SOx (K value)	Boiler	17.5	7	0.01 or less
		Diesel engine	17.5	7	0.64
NSK Kyushu Co., Ltd.	NOx (ppm)	Boiler	180	160	62
		Diesel engine	950	950	480
	Soot and dust (g/m ³ N)	Boiler	0.3	0.3	0.032
		Diesel engine	0.1	0.1	0.022
	SOx (K value)	Boiler	17.5	13	2.4
		Diesel engine	17.5	17.5	0.2
NSK-Warner K.K.	NOx (ppm)	Boiler	180	135	108
	Soot and dust (g/m ³ N)	Boiler	0.3	0.05	0.02 or less
	SOx (m ³ N/hr)	Boiler	1.82	0.16	0.004 or less
Shinwa Seiko Co., Ltd., Shin-asahi Plant	NOx (ppm)	Boiler	180	135	58
		Diesel engine	950	900	770
	Soot and dust (g/m ³ N)	Boiler	0.3	0.05	0.02 or less
		Diesel engine	0.1	0.05	0.036
	SOx (K value)	Boiler	17.5	1.5	0.5 or less
Amatsuji Steel Ball Mfg. Co., Ltd. Shiga Works		Diesel engine	17.5	1.5	0.2
	NOx (ppm)	Boiler	180	100	59
	Soot and dust (g/m ³ N)	Boiler	0.3	0.2	0.012

NSK Ltd., Kiriara Branch, NSK Micro Precision Co., Ltd., Fujisawa and Matsukawa plants, Inoue Jikuu Kogyo Co., Ltd., Chitose Sangyo Co., Ltd., Asahi Seiki Co., Ltd., Shinwa Seiko Co., Ltd., Kutsuki Plant, NSK Machinery Co., Ltd., Amatsuji Steel Ball Mfg. Co., Ltd. Main Works, and AKS East Japan Co., Ltd.: no applicable particulate-emitting facilities

Actual value for NOx, soot and dust, and SOx are the maximum values recorded from among applicable facilities.

Glossary

NOx:	Occurs as nitrogen monoxide and nitrogen dioxide, when burning fuel in boilers.
Soot and dust:	Particles generated during the combustion of fuel.
SOx:	Sulfur oxides, particularly sulfur dioxide and sulfur trioxide, produced when fuels containing sulfur are burned in boilers and other equipment.
K value:	A coefficient used to calculate the allowable amount of SOx emissions according to smokestack height for each facility, based on the Air Pollution Control Law. Specified K values have been established for each region. Regions with higher concentrations of plant facilities have more stringent regulations and lower K values.
pH:	A measure of hydrogen-ion concentration. The pH scale indicates the level of acidity or alkalinity of a solution, with pH 7 representing a neutral value.
COD:	Chemical oxygen demand. Used as an indicator to determinate the density of organic water pollutants; indicates the oxygen consumed in order to oxidize the pollutants contained in the water.
BOD:	Biochemical oxygen demand. Used as an indicator to determinate the density of organic water pollutants; indicates the oxygen consumed in order to oxidize the pollutants contained in the water using microbes.
ND:	Not detected

Water Quality

Site name	Item	Regulation requirements	NSK control value	Actual value
NSK Ltd., Fujisawa Plant (including Technology Div.)	pH	5 – 9	5.3 – 8.8	7.4
	BOD(mg/l)	600	540	56.9
	Discharge point	Sewer (no direct discharge to rivers or streams)		
	pH	6.0 – 8.5	6.3 – 8.0	6.8
NSK Ltd., Ohtsu Plant	BOD(mg/l)	70	25	5.0
	COD(mg/l)	70	25	3.0
	Suspended solids (mg/l)	90	30	1.0
	Oil (mg/l)	5	4	0.5
	Nitrogen (mg/l)	40	20	5.5
	Phosphorus (mg/l)	2	1.8	0.2
	Discharge point	Morikoshi River		
	pH	6.0 – 8.5	6.3 – 8.3	7.1
NSK Ltd., Ishibe Plant	BOD(mg/l)	70	50	4.3
	COD(mg/l)	70	50	5.1
	Suspended solids (mg/l)	90	70	1.0
	Oil (mg/l)	5	4	0.3
	Nitrogen (mg/l)	40	30	1.4
	Phosphorus (mg/l)	2	1.6	ND
	Discharge point	Yasu River		
	pH	5.8 – 8.6	6.0 – 8.4	7.3
NSK Ltd., Saitama Plant; NSK Precision Co., Ltd., Saitama Precision Machinery and Parts Plant	BOD(mg/l)	25	20	5.5
	COD(mg/l)	160	40	16.4
	Suspended solids (mg/l)	60	40	0.9
	Oil (mg/l)	5	4	ND
	Nitrogen (mg/l)	120	60	33.9
	Phosphorus (mg/l)	16	8	3.8
	Discharge point	Naka River		
	pH	5.8 – 8.6	6.4 – 8.4	7.9
NSK Ltd., Kiriwara Branch	BOD(mg/l)	60	55	3.3
	COD(mg/l)	60	55	4.4
	Suspended solids (mg/l)	90	85	2.1
	Oil (mg/l)	5	4	ND
	Discharge point	Hikichi River		
	pH	5.8 – 8.6	6.0 – 8.4	7.2
NSK Fukushima Co., Ltd.; NSK Needle Bearing Co., Ltd., Fukushima Plant	BOD(mg/l)	20	18	4.6
	Suspended solids (mg/l)	50	25	5.3
	Oil (mg/l)	5	4	ND
	Nitrogen (mg/l)	60	30	4.8
	Phosphorus (mg/l)	8	4	0.4
	Discharge point	Yashiro River		
	pH	5.8 – 8.6	5.9 – 8.5	7.9
	BOD(mg/l)	25	24	7.2
NSK Steering Systems Co., Ltd., Soja Plant	COD(mg/l)	25	24	10.2
	Suspended solids (mg/l)	50	45	7.7
	Oil (mg/l)	5	4	ND
	Nitrogen (mg/l)	120	100	7.0
	Phosphorus (mg/l)	16	14	0.5
	Discharge point	Taki River		
	pH	5.8 – 8.6	5.9 – 8.5	7.1
	BOD(mg/l)	25	24	4.0
NSK Steering Systems Co., Ltd., Akagi Plant	COD(mg/l)	25	24	6.8
	Suspended solids (mg/l)	30	26	2.3
	Oil (mg/l)	5	4	ND
	Nitrogen (mg/l)	120	100	5.9
	Phosphorus (mg/l)	16	14	ND
	Discharge point	Kamisawa River		
	pH	5.8 – 8.6	5.9 – 8.5	7.6
	BOD(mg/l)	25	24	1.5
NSK Precision Co., Ltd., Maebashi Precision Machinery and Parts Plant	COD(mg/l)	25	24	1.2
	Suspended solids (mg/l)	50	45	1.0
	Oil (mg/l)	5	4	ND
	Nitrogen (mg/l)	120	100	0.4
	Phosphorus (mg/l)	16	14	0.1
	Discharge point	Someya River		
	pH	5.8 – 8.6	5.9 – 8.5	7.5
	BOD(mg/l)	60	35	15.7
NSK Micro Precision Co., Ltd., Fujisawa Plant	COD(mg/l)	60	35	20.2
	Suspended solids (mg/l)	90	88	13.8
	Oil (mg/l)	5	4.5	1.2
	Discharge point	Kashio River		
	pH	–	5.8 – 8.6	6.9
NSK Micro Precision Co., Ltd., Matsukawa Plant	BOD(mg/l)	–	160	1.6
	COD(mg/l)	–	160	5.0
	Suspended solids (mg/l)	–	200	15.3
	Oil (mg/l)	–	5	1.2
	Discharge point	Katagirimatsu River		
NSK Needle Bearing Co., Ltd., Takasaki Plant	pH	5 – 9	5.9 – 8.5	7.0
	BOD(mg/l)	600	500	96.6
	Cyanide (mg/l)	1	1	0.1
	Discharge point	Sewer (no discharge into rivers except rain runoff)		
	pH	5.8 – 8.6	5.9 – 8.5	7.4
NSK Needle Bearing Co., Ltd., Haruna Plant	BOD(mg/l)	25	24	9.3
	Suspended solids (mg/l)	50	45	4.0
	Oil (mg/l)	5	4	1.0
	Nitrogen (mg/l)	120	100	36.8
	Discharge point	Mukai River		

Site name	Item	Regulation requirements	NSK control value	Actual value
NSK Kyushu Co., Ltd.	pH	5.8 – 8.6	5.9 – 8.5	8.3
	BOD(mg/l)	45	20	17.0
	COD(mg/l)	45	20	8.0
	Suspended solids (mg/l)	100	60	2.0
	Oil (mg/l)	4	4	0.5
	Nitrogen (mg/l)	100	100	7.6
	Phosphorus (mg/l)	14	14	0.2
	Discharge point	Chikugo River		
	pH	6.0 – 8.4	6.0 – 8.4	7.3
	BOD(mg/l)	22	20	2.1
NSK-Warner K.K.	COD(mg/l)	160	20	6.9
	Suspended solids (mg/l)	40	25	2.4
	Oil (mg/l)	5	4	ND
	Nitrogen (mg/l)	120	30	4.8
	Phosphorus (mg/l)	16	4	ND
	Discharge point	Saka River		
	pH	5.8 – 8.6	6.0 – 8.3	7.1
Inoue Jikuuke Kogyo Co., Ltd.	BOD(mg/l)	150	100	27.7
	COD(mg/l)	150	100	20.3
	Suspended solids (mg/l)	200	120	14.2
	Oil (mg/l)	4	3	1.1
	Nitrogen (mg/l)	60	60	33.3
	Phosphorus (mg/l)	8	6	0.9
	Discharge point	Unada River		
	pH	–	5.9 – 8.5	7.5
Chitose Sangyo Co., Ltd.	BOD(mg/l)	–	100	9.0
	COD(mg/l)	–	100	22.0
	Suspended solids (mg/l)	–	100	18.0
	Oil (mg/l)	–	5	2.6
	Nitrogen (mg/l)	–	60	14.0
	Phosphorus (mg/l)	–	8	1.8
	Discharge point	Hatsuma River		
Asahi Seiki Co., Ltd.	pH	5.8 – 8.6	6.5 – 7.5	7.5
	BOD(mg/l)	25	15	1.0
	COD(mg/l)	–	15	4.4
	Suspended solids (mg/l)	30	15	1.0
	Oil (mg/l)	5	1	ND
	Discharge point	Aida River		
	pH	6.5 – 8.0	6.5 – 8.0	7.4
Shinwa Seiko Co., Ltd., Shin-asahi Plant	BOD(mg/l)	30	20	2.3
	COD(mg/l)	30	20	4.2
	Suspended solids (mg/l)	30	25	3.0
	Oil (mg/l)	5	4	3.0
	Nitrogen (mg/l)	40	30	1.2
	Phosphorus (mg/l)	2	2	ND
	Discharge point	Ado River		
	pH	6.0 – 8.5	6.0 – 8.4	7.2
Shinwa Seiko Co., Ltd., Kutsuki Plant	BOD(mg/l)	70	20	3.3
	COD(mg/l)	70	20	4.1
	Suspended solids (mg/l)	90	25	2.0
	Oil (mg/l)	5	4	ND
	Nitrogen (mg/l)	40	30	2.1
	Phosphorus (mg/l)	2	2	ND
	Discharge point	Ado River		
	pH	–	5.8 – 8.6	7.0
NSK Machinery Co., Ltd.	BOD(mg/l)	–	54	2.0
	COD(mg/l)	–	108	3.4
	Suspended solids (mg/l)	–	108	ND
	Oil (mg/l)	–	4.5	ND
	Nitrogen (mg/l)	–	54	1.1
	Phosphorus (mg/l)	–	7.2	ND
	Discharge point	Showa Marsh (pond and wetlands)		
	pH	5 – 9	6 – 8	7.1
Amatsuji Steel Ball Mfg. Co., Ltd. Main Works	BOD(mg/l)	600	100	24.8
	Suspended solids (mg/l)	600	100	8.3
	Oil (mg/l)	30	10	3.1
	Nitrogen (mg/l)	240	100	32.0
	Phosphorus (mg/l)	32	10	2.8
	Discharge point	Sewer (no direct discharge to rivers or streams)		
	pH	6.5 – 8.0	6.5 – 7.5	7.1
Amatsuji Steel Ball Mfg. Co., Ltd. Shiga Works	BOD(mg/l)	20	15	4.4
	COD(mg/l)	20	15	6.0
	Suspended solids (mg/l)	30	20	3.4
	Oil (mg/l)	3	2	0.6
	Nitrogen (mg/l)	20	18	6.8
	Phosphorus (mg/l)	2	1.8	0.1
	Discharge point	Shiratori River		
AKS East Japan Co., Ltd.	pH	5.8 – 8.6	5.8 – 8.6	7.7
	BOD(mg/l)	60	48	6.3
	COD(mg/l)	60	48	6.4
	Suspended solids (mg/l)	90	72	2.6
	Oil (mg/l)	5	4	1.0
	Discharge point	Hikichi River		

Change in CO₂ Emissions Per ProductionUnit (t-CO₂/million yen)

Site name	Actual value		Target value
	FY2005	FY2006	
NSK Ltd., Fujisawa Plant	2.134	2.048	2.156
NSK Ltd., Ohtsu Plant	1.900	1.921	1.878
NSK Ltd., Ishibe Plant	1.710	1.584	1.846
NSK Ltd., Saitama Plant; NSK Precision Co., Ltd., Saitama Precision Machinery and Parts Plant	2.894	2.702	2.790
Kirihara Branch	0.334	0.293	0.633
NSK Fukushima Co., Ltd.; NSK Needle Bearing Co., Ltd., Fukushima Plant	5.733	5.060	5.058
NSK Steering Systems Co., Ltd.* ¹	1.279	1.457	1.422
NSK Precision Co., Ltd., Maebashi Precision Machinery and Parts Plant	1.725	1.536	1.606
NSK Micro Precision Co., Ltd., Fujisawa Plant	1.627	1.524	1.583
NSK Micro Precision Co., Ltd., Matsukawa Plant	2.207	2.385	2.858
NSK Needle Bearing Co., Ltd., Takasaki Plant	2.361	2.498	2.395
NSK Needle Bearing Co., Ltd., Haruna Plant	2.242	2.023	2.599
NSK Kyushu Co., Ltd.	2.311	2.021	2.128
NSK-Warner K.K.	1.798	1.702	2.543
Inoue Jikuu Kogyo Co., Ltd.	1.940	2.093	2.458
Chitose Sangyo Co., Ltd.	3.313	2.958	4.663
Asahi Seiki Co., Ltd.	4.119	4.431	4.835
Shinwa Seiko Co., Ltd.* ²	6.094	7.248	7.016
NSK Machinery Co., Ltd.	0.697	0.853	0.738
Amatsuji Steel Ball Mfg. Co., Ltd. Main Works	4.125	3.809	3.269
Amatsuji Steel Ball Mfg. Co., Ltd. Shiga Works	5.699	5.661	4.928
AKS East Japan Co., Ltd.	3.362	3.273	3.475

*¹ Combined data for the Akagi Plant and Soja Plant; based on manufacturing process characteristics*² Combined data for the Kutsuki Plant and Shin-asahi Plant; based on manufacturing process characteristics

Change in Final Disposal Amounts and Recycling Rates

Site name	Final disposal amount (t/yr)		Recycling rate (%)	
	FY2005	FY2006	FY2005	FY2006
NSK Ltd., Fujisawa Plant	280	0	84.8	89.4
NSK Ltd., Ohtsu Plant	0.9	2.6	97.6	99.7
NSK Ltd., Ishibe Plant	3	2.2	96.5	96.8
NSK Ltd., Saitama Plant; NSK Precision Co., Ltd., Saitama Precision Machinery and Parts Plant	119	0	94.9	98.1
Kirihara Branch	0	0	92.8	97.1
NSK Fukushima Co., Ltd.; NSK Needle Bearing Co., Ltd., Fukushima Plant	0	5.5	99.4	99.5
NSK Steering Systems Co., Ltd.* ¹	39	0	96.4	98.6
NSK Precision Co., Ltd., Maebashi Precision Machinery and Parts Plant	36	0	95.1	98.0
NSK Micro Precision Co., Ltd., Fujisawa Plant	0	0	74.0	70.9
NSK Micro Precision Co., Ltd., Matsukawa Plant	0.4	0	79.3	82.1
NSK Needle Bearing Co., Ltd., Takasaki Plant	0	0	77.8	76.5
NSK Needle Bearing Co., Ltd., Haruna Plant	0	0	93.0	93.7
NSK Kyushu Co., Ltd.	3.5	0.8	97.4	99.8
NSK-Warner K.K.	1.9	0	95.4	96.3
Inoue Jikuu Kogyo Co., Ltd.	0	0	100.0	100.0
Chitose Sangyo Co., Ltd.	43	13	97.6	87.3
Asahi Seiki Co., Ltd.	7.2	10	99.4	99.2
Shinwa Seiko Co., Ltd.* ²	33	15	99.2	99.2
NSK Machinery Co., Ltd.	1.6	1.5	99.2	99.1
Amatsuji Steel Ball Mfg. Co., Ltd. Main Works	-	26	-	97.2
Amatsuji Steel Ball Mfg. Co., Ltd. Shiga Works	-	4.5	-	98.2
AKS East Japan Co., Ltd.	-	31	-	84.2

*¹ Combined data for the Akagi Plant and Soja Plant; based on manufacturing process characteristics*² Combined data for the Kutsuki Plant and Shin-asahi Plant; based on manufacturing process characteristics

Release and Transfer Volume of PRTR-Designated Substances

(kg/year)

Site name	Substance No.	Substance name	Volume handled	Released into atmosphere	Released into water	Transferred to sewer	Transferred as waste	Consumed	Recycled
NSK Ltd., Fujisawa Plant (Including Technology Div.)	40	Ethylbenzene	1,049	4	0	0	0	1,045	0
	63	Xylene	44,197	4,029	0	0	0	38,521	1,647
	227	Toluene	7,693	27	0	0	0	7,666	0
NSK Ltd., Ohtsu Plant	63	Xylene	3,260	2,104	0	0	0	255	901
NSK Ltd., Ishibe Plant	63	Xylene	12,626	3,512	0	0	0	8,420	694
	227	Toluene	5,952	32	0	0	0	5,920	0
NSK Ltd., Saitama Plant; NSK Precision Co., Ltd., Saitama Precision Machinery and Parts Plant	63	Xylene	16,629	3,212	0	0	0	12,938	479
	227	Toluene	2,275	4	0	0	0	2,271	0
NSK Fukushima Co., Ltd.; NSK Needle Bearing Co., Ltd., Fukushima Plant	63	Xylene	4,150	2,541	0	0	0	521	1,088
	40	Ethylbenzene	2,665	271	0	0	134	2,260	0
NSK Steering Systems Co., Ltd., Soja Plant	63	Xylene	12,545	1,345	0	0	1,155	10,045	0
	227	Toluene	23,108	6,480	0	0	1,703	14,925	0
	63	Xylene	7,474	30	0	0	148	7,296	0
NSK Steering Systems Co., Ltd., Akagi Plant	227	Toluene	6,247	19	0	0	0	6,228	0
	63	Xylene	6,364	28	0	0	0	6,106	230
NSK Precision Co., Ltd., Maebashi Precision Machinery and Parts Plant	227	Toluene	1,337	4	0	0	0	1,333	0
	63	Xylene	11,153	5,919	0	0	0	2,694	2,540
	227	Toluene	3,951	0	0	0	0	3,951	0
NSK Needle Bearing Co., Ltd., Takasaki Plant	16	2-aminoethanol	3,974	0	1,590	0	2,384	0	0
	63	Xylene	1,798	826	0	0	0	619	353
	224	1, 3, 5-trimethylbenzene	1,856	1,228	0	0	0	101	527
	227	Toluene	1,591	0	0	0	0	1,591	0
NSK-Warner K.K.	40	Ethylbenzene	1,152	35	0	0	32	1,085	0
	63	Xylene	40,707	1,519	0	0	305	38,883	0
	67	Cresol	2,453	2,230	0	0	175	48	0
	227	Toluene	40,132	33,787	0	0	2,606	3,739	0
	266	Phenol	100,862	2,106	0	0	7,212	91,544	0
Inoue Jikuu Kogyo Co., Ltd.	63	Xylene	1,239	1,165	0	0	0	27	47
Chitose Sangyo Co., Ltd.	63	Xylene	2,178	0	0	0	0	2,178	0
Shinwa Seiko Co., Ltd., Kutsuki Plant	63	Xylene	1,152	6	0	0	0	1,146	0
NSK Machinery Co., Ltd.	227	Toluene	1,903	571	0	0	0	1,332	0
Amatsuji Steel Ball Mfg. Co., Ltd. Main Works	144	Dichloropentafluoropropane	8,827	7,138	0	0	130	0	1,559
	243	Barium	1,422	0	0	0	1,422	0	0
Amatsuji Steel Ball Mfg. Co., Ltd. Shiga Works	63	Xylene	1,391	1,344	0	0	47	0	0

Kirihara Branch, NSK Micro Precision Co., Ltd., Fujisawa and Matsukawa plants, Shinwa Seiko Co., Ltd., Shin-asahi Plant, Asahi Seiki Co., Ltd., NSK Kyushu Co., Ltd., and AKS East Japan Co., Ltd.: not applicable

Glossary

Consumed: Amount of PRTR-designated substances converted to other substances following chemical reactions (incineration, etc.) and then incorporated in or included with products that are removed from the site.

Third-Party Opinion

Yoshitsugu Kimura

Dr. Kimura was born in 1936. He was engaged in tribology research and education at the University of Tokyo, as well as at Kagawa University. He was president of Kagawa University and now is professor emeritus at the University of Tokyo and Kagawa University. Dr. Kimura is also a former president of the Japanese Society of Tribologists.



Al Gore's *An Inconvenient Truth* has become a popular topic of discussion. Five years ago, the Science Council of Japan proposed the *Japan Perspective*, a roadmap showing the path that humanity should take in the 21st century. The most important issue taken up was the "no-exit dilemma," which will arise due to the Earth's finite resources and the expansion of human activities. The *Japan Perspective* emphasizes that we need to overcome this problem and make sustainable development a reality.

The phrase, "NSK aims to contribute to the well-being and safety of societies and to protect the global environment," found in NSK's mission statement, seems to be a declaration to address this problem head-on. If all members of the group work together to actually turn this philosophy into a reality, then NSK should be able to fulfill its corporate social responsibility and solidify the significance of its existence.

I know very well that for NSK this declaration is not merely a catch phrase. Taking the company's rolling bearings, its main product, as an example, NSK's steady efforts have proven fruitful; the company succeeded in decreasing frictional torque by revising the internal design of the bearings, and in extending their useful life by using

EP steel, which minimized non-metallic inclusions to the limit. The increased control of friction and useful life achieved through these efforts is truly contributing to the protection of the global environment by conserving energy and resources.

A decade ago, corporate social responsibility was only a matter of a company's products. Recently, however, the environment surrounding businesses has changed, and the manufacturing process has come to be questioned alongside products themselves. In this respect as well, the NSK Group should be praised highly for pursuing its corporate philosophy through its environmental management measures, establishing voluntary action plans covering, among other topics, global warming countermeasures, waste recycling measures, and an environmentally harmful substance policy, and achieving the goals set for these plans.

Well then, does this mean everything is just perfect? There is an interesting phrase in the CSR report: "Change Your Perspective." This is the slogan to use as a guide in determining the group's ideal form to achieve by its 100th anniversary. But if everything is going well, why is there a need to change one's perspective?

I think that behind this slogan lurks a fundamental problem found in the rolling bearing industry, not just in the NSK Group. There is a view in the world that rolling bearings have reached the limit of maturation, whether in product or manufacturing technology, and that there will be no more drastic developments.

As a scientist in engineering, I want to seek a new perspective. NSK's goal of being No. 1 in total quality is only natural as a leading company. But being a leading company is all the more reason I expect NSK to take up new challenges to incorporate future technological developments, in addition to being No. 1 in total quality.

Response to Dr. Kimura's Third-Party Opinion

I would like to express my thanks to Dr. Kimura for his valuable feedback. We will take his feedback seriously and steadily incorporate it into the NSK Group's CSR activities in the future. The NSK Group is committed to realizing its corporate philosophy and to contributing to a more sustainable society. Most importantly, we must incorporate the viewpoints of not only customers, but a wide range of other stakeholders, clearly recognize the finitude of the global environment and the problems of a globalizing economy and society, respond to the changing times, and ensure that each individual employee works steadily and diligently. Regarding Dr. Kimura's point about the technical issue of rolling bearings, our "Change Your Perspective" slogan incorporates the intention to undertake initiatives from a totally new perspective. NSK celebrated its 90th anniversary in 2006. Looking ahead to its 100th anniversary, the NSK Group will work on building a strategy that no other company can, aiming to be No. 1 in total quality in order to meet the expectations of society and fulfill an even greater role.



Kazuo Matsuda
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Head, Business Development
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Headquarters



Paper Used for This Report

The NSK Group chose environmentally friendly paper and printing methods for the production of this report. The covers and the first half of the report (pages 2-11) are made of paper certified by the Forest Stewardship Council (FSC) as being made from sustainably managed forests. The second half (pages 12-51) is made of 100% recycled paper.