

Head Office

Research & Development Division, Engineering Division



Location: Kanazawa-ku, Yokohama
Business areas and products: Planning, management, R&D
Commenced operations: February 1991

Overview of our activities

The head office of NHK Spring is located in the Yokohama Office with the Suspension Spring and Seating Divisions. We engage in business activities that take into consideration the communities around each production division, the head office, and each of our plants. We take care to respond dutifully in cooperation with each municipal, especially in terms of waste water, air, noise, and waste.

Outlook and policies

We will develop new products and new equipment related to saving energy and using renewable energy as a function of the head office and will support the environmental activities of the Group through a wide range of environmental education and environmental audits. In addition, by taking the lead with projects such as installing solar power generation panels and introducing LED lighting, we are the driving force in overall Group environmental activities.

Fiscal 2017 and 2018 initiatives

Reducing CO₂ emissions

- The Safety & Environment Activities Department at our head office conducted energy saving diagnostics and strove to reduce CO₂ emissions in fiscal 2017 with focus on the plants which have a large amount of CO₂ emissions. The Yokohama Office is also continuing to transition to LED lighting while updating the air-conditioning equipment of the office to an energy-saving system.
- We will continue energy saving diagnostics and activities to eliminate unevenness of energy use in fiscal 2018, aiming to achieve our CO₂ reduction targets.

Managing chemicals

- The Safety & Environment Activities Dept. at our head office compiles chemical substances used in Japan (including Group companies), and aggregates those chemical substances based on our unique criteria every year. We added and updated the chemical substances included in the Green Procurement Guidelines while reporting some of the data we collected to the government. We are also pioneering the promotion of risk assessment of chemical substances and 5S activities so that our operators engage in safe operations within our plants.

Reducing industrial waste

- During fiscal 2017, we implemented separation recycling of waste at the Head Office (including the Research & Development Division) and activities to reduce emissions and costs. As a result, we were able to achieve our recycling targets, but did not achieve our emissions targets.
- In fiscal 2018, while maintaining a 100% recycling rate, we will strive to reduce the amount of waste by expanding information about reclaiming valuables from waste throughout the Group.

● Atmosphere (Regulated values: Air Pollution Control Law, Yokohama Guidelines)

| Substance | Equipment | Regulated value | | | Actual |
|-----------|-------------------------|-----------------|---------|---------|--------|
| | | Maximum | Minimum | Average | |
| NOx | Hot water boiler | A | 0.041 | 0.011 | |
| | | B | 0.025 | 0.007 | |
| | | C | 0.025 | 0.006 | |
| | Cooling water generator | A | 0.029 | 0.004 | |
| | | B | 0.018 | 0.003 | |
| | | C | 0.024 | 0.002 | |
| Dust | Hot water boiler | A | 0.050 | <0.002 | |
| | | B | 0.050 | <0.002 | |
| | | C | 0.050 | <0.003 | |
| | Cooling water generator | A | 0.050 | <0.003 | |
| | | B | 0.050 | <0.004 | |
| | | C | 0.050 | <0.003 | |

NOx units: m³/h Dust units: g/m³N

● Water quality: Main Building (Regulated values: Yokohama sewage regulations)

| Item | Regulated value | Actual | | |
|-----------------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5-9 | 7.5 | 6.9 | — |
| Oil | 5 | 2.5 | 0.2 | 1.0 |
| Fe | 3 | <0.3 | <0.3 | <0.3 |
| Zn | 1 | <0.1 | <0.1 | <0.1 |
| Ni | 1 | 0.1 | <0.1 | <0.1 |
| T-Cr | 2 | <0.2 | <0.2 | <0.2 |
| Fluorine | 8 | 1.0 | <0.8 | <0.8 |
| Phenols | 0.5 | <0.05 | <0.05 | <0.05 |
| NH ₄ | 380 | <0.3 | <0.3 | <0.3 |

Units: mg/l

● Water quality: R&D Building (Regulated values: Yokohama sewage regulations)

| Item | Regulated value | Actual | | |
|-----------------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5-9 | 7.3 | 6.8 | — |
| Oil | 5 | 2.4 | 0.1 | 1.0 |
| Fe | 3 | 1.5 | <0.3 | 0.6 |
| Zn | 1 | <0.1 | <0.1 | <0.1 |
| Ni | 1 | <0.1 | <0.1 | <0.1 |
| T-Cr | 2 | <0.2 | <0.2 | <0.2 |
| NH ₄ | 380 | 1.7 | 1.0 | 1.2 |

Units: mg/l

Suspension Spring Division

Yokohama Plant



Location: Kanazawa-ku, Yokohama
Products: coil springs, Leaf springs, and metal bellows
Commenced operations: November 1987



Mitsuhiro Sugiyama
Plant Manager

Outlook and policies

In order to achieve the environmental policy of "global environment-friendly spring manufacturing," our plants will make efforts to reduce CO₂ emissions through energy-saving activities, recycle, reuse valuable resources, and reduce industrial waste by making the production lines more efficient. We will contribute to environmental conservation and preventing global warming through continuous improvement of environmental management system and raising awareness of environmental issues of all employees.

Fiscal 2017 and 2018 initiatives

Reducing CO₂ emissions and waste

- Each plant works to reduce CO₂ emissions and waste under the slogan, "global environment-friendly spring manufacturing." On the other hand, all of the plants have united to incorporate environmental management toward TPM activities in an effort to better the environment. In fiscal 2017, these plants adapted to and acquired the ISO 14001: 2015 certification and have been working every day with the aim of taking environmental management to the next level.
- We achieved our company-wide targets for the CO₂ emissions index in fiscal 2017 by transitioning plants from fluorescent to LED lighting, reviewing the quantity control system for compressors as well as the settings for the air pressure, and reducing the amount of gas used through heat-proof paint.
- In fiscal 2018, we will strive to further improve energy savings by changing the area of focus to strive to lower waste emissions and put into practice global environment-friendly spring manufacturing.

● Atmosphere (Regulated values: Air Pollution Control Law, Yokohama Guidelines)

| Substance | Equipment | Regulated value | | | Actual |
|-----------|-------------------------|-----------------|---------|---------|--------|
| | | Maximum | Minimum | Average | |
| NOx | Metal reheating furnace | A | 0.128 | 0.070 | |
| | | B | 0.110 | 0.023 | |
| | | C | 0.212 | 0.045 | |
| | | D | 0.169 | 0.078 | |
| | | E | 0.119 | 0.067 | |
| | Metal tempering furnace | A | 0.202 | 0.024 | |
| | | B | 0.123 | 0.002 | |
| | | C | 0.104 | 0.021 | |
| | | D | 0.085 | 0.007 | |
| | | E | 0.059 | 0.005 | |
| Dust | Metal reheating furnace | A | 0.1 | <0.002 | |
| | | B | 0.1 | 0.004 | |
| | | C | 0.1 | <0.002 | |
| | | D | 0.1 | <0.002 | |
| | | E | 0.1 | <0.003 | |
| | Metal tempering furnace | A | 0.1 | <0.005 | |
| | | B | 0.1 | <0.009 | |
| | | C | 0.1 | <0.006 | |
| | | D | 0.1 | <0.005 | |
| | | E | 0.1 | <0.006 | |

NOx units: m³/h Dust units: g/m³N

● Water quality (Regulated values: Yokohama sewage regulations)

| Item | Regulated value | Actual | | | |
|------------------|-----------------|----------------------|---------|---------|-----|
| | | Maximum | Minimum | Average | |
| pH | 5-9 | 7.2 | 6.5 | — | |
| Oil | 30 | Animal and vegetable | 11.0 | 1.5 | 5.7 |
| | | Mineral | 0.7 | 0.1 | 0.3 |
| Fe | 3 | <0.3 | <0.3 | <0.3 | |
| Zn | 1 | 0.2 | <0.1 | <0.1 | |
| Ni | 1 | 0.8 | 0.2 | 0.5 | |
| Mn | 1 | <0.1 | <0.1 | <0.1 | |
| Fluorine | 8 | 2.5 | <0.8 | <0.8 | |
| Boron | 10 | <1.0 | <1.0 | <1.0 | |
| Total nitrogen | 240 | 123 | 13 | 61 | |
| Total phosphorus | 32 | <1.0 | <1.0 | <1.0 | |
| NH ₄ | 380 | 87 | 6 | 48 | |

Units: mg/l

Suspension Spring Division

Shiga Plant



Location: Koka, Shiga
 Products: Coil springs, stabilizer bars, and torsion bars
 Commenced operations: November 1973



Masanao Ueda
 Plant Manager

Outlook and policies

Environmental conservation is one of the six core elements of STPM (Strategy for Total Power Management) conducted at our plants, and we take practical measures to allow all our people to engage in it. We are working hard towards making environmentally-friendly springs.

Fiscal 2017 and 2018 initiatives

Energy saving

- In fiscal 2017, we adopted quantity control circuits for compressor systems at Plant No. 2 and No. 3 as well as optimization control to operate compresses in accordance with the operational status of the area in addition to installing auxiliary motor-driven compressors to independently operate small machinery. Plant No. 1 also reduced power consumption by transitioning all of its ceiling lights to LED lighting (114 bulbs) in addition to conducting activities to reduce air leakage.
- In fiscal 2018, we aim to reduce CO₂ emissions even more by adopting optimization control for compressors at Plant No. 1, transitioning ceiling lights at plants to LED lighting, and continually engaging in other energy-saving activities.

Reducing waste

- In fiscal 2017, we were able to reduce sludge emissions by 25% compared to fiscal 2016 by advancing sludge drying to achieve all of our emission index targets.
- In fiscal 2018, we will promote the reduction of industrial waste, global environmental conservation, and management to sustain waste water quality.

● Atmosphere (Regulated values: Air Pollution Control Law)

| Substance | Equipment | Regulated value | Actual |
|-----------|-------------------------|-----------------|--------|
| NOx | Metal reheating furnace | A | 67 |
| | | B | 36 |
| | | C | 32 |
| | | D | 54 |
| | | E | 43 |
| Dust | Metal reheating furnace | A | <0.005 |
| | | B | <0.003 |
| | | C | <0.003 |
| | | D | <0.002 |
| | | E | <0.012 |

NOx units: ppm Dust units: g/m³N

● Water quality (Regulated values: Agreement with Koka)

| Item | Regulated value | Actual | | |
|------------------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 6-8.5 | 7.5 | 6.9 | — |
| BOD | 30 | 2.0 | <1.0 | <1.0 |
| COD | 30 | 2.0 | <1.0 | <1.0 |
| SS | 70 | 2.0 | <1.0 | <1.0 |
| Oil | 5 | 3.2 | 0.4 | 1.5 |
| Total nitrogen | 12* | 11.8 | 1.4 | 5.1 |
| Total phosphorus | 1.2* | 0.3 | <0.1 | <0.1 |
| Fluorine | 8* | 0.8 | <0.8 | <0.8 |
| Boron | 10* | <1 | <1 | <1 |
| Zn | 1* | <0.1 | <0.1 | <0.1 |

Units: mg/l

*Shiga prefectural regulations

Seating Division

Gunma Plant



(Ojima area) (Ota area)
 Location: Ota, Gunma Ota, Gunma
 Products: Automotive seats Automotive interior products
 Commenced operations: December 1986 July 1969



Masayoshi Yamaguchi
 Plant Manager

Outlook and policies

At our plant, we undertake systematic production activities from development and design to manufacturing and shipment of automobile seats and interior parts for automobiles that are safe and kind to people and the environment, contributing to the development of automobile society. Aware that the mission given to us is to pass down the earth, green and beautiful, to the next generation, our plant will expand production activities considering environmental conservation that is safe and people-friendly and promote volunteer and cleaning activities founded in the community.

Fiscal 2017 and 2018 initiatives

Energy saving

- In fiscal 2017, we pushed forward the transition to LED lighting on the second floor of our new seating wing and completed the midterm plan to transition our plants to LED lighting. We were also able to increase efficiency even further by gradually updating aging equipment such as our compressors and air conditions installed roughly 30 years ago.
- In fiscal 2018, we estimate a high load on processes in addition to forecasting the use of more energy as a plant during the migration to new urethane foam equipment. We will continue to conduct sincere activities from raising the awareness of plant employees through the visualization of energy to avoiding use of unnecessary lights and air-conditioning.

Recycling and reducing waste

- Managing waste water disposal at our plant that neighbors Ishida River, which is a class A river, is vital. We will update our waste water filtration wing and continually work to preserve the environment.
- We will maintain a 100% recycling rate by thoroughly separating waste and encouraging recovery as valuables with the participation of everyone at the plant.

● Atmosphere: Ojima area (Voluntary values for unregulated equipment)

| Substance | Equipment | Regulated value | Actual |
|-----------|-----------|-----------------|--------|
| NOx | Boiler | A | 97 |
| | | B | 85 |
| | | C | 43 |
| Dust | Generator | | 224 |
| | | A | <0.003 |
| | | B | <0.003 |
| Dust | Boiler | C | <0.003 |
| | | Generator | 0.1 |
| | | | 0.029 |

NOx units: ppm Dust units: g/m³N

● Water quality: Ojima area (Regulated values: Agreement with Ojima)

| Item | Regulated value | Actual | | |
|------|----------------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 6-8 | 7.5 | 6.9 | — |
| BOD | 10 | 9.0 | <1.0 | 3.8 |
| SS | 10 | 4.0 | <1.0 | 1.5 |
| Oil | Animal and vegetable | 3 | 0.3 | 1.2 |
| | Mineral | 3 | 0.1 | 0.2 |

Units: mg/l

● Water quality: Ota area (Regulated values: Gunma prefectural regulations)

| Item | Regulated value | Actual | | |
|------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5.8-8.6 | 7.8 | 7.3 | — |
| BOD | 40 | 3.0 | 1.0 | 2.1 |
| COD | 40 | 8.0 | 2.0 | 4.2 |
| SS | 50 | 3.0 | <1.0 | 1.3 |
| Oil | 5 | 1.7 | 0.8 | 1.2 |

Units: mg/l

Seating Division

Yokohama Plant



Location: Kanazawa-ku, Yokohama
 Products: Automotive seats and interior products
 Commenced operations: April 1990



Akihiko Sadahisa
 Plant Manager

Outlook and policies

Our task and our conviction are to pass on to the next generation a prosperous and beautiful world. Each of our employees thinks in terms of protecting the environment when engaging in manufacturing activities. In all of our development, design and production, we will pursue possibilities in resource saving, recycling and reduction of the environmental impact through comprehensive concepts to eliminate, reduce and change. We will promote the reduction of CO₂ emissions to prevent global warming.

Fiscal 2017 and 2018 initiatives

Energy saving

- In fiscal 2017, our goals were to update old plant heating and cooling systems that used a steam boiler and reduce LNG use, and therefore, executed our plan to install high-efficiency, electric air conditioners (scheduled to update two systems per year). We updated and increased the number of multiple circuit watt meters that had aged to improve the accuracy of power monitoring and eliminate use of unnecessary electricity. We also transitioned to LED lighting in the lighting systems that needed to be renewed in transport corridors for finished products and primary safety aisles. In addition, we transitioned to motion sensing LED lighting in the entrance of the automotive seating wing.
- In fiscal 2018, we continued to systematically reduced LNG use by replacing plant heating and cooling systems (steam absorption systems) with electric air conditioners (scheduled to update two systems per year).
- We also plan to transition the automotive seating wing (meeting and greeting rooms and stairways) to LED lighting.

● Atmosphere (Regulated values: Air Pollution Control Law, Yokohama Guidelines)

| Substance | Equipment | Regulated value | Actual |
|-----------|-----------|-----------------|--------|
| NOx | Boiler | 0.064 | 0.028 |
| Dust | Boiler | 0.05 | <0.002 |

NOx units: m³N/h Dust units: g/m³N

● Water quality (Regulated values: Yokohama sewage regulations)

| Item | Regulated value | Actual | | |
|----------------------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5-9 | 7.9 | 7.1 | — |
| Oil | | | | |
| Animal and vegetable | 30 | 3.0 | 0.3 | 1.2 |
| Mineral | 5 | 0.7 | 0.1 | 0.2 |

Units: mg/l

Toyota Plant



Location: Toyota, Aichi
 Products: Automotive seats and interior products
 Commenced operations: June 1961



Seiichi Saito
 Plant Manager

Outlook and policies

Our plant is involved in production activities from the design and manufacture of automotive seat frames to the shipment of finished seating products. We conduct efficient production with net energy and promote the reduction of CO₂ while clearly understanding the impact of our business activities on the environment. We will contribute to the expansion of an affluent society by ranking the co-existence with the local community and endless preservation of the clear waters of Yahagi River as important environmental items.

Fiscal 2017 and 2018 initiatives

Energy saving

- In fiscal 2017, we were able to show magnificent results by achieving a 129% reduction against the CO₂ emissions targets initially planned through intermittent drive control of air conditioners, higher efficiency of factory exhaust motors and the transition to LED lighting.
- In fiscal 2018, we will reduce CO₂ emissions by saving energy through the transition to LED lighting as well as the renewal of existing equipment for greater efficiency. We also plan to conduct energy saving diagnostics this winter. We will actively engage in additional energy saving measures and promote environmental conservation activities.

Others

- In fiscal 2018, we plan to install a large servo press. We regularly monitor the environment while proceeding with the construction using the utmost caution to gain the understanding from the local residents.

● Water quality (Regulated values: Sewage Law)

| Item | Regulated value | Actual | | |
|------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5-9 | 7.8 | 7.0 | — |
| BOD | 600 | 18.0 | 3.0 | 8.0 |
| COD | 600 | 45.0 | 11.0 | 20.5 |
| SS | 600 | 10.0 | 1.0 | 4.8 |
| Oil | 5 | 2.9 | 0.9 | 1.7 |
| Zn | 2 | 0.5 | <0.2 | 0.3 |
| Cu | 3 | <0.3 | <0.3 | <0.3 |

Units: mg/l

Precision Spring & Components Division

Atsugi Plant



Location: Aikawa-machi, Aiko-gun, Kanagawa
 Products: Thin leaf springs and precision stamped products
 Commenced operations: November 1970



Akihiro Doui
Plant Manager

Outlook and policies

Our plant is involved in the full-scale mass production of high-efficiency drive components for environmentally-friendly electric vehicles as well as components for hybrid vehicles. In addition, as one part of our social contribution, we actively participate in activities such as the clean campaign held in Atsugi area as well as actively working to reduce waste. We respond immediately to the rapidly changing environment and legal amendments as well as engage in activities including the reduction of CO₂ emissions.

Fiscal 2017 and 2018 initiatives

Recycling

■ Since fiscal 2005, we have achieved a 99.9% recycling rate and will continue to sustain that rate in the future. We have also actively worked to reduce waste and processing costs, such as furthering the recovery of valuables from waste, since last year. We will strive to reduce waste even further by collecting information through the Council for Waste Countermeasures in the Atsugi Region—where I previously worked as chairman—government agencies and relevant associations.

Reducing CO₂ emissions

■ We manage our power consumption centrally and strive to understand our energy use and communicate information in a timely manner to achieve the 2% target for unit reduction compared to fiscal 2016 levels set for the entire company. We are also working to save energy united as a plant by visualizing energy consumption through monitors set up in each department.

● Water quality (Regulated values: Sewage Law)

| Item | Regulated value | Actual | | | |
|----------------|----------------------|---------|---------|---------|-----|
| | | Maximum | Minimum | Average | |
| pH | 5-9 | 7.3 | 6.8 | 7.1 | |
| BOD | 600 | 50 | 7 | 23 | |
| COD | — | 49 | 11 | 27 | |
| SS | 600 | 265 | 2.0 | 36 | |
| Oil | Animal and vegetable | 30 | 16.4 | 2.6 | 6.1 |
| | Mineral | 5 | 1.4 | 0.1 | 0.3 |
| Fe | 10 | <1 | <1 | <1 | |
| Total nitrogen | 380 | 120 | 5 | 22 | |
| Fluorine | 8 | <0.8 | <0.8 | <0.8 | |
| Boron | 10 | <1.0 | <1.0 | <1.0 | |

Units: mg/l

Ina Plant



Location: Miyada-mura, Kami Ina-gun, Nagano
 Products: Wire springs and precision machined components
 Commenced operations: December 1943



Satoshi Tendo
Plant Manager

Outlook and policies

Starting with automobile transmissions and various wire springs for engines, our plant develop and manufacture functional products that utilize springs, as well as semiconductor testing devices that are high-quality, high-performance and take full consideration of environmental impact. We will also further global environmental conservation to the next level in the future while working to persevere the environment with everyone's participation to pass down the rich natural environment of Inadani to generations to come.

Fiscal 2017 and 2018 initiatives

Reducing CO₂ emissions

- The Ina Plant believes our mission is to pass down a richly lush natural environment to the next generation by prioritizing an environment with clean and abundant water sources and a wealth of biodiversity. We will pursue any possibility to save resources, recycle and reduce the environmental load in addition to actively adopting new technologies while everyone strives together in environmental activities to co-exist with local communities by bettering the environment.
- Especially in fiscal 2017, we were able to engage in activities that put in place hot weather measures throughout the plant by bringing in outside air as a new trial in addition to transitioning to LED lighting and disposing of kerosene boilers to reduce CO₂ emissions.
- We are promoting activities to enhance environmental awareness in each and every employee by expanding new environmental reforms that can be seen even in fiscal 2018.

● Atmosphere (Regulated values: Air Pollution Control Law)

| Substance | Equipment | | Regulated value | Actual |
|-----------|----------------|---|-----------------|--------|
| NOx | Heating boiler | A | 250 | 62 |
| | | B | 250 | 54 |
| | | C | 250 | 63 |
| Dust | Heating boiler | A | 0.3 | <0.002 |
| | | B | 0.3 | <0.002 |
| | | C | 0.3 | <0.003 |
| SOx | Heating boiler | A | — | <1 |
| | | B | — | <1 |
| | | C | — | <1 |

NOx and SOx units: ppm Dust units: g/m³N

● Water quality (Regulated values: Sewage Law and Nagano prefectural regulations)

| Item | Regulated value | Actual | | |
|----------------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5.7-8.7 | 7.6 | 6.9 | — |
| BOD | 600 | 21 | 5 | 11 |
| COD | — | 20 | 4 | 12 |
| SS | 600 | 13 | 2 | 7 |
| Oil | 5 | 3.3 | 0.7 | 1.4 |
| Fe | 10 | <1.0 | <1.0 | <1.0 |
| Cu | 3 | <0.3 | <0.3 | <0.3 |
| Total nitrogen | 380 | 61 | 8.5 | 22 |

Units: mg/l

Disk Drive Suspension Division

Komagane Plant



Location: Komagane, Nagano
Products: HDD suspensions
Commenced operations: November 1983



**Yoichi
Ikeji**
Plant Manager

Outlook and policies

We aim to continue to protect the environment and have an environmentally friendly plant efficiently producing the best quality HDD suspensions in the world, so that future generations can inherit our beautiful environment in good shape.

Fiscal 2017 and 2018 initiatives

Energy saving (reducing CO₂ emissions)

■ In fiscal 2017, we were able to reduce CO₂ emissions 4.4% year-on-year regardless of increased production as a result of expanding reduction activities of the compressed air use of production equipment. In fiscal 2018, we will continue reduction activities of compressed air usage to further energy savings.

Waste reduction (zero emissions)

■ In fiscal 2017, we maintained our 100% recycling rate in spite of an 11% increase in waste due to higher production. However, the unit consumption has been revised from the previous fiscal year. In fiscal 2018, we will continue reductions through thorough separation of waste and the ongoing promotion of the transition of waste to useful resources.

Environmental Management System (EMS)

■ Our plant completed migration to the ISO 14001: 2015 in June 2018. We will endeavor to strengthen our response to risk and improve environmental performance in the future.

Water quality (Regulated values: Nagano prefectural regulations)

| Item | Regulated value | Actual | | |
|------------------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5.8-8.6 | 7.8 | 7.2 | — |
| BOD | 20 | 14.0 | 1.0 | 4.7 |
| COD | 20 | 11.0 | 1.0 | 4.5 |
| SS | 30 | 16.0 | <1.0 | 3.1 |
| Oil | 5 | 1.9 | 0.4 | 1.1 |
| Total phosphorus | 16 | 2.7 | <1.0 | 1.7 |

Units: mg/l

Industrial Machinery & Equipment Division

Isehara Plant No. 1 and No. 2



Location: Isehara, Kanagawa
Products: Brazed products, pipe support systems, specialized springs, security products
Commenced operations: March 1993



**Jyunichi
Miyahara**
Isehara Plant No. 1
Plant Manager



**Tokio
Sakauchi**
Isehara Plant No. 2
Plant Manager

Outlook and policies

At this plant, we develop and manufacture environment-friendly advanced bonding technology products and pipe support systems for large plants, and anti-counterfeiting-related products. In addition, we will advance environmental conservation activities with everyone participating to leave a beautiful earth to the next generation.

Fiscal 2017 and 2018 initiatives

Reducing CO₂ emissions and the recycling rate

■ The Isehara Plant was able to achieve a 100% recycling rate in fiscal 2017 for the 13th consecutive year while succeeding in reaching the 1% reduction target compared to fiscal 2016 in both the CO₂ unit consumption and emissions index.

Energy saving

■ As initiatives for energy savings in fiscal 2018, we plan to focus on furthering the transition to LED lighting throughout the plant in addition to integrating cooling and chilling systems for the purpose of improving efficiency even more. Moreover, we will temporarily increase the number of employees to conduct education for personnel in Isehara toward the launch of a new plant in the Miyada District this fiscal year.

■ We will strive in efforts so that our activities reach the same level as Isehara in preserving the environment of Miyada, such as activities for separating waste and saving energy. Under a slogan to unite everyone, we will endeavor to improve our environmental performance further.

Water quality (Regulated values: Isehara sewage regulations)

| Item | Regulated value | Actual | | | |
|------|----------------------|---------|---------|---------|-----|
| | | Maximum | Minimum | Average | |
| pH | 5.0-9.0 | 8.3 | 6.8 | 7.8 | |
| BOD | 600 | 470 | 58 | 210 | |
| Oil | Animal and vegetable | 30 | 13 | 2.0 | 5.0 |
| | Mineral | 5 | 1.0 | 1.0 | 1.0 |
| Fe | 3 | 0.09 | 0.02 | 0.07 | |
| Zn | 1 | 0.11 | 0.04 | 0.07 | |
| Mn | 1 | 0.02 | 0.02 | 0.02 | |
| Pb | 0.1 | 0.01 | 0.01 | 0.01 | |

Units: mg/l

Industrial Machinery & Equipment Division

Komagane Plant (Chemical Products Department, Electronic Components Department)



Location: Komagane, Nagano
 Products: Specialized polyurethane foam products, metal base printed wiring boards
 Commenced operations: December 1981



Akira Enoki
 Director, Chemical Products Department



Tatsuya Saito
 Director, Electronic Components Department

Outlook and policies

The plant is located in a green and picturesque site, looking out at two of the Japan Alps. We produce functional urethane products and metal base printed wiring boards. We encourage all our employees to engage in the local environment-friendly society, in line with NHK Spring guidelines and action plans.

Fiscal 2017 and 2018 initiatives

Recycling and reducing waste

- We were able to sustain a 100% recycling rate in fiscal 2017, but the amount of waste increased 18% due to steady sales and processing costs went up 26% year-on-year as a result.
- In fiscal 2018, we will work to recover valuables from waste throughout the entire plant to reduce processing costs.

Reducing CO₂ emissions and unit consumption

- In fiscal 2017, CO₂ unit consumption decreased from the results of the previous fiscal year, but we were unable to achieve our target.
- In fiscal 2018, we will strive to restrict our energy use by furthering efficiency of production processes while continuing to control the operation of air-conditioners and boilers.

Enhanced environmental management

- In fiscal 2017, we engaged in efforts to migrate to the 2015 version of the ISO 14001.
- In fiscal 2018, we will acquire the 2015 version of the ISO and continue to maintain and surpass previous compliance with environmental laws and regulations.

● Atmosphere (Regulated values: Air Pollution Control Law)

| Substance | Equipment | Regulated value | | Actual |
|-----------|------------------|-----------------|-----|--------|
| | | A | B | |
| NOx | Hot water boiler | A | 180 | 101 |
| | | B | 180 | 38 |
| Dust | Hot water boiler | A | 0.3 | <0.004 |
| | | B | 0.3 | <0.004 |
| SOx | Hot water boiler | A | — | <0.001 |
| | | B | — | <0.001 |

NOx units: ppm SOx units: m³/N/h Dust units: g/m³N

● Water quality (Regulated values: Nagano prefectural regulations) Production Building 1

| Item | Regulated value | Actual | | |
|------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5.8-8.6 | 8.2 | 7.6 | — |
| BOD | 20 | 2.0 | 1.0 | 1.5 |
| COD | 20 | 1.0 | <1.0 | <1.0 |
| SS | 30 | 1.0 | <1.0 | <1.0 |
| Oil | 5 | 1.6 | 0.4 | 1.0 |

Units: mg/l

● Water quality (Regulated values: Nagano prefectural regulations) Production Building 2

| Item | Regulated value | Actual | | |
|-----------------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5.8-8.6 | 7.6 | 6.8 | — |
| BOD | 20 | 20 | 3 | 13 |
| COD | 20 | 11 | 5 | 7 |
| SS | 30 | 5 | <1 | 1.2 |
| Oil | 5 | 4.0 | 0.2 | 1.2 |
| Fe | 10 | <1 | <1 | <1 |
| Cu | 3 | 0.3 | <0.3 | <0.3 |
| NH ₄ | 100 | 2.6 | 1.7 | 2.1 |

Units: mg/l

*Due to a temporary decrease in drainage processing capacity, Rectified

Yasu Plant (Parking Systems Department)



Location: Yasu, Shiga
 Products: Mechanical multilevel parking systems
 Commenced operations: October 1996



Takuo Higuchi
 Director, Parking systems Department

Outlook and policies

Our plant develops and manufactures mechanical multi-story parking systems as well as other mechanical components under a slogan to reduce the impact on the environment. We aim to further protect the global environment and continue improving our care for the environment to ensure that we pass on the green mountains and clear air and rivers of these superb natural surroundings to later generations.

Fiscal 2017 and 2018 initiatives

Energy saving (reducing CO₂ emissions)

- In fiscal 2017, we continued efficient operation of power coating equipment with large energy consumption in accordance with the 100% metal plating specifications for products and gained effectiveness in CO₂ reductions.
- We will continue our activities from the previous fiscal year in fiscal 2018 and promote energy savings by adapting appropriately to changes in the production environment.
- Furthermore, we will continue to advance the transition to LED lighting at the plant and office that began in fiscal 2017 in addition to exploring energy saving options for the future.

Recycling and reducing waste

- We will carry out improved and thorough separation to maintain our 100% recycling rate.
- In fiscal 2018, we will also look for a new waste treatment contractor to promote recycling of waste into useful resources and to increase our in-house waste liquid treatment rate and reduce processing costs.

● Atmosphere (Regulated values: Air Pollution Control Law)

| Substance | Equipment | Regulated value | | Actual |
|-----------|-------------|-----------------|--------|--------|
| | | A | B | |
| NOx | Boiler | 150 | 49 | |
| | Drying oven | 230 | 32 | |
| Dust | Boiler | 0.1 | <0.002 | |
| | Drying oven | 0.2 | <0.002 | |

NOx units: ppm Dust units: g/m³N

● Water quality (Regulated values: Sewage Law)

| Item | Regulated value | Actual | | |
|------------------|-----------------|---------|---------|---------|
| | | Maximum | Minimum | Average |
| pH | 5-9 | 7.9 | 7.2 | — |
| BOD | 600 | 2 | 1 | 2 |
| COD | — | 5 | <1.0 | 2 |
| SS | 600 | 9 | 1 | 4 |
| Oil | 5 | 3.4 | <1.0 | 1.2 |
| Ni | 1 | 0.2 | <0.1 | <0.1 |
| Total nitrogen | 60 | 20 | 5 | 16 |
| Total phosphorus | 10 | 0.4 | <1.0 | <1.0 |

Units: mg/l