# Environmental Report 2013-2014

Fighting Disease with Electronics

# **Message from the President**



Since its founding in 1951 with the motto of "Fighting Disease with Electronics," Nihon Kohden has become a leading manufacturer of medical electronic equipment providing a wide range of medical devices to medical professionals around the world who are active in fields of clinical healthcare, emergency care, home healthcare, nursing, and healthcare promotion. This Environmental Report describes our FY2013 initiatives and results for environmental conservation, as well as our plans for FY2014 and beyond.

FY2013 was the first fiscal year of our Strong Growth 2017 four-year midterm business plan. For environmental conservation activities, as well, it was the first fiscal year for acting on a new environmental policy revised according to the new midterm business plan. In regard to our environmental policy, we tailored the environmental conservation to the business conditions of each site in order to strive for further improvement in environmental activities. We were able to achieve most of the company-wide environmental targets in this first year of the plan.

#### **Prevention of Global Warming**

To help prevent global warming, we focused on environmentally friendly product development and reduction of energy consumption at our business sites.

For environmentally friendly product development, we conducted product assessments in most of our focus areas and in FY2013 we launched 9 environmentally friendly products. Along with improving the functionality, we aimed at making improvements in energy conservation, reduction of raw materials, and environmental safety.

To reduce energy consumption at our business sites, we improved heat efficiency through renovations, made infrastructure improvements such as switching to LED lighting and upgrading air conditioning equipment, as well as reconsidering our operation of air conditioners and production equipment. Through these actions, we achieved a significant 51.2% reduction in our  $CO_2$  emissions per sales unit compared to FY2000, far exceeding the 25% target for FY2013.

## **Recycling Resources**

In our use of recycled resources, by reconsidering each type of waste generated in our business activities and making efforts to recycle them, we maintained a 99% recycling rate and successfully achieved zero emissions.

To continue our role in establishing a society which effectively uses waste and recycles resources, we will continue expanding our activities to maintain a high recycling rate and reduce our waste volume.

#### **Ecosystem Conservation**

We recognize that the business activities of our company are part of the diversity of the ecosystem and have an impact on it so we are implementing activities to conserve this biodiversity. From the point of view of forest conservation, our efforts to reduce paper usage, including improving business efficiency by expanding IT usage, resulted in keeping FY2013 paper consumption at the same level as the previous year.

In regard to controlling the use of chemical substances in medical devices, the EU RoHS directive for medical equipment was implemented in 2014. For the products we make, we will work with our materials suppliers and reduce our use of hazardous chemical substances that have an impact on environmental pollution, while continuing to provide safe and high quality medical devices.

Moreover, at our factories and offices, we are making necessary infrastructure improvements and taking pollution prevention measures to prevent environmental contamination by hazardous chemical substances.

## **FY2014** Initiatives

In accordance with our new environmental policy, Nihon Kohden conducted one-year environmental activities at each site. We hope to leverage the experience gained from these activities and strive for business operations that contribute to further improvement of the global environment.

Designing eco-conscious medical equipment, saving energy in business operations, and preventing pollution are important themes in our continued company-wide efforts to provide better products to more customers.

We are planning to relocate our Tomioka production facility in FY2015 and to relocate our technology development division to Tokorozawa in Saitama Prefecture in FY2016. In addition to building new business sites designed to be greener than ever, we will improve operating efficiency and decrease the environmental impact of the manufacturing and logistics processes as we work to improve the global environment by providing an even greater variety of green products in a timely fashion.

The Nihon Kohden Group is dedicated to contributing to not only human but all life on earth through our business activities and citizenship activities. Under our slogan of "Nihon Kohden: For Precious Life," we will continue to provide medical equipment that contributes to human life and the irreplaceable global environment.

President and Chief Operating Officer

Jun o Dazulin

## Management Philosophy

We contribute to the world by fighting disease and improving health with advanced technology, and create a fulfilling life for our employees.

Environmental Philosophy In its business activities and the actions of its employees, Nihon Kohden works toward the conservation and qualitative improvement of the earth's priceless environment so that all people can enjoy a healthy environment.

Environmental Policy Based on its management and environmental philosophy, Nihon Kohden shall carry out this environmental policy.

#### 1. Provide environmentally friendly products

In carrying out development, manufacturing, marketing, after sales service, and support for electronic medical devices, we provide environmentally friendly products which conserve energy and resources, and do not use hazardous substances.

#### 2. Promote energy conservation and reduction of waste

In all of our business activities, we continue to introduce low-carbon and high efficiency technologies, and strive to promote energy conservation, reduce wastes through the 3 R's of reduce/reuse/recycle, reduce  $CO_2$  emissions, and prevent environmental pollution.

#### 3. Comply with laws and regulations

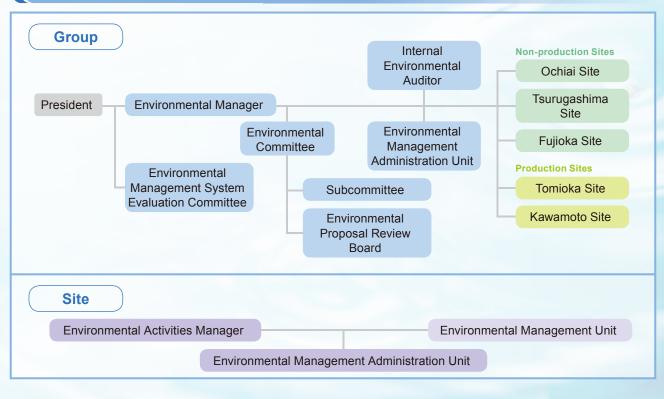
In all of our business activities, we comply with all laws, regulations, ordinances, and agreements that concern the environment in Japan and overseas, and carry out our responsibilities to stakeholders as a global company.

#### 4. Promote environmental education

In regard to environmental issues, Nihon Kohden provides appropriate education and awareness-raising activities. We also promote education aimed at including environmental improvement activities into our everyday work.

March 28, 2013

# Environmental Management System (EMS)



# **Comments from the Environmental Manager**



Yoshiaki Uematsu

FY2013 brought torrential rains in summer and heavy snows in Tokyo, and gave a direct sense of changes in the natural environment. It was a year that gave us a new outlook on the global environment. It was also a year that advanced our thinking on consuming less power. Nihon Kohden united company-wide to undertake energy conservation. We raised production efficiency and work efficiency even while curtailing peak electrical power.

FY2013 was the first year since revising our environmental policy and environmental objectives that are part of our midterm management plan for environmental conservation activities. This year, we were able to meet our targets for the waste emissions recycling rate, as well as CO<sub>2</sub> emis-

sions and energy usage per sales unit. This is in addition to meeting targets for landfill usage and simple incinerated waste emissions.

In our development divisions, we launched environmentally conscious products that comply with RoHS and other regulations. Our production and service divisions also stepped up efforts to reduce defect rates. At each of our sites, we also launched environmental improvement activities in line with the core operations of each site.

In FY2014, we will maintain our proactive approach towards environmental conservation activities with support from all Group activities, focusing on both our business activities centered on environmentally-friendly products and our activities to reduce environmental impact.

# **Green Procurement**

In line with the Nihon Kohden Group's environmental philosophy, Nihon Kohden provides eco-conscious products to the market. One part of this is green procurement. We procure parts, materials, and finished products which have a low environmental impact.

Our green procurement efforts adhere to the following principles.

- (1) Prioritize purchasing from suppliers conducting ambitious environmental conservation activities while also excelling in areas that include quality, pricing, delivery times, and services.
- (2) Prioritize the purchase of toxic substance-free products.

#### **Requests to our suppliers**

To uphold our green procurement policy, the Nihon Kohden Group asks its suppliers to practice environmental conservation in their business activities and supply products, parts, and materials that have low environmental impact. We also ask them to provide a RoHS Declaration of Conformity and participate in various surveys.

#### Supplier-side environmental conservation

We ask all our suppliers to take measures for effective environmental conservation such as establishing an environmental policy, maintaining systems, and implementing education.

# Supplying low environmental impact products, parts, and materials

To manage the chemicals that are used in our procured products, we request the following.

- Create a quality control system for chemicals used in products
- (2) Implement green procurement of parts and materials that reduce toxic substances and have low environmental impact

#### **Chemical substance content inspection**

To evaluate the chemical substances in procured goods, we request all suppliers to respond to investigations of chemical substances in the goods.

We require suppliers to provide certificates of compliance for materials used in RoHS compliant products.

# Social Contribution through Our Work

# **Environmentally Friendly Products**

Nihon Kohden has been taking eco-friendly product initiatives since 2006. In FY2013, we launched a number of environmentally friendly products.

## CSM-1000 series bedside monitors

#### **Eco-friendly points**

This is Nihon Kohden's high-end patient monitor. The processing power has been greatly increased to allow a moving waveform display, the ability to connect up to three displays, and other functions but reduced power consumption has been realized through a fan-less design. We also designed the monitor for cable-free docking of the display in the main unit. This reduces the number of cables and other parts.



#### **Features**

This patient monitor is optimized for each application in the OR, ICU, CCU, NICU and other areas. The screen layout can be changed by drag-and-drop. Other easy to use features include switching between real time and previous waveforms and data on the review screen with just one finger swipe. The CSM-1000 bedside monitor can be integrated with a BSM-1700 bedside transport monitor for simple and seamless patient transport.

## BSM-1700 series bedside/transport monitors

#### **Eco-friendly points**

The weight, volume, and power consumption is 1/3 that of conventional compact bedside monitors. Downsizing the device has made it possible to meet various requirements in addition those of a transport monitor.

#### Features

With a product concept of "smart transport," this easy-to-use patient transport monitor realizes reduced workload and safer patient transport. Seamless patient data storage and management also makes this monitor and effective patient monitoring system. The robust construction meets the MIL-STD-810F environmental standard. BSM-1700 has realized continuous monitoring without removing the ECG leads and other leads, for example when a critical care patient returns to the ICU or CCU from the operating room, or goes to an exam room for tests, or

when an emergency outpatient goes for tests. BSM-1700 also includes our new iNIBP method of noninvasive blood pressure measurement which enables fast, accurate measurement even if there is sudden blood pressure change. Furthermore, with iNIPB, the cuff pressure is never excessive so blood pressure measurement becomes more comfortable for the patient.

patient. It also allows monitoring close to the patient during cardiac rehabilitation. Enabling the medical staff to check

# ZT-210P portable wireless receiver monitor

#### **Eco-friendly points**

This device is much smaller than conventional bedside monitors. Its low power consumption allows it to run on AAA alkaline batteries. It can also use rechargeable NiMH batteries which helps reduce waste.

#### **Features**

Simply bringing this device near a patient transmitter allows it to display waveforms and data from the patient. This allows checking the electrode attachment or checking the patient condition during rounds. ZT-210P acts as a simple wireless monitor that enables reducing the number of cables around the stretcher when transporting a

the patient condition while near them leads to improved medical safety and a lighter workload.



ZT-210P



**BSM-1700** 

# **Social Contribution through Our Work**

# STS-2100 exercise stress test ECG

#### **Eco-friendly points**

This device is 35% lighter with a 50% smaller footprint than conventional models. A 30% reduction in energy consumption has also been achieved. The top and bottom of the unit can be separated so it can be transported in smaller vehicles which emit less CO<sub>2</sub>.

#### **Features**

The product concept of better accuracy, better usability, and better safety has led to excellent waveform reproducibility and monitoring of information that meets the needs of different applications. Improved processing power allows the display of simultaneous moving traces for 12 ECG leads. The compact main unit has a special arm for a sphygmomanometer and a storage rack that can open and close. Ease of operation has been improved to the smallest detail such as a paper cutter, pen holder, and record cardholder. Intuitive operation and exam flow have been enhanced by a row of special keys arranged on the LED screen in order of the exam process. Blood oxygen (SpO<sub>2</sub>) can be measured and this allows measurement of PWTT (pulse wave transit time) which

enables hemodynamics management and a safer exercise stress testing environment. To prevent the loss of important data, all data is saved to internal memory during the exam and automatically backed up onto storage media when the exam is complete. This reduces risks such as the need for retesting. STS-2200 can link with a diagnostic information system and connect with an RIS, DICOM or other DICOM compliant server. STS-2200 supports integrated management of exam data from physiological testing, cardiac rehabilitation, MRI exam, and other test data as well as paperless operation and other methods of more efficient testing.

# RAC-2503 long-term holter ECG

#### **Eco-friendly points**

Recording time has been greatly increased to 168 hours on one AAA alkaline battery. This dramatically reduces battery waste. Rechargeable NiMH batteries can also be used to further reduce waste.

#### **Features**

The smaller size and lighter weight reduces discomfort for the patient while wearing it. Two channels of ECG waveforms can be simultaneously displayed on the LCD screen. Checking

the waveforms before and during the holter test is simple and this reduces the electrode attachment time. Also, the unit only has one button. This prevents improper use by the patient. Waveform data is transferred by USB rather than SD card. This reduces data loss caused by repeated card insertion and removal and card degradation, and adds reliability to the time-consuming holter test. Using NC-415U disposable electrodes together with the RAC-2503 holter ECG helps prevent infection, reduce electrode attachment time, and allow lead selection based on the patient's medical history and body type.

# NC-415U disposable electrodes for Holter ECG

#### **Eco-friendly points**

A smaller electrode section decreases the weight by 45% and reduces the production resources and waste. Integrating the electrodes with the lead makes it unnecessary to clean the leads separately and prevents infection.

#### **Features**

Using new electrodes for each test helps prevent infection. The adhesive tape uses a highly elastic and water vapor permeable urethane film that reduces itchiness and rashes. Also, in addition to being lighter and more flexible, the shielded leads have better noise resistance.

# CHM-4100 series clinical chemistry analyzer

#### **Eco-friendly points**

CHM-4120, the newest addition to our CHM-4100 series, can measure HbA1C in addition to CRP just by selecting a different reagent. CRP measurement takes about 4 minutes, which is 16% faster than our previous CRP-3100 model. Reagent waste is eliminated by the use of reagent cells that contain the reagents needed for a single test.

#### **Features**

06

With a product concept of speedy and user-friendly, the CHM series is the result of our dedication to usability and ensuring that patients don't have to wait. A built-in heater allows testing to start immediately after removing reagents from the refrigerator. Operation is a simple 3 step process. Also, CHM series devices can use the same blood samples for hematology analyzers. This reduces the amount of blood sampling. This is ideal for private practice doctors who need one single device for POCT (point of care treatment).

#### RAC-2503









NC-415U

CHM-4100





## SB-220V AED lithium ion battery

#### **Eco-friendly points**

This rechargeable lithium ion battery for AEDs is intended for medical care providers and fire departments. Capable of repeated recharging, it results in less battery waste than an alkaline primary battery.

#### **Features**

A five bar indicator on the battery shows the remaining battery life so the user can quickly see if the battery is charged, deteriorating, or has a problem. These batteries, together with the SB-205V battery charger, help medical care providers, fire departments, and other frequent users to reduce running costs.

#### NE-05IS3 disposable aEEG electrodes

#### **Eco-friendly points**

The lighter weight packaging uses less resources and reduces waste. To prevent infection in newborns who have a weak immune system, we made this product, including the leads, disposable.

#### **Features**

This electrode is for EEG monitoring in children, newborns, and low birth weight infants. The good adhesiveness and conductive gel that is gentle on the skin supports long-term EEG recording.



SB-2201/



#### NE-05IS3

# Efforts aimed at new business sites

To allow us to ramp up production, improve production efficiency, and cut costs, we will begin operations at a new plant at our Tomioka business site in FY2015. We will also build an R&D facility in Tokorozawa, Saitama Prefecture in FY2016 to enhance intellectual productivity and development efficiency. This will be the new home for the Technology Development Division which is currently located in Nishiochiai. The following environmental initiatives are being conducted at each site.

#### **R&D** facility

Located in front of the Tokorozawa Station on the Seibu Line, the R&D facility achieves a harmony with the surrounding environment and focuses on comprehensively reducing environmental impact throughout the entire building, including the testing facilities. One example of this is how the building combines LED lighting with natural light to provide appropriate lighting in the offices.

The offices use air convection to improve air conditioning efficiency and conserve energy. As a general indicator of environmental performance, we aim to acquire CASBEE\* "S" rank certification.

\* CASBEE (Comprehensive Assessment System for Built Environment Efficiency) is a system for comprehensively evaluating the quality of buildings. It evaluates and ranks the environmental performance of a building. This includes environmental concerns such as energy-saving performance and the amount of green materials used, as well as the comfort of the interior and scenery.



Image of the completed R&D facility

#### Tomioka business site

The new plant, dubbed the Tomioka Production Center MIRAI, is located a 5-minute drive from the Tomioka interchange on the Joshin-etsu Expressway. Entirely surrounded by cherry trees, the expansive site achieves a harmony with the natural environment. The building saves energy through the use of LED lighting and centralized air conditioning. Although details are still being worked out with the construction company, construction is scheduled to be completed in April 2015 and relocation will begin around May.



Image of the completed Tomioka Production Center

# Environmental Activities Report

# 1. Goals and Results of Environmental Management Program

No.	Environmental Goals	FY2013 Target	Results
1	Reduce environmental impact and prevent pollution through business activities	Product development: Newly-developed products achieve a 5% reduction in environmental impact over conventional products	Achieved FY2013 targets by a 13.5% average reduction
		Production: 5% reduction over FY2012 for initial defect rate within 1 month after shipping	The rate fell by 4.3% from the previous fiscal year but the FY2013 target was not met
		Maintenance: Reduce repair failure rate to 0.3% or less	Achieved FY2013 target with 0.23% repair failure rate
2	Ongoing energy usage reduction aimed at reducing the carbon footprint	We achieved a 1% improvement over FY2012 per unit of energy consumed	We achieved a 6.8% improvement over FY2012 per unit of sales, which meets environmental targets for FY2013
3	Contribute to building a recycling-oriented society	We reduced landfill and simple incinerated waste per unit by 0.3% over FY2012	We acheived a 26% reduction over FY2012 per unit of sales, and our FY2013 environmental target

# 2. In-house Training to Raise Environmental Awareness

		Persons receiving training	
Training	Details	All employees	Affiliated companies and others
	Environmental awareness*	0	0
General education	Environmental action plan	0	
	Applicable laws and regulations	0	0
Specialized training	Specific job training	0	0
Specialized training	Internal auditor training	0	
Emergency response training	Training and education in emergency response procedures	0	0

\* Environmental awareness training for employees is conducted upon entering the company and at every even-numbered fiscal year.

# (INPUT

# **Energy Consumption**

Total energy consumption for the Nihon Kohden Group for FY2013 increased 2.3% year-overyear as a result of improved performance. Due to a continued trend of beginning the "Cool Biz" summer dress program early and standardizing processes within production departments, we were able to reduce energy consumption within these departments by 36 kL (2.6%) over FY2012.

Through the process of upgrading air conditioning equipment, installing LED lighting, and improving production efficiency at each site, employees seem to have developed a strong awareness of the importance of reducing energy consumption.

# 

# CO<sub>2</sub> emissions

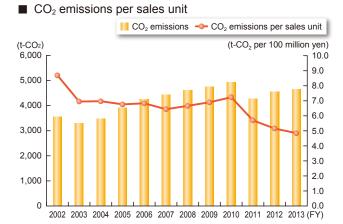
CO<sub>2</sub> emissions for FY2013 were 4,669 t-CO<sub>2</sub>.

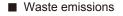
Calculated per unit of sales, emissions were 4.8 tons of  $CO_2$  per 100 million yen. This was a 6% reduction over FY2012 and a 51% reduction over FY2000.

# **Production Waste Disposal**

Our total waste emissions in FY2013 were 496.6 tons, a 6.5% increase over FY2012. However, through the enterprising recycling of saleable materials, we achieved a recycling rate of 99.6%. This resulted in a waste volume of 2.1 tons, a 49.1% decrease over FY2012.

We will be practicing Reduce, Reuse, and Recycle to further reduce our waste emissions going forward.







1330

136

1226

144

135

1284

166

1116

1104

877

903

500

1.000

FY2013

FY2012

FY2011

FY2010

FY2009

FY2008

FY2007

FY2006

FY2005

FY2004

FY2003

FY2002

0

Production Sites 📗 Non-production Sites

1479

1380

1512

194

1343

1494

2.000

2.500

3.000

1424

1239

1140

1221

1,500

Input (kL)

095

# **Ochiai Site**

Location: Shinjuku-ku, Tokyo; Nakano-ku, Tokyo Number of employees: 1,499



# **Overview of Activities**

The Ochiai Site is composed of the Higashi Nakano Office which performs headquarters functions and the Nishiochiai Office which contains the research and development divisions.

The Nishiochiai Office is focused on reducing environmental impact with environmentally friendly products. In 2013, we conducted an e-learning program to make our nationwide distributors and area service partners aware of the environmentally-friendly products we had developed and incorporate them into their sales and maintenance operations.

Additionally, we distributed environmental reports to all distributors, sales offices, and area service partners.

The training facilities provide a venue for incorporating environmental education into customer workshops and employee training. This allows us to keep not only our own departments but also our customers and Group employees informed about Nihon Kohden's environmental initiatives.

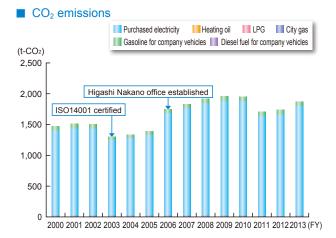
# **Environmental Activities**

Of the new products being developed by our Development Division, almost all of them are environmentally-friendly. FY2013 has seen the division develop environmentally-friendly products under six theme, which include improving functionality, avoiding the use of toxic substances, compactness and lightness of weight and reducing power consumption, all at the same time. These efforts have resulted in an average 17.8% reduced environmental impact.

In headquarters support departments, more efforts are being made to improve these departments' traditional operations as they might impact the environment either directly or indirectly.

Training facilities are also working to expand environmental education efforts.

In the energy-saving space, July saw us replace the fluorescent lighting used on office floors at the Nishiochiai Office with LED lighting. This brought a reduction of about 27,650 kWh per year.





Environmentally-friendly products - the CSM-1000 and BSM-1700

We have also completed efforts to switch over to energy-saving computers, a project that began two years ago in FY2012. This has reduced annual power usage by 270,000 kWh.

Integrating the employee cafeteria with the kitchen has increased the number of meals, driving up the volume of city gas consumed. However, this has provided the opportunity to reduce kitchen waste by consolidating menus, re-examining lunchtime meal calorie counts, and rethinking serving sizes.

We have also replaced the company-owned vehicles at the end of their service life with models that emit fewer  $CO_2$  emissions. Although gasoline and diesel oil usage increased by 1% despite efforts in calling for eco-driving, fuel efficiency improved by 12%.

We also cut paper consumption by going paperless and using miscellaneous paper such as ledger sheets for copy paper.

Waste emissions and recycling rate

#### Waste emissions --- Recycling rate (t) 120 (%) 99.2% 99.5% 100 87.9% 99.6% 99.3% 99.3% 90 95.0% 100 80 77.2% 80.3% 70 80 60 60 50 40 40 30 20 20 10 2012 2013 (FY) 2005 2006 2007 2008 2009 2010 2011

# ite Report

# Tomioka Site

Location: Tomioka City, Gunma Prefecture Number of employees: 740

# **Overview of Activities**

To achieve the long-term vision of the Nihon Kohden Group, the Tomioka Site is working towards the following three management targets under the Management Objectives of the Nihon Kohden Tomioka Corporation four-year midterm business plan.

- (1) Develop a manufacturing infrastructure with the potential to reach a production volume that can achieve the long-term target of 200 billion yen
- (2) Build a new production system to improve production efficiency and support our global brands based on IE and innovation with companywide participation (MTS) (MTS: Minna de Tsukuru Shikumi, Minna de Tassei suru System - a framework built by everyone, or a system achieved by everyone)
- (3) Develop human resources (train middle managers and young employees)

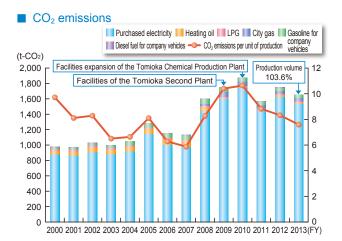
## **Environmental Activities**

The Tomioka Site's environmental management system began operation in April 2001, 13 years ago. In FY2013, the system continues with its aim of reducing the direct and indirect impact of their operations on the environment. The Tomioka Site's primary environmental target this year was achieving a 5% reduction over FY2012 in initial defect rate within one month after shipment. The actual rate was 710 ppm, a 4.3% reduction over FY2012 742 ppm.

The number two environmental target was reducing year-over-year  $CO_2$  emissions per unit of production by 1%. The site achieved emissions of 7.48 tons of  $CO_2$  per 100 million yen, an 8.8% year-over-year reduction. These lower  $CO_2$  emissions were made possible by improved production efficiency.

The number three environmental target was reducing landfill and simple incineration waste per unit by 0.3% year-over-year. The site achieved a volume of 1.073 tons of CO<sub>2</sub> per 100 million yen, a 25.6% reduction over FY2012 1.442 tons.

Total waste volume was 169.7 tons for FY2013, a roughly 8-ton reduction over FY2012. FY2013 recycling rate of 97.1% was considerably lower than FY2012, but this was due to turning things like cardboard boxes into valuable resources.



It has been one year since establishing these targets and towards achieving working them as a company united. They have been carried out in line with both our environmental activities and management objectives. The Tomioka Site's achievement of this management objective is a major component in reducing our environmental impact as a company. Going forward, we will be regularly providing posters and otherwise encouraging



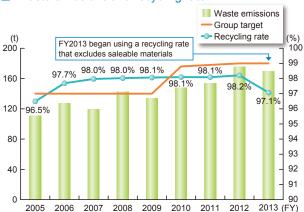
Management Objectives of the Nihon Kohden Tomioka Corporation four-year midterm business plan

energy-saving practices to get all plant personnel on board with our environmental activities.

IE (Industrial Engineering)

Since becoming ISO14001 certified, the company has worked to ensure every department — especially those personnel engaged in promoting better energy saving and furthering environmental initiatives — has a strong awareness of the environment, while General Affairs personnel in charge of waste treatment ceaselessly ensure proper trash sorting. Even at the individual level, every employee has undertaken their job with an earnest integrity, carrying out environmental activities within specific operations that range from improving productivity, quality, and on-time delivery rates to reducing defect rates.

Through activities aimed at ensuring all divisions achieve management targets, the repeated execution of the PDCA for the environment management system has brought continuous improvements and allowed environmental activities to gradually take root.



#### Waste emissions and recycling rate

Location: Fujioka City, Gunma Prefecture Number of employees: 50



# **Overview of Activities**

In FY2013, the Fujioka Site began considering its environmental impact on the operations of other departments and not just its impact on its own operations.

One major focus has been reducing the environmental impact on customers by shortening repair times for products they send in for repairs. For products that frequently require repairs, we assign workers to each stage of the repair process and normalize each person's workload. This has shortened repair times by 12%.

The next focus was reducing the environmental impact on the Group. When choosing company-owned vehicle models, we made environmental impact (fuel

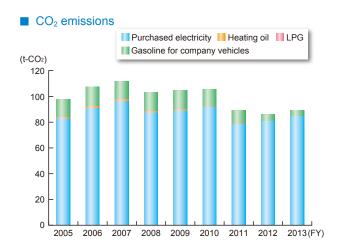
# **Environmental Activities**

This site's environmental activities aimed to reduce environmental impact by improving business practices.

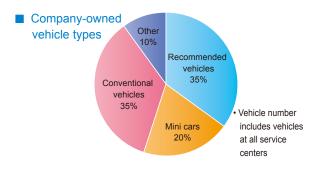
The first step was cutting down on operational errors in order to reduce the repair failure rate. By revising things like work manuals and inspection check sheets, we were able to reduce the rate of re-repair by 18%.

To reduce energy consumption, we knew we needed to address the fact that air conditioning is used quite frequently in the summer, making power usage often exceed targets. To this end, we examined the daily power usage and analyzed where problems lay. We were consequently able to cut power usage through measures that included instituting "leave work on time days" and "enforcing room temperature control." Additionally, knowing ahead of time that air conditioning usage is high in both winter and summer and that this would push energy usage beyond target, we took preemptive measures to curb it. By repeatedly carrying out the PDCA in this way, we have worked to reduce energy consumption.

Concerning efforts to reduce landfill and simple incineration waste, we realized that this site annually generates only a small amount of industrial waste,

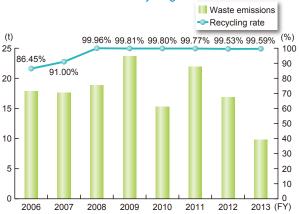


efficiency and emissions) a prime consideration, turning 55% of the fleet into environmentally-friendly vehicles (including mini cars).



not to mention a mere 100 kg of landfill and simple incineration waste. This prompted us to focus less on reducing landfill and simple incineration waste and more on maintaining a good recycling rate in order to avoid increasing landfill and simple incineration waste volume. At the same time, we began negotiating with the government and recycling contractors to make it so that our landfill and simple incineration waste can be recycled. The result of these negotiations was a 50% reduction in landfill and simple incineration waste. We also kept total industrial waste generated on par with FY2012.

We were also able to maintain last year's trend in reducing copy paper usage, reducing usage by 5% over FY2012 and better managing its usage by printing on the backside and fitting more text on one page.



#### ■ Waste emissions and recycling rate

# Kawamoto Site

Location: Fukaya City, Saitama Prefecture Number of employees: 161

# **Overview of Activities**

Several types of chemical substances are used in the disposable electrodes developed and produced at the Kawamoto Site.

We are taking ever greater measures to control the amount of chemical substances purchased and used in accordance with the PRTR Law and the Poisonous and Deleterious Substances Control Act. Although our use of chemical substances is rising yearly together with increases in production, we will continue to investigate if the electrodes can be made more compact or if the usage of chemical substances can be reduced during development. Every day we will strive to make our products more environmentally friendly.

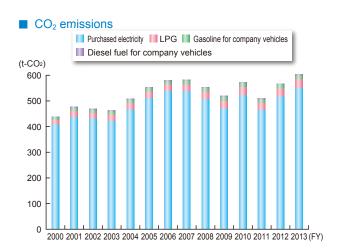
Until FY2012, we incinerated or put into landfills all chemical substance waste, empty containers, and wastewater from cleaning. FY2013 has seen us work to select waste treatment companies that can recycle empty containers and wastewater from cleaning (including thermal recycling). With proximity to the Kawamoto Site a criterion for selection (to reduce transportation energy consumption), we have done collecting data with the goal of selecting contractors by September. We recently learned that the company we contract to treat industrial waste generated at the Kawamoto Site has begun doing thermal re-

## **Environmental Activities**

The site consists of both production and nonproduction divisions, namely divisions for development and production of disposable electrodes, a division for production of sensors, and a safety and reliability support division for the company's products.

As the Kawamoto Site has an extremely high percentage of purchased electrical power as a proportion of the CO<sub>2</sub> emissions attributed to it, the site is prioritizing reduced electrical power usage in its activities. This prioritization enabled the site to meet its electrical power usage targets for FY2013.

Monthly electrical power usage was almost entirely as planned for the first guarter (April through July). Power usage for the three summer months (August



cycling of chemical substances. When we asked if they could thermally recycle a waste sample we sent them, they said they could. Stating the substances they would be recycling on the contract, we began using their services in October. Since we had no chemical substance waste in FY2013, we achieved a waste recycling rate of 100%.

We developed two environmentally friendly products in FY2013. Neither of them contains toxic substances, and one even saves on resources by being 0.3 g per drop lighter than conventional products.

As one effort to contribute to the production of environmentally friendly products and maintain their reliability, we conducted tests to ensure that the products developed by our Technology Division are in compliance with IEC60601-1-9 (environmentally friendly design requirements), an international electrical equipment standard that grows stricter every year.

through October) of 2013 was less than planned due in large part to an exceptional increase in power usage for the same period of 2012. For November through February, the site's production plan was revised in response to the effects of consumption tax measures. The resulting increased production brought increased power usage.

To reduce transportation energy consumption, we considered the possibility of switching from overseas manufacturers to domestic manufacturers for materials. However, the prospect was deemed unfeasible in the final testing stage. We therefore decided to develop our own products instead of importing them, which allowed us to reduce product transportation energy consumption.



#### Waste emissions and recycling rate

# Tsurugashima Site Location: Tsurugashima City, Saitama Prefecture Number of employees: 194



# **Overview of Activities**

The Tsurugashima Site is a shipping hub for medical equipment and accessories. Shipping volume has a considerable impact on electrical power consumption and waste volume. The site is working to reduce electrical power consumption and waste by streamlining operations, upgrading to electrical equipment that saves energy, and re-examining their usage. With sales increasing, total movement of goods for FY2012 had been expected to increase by 10%. The site devised measures to cut electrical power consumption that included deploying energy-saving air conditioners, and set a FY2013 target to keep electrical power usage increase within 5%.

# **Environmental Activities**

The Tsurugashima Site launched activities aimed at its three FY2013 environmental targets: reducing electrical power usage to 1.075 million kWh or less, maintaining zero landfill and simple incineration waste, and making work improvements.

To reduce electrical power usage, the site has upgraded two of its large air conditioners. However, a shipping volume increase of 6% over FY2012 led to more overtime hours worked. The resulting increase in air conditioner and lighting usage put power consumption 4% over target. CO<sub>2</sub> emissions were up 5% over FY2012.

With a FY2014 target that factors in the likelihood of a higher shipping volume, the site will be continuing to reduce CO<sub>2</sub> emissions and electrical power usage by making further upgrades to air conditioners and taking other such measures.

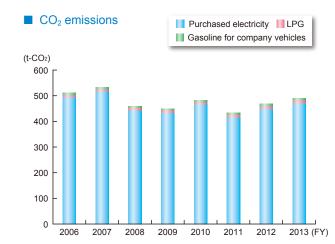
For waste disposal, despite a target of zero landfill and simple incineration waste, 352 kg of such waste was generated. This was due to the disposal of medical equipment accessories past their expiration date. As this situation could recur, we will be working with all relevant divisions in FY2014 to preemptively ascertain waste volumes and deploy reduction measures.



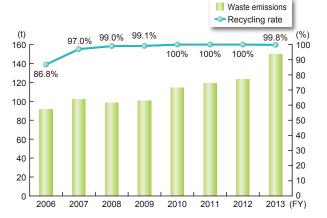
Automated warehouse at the Tsurugashima Site

Waste volume increased 21% over FY2012. This is attributed mainly to a 6% increase in shipping volume over FY2012, which was the cause of a 9% year-over-year increase in cardboard waste, an increase in the number of import products received on wooden pallets, and a 95% year-over-year increase in wood scrap. We are considering ways to reuse cardboard boxes and wooden pallets as one measure to reduce such waste.

To improve operational efficiency, we provide the Design Division with advice on how to improve on newly-developed products' workability and productivity. We also help improve product quality by conducting reviews of validation parameters. Additionally, reducing the defect arrival rate for lending machines lets us improve sales process quality and speed while enhancing user satisfaction.



#### Waste emissions and recycling rate



# **Editorial Policy**

This is the eighth year of the consolidated environmental management system of the Nihon Kohden Group. Continuing the format of previous years, the content of the Environmental Report for this fiscal year focuses on verifying environmental performance, in addition to the results of operating the environmental management system. We also included information about initiatives for environmentally friendly products, which is one element of our environmental policy, as well as the green procurement guidelines and environmental initiatives being conducted at new business sites.

#### **Report Period**

April 1, 2013 to March 31, 2014 Part of this report includes several years of data.

#### **Scope of Report**

Nihon Kohden Corporation and domestic affiliated companies excluding distributors

- Nihon Kohden Corporation
- Higashi Nakano and Nishiochiai Offices (Ochiai Site) Kawamoto Site Tsurugashima Site Fujioka Site Nibon Kobden Tomioka Corporation (Tomioka
- Nihon Kohden Tomioka Corporation (Tomioka Site)

## **Publication Date**

December 2014 (Next publication date: October 2015)

## **Reference Guideline**

Environmental Reporting Guidelines, 2003 Version, published by Japan's Ministry of the Environment

## **Company Profile**

## Official Name

NIHON KOHDEN CORPORATION Common Name

Nihon Kohden

#### Representatives

Kazuo Ogino, Chairman and Chief Executive Officer Fumio Suzuki, President and Chief Operating Officer

Address (Head Office) 1-31-4 Nishiochiai, Shinjuku-ku, Tokyo 161-8560, Japan

Phone +81 (3) 5996-8000

Established

August 7, 1951

Paid-in Capital

7,544 million yen (as of March 31, 2014)

# Net Sales

Consolidated: 153.1 billion yen (Non-consolidated: 96.2 billion yen) (as of March 2014)

Employees

- Consolidated: 4,495 (as of March 31, 2014)
- Domestic Affiliated Companies Nihon Kohden Hokkaido Corporation Nihon Kohden Tohoku Corporation Nihon Kohden Higashi Kanto Corporation Nihon Kohden Kita Kanto Corporation Nihon Kohden Tokyo Corporation Nihon Kohden Ohubu Corporation Nihon Kohden Chubu Corporation Nihon Kohden Kansai Corporation Nihon Kohden Kushikoku Corporation Nihon Kohden Kyushu Corporation Nihon Kohden Tomioka Corporation Beneficks Corporation Nippon Biotest Laboratories Inc. E-Staff Corporation
- **Overseas Affiliated Companies**

Nihon Kohden America, Inc. Nihon Kohden Latin America S.A.S Nihon Kohden Do Brasil Ltda. Defibtech, LLC Neurotronics Inc. NK US Lab **RESUSCITATION SOLUTION INC.** Nihon Kohden Europe GmbH Nihon Kohden France Sarl Nihon Kohden Iberica S.L. Nihon Kohden Italia S.r.l. Nihon Kohden UK Ltd. Nihon Kohden Firenze S.r.l. Shanghai Kohden Medical Electronic Instrument Corporation Nihon Kohden Singapore Pte Ltd. NKS Bangkok Co., Ltd. Nihon Kohden Malaysia Sdn. Bhd. Nihon Kohden India Private Ltd. Nihon Kohden Middle East FZE Nihon Kohden Korea, Inc. Span Nihon Kohden Diagnostics Private Ltd.

#### **Type of Business**

Development, production, sales, and service of medical electronic equipment and systems



NIHON KOHDEN CORPORATION 1-31-4 Nishiochiai, Shinjuku-ku, Tokyo 161-8560, Japan Phone +81 (3) 5996-8000 http://www.nihonkohden.com/