

Making all-out efforts for environmental conservation to build a sustainable society

**HighLight**

**NGK Spark Plugs (Thailand) Co., Ltd. and Bujias NGK de Mexico S.A. de C.V. obtained ISO 14001\* certification.**

Overseas plants with ISO 14001 certification (As of April 30, 2013)



Our domestic and overseas operating sites carry on environmentally friendly business activities globally under our environmental management system. Our overseas plants are currently being encouraged to obtain ISO 14001 certification on an individual basis. In fiscal 2012, our manufacturing organization, NGK Spark Plugs (Thailand) Co., Ltd. and our sales organization, Bujias NGK de Mexico S.A. de C.V. obtained ISO 14001 certification. Accordingly, as of the

end of fiscal 2012, a total of 15 overseas organizations are certified to ISO 14001. Under the NGK SPARK PLUG Group's Eco Vision 2015, which is a medium- to long-term vision of our environmental activities, we will cooperate to draw up a global ecological vision.

**Eco Vision 2015 (websites)**  
<http://www.ngkntk.co.jp/english/csr/ecovision.html>

**voice Bujias NGK de Mexico S.A. de C.V.**



We formed a team and launched an important and challenging project to seek ISO 14001 certification in February 2012. We have improved our way of thinking and actions and continue to contribute to improving the environment. We are very proud of being a part of this improvement to leave future generations with a better environment.

## Response to the revised Water Pollution Control Law

The revised Water Pollution Control Law, which was designed to prevent underground water from being polluted by hazardous substances, took effect in June 2012.

Even before this revision came into effect, NGK SPARK PLUG Group considered that the pollution of underground water by hazardous substances carries serious risks and so we have been using our environmental management system (EMS) to prevent this pollution. Under this system, we have set operating standards and taken preventive measures that include constant monitoring of the situation.

The revised law requires us to identify applied facilities, evaluate structural standards, and carry out inspections and modifications when necessary.

The related departments hold discussions and develop countermeasures in response to the

revision of the Law.

We continue to make full use of our EMS and use all possible means to reduce the risk of pollution.



**voice**

**Yoshiaki Furusato**  
Production Dept.,  
Komaki Plant,  
Spark Plug Div.

As the revised act covers plating lines for hardware, we evaluated our structural standards in comparison with the legal standards, revealing modifications that were required for our facilities. The necessary modifications are underway.

We take all possible measures to prevent the pollution of underground water.

## New environmental education courses established

NGK SPARK PLUG Group has established three new environmental education courses (Basic Environmental Course, Substances of Environmental Concern Data Collecting Procedure Course and Environmental Management System Course) to raise environmental awareness among our employees. In fiscal 2012, we conducted a total of 49 environmental education lectures in all sites, and 827 employees participated in them.

We continue environmental education to enhance the environmental awareness of our employees in 2013 and beyond.



We received requests from participants (through questionnaire surveys) and reflect them in our education programs to facilitate continuous improvement. We also strive to build a better education system to satisfy the needs of departments and employees and offer a more valuable education.



**voice**

**Kazutaka Tanaka**  
Engineering Dept.,  
Semiconductor Division

Energy-saving efforts have been mainly on an individual basis, including reducing the volumes of paper used, turning off computer monitors and decreasing waste and electricity consumption. In the Basic Environmental Course, I learned that improving process, also contributes to environmental conservation. I continue promoting environmental activities in my daily tasks.

Promoting environmental conservation through all our business operations

*HighLight*

## We consider environmental conservation not only when manufacturing products but also when building plants.



We adopt environmentally friendly practices when planning construction, including reductions in noise, vibrations, generating odors and waste water, and energy saving measures.

### Building a Cafeteria at Ceramic Sensor Co., Ltd.

We installed soundproof walls on the rooftop to reduce noise and water filters in the exhaust hood to eliminate generating odors from the kitchen. As part of our energy-saving efforts, we introduced natural lighting (lighting roof and ducts), and roof greening and double glazing to enhance heat insulation. We also installed a water cooling system on outdoor air conditioning units, which makes use of the vaporization heat of water to increase the efficiency of the air conditioners.



#### 📣 **voice** Atsushi Nonogaki

Plant Design Section, Production Support Engineering Dept.

We designed the cafeteria building at Ceramic Sensor Co., Ltd., giving special consideration to local residents in terms of light emitted from the building, generating odors from the kitchen and noise produced by the fans.

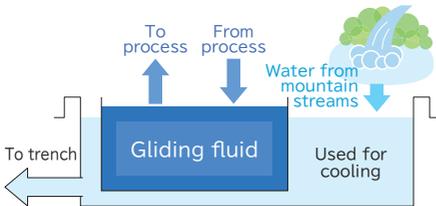
The number of windows used was minimized to prevent light from leaking from the building into the residential area at night. Instead, a

lighting roof and ducts were installed to bring in as much natural light as possible. Environmental consciousness is important not only for the completed buildings but also in the construction processes.

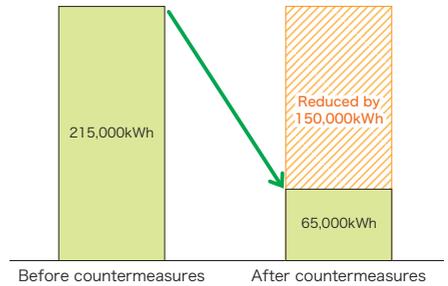
For this reason, we chose low-noise heavy construction machinery and reduced the working hours of the construction teams.

## ●Cooling grinding lubricant with water from mountain streams

Kamioka Ceramic Co., Ltd. uses large volumes of grinding fluid for NGK SPARK PLUG products. The warm fluid is reused after being cooled through an integrated filtering device. We previously used an oil cooler to cool grinding fluid, but changed to the use of water from mountain streams in 2011, taking advantage of the geography of the area. The total power consumption of the filtering device was 215,000 kWh per year before water from mountain streams was used. After the measure was introduced, this was reduced by 150,000 kWh to 65,000 kWh, which is equivalent to 50 tons of CO<sub>2</sub>.



### ■ Annual Power Consumption of Filtering Device



President Akihiro Toya  
[ Kamioka Ceramic Co., Ltd. ]

Our plant is located in an area blessed with nature. We design our daily operations to use nature effectively. One such measure is to use snow stored in winter for watering our flower beds.

## ●Release of Biodiversity Action Guidelines

The need to conserve biodiversity in the world is becoming urgent. Since we consider biodiversity conservation to be important in preventing global warming\* and recycling resources, the NGK SPARK PLUG Group includes them into its environmental agenda and endorses conservation activities.

We formulated the NGK SPARK PLUG Group Biodiversity Action Guidelines to preserve biodiversity, and released them on April 1, 2013. The Guidelines call on us to consider the relationship between our business operations and biodiversity and reduce the impact of the use of energy and resources, emissions of substances of environmental concern, and other environmental burdens during the life of products, thereby contributing to conserving biodiversity. We are always stepping up our environmental

efforts in our business based on the Guidelines to contribute to biodiversity preservation.

You can see the NGK SPARK PLUG Group Biodiversity Action Guidelines on our website (Japanese Only).



NGK SPARK PLUG  
Group Biodiversity  
Action Guidelines  
(Japanese Only)

We describe concrete actions about biodiversity in this guideline.

<Websites>

<http://www.ngkntk.co.jp/csr/communication.html>