

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 2018 and 2019 initiatives

Update to ISO14001(2015)

■ In fiscal 2018, all offices that had acquired third-party ISO14001 (2004) certification completed their updates to ISO14001 (2015). Comparable updates were carried out at all domestic and overseas affiliates, completing ISO14001 (2015) updates at all offices throughout the group. Moving forward, we will strive to respond to a broader scope of risks while improving group environmental performance through new ISO operations.

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 2018, we moved forward with waste separation recycling at the Head Office (including the Research & Development Division), reducing waste volume and cost. As a result, we were able to achieve our waste reduction and recycling targets for the Head Office.

■ During fiscal 2019, we will strive to maintain recycling (the recycling rate) at 100%, and will move forward with a higher quality of recycling in order to reduce waste volume.

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

Substance	Equipment	Regulated value			Actual		
		Maximum	Minimum	Average	Maximum	Minimum	Average
NOx	Hot water boiler	A	0.041	0.005	—	—	—
		B	0.025	0.008	—	—	—
		C	0.025	0.008	—	—	—
	Cooling water generator	A	0.029	0.003	—	—	—
		B	0.018	0.002	—	—	—
		C	0.024	0.002	—	—	—
Dust	Hot water boiler	A	0.050	<0.003	—	—	—
		B	0.050	<0.003	—	—	—
		C	0.050	<0.003	—	—	—
	Cooling water generator	A	0.050	<0.005	—	—	—
		B	0.050	<0.003	—	—	—
		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	7.8	6.9	—
Oil	5	1.8	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	0.8	<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	7.5	6.8	—
Oil	5	4.7	0.1	1.0
Fe	3	0.4	<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
NH ₄	380	1.1	<0.3	0.5

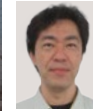
Units: mg/l

Suspension Spring Division

Yokohama Plant



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



Hiroto Tsuji
Plant Manager

Outlook and policies

At this plant, our slogan is "global environment-friendly spring manufacturing." The improvements we work toward include reducing basic CO₂ unit emissions and industrial waste. As all of our personnel participate in work on continual improvement of our environmental management systems, we will work to help conserve the global environment and prevent global warming while building the environment that we hand down to the next generation.

Fiscal 2018 and 2019 initiatives

Reducing CO₂ emissions and waste

■ The steps we take in keeping with our slogan, "global environment-friendly spring manufacturing," include reductions in CO₂ emissions and industrial waste. At the same time, we take environmental management action as part of TPM activities so that our spring plant personnel all pull together, aiming high in environmental management through daily activities.

■ We implemented CO₂ emissions reduction measures in fiscal 2018, including conversion to LED plant lighting, upgrades to plant air compression, pressure control system overhaul and full inspections for air leakage sites, as well as enhancement of furnace wall insulation (heat insulation coatings) to reduce the amount of combustion gas used.

■ During fiscal 2019, we will pursue further energy conservation by taking different approaches, while also working to reduce industrial waste volume in our efforts to achieve "global environment-friendly spring manufacturing."

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

Substance	Equipment	Regulated value			Actual		
		Maximum	Minimum	Average	Maximum	Minimum	Average
NOx	Metal reheating furnace	A	0.128	0.049	—	—	—
		B	0.110	0.018	—	—	—
		C	0.212	0.049	—	—	—
		D	0.169	0.073	—	—	—
		E	0.119	0.020	—	—	—
	Metal tempering furnace	A	0.202	0.017	—	—	—
		B	0.123	0.002	—	—	—
		C	0.104	0.025	—	—	—
		D	0.085	0.009	—	—	—
		E	0.059	0.003	—	—	—
Dust	Metal reheating furnace	A	0.1	<0.002	—	—	—
		B	0.1	0.007	—	—	—
		C	0.1	<0.002	—	—	—
		D	0.1	<0.002	—	—	—
		E	0.1	<0.002	—	—	—
	Metal tempering furnace	A	0.1	<0.006	—	—	—
		B	0.1	<0.003	—	—	—
		C	0.1	<0.003	—	—	—
		D	0.1	<0.004	—	—	—
		E	0.1	<0.003	—	—	—

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	7.7	6.9	—	
Oil	Animal and vegetable	30	4.3	1.3	2.1
	Mineral	5	0.6	0.1	0.2
Fe	3	<0.3	<0.3	<0.3	
Zn	1	<0.1	<0.1	<0.1	
Ni	1	0.9	0.2	0.5	
Mn	1	0.2	<0.1	<0.1	
Fluorine	8	2.3	<0.8	<0.8	
Boron	10	<1.0	<1.0	<1.0	
Total nitrogen	240	153	31	72	
Total phosphorus	32	4.3	2.0	2.9	
NH ₄	380	110	32	57	

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 2018 and 2019 initiatives

Energy saving

- In fiscal 2018, we continued activities such as inspections of air leaks and closing of control panel power circuit breakers. We reduced the use of electricity by furthering the change of fluorescent lights to LED lighting at plants in all regions including the change to LED lighting on the SC-2 ceilings of the No. 1 Plant (98 lights). We also achieved reductions in the volume of gas used through insulation of the external surfaces of gas heat treatment furnaces. Moreover, we see the management to sustain the water quality of waste water at our plants that rely on Lake Biwa as vital and have been working at global environmental conservation, including the update of aeration stacks in waste water treatment facilities.
- In fiscal 2019, we will pursue further CO₂ reductions through ongoing energy conservation efforts that include gas furnace surface insulation and heat space reduction, compressor energy conservation, etc. We will also move forward with action to protect the global environment by working to reduce industrial waste and by continuing with activities to reduce sludge volume.

● Atmosphere (Regulated values: Air Pollution Control Law)

Substance	Equipment		Regulated value	Actual
NOx	Metal reheating furnace	A	180	68
		B	180	36
		C	180	30
		D	180	61
		E	180	45
Dust	Metal reheating furnace	A	0.25	<0.006
		B	0.20	<0.003
		C	0.20	<0.004
		D	0.20	<0.002
		E	0.20	<0.012

NOx units: ppm Dust units: g/m³N

● Water quality (Regulated values: Agreement with Koka)

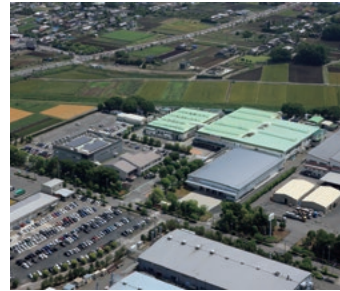
Item	Regulated value	Actual		
		Maximum	Minimum	Average
pH	6-8.5	7.5	6.8	—
BOD	30	<1.0	<1.0	<1.0
COD	30	2.0	<1.0	<1.0
SS	70	5.0	<1.0	<1.0
Oil	5	1.9	0.2	1.0
Total nitrogen	12*	9.8	<1.0	4.7
Total phosphorus	1.2*	0.7	<0.1	<0.1
Fluorine	8*	<0.8	<0.8	<0.8
Boron	10*	<1.0	<1.0	<1.0
Zn	1*	<0.1	<0.1	<0.1

Units: mg/l

*Shiga prefectural regulations

Seating Division

Gunma Plant



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

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



Masayoshi Yamaguchi
 Plant Manager

Outlook and policies

In order to reduce CO₂ emissions volume from production activity at this plant, we will comprehensively promote activities based on NHK's own concept of elimination, reduction and change. We aim to be a factory that puts the local community first as we work to enrich society as a whole through a tripartite policy orientation in which we pursue technology, locally rooted operations, and partnership with society.

Fiscal 2018 and 2019 initiatives

Energy saving

- During fiscal 2018, we converted office building lighting to LED in accordance with our medium-term plan. We also worked on achieving greater energy efficiency by updating of facilities with high rates of air dryer operation.
- During fiscal 2019, we will undertake to reduce overall plant energy consumption by about 15% due to the increase in production efficiency accompanying the migration from old to new urethane foam facilities. We will also be upgrading from old equipment such as air conditioners and compressors to new high-efficiency products.

Recycling and reducing waste

- During fiscal 2019, we will extend industrial waste reduction activities throughout the lifecycle. We have maintained a 100% recycling rate through participation by all personnel in a thoroughgoing program of waste separation and promotion of useful resource reclamation.

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

Substance	Equipment	Regulated value	Actual
NOx	Generator	950	176
Dust	Generator	0.1	0.028

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	7.6	6.6	—
BOD	10	9.0	<1.0	3.5
SS	10	5.0	<1.0	1.8
Oil	Animal and vegetable	3	2.8	0.4
	Mineral	3	0.4	<0.3

Units: mg/l

● Water quality: Ota area (Voluntary regulatory values)

Item	Regulated value	Actual		
		Maximum	Minimum	Average
pH	5.8-8.6	8.0	7.1	—
BOD	40	4.0	2.0	2.7
COD	40	9.0	2.0	4.9
SS	50	14.0	<1.0	2.7
Oil	5	3.4	0.1	1.2

Units: mg/l

Seating Division

Yokohama Plant



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



Chihaya Yamamoto
 Plant Manager

Outlook and policies

We will obtain an accurate understanding of the effects this factory's operational activities exert on the global environment, specify environmental goals, and manage progress as we make continual improvements in environmental performance. We will pursue the potential of resource conservation, recycling and environmental impact reduction by comprehensively promoting activities based on NHK's own concept of elimination, reduction and change while helping to prevent global warming. In this endeavor, we will work to reduce CO₂ emissions volume, help stop environmental pollution and environmental conservation.

Fiscal 2018 and 2019 initiatives

Energy saving

■ We converted to small electric boilers for urethane mold maintenance steam before fiscal 2018. This enabled us to eliminate wasteful heat loss by disconnecting the steam piping from the large LNG boiler that previously traversed the plant diagonally. In fiscal 2018, the heat source for producing circular urethane line temperature control water was also converted to electric boiler equipment, and we also succeeded in eliminating operation of steam-absorption refrigerators during seasons when air conditioning is not required. We have also been progressing as needed with conversion to electric air conditioning, which excels in operating with reduced CO₂ emissions. In order to produce even better results in fiscal 2019, we are aiming to completely cease boiler operation during night hours through the adoption of electric air conditioning prioritizing two-shift operational processes. Planning is currently under way. Having introduced waste separation education, we are maintaining a 100% rate of recycling and recovering resources from waste.

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

Substance	Equipment	Regulated value	Actual
NOx	Boiler	0.064	0.023
Dust	Boiler	0.05	<0.003

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	7.8	6.9	—
Oil				
Animal and vegetable	30	5.2	0.1	1.2
Mineral	5	1.0	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 2018 and 2019 initiatives

Energy saving

■ During fiscal 2018, we implemented measures to eliminate air leaks and conserve energy through greater efficiency by converting factory lighting to LED illumination, replacing aging air conditioning equipment and upgrading compressors. Having completed the conversion of factory lighting to LED illumination as outlined in our medium- to long-term plan, we have reduced CO₂ emissions by a total of 270 tons over seven years.

■ During fiscal 2019, we plan to upgrade the air conditioning equipment that was in use when our employee welfare facilities were first built, as well as the wastewater processing plant. We will engage in activities to protect the environment through our energy conservation measures and by maintaining and managing wastewater quality.

Education

■ We will update the training hall for safety, quality and environment that we have been using up to now as a venue for personnel training. Plans call for establishing more experiential training, as well as comprehensive training for rules compliance and skills enhancement.

● Water quality (Regulated values: Sewage Law)

Item	Regulated value	Actual		
		Maximum	Minimum	Average
pH	5-9	7.8	7.1	—
BOD	600	22.0	1.0	5.0
COD	600	48.0	4.0	17.5
SS	600	12.0	1.0	5.1
Oil	5	2.8	0.5	1.3
Zn	2	0.3	<0.2	<0.2
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 produces high-efficiency drive components for environmentally-friendly electric vehicles as well as components for hybrid vehicles. We will respond proactively to rapidly changing circumstances and legal amendments while exchanging information with related organizations such as the Council for Waste Countermeasures in the Atsugi Region. Our plants will pull together in a unified effort to reduce waste and CO₂ emissions.

Fiscal 2018 and 2019 initiatives

Recycling, recovering resources and CO₂ reduction

- Since 2005, we have achieved a resource recycling and recovery rate of 99.9%, and will continue these efforts into the future. We are also working proactively to reduce waste volume and processing costs by recycling and converting waste into usable resources.
- In order to achieve our goal of a 3% reduction in basic CO₂ unit emissions compared to fiscal 2016, we are working to achieve a timely understanding of and response to electric power usage by bringing visibility to demand through the implementation of centralized management of electric power.

CSR compliance and environmental impact reduction efforts

- Our CSR compliance activities include gathering information from administrative bodies and other related organizations, such as the Council for Waste Countermeasures in the Atsugi Region, to achieve CSR as we aim to make the Atsugi Plant more earth-friendly.
- In addition, when adopting new facilities or equipment, we conduct prior environmental impact evaluations and strive to reduce any resulting burden on the environment.

Water quality (Regulated values: Sewage Law)

Item	Regulated value	Actual			
		Maximum	Minimum	Average	
pH	5-9	7.5	7.0	—	
BOD	600	52	5	21	
COD	—	42	15	24	
SS	600	188	1.0	41	
Oil	Animal and vegetable	30	10.5	2.0	7.0
	Mineral	5	4.2	0.1	0.3
Fe	10	<1	<1	<1	
Total nitrogen	380	34	8	20	
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

At the Ina Plant, situated as we are amid an abundance of diverse natural ecosystems and a wealth of pure water, we see it as our mission to hand down a richly verdant natural environment to future generations. We actively adopt new technologies, and through environment-related improvements, we undertake efforts in which all personnel participate in activities together with the local community.

Fiscal 2018 and 2019 initiatives

Reducing CO₂ emissions

- At the Ina Plant, we converted to LED lighting and installed exhaust fans to expel hot interior air and counter the summer heat, measures which are part of environmental improvement activities through which we are reducing electric power use and CO₂ emissions volume. In particular, the environmental improvement measure in which we eliminated reliance on air conditioning by using exhaust fans has reduced maximum summer plant interior air temperature by approximately 4°C. It has also eliminated the physical toll that air conditioning takes on the body, making this an environmental and health improvement that is kind to both people and the earth.
- At the No. 2 Ina Plant newly constructed in Ina City, we will endeavor to be a leader in the NHK Spring Group's environmental improvement effort. We will do this by generating new electric power in experimental projects in fields of power generation that go beyond reducing electric power consumption and using solar panels for electricity.

Atmosphere (Regulated values: Air Pollution Control Law)

Substance	Equipment		Regulated value	Actual
NOx	Heating boiler	A	250	61
		B	250	53
		C	250	56
Dust	Heating boiler	A	0.3	<0.003
		B	0.3	<0.003
		C	0.3	<0.003
SOx	Heating boiler	A	—	<0.001
		B	—	<0.001
		C	—	<0.001

NOx units: ppm SOx units: m³N/h 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	6.6	—
BOD	600	46	5	14
COD	—	34	7	16
SS	600	33	5	14
Oil	5	3.8	0.7	2.1
Fe	10	<1.0	<1.0	<1.0
Cu	3	<0.3	<0.3	<0.3
Total nitrogen	380	13	2	7

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 2018 and 2019 initiatives

Energy saving (reducing CO₂ emissions)

- During fiscal 2018, major improvements resulted from previous years' efforts to reduce the volume of air used in production facilities. Production volume saw a 15.7% year-on-year increase as CO₂ emissions were reduced by 2.2%.
- During fiscal 2019, we will enhance energy visibility while further reducing CO₂ emissions through various improvement efforts.

Waste reduction (zero emissions)

- We continue to maintain our 100% resource recycling rate and to meet our emissions index numerical targets. Restrictions imposed by China on waste plastic imports last year will create an even harsher environment during fiscal 2019, but we will respond with thoroughgoing waste separation and other adaptations toward meeting our targets.

Water quality (Regulated values: Nagano prefectural regulations)

Item	Regulated value	Actual		
		Maximum	Minimum	Average
pH	5.8-8.6	7.9	7.2	—
BOD	20	6.0	1.0	3.3
COD	20	10.0	<1.0	4.7
SS	30	6.0	<1.0	3.0
Oil	5	1.3	0.2	0.8
Total phosphorus	16	7.2	<1.0	2.4

Units: mg/l

Industrial Machinery & Equipment Division

Isehara Plant No. 1 and No. 2



Location: Isehara, Kanagawa
Products: Semiconductor process components, 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 our plant, we will continue to develop and manufacture environmentally friendly sophisticated joint technology products, TERA high-stress disc springs used in machine tools, and anti-counterfeiting products. We will work to improve environmental performance by having all of our personnel participate in 3R efforts including conservation of resources and energy, and reduction of waste and substances with environmental impact.

Fiscal 2018 and 2019 initiatives

Reducing CO₂ emissions and the recycling rate

- During fiscal 2018, we did not manage to meet our target of reducing basic CO₂ unit emissions by 2% compared to fiscal 2016. This was because of a decrease in production efficiency resulting from an increase in personnel in response to increased production, as well as the allocation of personnel at the Miyada Plant to personnel training duties. We did, however, succeed in meeting our goal of a 2% emissions index reduction relative to fiscal 2016. We have maintained a 100% resource recycling rate for 14 consecutive years.

Energy saving

- Energy conservation efforts planned for fiscal 2019 include conversion to LED lighting in offices, dining halls and conference rooms, as well as further improvements in production processes. We intend to further increase our awareness of waste separation, and to promote 3R efforts in which all personnel participate.

Water quality (Regulated values: Isehara sewage regulations)

Item	Regulated value	Actual			
		Maximum	Minimum	Average	
pH	5.0-9.0	8.6	7.2	8.3	
BOD	600	430	83	180	
Oil	Animal and vegetable	30	29	3.0	10.0
	Mineral	5	<1.0	<1.0	<1.0
Fe	3	0.02	0.08	0.04	
Zn	1	0.12	0.05	0.08	
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, Integrated metal products:
 December 1981



Akira Enoki
 Director, Chemical Products Department



Tatsuya Saito
 Director, Electronic Components Department

Outlook and policies

As a part of organizational changes effective from April 2019, we are becoming the Industrial Machinery & Equipment Production Division, Komagane Plant. Situated amid verdant scenery with a view of both the Central and Southern Alps, this plant develops and produces functional urethane products and metal substrates. We promote efforts that involve all employees in working to foster a recycling society rooted in the local community in keeping with NHK Spring guidelines and action plans.

Fiscal 2018 and 2019 initiatives

Recycling and reducing waste

- In fiscal 2018, we not only achieved our basic CO₂ unit emissions goal, but cleared the target by 11%.
- Although we will face increased energy use during fiscal 2019 due to production plant relocation, we will strive to curb energy consumption without relaxing our numerical targets.

Reducing CO₂ emissions and unit consumption

- In fiscal 2018, we maintained a 100% recycling rate. However, waste volume increased by 14% from the previous fiscal year, while processing costs increased by 21% in line with sales growth.
- During fiscal 2019, the whole plant operation will undertake efforts to reclaim useful resources from waste in order to cut processing costs.

Enhanced environmental management

- We shifted to the 2015 ISO version in fiscal 2018, and began operating accordingly.
- During fiscal 2019, we will continue to comply with and uphold environmental laws and regulations and to partner with the Miyada Plant as we do so.

● Atmosphere (Regulated values: Air Pollution Control Law)

Substance	Equipment	Regulated value	Actual
NOx	Hot water boiler	A	180
		B	37
Dust	Hot water boiler	A	180
		B	32
SOx	Hot water boiler	A	0.3
		B	<0.003
		A	0.3
		B	<0.003
		A	—
		B	<0.001

NOx units: ppm SOx units: m³N/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	8.4	7.7	—
BOD	20	4.0	1.0	2.0
COD	20	1.0	<1.0	<1.0
SS	30	1.0	<1.0	<1.0
Oil	5	1.6	0.3	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	19	2	13
COD	20	12	3	8
SS	30	4.0	<1	1.3
Oil	5	3.3	0.5	1.1
Fe	10	<1	<1	<1
Cu	3	0.7	<0.3	<0.3
NH ₄	100	2.6	0.9	1.7

Units: mg/l

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 2018 and 2019 initiatives

Energy saving (reducing CO₂ emissions)

- The adoption in fiscal 2018 of specifications for product plating was accompanied by a revision of operating methods of operating shot-blast machinery used on H-section steel columns, a major consumer of electric power. Keeping the operation of this equipment to the minimum necessary resulted in CO₂ reduction.
- During fiscal 2019, we will continue our efforts of fiscal 2018 to promote energy conservation as we adapt appropriately to changes in the production environment.
- We will explore energy conservation proposals for the future while also moving forward with our ongoing conversion of plant lighting to LED illumination.

Recycling and reducing waste

- We will carry out improved and thorough separation to maintain our 100% recycling rate.
- This fiscal year, 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
NOx	Boiler	150	45
	Drying oven	230	28
Dust	Boiler	0.1	<0.003
	Drying oven	0.2	<0.003

NOx units: ppm Dust units: g/m³N

● Water quality (Regulated values: Sewage Law)

Item	Regulated value	Actual		
		Maximum	Minimum	Average
pH	5-9	8.0	7.4	—
BOD	600	2.0	1.0	1.3
SS	600	11	3	6
Oil	5	1.9	<1.0	0.9
Ni	1	0.2	<0.1	<0.1
Total nitrogen	60	26	13	18
Total phosphorus	10	1.3	<1.0	<1.0

Units: mg/l