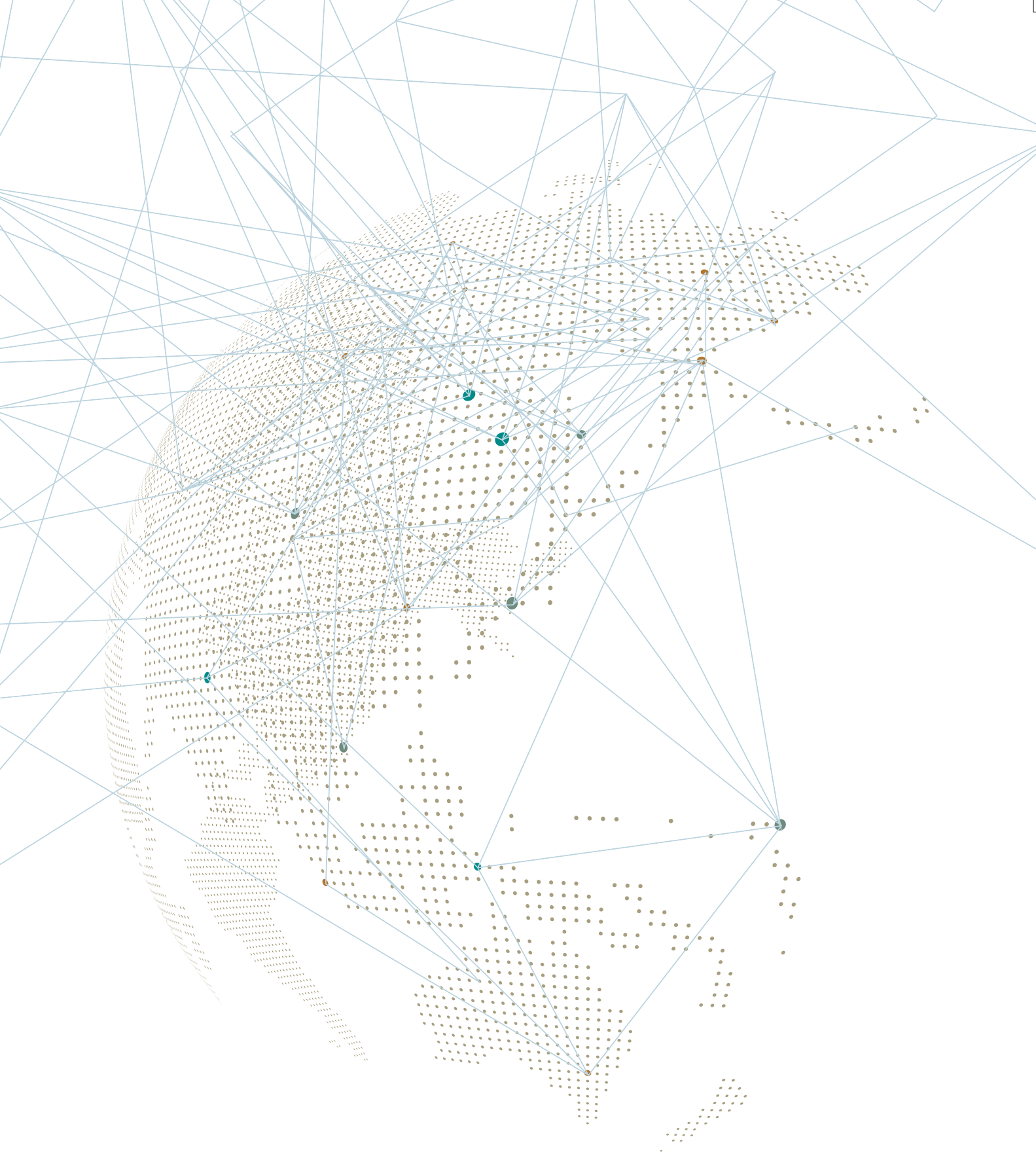




# ***IGNITE YOUR SPIRIT***

NGK SPARK PLUG Group  
CSR Report 2017

**NGK** **NTK**  
SPARK PLUGS TECHNICAL CERAMICS  
NGK SPARK PLUG CO., LTD.

# Index

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|                                                       |     |
|-------------------------------------------------------|-----|
| President's Message for Stakeholders.....             | 3   |
| Our CSR.....                                          | 5   |
| Prosess for defining materiality and CSR targets..... | 8   |
| Management                                            |     |
| •Corporate Governance.....                            | 16  |
| •Compliance .....                                     | 20  |
| •Export controls .....                                | 25  |
| •Security Control /Information Security.....          | 27  |
| •Intellectual Property.....                           | 29  |
| •Risk Management .....                                | 31  |
| With Our Customers                                    |     |
| •Quality Policy and Implementation Structure .....    | 35  |
| •Initiatives to Improve Quality .....                 | 40  |
| •Communication to Customers.....                      | 48  |
| With Our Shareholders and Investors .....             | 53  |
| With Our Suppliers .....                              | 56  |
| With Our Employees                                    |     |
| •Policy for Human Resources .....                     | 62  |
| •Respecting Diversity.....                            | 64  |
| •Human Resource Development.....                      | 71  |
| •Human Rights and Labor .....                         | 74  |
| •Occupational Safety and Health Basic Policy .....    | 77  |
| •Occupational Safety Activities .....                 | 82  |
| •Health Promotion Activities .....                    | 87  |
| With Local Comunities and International Society.....  | 88  |
| For Environmental Protection                          |     |
| •Eco Vision 2020.....                                 | 90  |
| •Environmental Burdens from Business Activities ..... | 94  |
| •Environmental Management.....                        | 97  |
| •Environmentally-friendly Products.....               | 107 |
| •Hazardous Chemical Substances .....                  | 109 |
| •Global Warming .....                                 | 112 |
| •Depletion of Resources .....                         | 116 |
| •Environmental Communication .....                    | 120 |

|                          |     |
|--------------------------|-----|
| Third Party Review ..... | 123 |
|--------------------------|-----|

## Detailed Information about CSR

|                                                  |     |
|--------------------------------------------------|-----|
| Targets and Results of CSR Promotion Activities• | 126 |
|--------------------------------------------------|-----|

## Detailed Information about Environment

|                                     |     |
|-------------------------------------|-----|
| ISO 14001 Certified Locations ..... | 131 |
| Environmental Accounting .....      | 133 |

### Editorial Policy

The CSR Report 2016 is edited with the intention of informing all of our various stakeholders about the CSR activities of the NGK SPARK PLUG Group.

This online version contains more detailed information than the digest version.

[Period covered]

From April 1, 2016 to March 31, 2017

Some other very recent activities and cases are also included.

[Organizations Covered]

- Social aspects: NGK SPARK PLUG CO., LTD.

However, this Report may also cover the activities of subsidiaries and affiliates inside and

outside Japan. In such cases, specific company names are indicated.

- Environmental aspects: NGK SPARK PLUG Group

- NGK SPARK PLUG CO., LTD.

- 11 consolidated subsidiaries and one affiliate in Japan

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[Published]

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## *President's Message for Stakeholders*

---

In the year 2016, we, NGK SPARK PLUG CO., LTD. celebrated the 80th anniversary of its founding. Since its establishment in 1936, we have been executing business operations along with economic development and sharp progress of motorization in Japan, keeping our resolution of “contribution to Japanese culture” stated in the prospectus in mind.

What will become of global environment around us in the future? Facing unpredictable incidents and changes such as ever-changing politics and economy as well as sense of insecurity about terrorism, large-scale disasters, and changes in natural environments, we may be in danger of encountering social problems which will be more complicated and more severe. Under these circumstances, as expectations for us as the globally developing company increase more than ever, we recognize that our roles and responsibilities that should be fulfilled will also become more significant. With this view, we signed the UN Global Compact on November, 2016, manifesting our intention to promote various activities as “a member with good conscience of society”. We will try and do our best to make continuous growth to fulfill responsibilities of the global company, and contribute to creation of a sustainable society in the world.

An objective of our 7th medium-term management plan formulated in 2017 as the second year is to provide all the stakeholders with “Real Value”. We will build the corporate governance framework for improving corporate value along with positive communicating with stakeholders and development of the business operations leading to social evolution. Aiming at prioritization of human “asset”, we will further lay the groundwork for fair corporate climate, and the framework that encourages various personnel to be self-supportive, motivated, and grown so that they feel a sense of accomplishment from working. We will enhance the presence of NGK SPARK PLUG CO., LTD. group that is trustworthy sufficient to be known as “the company indispensable to the society” by making efforts in an honest way so that we can celebrate the 90th, furthermore, the 100th anniversary of foundation.

September, 2017

Shinichi Odo  
Representative Director  
Chairman of the Board

## Our CSR

### CSR Concept

We view CSR not just as a responsibility but as an opportunity to be accountable through review of the NGK SPARK PLUG's GROUP's economic, environmental and social activities from a global perspective, to enhance corporate value, and to contribute to the sustainable development of society in accordance with our Corporate Philosophy.



Our CSR activities are wide-ranging, and include the following:

#### Examples

- Offering excellent products to customers
- Disclosing corporate information to shareholders and the broader investor community in a readily understandable way as well as timely and appropriately manner
- Collaborating with suppliers for mutual development
- Establishing a safe and employee-friendly working environment
- Participating in and supporting activities in the local community

To provide our Group's action guidelines for fulfilling CSR, in April 2011 our CSR Policy was established, which comprises 10 policies, such as the Compliance Policy and others. In line with the CSR Policy, we intend to review and promote CSR based on a multifaceted approach.

[Corporate Philosophy >](#)

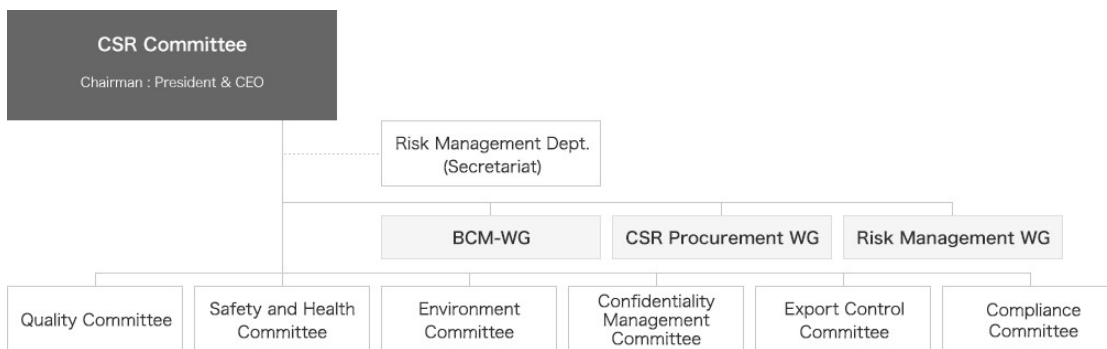
[Corporate Code of Conduct >](#)

[CSR Policy>](#)

## CSR Promotion System

The CSR Committee determines the priority themes for each fiscal year, to implement CSR Policy. The Committee also oversees and evaluates CSR-related activities implemented by the respective committees, working groups and divisions, and makes appropriate proposals regarding them, so as to achieve full optimization of CSR activities, thereby strengthening our business foundations.

The CSR Committee sets up respective working group as deemed appropriate, each of which holds discussions on specific themes to develop countermeasures. We have established a company-wide CSR promotion system by securing close coordination between the CSR Committee, the CSR Promotion Sub-Committee and expert committees.



## CSR Awareness-raising Activities

We have been running elementary CSR training courses since 2014 as one of our awareness-raising activities so that every employee feels more familiar with CSR.

The training is expected to lead them to change in attitudes toward work, enhancement of motivation, and higher pride in the company through awareness of their connections with society as well as their contributions to society. Since 2017, we have started training courses for employees working for our group companies in Japan.

In addition, we regularly publish the CSR Newsletter and hold lectures by experts, aiming at continuous CSR awareness-raising activities.



Training (SparkTec WKS CO., LTD.)

## Participation in "United Nations global compact"

NGK SPARK PLUG CO., LTD. Participated in "United Nations global compact" in November 2016.

"United Nations global compact" is a voluntary corporate citizenship in order to address various problems such as global warming, environmental problems, gap-widening society that are progressing on a global scale. They are also initiatives that were proposed by Kofi Annan, the Secretary-General of the United Nations in 1999, and established formally by the U.N. in July 2000. NGK SPARK PLUG CO., LTD. will uphold ten principles consisted of four issues such as "Human rights, Labour, Environment, Anti-corruption" being advocated by the U.N. global compact as good members of society, and will make every effort to promote activities in order to contribute to building a sustainable society.



### The Ten Principles of the UN Global Compact

#### 【Human Rights】

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights.

Principle 2: make sure that they are not complicit in human rights abuses.

#### 【Labour】

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.

Principle 4: the elimination of all forms of forced and compulsory labour.

Principle 5: the effective abolition of child labour.

Principle 6: the elimination of discrimination in respect of employment and occupation.

#### 【Environment】

Principle 7: Businesses should support a precautionary approach to environmental challenges.

Principle 8: undertake initiatives to promote greater environmental responsibility.

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

#### 【Anti-Corruption】

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

## Progress in our CSR

|           |                                                                                                |
|-----------|------------------------------------------------------------------------------------------------|
| Nov. 1996 | Adopted "Corporate Philosophy"                                                                 |
| Feb. 1998 | Adopted "Corporate Code of Conduct"                                                            |
| Apr. 1998 | Established Ethical Committee                                                                  |
| Feb. 2003 | Adopted "Corporate Ethics Helpline System Operation Guidelines"                                |
| Nov. 2004 | Revised "Corporate Code of Conduct", published "Code of Conduct Guidebook"                     |
| Apr. 2005 | Published "Guidelines on the Handling of Personal Information"                                 |
| Aug. 2005 | Established Export Control Committee, adopted "Export Management Regulations"                  |
| Feb. 2007 | Adopted "Confidentiality Management Regulations"                                               |
| Nov. 2007 | Published "Confidentiality Management Guidelines"                                              |
| Sep. 2008 | Established Internal Audit Department                                                          |
| Apr. 2009 | Prepared "Corporate Protection Manual"                                                         |
| Apr. 2010 | Inaugurated CSR Promotion Department                                                           |
| Oct. 2010 | Established CSR Committee                                                                      |
| Apr. 2011 | Adopted CSR Policy                                                                             |
| Nov. 2011 | Established Compliance Committee                                                               |
| Jan. 2012 | Published "Compliance Guidebook"                                                               |
| Mar. 2012 | Adopted "Compliance Regulations"                                                               |
| Oct. 2012 | Adopted "Emergency Response Plan Regulations" and "Business Continuity Plan (BCP) Regulations" |
| May 2013  | Published "CSR Procurement Guidelines"                                                         |
| Jul. 2014 | Launched "CSR Awareness-raising Activities"                                                    |
| Nov. 2016 | Participated in "United Nations global compact"                                                |

## *Process for defining materiality and CSR targets*

---

### **Defining the materiality of our priority CSR themes**

In 2016, we defined the materiality of our priority CSR themes. We also established 10 fields of activities and 41 medium-term targets based on the 7th Medium-term Management Plan.

Going forward, we will repeatedly conduct dialog with major stakeholders, including customers, suppliers, shareholders and investors, employees and the local communities, while pursuing stakeholder engagement and continuing to review materiality and targets in line with the times.

### **Definition process for the materiality of priority themes**

#### Evaluation of Materiality : Policy / Target Setting

---

##### **2010 – 2012**

- Establish new CSR Policy
- Set “complete prevalence of CSR” as our medium-term theme for the fifth Medium-term Management Plan (fiscal 2010 – 2012)

##### **2013 – 2014**

- Set Complete prevalence of CSR application, and globalize CSR activities as the medium-term theme in the sixth Medium-term Management Plan (fiscal 2013 - 2015), and established 10 fields of activities and 30 CSR medium-term targets.

##### **2015**

- Establish 10 fields of activities and 42 targets to aim "Progressive Company" as the 7th Medium-term Management Plan (fiscal 2016 – 2020)

#### Evaluation of Materiality : Risk (Loss and Opportunity) Analysis

---

##### **2010 - 2012**

- Implemented CSR fact finding survey (management and performance of principle departments). As a result, "compliance", "business continuity plan (BCP)", and "information disclosure" identified as three priority medium-term initiatives.

## **2013 - 2014**

- Implemented risk survey after identifying risk management as the medium-term priority initiative. As a result, compiled 370 specific examples with 21 classifications and 101 definitions and identified 21 material risks on two axes of degree of materiality and implementation status.

## Evaluation of Materiality : Dialogue with Important Stakeholders

### **2010 - 2016**

- Held environmental meetings (local communities, NGK SPARK PLUG)
- Gap analysis of our CSR and SRI evaluation
- Participated in local disaster prevention meetings (government, citizens, NPOs, corporations)
- Participated in information exchange meetings with neighboring companies held at Chamber of Commerce and Industry

## Activity Review

### **2010 - 2012**

- CSR Policy determined by the Board of Directors. Three priority initiatives reviewed by CSR Committee

### **2013 - 2015**

- 30 CSR medium-term targets and responses to 21 material risks reviewed by CSR Committee

## Standards and Guidelines for Reference and Analysis Tools

- Japan Auto Parts Industries Association (JAPIA) guidelines & checklist
- Japan Electronics and Information Technology Industries Association (JEITA) guidelines & checklist
- Japan Business Federation "Charter of Corporate Behavior Action Plan"
- GRI G4 Guidelines
- ISO 26000
- ISO 31000 risk analysis sheets, risk maps, risk management tables

## Mid-term CSR target

| Field of Activities |                                                                              | Mid-term Targets<br>(by fiscal 2020)                                                                                              | Department<br>in Charge                         |
|---------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Manag<br>ement      | Company-wide<br>CSR<br>Management                                            | Implement PDCA cycle to promote CSR on a global basis                                                                             | Risk<br>Managemen<br>t Dept.                    |
|                     |                                                                              | Promote CSR awareness-raising activities on a global basis                                                                        |                                                 |
|                     | Compliance                                                                   |                                                                                                                                   |                                                 |
|                     | Company-w<br>ide<br>Promotion<br>System                                      | Construct a global promotion system                                                                                               | Compliance<br>Committee                         |
|                     |                                                                              | Continue education on helpline content                                                                                            |                                                 |
|                     |                                                                              | Continue compliance awareness and knowledge training                                                                              |                                                 |
|                     |                                                                              | Continue monitoring of compliance awareness and knowledge and corporate culture change                                            |                                                 |
|                     | Security<br>Control                                                          | Deploy educational tools to NGK SPARK PLUG and group companies in Japan and monitor implementation status and effectiveness       | Confidential<br>ity<br>Managemen<br>t Committee |
|                     |                                                                              | "Continuously improve security control, including group companies, and establish system for surveillance of implementation status |                                                 |
|                     | Export<br>Control                                                            | •Establish a system for surveillance of implementation status of appropriate export controls, including group companies           | Export<br>Control<br>Committee                  |
|                     | Information<br>Security                                                      | •Continuously reduce security risk of group companies through deployment of Group Information Security Regulations                | Information<br>Systems<br>Dept.                 |
|                     | Respect for<br>and<br>Protection<br>of<br>Intellectual<br>Property<br>Rights | •Implement patent review activities for mainstay products prior to design review meeting, including group companies               | Intellectual<br>Property<br>Dept.               |
|                     |                                                                              | •Establish new methods to deal with increasingly sophisticated counterfeiters, particularly in emerging countries                 |                                                 |
|                     |                                                                              | • Have at least 15% of submitted patents be differentiation patents utilizing a patent portfolio that adds rivals' information    |                                                 |
|                     |                                                                              | •Involve trademark aspects in strengthening our brand organization                                                                |                                                 |
|                     |                                                                              | •Enhance intellectual property education, including                                                                               |                                                 |

|                                     |                              |                                                                                                   |                                                      |
|-------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------|
|                                     |                              | group companies                                                                                   |                                                      |
|                                     | Risk Management              |                                                                                                   |                                                      |
|                                     | BCP/BCM                      | •Expand business continuity management system to group companies in Japan                         | BCM Working Group                                    |
|                                     |                              | •Construct a management system that can respond to not only earthquakes but also other disasters  |                                                      |
|                                     |                              | •Construct a procurement BCP framework and expand and operate it at group companies               | Procurement Div.                                     |
|                                     |                              | IT-BCP countermeasures for server infrastructure (cloud utilization)                              | Information Systems Dept.                            |
|                                     | Company-wide Risk Management | Build company-wide risk management suited to NGK SPARK PLUG                                       | Risk Management Working Group                        |
| With Our Customers                  | Safety and Quality           | •Expand quality assurance to all group companies with a focus on goods for all customers          | Quality Committee, Corporate Quality Management Div. |
|                                     |                              | •Expand quality management to all group companies aimed at delivering value to all customers      |                                                      |
| With Our Shareholders and Investors | Information Disclosure       | •Disseminate information that leads to increased shareholder trust                                | Public Relations Dept.                               |
|                                     |                              | •Disseminate information in an easy-to-understand and approachable manner on a global level       | Risk Management Dept.                                |
|                                     |                              | Construct a framework for an IR strategy aimed at institutional investors                         | Accounting & Finance Dept.                           |
|                                     |                              | Disseminate information that captures stakeholders' expectations and the changes in social trends | Risk Management Dept.                                |
| With Our Employees                  | Employment and Human Rights  | Implement fair evaluations that correspond to clear expectations                                  | Human Resources Dept., Strategic Human Resources     |

|  |                                |                                                                                                           |                                                                      |
|--|--------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
|  |                                |                                                                                                           | Dept.                                                                |
|  |                                | Establish educational programs that target the leaders of each group company                              | Human Resources Dept.                                                |
|  |                                | Employ diverse human resources strategically                                                              | Human Resources Dept.                                                |
|  |                                | Achieve personnel and human resource functions that contribute to the promotion of management strategy    | Strategic Human Resources Dept.                                      |
|  |                                | Further encourage the promotion of active participation by women                                          | Strategic Human Resources Dept.                                      |
|  |                                | Zero workers leaving their jobs in order to provide nursing care                                          | Strategic Human Resources Dept.                                      |
|  |                                | Achieve the mandatory number for employment of people with disabilities                                   | Human Resources Dept.                                                |
|  |                                | Promote active participation by seniors                                                                   | Strategic Human Resources Dept.                                      |
|  | Occupational Safety and Health | Raise productivity by decreasing the rate of onset of mental illness                                      | Human Resources Dept.                                                |
|  |                                | Develop systems that make it difficult for accidents to occur aimed at developing a global safety culture | Safety and Health Committee<br>Environment & Safety Management Dept. |

|                                                  |                     |                                                                                                                     |                                                                   |
|--------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| With Our Suppliers                               | CSR Procurement     | •Improve the framework for evaluation aimed at global optimum procurement and deploy and operate at group companies | Procurement Div.                                                  |
|                                                  |                     | • Reduce risk in the supply chain by thoroughly establishing CSR procurement                                        | Procurement Div.<br>Risk Management Dept.                         |
|                                                  |                     | • Promote education and enlightenment aimed at reducing risk utilizing supplier seminars, etc.                      | Procurement Div.<br>Risk Management Dept.                         |
| With Local Communities and International Society | Social Contribution | •Continually enhance the social status of the NGK SPARK PLUG Group through social contribution activities           | Public Relations Dept.                                            |
| For Environmental Protection                     | Environment         | •Promote environmental activities aimed at achieving global Eco Vision                                              | Environmental Committee.<br>Environment & Safety Management Dept. |

## Fiscal Year CSR Target and Results

We carry out CSR promotion activities according to the medium-term targets and fiscal year targets.

Our CSR Committee checked the progress of targets for fiscal 2016 and formulated new targets for fiscal 2017 as part of achieving our medium-term targets.

When we set our targets for fiscal 2017, first each expert committee and division confirmed the expectations and demands of all our stakeholders. Then they compared them to our corporate philosophy,



Corporate Code of Conduct and CSR Policy and drafted targets. Finally, the CSR Committee approved them.

CSR targets and results

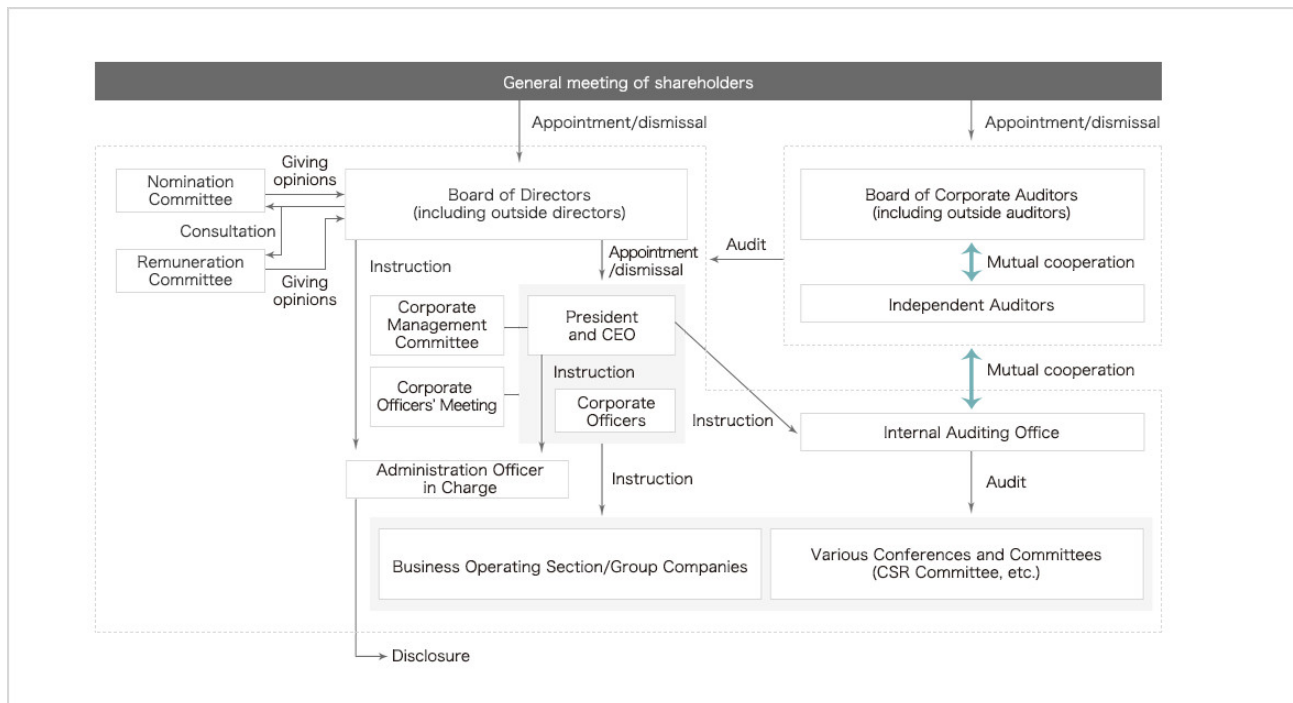
# Corporate Governance

## Basic Philosophy

We believe that it is our foundational and important managerial task to establish and maintain a fair and efficient management system, while securing soundness and transparency in management, in order to enhance corporate value by fulfilling our corporate social responsibilities. We will keep on carrying out efficient and sound business operations to pursue corporate philosophy by enhancing corporate governance for fulfilling our responsibilities to stakeholders.

## Corporate Governance System

The following framework has been built for decision-making, supervising, and execution of management.



Corporate Governance System

## Board of Directors and Directors

Board of Directors is composed of 10 directors, 3 of which are outside directors.

Meetings of the Board of Directors are held regularly once a month as well as whenever necessary for deliberation and determination with respect to issues as prescribed in applicable laws and regulations or articles of incorporation as well as other managerial key issues, and also for supervision of business execution status in response to reports from the directors. Additionally, Management Meetings composed of Directors are held regularly once a month for discussion and pre-grasping about business challenges to be addressed, and any possible risk that involves our company for enhancing the system that can be flexibly adaptable to change in the managerial environment.

We have introduced Corporate Officer framework on April, 2012 for the purpose of prompt execution of duties based on various policies determined by Board of Directors, and clarifying resultant responsibilities. Board of Directors has nominated 22 corporate officers (6 of them work as directors) who are expected to share information, and exchange opinions on the status report concerning execution of duties in a cross-sectional way in Corporate Officers' Meeting to be held once a month. Each term of Board of Directors and Corporate Officers' Meeting is one year.

## Board of Auditors and Auditors

Board of Auditors is composed of 4 auditors, 2 of which are outside auditors.

Two full-time auditors serve to audit execution of duties by the directors through regular opinion exchange with the representative director, and auditing of major offices and subsidiaries. Meanwhile, the outside auditors serve to audit execution of duties by the directors through attendance of Board of Directors. The auditors will attend various meetings and committee meetings whenever necessary.

## Independency of Outside Director/Outside Auditor

The outside directors perform supervision while taking the position independent from business execution by stating opinions from broad point of view in important meetings such as Board of Directors. The outside auditors perform audits on the background of technical knowledge while adopting multilateral viewpoints by stating opinions in important meetings such as Board of Directors.

The outside directors and outside auditors are designated as independent officers. They may be nominated in accordance with both the criteria prescribed by stock exchange, and our own

criteria in order to ensure that the candidate has no special relationship with management and major shareholders of our company, and no conflict of interest against the general stockholders.

## **Internal Audit**

We have established “Internal Auditing Office” as an independent department. Through audits of NGK SPARK PLUG CO., LTD., and its group companies, the Internal Auditing Office reports the audit results to management, and makes proposals to correct problems and improve business operations as necessary. Departments that receive a proposal for improvement formulate and implement improvement plans and the Internal Auditing Office monitor the implementation status. The Internal Auditing Office assesses the effectiveness of internal control over financial reporting in accordance with the internal control report system pursuant to the Financial Instruments and Exchange Act so as to secure the reliability of financial reporting, thereby working to maintain and improve internal control.

Internal Auditing Office will ensure effective and efficient audit through exchanging views on each of the audit plans and results with corporate auditors or independent external auditors or both, from time to time on a regular or necessary.

## **Remuneration for Director and Auditor**

We have established optional nomination/remuneration committee on April 2017 for rationality and transparency of nomination/determination of remuneration for the director. Since June, 2017, targeting the directors and the corporate officers, we have introduced the share-based remuneration system of performance-base type as the executive remuneration system with high transparency and objectivity based on business performance for the purpose of raising awareness of contribution to improvement of business results on the medium- to long-term basis, and enhancement of the corporate value. This system is intended to evaluate the attainment level of business operations in terms of consolidated sales, consolidated operating profit, and ROIC as indexes for four business years from fiscal 2017 to 2020 within our medium-term management plan period.

### Remuneration and bonus paid to directors and auditors in fiscal 2016

|                    | Remuneration (except bonus) |                         | Bonus  |                         |
|--------------------|-----------------------------|-------------------------|--------|-------------------------|
|                    | Number                      | Amount<br>(million yen) | Number | Amount<br>(million yen) |
| Director           | 11                          | 520                     | 6      | 73                      |
| (outside director) | (3)                         | (36)                    | –      | –                       |
| Auditor            | 4                           | 76                      | –      | –                       |
| (outside auditor)  | (2)                         | (26)                    | –      | –                       |
| Total              | 15                          | 597                     | 6      | 73                      |

\* Including remuneration paid to the director resigned at the conclusion of 116th annual shareholders meeting (held on June 29, 2016).

\* Maximum amounts of remuneration paid to the directors were set by a resolution made at the 117th annual shareholders meeting (held on June 29, 2017) as follows.

Total amount of remuneration (except bonus)      monthly      within 60 million yen

Total amount of bonus      annually      within 180 million yen

\* Maximum amounts of remuneration paid to the auditors were set by a resolution made at the 106th annual shareholders meeting (held on June 29, 2006) as follows.

Total amount of remuneration (except bonus)      monthly      within 10 million yen

Total amount of bonus      annually      within 10 million yen

# *Compliance*

---

## **Compliance Policy**

With recognition that our company is a member of society, we enhance corporate ethics and understand the spirit and meaning of laws, company regulations, international rules, and social norms in order to appropriately meet social demand and become a company trusted by the international community.

### Action Guidelines

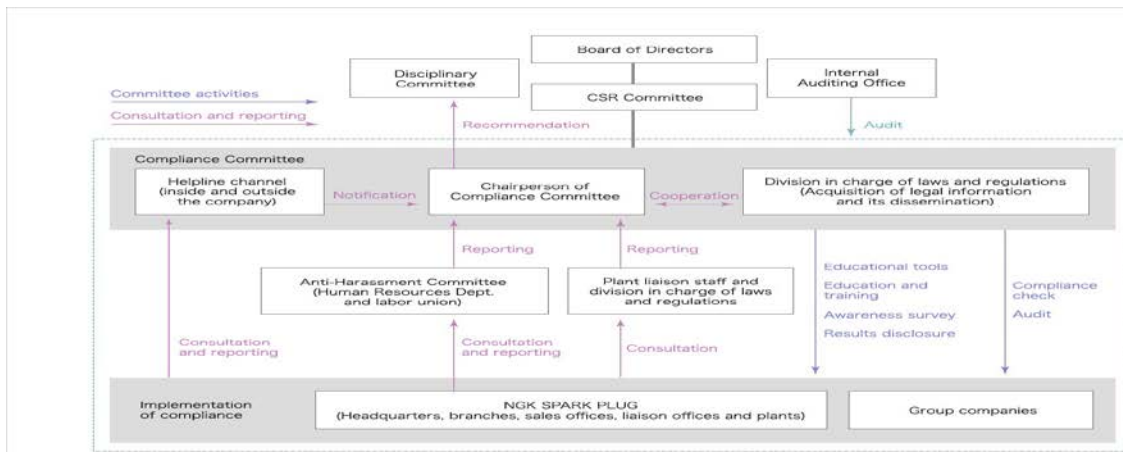
- We not only comply with laws and regulations, but also act in good faith with common sense and responsibility as a member of society.
- We regularly educate and raise the awareness of all our employees to impart a high level of ethics and correct knowledge, with which they can act voluntarily to prevent a violation.
- Should a violation occur, we will promptly investigate the causes and take remedial actions. We will strive to take appropriate countermeasures to prevent recurrence and fulfill our accountability.

## **Basic Philosophy**

We work to increase awareness among employees regarding compliance to act in a socially sensible manner, helping them to bear in mind that our enterprise is a member of society.

## **Compliance Promotion System**

A Compliance Committee made up of representatives of departments in charge of overseeing compliance with laws and ordinances and each division, headed by the Representative Director, holds meetings every three months, carrying out inspections and correcting serious problems.



Compliance Promotion System

## Promoting Compliance Education

To raise employees' awareness of compliance, we continue education and edification using the Compliance Guidebook, which collects rules concerning the company and society, and the Compliance Newsletter, which gathers examples of incidents that happen nearby. In addition to the level-specific training we have used in the past, we also hold training on the themes of competition law, export control, and business law.



Compliance Guidebook

## Compliance Survey

We conduct a compliance survey every year. This identifies employees' level of understanding about regulations and systems, the culture of the various workplaces, and compliance risks, and we work for individual improvements by providing feedback on the results to each workplace.

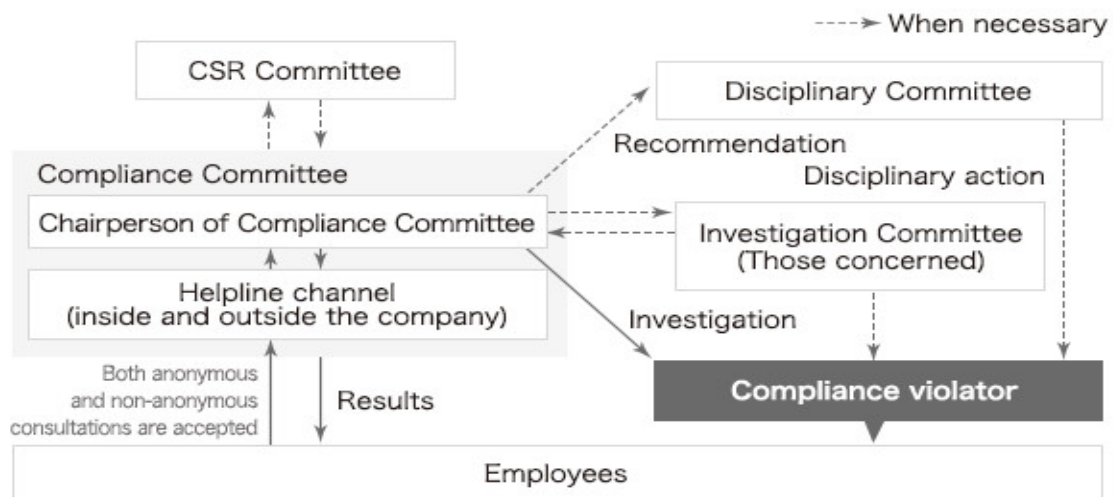
## Corporate Ethics Helpline

We have opened the "Corporate Ethics Helpline" as an in-house reporting system that encourages employees to consult regarding compliance. We have worked to increase convenience by establishing channels not only inside the company but also with an external expert private company, enabling consultation and reporting outside of business hours, on

holidays etc. Anonymous consultations are also accepted.

Regarding consultations and reports received, facts are investigated with discretion so the reporting employee is not identified and does not feel uncomfortable, and if problems are confirmed, they are dealt with promptly.

We have received 54 cases of consultations/reports in fiscal 2016, including those from employees for our group companies. The consultations and reports mainly involved with issues such as labor and in-house rules. We immediately took remedial actions upon identification of problems of accepted cases. This system will be continuously made known to every employee through opportunities, for example, by introduction in trainings, display of posters, and distribution of portable cards.



Flow after report is received via the Helpline

### Voice of Our Helpline Operator

We want employees to feel at ease using the helpline.

The Corporate Ethics Helpline is directly linked to the officer in charge of compliance. Under this system, the identity or details of consultation of the consulter, even when a real name is used, will be shared only with a minimum necessary people qualified for solving the problem. The privacy of the faithfully reporting consulter is securely protected so as not to be treated disadvantageously. Every employee who feels it difficult to consult in the workplace is encouraged to utilize this system.



Risk Management Dept.  
Mori

### Initiatives to Prevent Corruption

The NGK SPARK PLUG Group works to prevent corruption, stating in our corporate code of conduct “we shall promote fair, transparent, free competition and sound trade. We shall also ensure that our relationships and contacts with government agencies and political bodies are of a sound and proper nature.”

In the Compliance Guidebook we issued in 2012, we set rules concerning the prevention of corruption, including the prohibition of involvement in political contributions or bribery, and subsequently educated employees about these. In 2013, we educated employees about our Conduct Guidelines Concerning the Giving and Receiving of Gifts and Entertainment, and are raising awareness to eliminate any misconduct. Further, in 2016 we signed the United Nations Global Compact, openly reaffirming our commitment to undertaking the prevention of corruption. While addressing the prevention of corruption in accordance with these and other guidelines, we respond to any incident of violation primarily through our Compliance Committee. We also accept information provided through the Corporate Ethics Helpline.

Our overseas group companies are also taking action to prevent corruption, and conduct education for employees along with surveys of local laws.

Through our CSR Procurement Guidelines, we further require that suppliers refrain from acts of bribery.

In fiscal 2016, there were zero related violations committed by our Group.

[Participation in "United Nations Global Compact" >](#)

## Initiatives Concerning Competition Law (the Antimonopoly Act)

Responding with sincerity to violations of competition law uncovered in fiscal 2014, the NGK SPARK PLUG Group is implementing a Competition Law Compliance Program.

We have established a system to promote compliance with competition law, including the appointment of officers in charge of compliance and the establishment of a competition law and compliance measures team. In addition, we have formulated an Antimonopoly Act Compliance Manual and educated employees about it, including holding seminars on the topic. In fiscal 2016, we held seminars for major career path, technical division, and planning division in addition to those for sales division and support division as well as those led by experts for executives. We have introduced in-house E-mail inspection system for monitoring prevention of recurring violation of Competition Law

The domestic competition law and compliance measures team visits overseas group companies to conduct audits on compliance systems and their operational status, and to confirm that rules are thoroughly promulgated and enforced. In addition, we conduct checks of the readiness status of internal reporting systems, as a means for quickly discovering the possibility of violations. From fiscal 2015 to fiscal 2016, we conducted on-site audits at almost all overseas group companies. We will continue to conduct education and audits both in Japan and overseas, and will enforce the strict observance of competition law.

## Policies Regarding Taxes

The NGK SPARK PLUG Group has set a compliance policy by which we recognize that we are a member of society, and, with understanding of the spirit and the purpose of laws and ordinances, respond appropriately to the demands of society and aim to become a company trusted by the international community. We also undertake the payment of taxes on the basis of this policy and in accordance with the following principles.

1. The Group will fulfill its social responsibilities by observing laws on corporate taxation and other tax laws in every country, as well as international taxation standards including the OECD Transfer Pricing Guidelines and the Action Plan on Base Erosion and Profit Shifting.
2. In order to ensure compliance with the above laws and ordinances, our Group will work toward improving our knowledge of, and correct understanding of taxation, and to enhance reliability and transparency with an attitude of sincerity toward tax authorities.
3. The Group will properly manage taxation risks by working toward appropriate declaration and payment of taxes in each country, thereby enhancing shareholder value.

## *Export Controls*

### **Basic Philosophy**

Aiming at international peace and security, export management (Security export control) has been implemented to protect cargo and technology from being utilized by Organizations with some kind of connection to Regional conflicts or Nuclear development for military purpose. The demand for proper export control has been increasing due to worsening international security. To suitably execute export controls based on the Foreign Exchange and Foreign Trade Control Act, we have drawn up our own Export Management Regulations and established our in-house export control system. Our logistics departments have been working to achieve proper cargo control under the background of solid security management system of export cargoes for terrorism prevention based on various relevant systems. We will continue to carry out business in compliance with all laws and regulations to fulfill our responsibilities as demanded by the international community and the government.

### **Holding Regular Briefings on Different Themes**

Responding to needs of continuous education to appeal the importance of security export controls and cargo security management to all through the company, we are planning to hold regular briefings on various themes for related divisions in the company.

Themes and Results in fiscal 2016

| Themes                                                    | Number of times | participants |
|-----------------------------------------------------------|-----------------|--------------|
| 1.Foreign exchange laws and security export controls      | 16              | 329          |
| 2.Customs law, Authorized Exporters' program (AEO system) | 16              | 329          |
| 3. Air cargo security management (KS/RA system)           | 8               | 212          |

## Themes in fiscal 2017 (planned)

1. Foreign exchange laws and security trade controls
2. Customs law, Authorized Exporter's program (AEO system)
3. Air cargo security management (Known Shipper / Regulated Agent system)
4. Classification in practice

### **Voice of Our Export Controls Organizer**

#### **Pursuing education program in readily understandable way**

Export control is supported by various divisions such as technical, sales, and logistics. The person in charge of the export control is expected to work with in-depth knowledge and understanding on the importance of continuous provision of regular education programs for appropriate business operations executed by the relevant divisions. We will hold briefings on laws and regulations concerning export, and cargo management in readily understandable manner for participants so that no unclear points are left after the briefing.

We aim at the environment for appropriate business operations performed by the relevant divisions.



Risk Management Dept.  
Kato

## *Security Control / Information Security*

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### **Information Security Policy**

We regard all of our own information assets as one of our management resources. Through the proper protection and effective use of our information assets, we pursue healthy maintenance and development of our business.

#### Action Guidelines

- We establish rules that clearly define the system and responsibilities for the protection and management of all the information assets including the information we keep for our customers, the know-how and intellectual properties owned by our Group, and personal information.
- We comply with laws, ordinances, and regulations regarding information security.
- We educate all executives and employees who handle information assets about the importance of information security, and about specific items to be observed.
- We continuously update the information infrastructure for the maintenance and improvement of the confidentiality and stability of all the information assets.
- We promote measures to prevent accidents in order to address the risks of information leakage associated with the continuous advancement and sophistication of information technology. Should an accident occur, we will strive to minimize the damage and take preventive measures against recurrence.

### **Basic Philosophy**

We have established the Group Information Security Regulations and Confidentiality Management Regulations, striving for appropriate management of confidential information, including the electronic information of the NGK SPARK PLUG Group, customers and suppliers. Even in the use of electronic information equipment such as wireless LAN and mobile terminals, we will conduct information security management with due consideration in compliance with relevant laws and regulations.

Our privacy policy is available on our website

## Relocating Internet Systems to a Disaster-resistant Data Center

In preparation for the eventuality of a disaster, we are gradually relocating the Internet systems used for exchanging data with suppliers and group companies, and for internal and external communication with tools, and the mechanism for exchanging data with the suppliers to an external data center which have outstanding resistance to earthquakes, liquefaction, flooding, and fire as well as guaranteed power sources. In conjunction with this, we have enhanced business continuity by duplicating communications with the data center.

## Carrying Out Periodic Inspections Related to Confidentiality Management

To ensure that the confidentiality management rules we established do not become rules in name only, the Confidentiality Management Committee performs periodic company-wide inspections of the status of confidentiality management. We have adopted a method of carrying out mutual interdivisional inspections in addition to the self-checks carried out in the past to strengthen the checking function.

Furthermore, we have not only established rules for confidential information handled in-house, but also rules to prevent leaks of confidential information taken outside the company, including procedures for the use of mobile PCs and cloud service, and we carry out checks on the operational status of these rules.

### Voice of Our Confidentiality Management Manager

To be thorough in confidentiality management and avoid corporate risk

As a member of the Confidentiality Management Committee secretariat, I am in charge of promoting confidentiality management throughout the company. When confidential matters are leaked, there is not only a degradation of competitiveness in the market and actual damages due to demands for compensation of damages from business partners, but there are the incalculable effects of a damaged image due to a loss of public faith in the company. To prevent these effects, we will optimize the company-wide standard confidentiality management rules more suitable as well as expand them to group companies.



Risk Management Dept.  
Maegawa

## *Intellectual Property*

### **Basic Philosophy**

To protect its existing and newly developed products, NGK SPARK PLUG CO., LTD. takes steps to actively acquire intellectual property rights and make effective use of them. We investigate the intellectual property rights of third parties in all production processes, from early stages of development to mass production, to avoid the risk of infringing the intellectual property rights of third parties or violating contracts, laws or regulations. We also verify the appropriateness of the intellectual property-related provisions in various contracts. In addition, we are educating employees on the importance of intellectual property. In the future, we will strengthen the management of intellectual property across the Group, as the basis for our continued evolution as a “Monozukuri Company.”

### **Promoting Measures to Stamp Out Counterfeit Goods**

As for NGK SPARK PLUG CO., LTD.’s measures against counterfeit goods, to date various group companies, primarily in China and the Middle East, and law firms have been proceeding with activities through tie-ups, and we have also been strengthening activities in the ASEAN and India, where economic growth continues. The counterfeit goods that threaten the safety of customers exhibit the trend toward further trickiness and smaller lot through the Internet trading. We have been continuously engaging in activities for uncovering and stamping out the counterfeit goods in close cooperation with the police, the customs, and relevant administrative agencies.



Seized counterfeit goods

**Voice of Our Intellectual Property Organizer****For Safety of Customer and Development of Local Society**

The Intellectual Property Department believes that we should take the resolute attitude against manufacturing and sales of counterfeit goods modeled after our products not only for protecting interests of our customers who purchase our products with trust in our brands but also removing any possible risk of funding anti-social organizations. We are striving for diversification of our intellectual property rights for effective exercise onward, aiming at safety and development of the local society.



Intellectual Property Dept.  
Yoshizawa

## *Risk Management*

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### **Risk Management Policy**

We will identify the risks that could have serious impact on our business activities based on the comprehensive understanding of the risks related to our Group, and take necessary measures to prevent the occurrence and recurrence so that the risks are reduced to an acceptable level. Even if such a risk should occur, we will also strive to restore and continue smooth business operations, thereby maintaining trust from our stakeholders.

#### Action Guidelines

- We conduct our activities with top priority on the protection of human life.
- We strive to prevent factors that could affect business continuity.
- We minimize impact on related parties.
- We strive for rapid restoration of business operations and stable supply of products and services.
- We take measures to prevent the recurrence of risks.

### **Basic Philosophy**

We are promoting construction and operation of the companywide risk management system as the strategy coping with the complex and diversified business environment and risk. Based on the following basic ideas, we will continuously make our efforts to effectuate the system integratedly with groups inside and outside Japan.

1. Sharing of idea/procedure of raising awareness of risk, evaluation, and formulation of measures;
2. Construction and operation of the management system adapted to individual group companies;
3. Skill-up of risk assessment and measures

## Promotion system

Appointing the President of NGK SPARK PLUG CO., LTD to “Chief Administrator” of risk management, and appointing the Director of Risk Management Department to “Promotion Manager”, the CSR Committee including all Directors as members is expected to evaluate operation/results of group-wide activities based on the following items for review on the management in the next term.

1. Classify the risk into hierarchies including management level, Department/Division level, and working level for clarifying the respective coverages of risk management. For the group management risk level, “Unified priority risk measure for the whole groups” is selected for evaluation on the countermeasure status.
2. Evaluate each status of risk management system construction/operation in the respective group companies.
3. Instruct correction of descriptions as described in the items 1 and 2.

In the fiscal 2017, promotion of BCM (Business Continuity Management), and Anti-Corruption are specified as the “Unified priority risk measure for the whole groups”.

### Classified risk

|                                                              |                                                              |
|--------------------------------------------------------------|--------------------------------------------------------------|
| Human rights and labor practice                              | Harassment                                                   |
|                                                              | Discrimination                                               |
|                                                              | Long hours of work                                           |
|                                                              | Labor dispute, Strike, Demonstration                         |
| Safety and Health                                            | Occupational accidents                                       |
|                                                              | Traffic accident                                             |
|                                                              | Mental health                                                |
| Environment                                                  | Environmental pollution                                      |
|                                                              | Violation of laws                                            |
| Information security and Confidential information management | Information system failure                                   |
|                                                              | Cyber attack                                                 |
|                                                              | Leakage of confidential information and personal information |
| Fair trade and Ethics                                        | Corruption                                                   |
|                                                              | Violation of laws                                            |

|                       |                                              |
|-----------------------|----------------------------------------------|
| Fair trade and Ethics | Infringement of intellectual property rights |
|                       | Export management                            |
|                       | Accounting problems                          |
|                       | Procurement                                  |
| Product               | Defective product                            |
|                       | Product liability                            |
| Accident              | Natural disaster                             |
|                       | Infectious disease                           |
|                       | Fire and explosion                           |

CSR Promotion System >

## Promotion of BCM (Business Continuity Management)

### Formulation of various BCPs (Business Continuity Plan)

In preparation for various risks caused by earthquake disaster, We have been addressing the issue of BCM (Business Continuity Management) for continuing business operations while minimizing damage, if any, caused by the risk. Establishment of contingency framework, and handling procedures necessary for functions required to take timely measures against the disaster, for example, business departments, IT, and procurement, are specified in BCP (Business Continuity Plan), clarifying the time-limit and the target state. We conduct the training intended to confirm and disseminate effectiveness of the formulated BCP annually. The CSR committee further confirms the task and degree of effective improvement, which have been revealed by the training for taking countermeasures and reviewing.

### <BCP on IT>

We are taking preventive measures against the harmful influence on the business continuity in the case of disaster by reinforcing machine chamber to improve the earthquake resistance, installing base isolation stand, utilizing cloud service, changing the backup storage method, and introducing emergency power supply equipment and solar power generation system. In preparation for disconnection of communication, we formulate the recovery plan for early recovery.

### <BCP on procurement>

We have promoted countermeasures that include multiple purchasing for key products including materials and parts.

A diverse range of materials and parts is required for manufacturing NGK SPARK PLUG CO., LTD.'s products. Therefore, we are trying to secure systems that respond to the BCP through sharing our objectives with each supplier and making efforts across the entire supply chain.

### Making preparations for large-scale earthquakes

There has been concern over large-scale earthquakes in Chubu region where many business bases of our group companies are located. We have relocated the office likely to be suffered from the tsunami, as well as reorganization of plants of the group companies in consideration of possible damage under adverse influence of the large-scale earthquakes. "Earthquake BCP Guideline" specifies the initial measure in response to the earthquake and business continuity actions. The initial measure covers actions of employees, for example, evacuation and confirmation of employees' safety, provision of emergency response headquarters, in-house fire brigade, and stockpile management. The initial measure will be confirmed through the emergency drill held by the respective plants, business offices of our company, and group companies in Japan on the same day in November every year. The business continuity action covers setting of target time for recovery of the important business operation, drafting the recovery plan, organization of team for recovery work, and exercise of BCP.



Disaster drill



AED training



Training for collecting  
disaster information

## *Quality Policy and Implementation Structure*

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### **Corporate Quality Policy**

We are committed to "Customer focus", "Involvement of all members", "Continuous Improvement", to provide "Quality Products" to the society, and create new value.

#### Action Guidelines

- We strive to take a customer-oriented approach to provide quality products and services, aiming to ensure greater customer satisfaction in all our business activities.
- We are engaged in quality improvement activities through the companywide cooperation, and encourage our employees to achieve higher goals by making the best use of their individual abilities and creativity and uniting their efforts to address problems and challenging issues.
- We strive to continue improving our processes, systems, products, and services, aiming to respond to ever changing social/market environments and the diverse expectations and needs of customers.

### **Basic Philosophy**

NGK SPARK PLUG CO., LTD. regards all the value, expectations, and evaluations provided to customers through products and services, and all the people, goods, processes, and arrangements involved in producing them as "quality."

We are always conscious of making the best value for customers, and, aware that we are the ones who support quality, we continue to grow, ambitiously applying creativity and imagination to all operations.

We create value for customers in accordance with our Corporate Quality Rules and Corporate Quality Policy. We will continue to contribute to society with safe and trusted manufacturing, as well as the development of human resources who effectively and efficiently implement total quality management (TQM), which enables us to respond flexibly and promptly to the evolving internal and external business environment.

## Quality Management System

NGK SPARK PLUG CO., LTD. strives under the main principles of our quality management activities (quality assurance, daily management, policy management, Small Group Improvement Activities, and quality management education), which are based on our Corporate Quality Rules.

We have obtained certification by the international standard ISO 9001 and sector standards such as ISO/TS16949 in order to meet the demands of customers and the various industries. The “Quality Committee”, established as the company-wide quality assurance framework, is chaired by the Quality Control Officer and composed of the general managers. The Quality Committee directs and supervises total quality management (TQM) and quality risk.

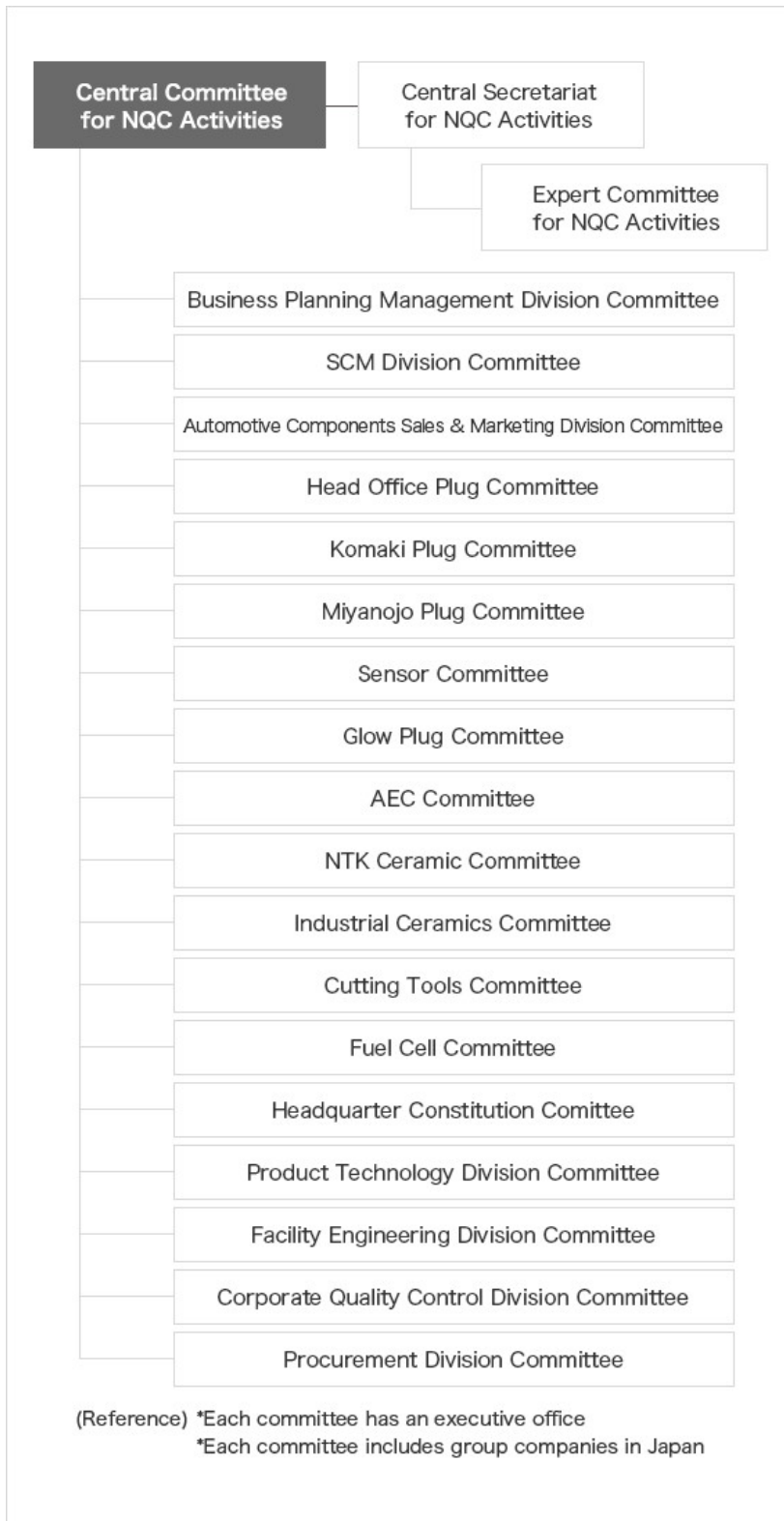
In addition, QC Circle activities are positively conducted as Small Group Improvement Activities and play a role in promoting total quality management (TQM) activities. The “NQC\* Central Committee”, which promotes QC Circle activities, continually works with QC Circle trainers and the expert advisors who support QC Circle activities to strengthen the development of human resources and organizations that continually support quality.

We also contribute to awareness of local quality activities through participation of outstanding QC Circles in many external QC Circle conferences to present their results.

\* N stands for an initial letter of “Nittoku”.



Quality Management Promotion System (FY2016)



\*Each committee has an executive office

\*Each committee includes group companies in Japan

NQC Activities promotion system (Organization of NQC Activities)  
(FY2016)

## Voice of Our Quality Control Manager

### For achievement of targets

Sharing the “Nittoku Quality Mind”, which is NGK SPARK PLUG CO., LTD.’s DNA with regard to "enhancing corporate value" and "creating customer value," we have established the “Corporate Quality Rules” in order to align our approach toward the achievement of company-wide targets. As the company that can provide value for customers and society at all times, it is essential to upgrade not only product quality, but also the quality of all the operations and human resources that produce it as well as nurturing our corporate culture. We will provide the expected quality by practically applying total quality management (TQM) to our global activities in the NGK SPARK PLUG Group.



General Manager, Corporate  
Quality Management Div.  
Aoki

## *Initiatives to Improve Quality*

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### **Basic Philosophy**

NGK SPARK PLUG CO., LTD. is working to share and practice the concepts of TQM (Quality Management) in order to become a group company that creates value for all stakeholders and has a system that can respond flexibly and swiftly to change.

Based on our CSR Policy, we have updated NGK SPARK PLUG CO., LTD.'s Corporate Quality Rules and identified the following five areas as the mainstays of total quality management (TQM).

#### 1) Quality assurance

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In order to provide products and services that meet the needs of our customers and society, NGK SPARK PLUG CO., LTD. will establish all operations and guarantee their safety and reliability and promote development activities aimed at creating new value.

#### 2) Daily management

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NGK SPARK PLUG CO., LTD. will consider methods and indicators to measure the quality of all our operations and promptly investigate the causes when results that differ from normal are obtained as well as taking countermeasures to maintain and improve quality.

#### 3) Policy management

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NGK SPARK PLUG CO., LTD. will further improve and innovate activities to maintain and enhance quality. We will establish strategies and objectives for creating new value for customers and responding to the evolving internal and external business environment and explicitly identify issues and problems that need to be tackled as we work towards achieving our strategies and objectives.

#### 4) Small group improvement activities

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NGK SPARK PLUG CO., LTD. will use small group teams to solve the various issues and problems identified through daily management and policy management, thereby developing human resources.

#### 5) Quality control education

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NGK SPARK PLUG CO., LTD. will create the understanding and awareness of the mainstays of TQM, which are the prerequisites for maintaining and enhancing quality and activating

improvements and innovation and then establish and implement a grade-specific education system.

## Running “Quality Activity Events” Year Round

We run quality management events year round, not only in Japan’s Quality Month which is held every November. Our quality expos are held at all the sites of group companies in Japan and are visited by more than 5,000 employees each year. We established the expos as an opportunity to share our approach to quality as well as the diverse quality-related initiatives in workplaces. In addition, we promote activities to maintain and enhance quality while engaging all employees in a range of events such as raising awareness about quality



A quality expo

through collection of quality slogans and attendance at lectures on quality, evaluation of the results of activities at QC Circle workshops, and promotion of problem solving through tours of inspection by local senior management, including overseas business sites.

## SDCA Activity

Standardizing our work and operations plays an important role in supporting TQM (quality management). As a manufacturer, we are promoting the manufacturing worksite SDCA (Standardize, Do, Check & Act) activity to stably and reliably conduct daily management at our manufacturing worksites. We are working to improve quality of our manufacturing while being susceptible to any abnormal state in the worksites and maintaining the worksite without muri, muda and mura (unreasonableness, waste and inconsistency) as a daily routine through good communication.

### Voice of Our Activity Promoter

## Creating a Workplace with a Positive Culture through Standardization

Miyanojo manufacturing department is working on standardization activities for lessening unevenness in the procedure, methods, and time periods for executing operations. Our activities aim at standardization of the process, which allows every worker to readily perform the operations in the natural flow while making efforts to lessen unevenness in the time period for preparatory job or “temporary stop”\* so as to attain stability in quality and production. We have introduced the work evaluation system using the tablet terminal to confirm the operations in the determined manner. The system helps us to identify the specific operation that has been kept unclear as well as search for more efficient approach to perform such operation through discussion. Consequently, we are able to confidently conduct the operation. We are sure that the communication among members in the process has been restored to further improve the worksite atmosphere.



Spark Plug Div.  
Miyanojo  
Manufacturing Dept.  
Hira

\*Temporary stop : The brief interrupted or idling state of facilities and production in the manufacturing worksite resulting from incidental trouble owing to uncertain cause.

## Quality Training Raising the Quality of Our Manufacturing

We are working to develop our human “assets” as “making things is making people.” We have established fulfilled training programs that include quality control and QC Circle Activities, and many of our employees attend these programs. We are also further strengthening more advanced support activities at sites. We expect that training participants will gain significant awareness by revising points on techniques through familiar themes in addition to spreading this awareness to the employees around them.

We also offer quality training and practical support for



Quality training

problem solving for suppliers so that they provide us with consistently high quality parts and materials based on continuous quality improvement.

### Voice of Our Training Leader

#### Moving from Knowing to Being Able to Use Quality Knowledge

In our quality training programs, we hear feedback on being able to acquire knowledge such as “I obtained new knowledge” and “I found out about points for analysis.” We are providing practical instruction on the themes raised by individual employees in order to turn this knowledge into something that can be applied to practice. Going forward, we will continue to enhance the quality of products and work through the development of human “assets” with the ability to apply quality knowledge to practice.



Corporate Quality  
Management Div.  
Kato

### QC Circle Activities (Small Group Improvement Activities)

We are implementing QC Circle Activities aimed at advancement of human "asset" training and workplace capacity by continually solving problems and issues we face in daily work. We call this activity "NQC Activities." (N denotes an initial letter of Nittoku).

#### Presentation and Sharing of Results of NQC Activities

During Quality Control Month every November, NGK SPARK PLUG CO., LTD. and group companies in Japan jointly hold company-wide presentations concerning results of NQC Activities. In fiscal 2016, the presentations were held for indirect department and direct department, separately so that the employees are stimulated by learning specific activities performed by coworkers in the same occupational category as a reference for their working ways. Three circles that received the gold prize for excellence were highly evaluated for achievement of the target based on the “5-Gen principles” by all members, and enhancement of their knowledge on improvement, and communication skills. Defining the session as the framework for the “NGK SPARK PLUG Group Presentation”, we started holding invitational

presentations on the best improvement practices from circles of overseas group company in fiscal 2015.

In addition, at the company-wide improvement practice presentation and award ceremony every June, commendations are given to small groups systematically implementing exceptional NQC Activities in daily operations throughout the year to encourage continuous NQC Activities by honoring their efforts.

In addition, we actively send outstanding improvement incidence to presentation meetings outside the company. Presentation of the subject theme outside the company will stimulate their motivations, sense of achievement to upgrade the circle as well as individuals, leading to the next activities. Recently, a certain number of circles have received higher prizes in the presentation held outside the company every year. The contents and results of the presentations are shared by the in-house infrastructure.



Central Presentation Circle  
awarded the gold prize  
(indirect department)

### Promotion of NQC Activities in Each Department

To activate NQC Activities at each worksite, we formed new "expert committees" at each of our plants in fiscal 2013. These committees are made up of Certified QC Circle Trainers and expert advisors (members selected from each division and department). In particular, they aim to give expert advisors knowledge and practical skills related to NQC Activities through two years of activities as internal workshop instructors, promoters and commentators and in external training courses. After their terms, they return to their respective worksites available on a daily basis. The NQC Central Office aims at revitalization of activities by increasing the general expert advisors in the respective worksites.

Our aim is to invigorate and raise the quality of NQC Activities through continual improvements to this system for promoting them, and we will continue to develop human "asset" who can produce the best results in each scene of the company's business activities.



Advice from an expert  
advisor

## Voice of the Secretariat for NQC Activities at Group Companies in Japan

### NQC Activities Leading to Human Resource Development

We have been promoting NQC activities focusing on human resource development based on the slogan to “Learn and upgrade through NQC activities for better self and more lively worksite”.

In fiscal 2016, the following initiatives were promoted in addition to support to the circles, for example, confirmation of meeting progress by recording meetings, advice on QC methodology and QC incidents.

- Promoting participation of new counselors and promotion committee members in external workshops
- Holding exchange meetings only for female employees for the purpose of revitalizing the activities

The knowledges cultivated through the initiatives are expected to be utilized not only for NQC activities but for routine works, leading to development of human “assets” indispensable for the company.



Ceramic Sensor  
Secretariat for NQC  
Activities

## Measurement Management

Appropriate measurement management in order to obtain reliable measurements is vital in manufacturing.

In order to protect the NGK SPARK PLUG brand, we support our group companies in the way adapted to individual tasks by making importance of measurement known to the entire group.

### Development of Measurement Management System for Group

#### Companies in Japan

We have established the unified criterion for the measurement management system so that such system is implemented at higher operation level. We believe that the unified criterion will lead us to enhancement of quality assurance system.

We are performing audits of measurement management systems and confirmation of manufacturing worksite measurement at each company and have been working to unify

standards and enhance the quality of frameworks and management.

We will offer the support to voluntary level-up through key person development for the jobsite confirmation and human resource development conducted in each company.

### **Voice of a Measurement Management Manager at a NGK SPARK PLUG's Group Company**

#### **In-house Calibration of Measurement Device**

We have been currently taking the initiatives to implement in-house calibration of measurement devices upon start-up of new plant. In collaboration with NGK SPARK PLUG CO., LTD., we have been engaging in development of the operator for calibration, framework improvement, and building of chamber for calibration. We will continue working to improve knowledges and skills of our employees while enhancing our relationship with NGK SPARK PLUG CO., LTD.



SparkTec WKS CO., LTD.  
Quality Assurance Dept.  
Tanaka

## Support to Overseas Group Companies from Viewpoints of

### Measurement

We visit the plant of overseas group companies on the regular basis for improving the calibration skill of the local employees, and auditing the gauge supplier as part of our educational support project.

Aiming at quality improvement of the framework and skills, we have started implementation of measurement confirmation at manufacturing worksite as well as “audits of measurement management systems” and “certification of calibration skills”. The in-depth confirmation is intended to further raise the measurement management level directly linked to manufacturing. We will work on localization so that each company is able to perform skill certification, training, and process confirmation on their own.

As part of rationalization, we are promoting local procurement of gauge. Proper incoming inspection at the respective overseas plants is essential for successful local procurement. The measurement technology is needed for such proper inspection. We will contribute to accuracy improvement and consistency of incoming inspections by rolling out training in measurement method and skills.

### **Voice of a Quality Control Manager, Overseas Group Company**

## **Aiming at Upgrading of Measurement Management and Measurement Skill**

We are continuously working for upgrading the measurement management and measurement skills in collaboration with NGK SPARK PLUG Co., LTD. The measurement management system audits conducted in fiscal 2016 revealed the “weakness” in the system. Implementation of in-house training to overcome the “weakness” led us to enhancement and improvement of the measurement management and measurement skills. In the future, we will continuously work to attain further growth.



NGK SPARK PLUGS  
(INDIA) PVT. LTD.  
Tanahashi

## *Communication to Customers*

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### **Basic Philosophy**

For the reliable supply of our products and services to our customers all over the world while satisfying their demands and requests, we have been making efforts to perform high-level communication with customers in various ways. We are offering correct and appropriate information on the website or in exhibition always from the customer-oriented point of view.

### **Providing Services Demanded by Customers from a Customer**

#### **-oriented Perspective**

We also provide high quality services based on the appropriate technology and knowledge as well as long experience in the automobile aftermarket and promote diverse activities responding to requests of customers from a customer-oriented perspective around the globe. We put efforts into technical knowledge training for marketing staff in Japan and overseas as well as the training of overseas technical marketing staff to enhance the communication with users by holding training sessions for mechanics working on the automobile maintenance site, or students as would-be mechanics, or running an event for arousing interests of end users in the spark plug inspection.

In addition, we promote market research activities as well as feedback by collecting and providing technical information and new car and model information, and work on initiatives to further increase customer satisfaction by responding to customer inquiries, and to our website, and providing diversified services including technical support to cope with complaints.



OJT activities in  
maintenance shop (China)



Training sessions for  
mechanics (Japan)



Spark plug inspection  
campaign (Vietnam)

### **Voice of a Member of our Service Staff**

## **Leading to the future activities**

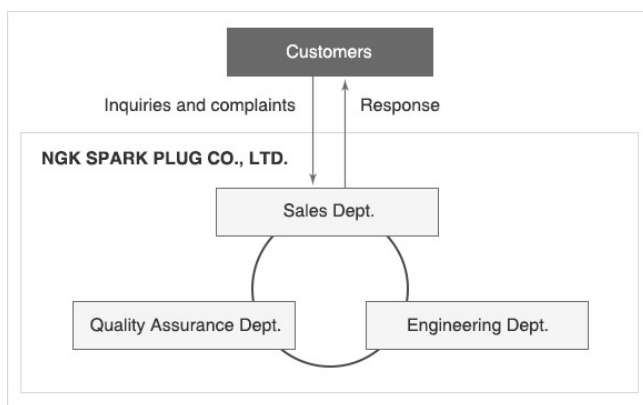
Engaging in the Aftermarket Technical Service Department, we have many chances to meet customers from agents, suppliers, and maintenance shops inside and outside Japan, and hear opinions and requests directly from them through the technical lectures and visit to customers as a part of our business activities. Active collection and analysis of such information regarded as being important for the market will lead us to our mission in the future. We have been conducting activities for developing awareness of “Preventive maintenance/preventive replacement” through our technical lectures and other opportunities as the outcome of our communication with many customers. Collecting “real opinions” of our customers will be continuously conducted as our most important task.



Aftermarket Technical Service  
Department  
Automotive Components Sales &  
Marketing Division  
Kinjo

## Responding to Inquiries and Complaints

Inquiries and complaints on our products received from customers are first accepted at our sales division. Then the quality assurance division works together with the technical division to quickly respond and take necessary actions to the inquiries and complaints.



Response to Inquiries or Complaints

## Sending Information on Website

“PLUG STUDIO” is a website that disseminates detailed information about our products including NGK spark plugs. Customers can also search for the part number that matches their vehicle and model. The website also features information on motor sports, primarily teams supported by NGK SPARK PLUG CO., LTD. as well as upcoming exhibitions and events.

We have set up an official Facebook account for NGK SPARK PLUG CO., LTD. to further inform more customers of the NGK spark plug brand.

[PLUG STUDIO >](#)

[Facebook NGK SPARK PLUGS <Official> >](#)

## Communication through Exhibitions and Events

We make sure to have PR booths at exhibits and motor sports events.

These provide valuable opportunities that allow us to meet with customers and explain our products and technologies directly, and we also use these opportunities to identify constantly evolving needs.

### PR booth exhibits at race circuits

In fiscal 2016, we exhibited a total of six times in PR booths at race circuit venues while motorcycle and automotive racing events were being held. In addition to introducing our products to motor sport fans, we held stage events many customers participated in. On April in that year, we supported SUZUKA 2&4 race, the greatest form of motorcycle and automotive racing events held in Japan as the title sponsor. We succeeded in making close link between the NGK spark plug brand and the motor sports known to a wide range of customers



2016 NGK SPARK PLUGS  
SUZUKA 2&4 RACE

### Participation in Automotive Engineering Exposition 2016

We participated in “Automotive Engineering Exposition 2016” in Yokohama and Nagoya, as the exhibition specializing in automotive technologies. We introduced our key products including spark plug, glow plug, and various types of sensors all contributing to improved fuel efficiency and emission reduction. We also introduced our latest technologies to visitors by demonstrating the “compact multi-gas measurement device (NCEM®)” capable of measuring exhaust gas of the traveling vehicle, and the “hydrogen leakage detection sensor” as the requisite component for the fuel-cell vehicle.



AUTOMOTIVE ENGINEERING  
EXPOSITION 2016  
YOKOHAMA

## CEATEC JAPAN 2016

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We participated in “CEATEC JAPAN 2016” as the international exhibition specializing in Image, Information, Communication, which is the largest scale in Asia. We exhibited the product group of various ceramic packages, “hydrogen leakage detection sensor” and “palladium hydrogen permeable membrane” contributing to the hydrogen energy based society, the all-solid battery essential for the next-generation vehicles and energy field, and environmental-friendly lead-free piezoelectric material.



CEATEC JAPAN 2016

## Responding Product Defects

We make it a rule that any product defect we have detected and found to possibly cause harm to customers be immediately announced to the public through our websites, newspapers, trade journals and other media as appropriate and that we simultaneously implement countermeasures against such defects to protect all users.

## *With Our Shareholders and Investors*

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### **Information Disclosure Policy**

Aiming to become an enterprise capable of receiving great support and popularity from people around the world, we strive to conduct transparent business operations and fair information disclosure.

#### Action Guidelines

- We disclose any corporate information required to be disclosed by the Financial Instruments and Exchange Act and other laws and regulations, in an accurate and timely manner.
- We actively disclose our corporate information, which is not subject to laws and regulations however deemed to be important for stakeholders, through our daily actions, such as issuance of press releases and updates of our website.
- We focus on enhancing communication with our shareholders, investors, and other stakeholders to further promote mutual understanding with them.

### **Basic Philosophy**

At NGK SPARK PLUG CO., LTD. we are well aware that promoting transparent and fair information disclosure is indispensable to having all our stakeholders better understand and evaluate our business operations. To achieve this goal, in addition to meeting the legal standards of information disclosure, we also strive to strengthen information disclosure through various media and promptly release information on our website, with the aim of ensuring stakeholders' greater trust in our business operations.

[Investor Relations >](#)

## Facilitation of exercise of rights in shareholders' meeting

We send out the notice of convocation for our Ordinary General Shareholders' Meeting even earlier than the legal deadline so that shareholders can give adequate consideration to the reports and resolutions. Additionally, we try to carry out earlier disclosure by releasing the information on the company website before sending out of the notice. We also translate part of the notice of convocation into English for overseas shareholders and post it on the company website in parallel with the Japanese version.

Furthermore, we are striving to create a suitable environment for the exercise of shareholders' rights, including making it possible to exercise rights from a PC or a mobile phone in addition to the exercise of rights in writing.

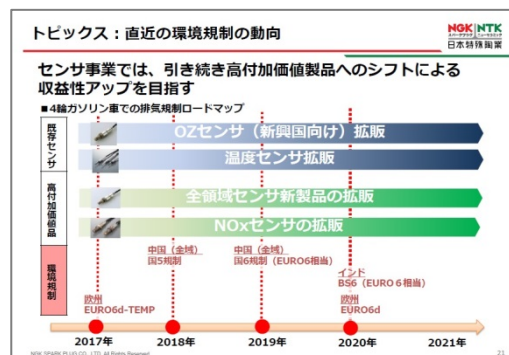


The 116th general meeting of shareholders  
(June 29, 2016)

## Expanding disclosed contents of IR materials

We have reviewed the contents disclosed in IR materials for expanding the scope of the disclosure for deep understanding of stakeholders with respect to NGK SPARK PLUG CO., LTD. by adding the items frequently inquired by investors.

Going forward, we will continue to develop the system that prioritizes “positive communication” and “fair information disclosure” to meet diversified needs of shareholders and investors inside and outside Japan.



IR material

## Engaging in Activities to Make Shareholders and Investors

### Familiar with NGK SPARK PLUG CO., LTD.

We hold company briefing sessions for shareholders and investors. In fiscal 2016, in order to make our company highly recognized nationwide, we visited areas all over Japan to try to hear “real opinions”. We will continue to value dialogue with all investors and our shareholders.

**Voice of Our Investor Relations Representative****Aiming to Raise Corporate Value**

Our goal in the Public Relations Department is to get all stakeholders to understand the company “accurately,” “deeply,” and “constantly,” to raise corporate value.

Going forward, we will continue to make every effort to disseminate the appropriate information and raise the quality of communication.



Public Relations Dept.  
Matsuno

**Returning Profits to Shareholders**

Returning profits to our shareholders is one of the most important policies for our management, and have consistent and stable payment of dividends as a basic policy. We also consider the return of profits in line with earnings as important, and we plan to continue the payment of interim and year-end dividends with a target consolidated payout ratio of at least 30%, giving comprehensive consideration to a stable dividend level, which is our basic policy, and internal reserves to allocate capital expenditure and investment for the R&D required for our future growth, and business expansion and streamlining.

Furthermore, we also recognize that repurchase of own shares is effective for increasing capital efficiency, and we hope to carry out such acquisitions as necessary.

The dividend per share during fiscal 2016 was 42 yen.

## *With Our Suppliers*

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### **Procurement Policy**

We aim to realize globally optimal procurement based on our quality products principle. To this end, we focus on strengthening cooperation with suppliers and promoting our CSR efforts throughout our supply chain system, while at the same time striving to carry out proper purchasing transactions when procuring materials and parts, based on the following guidelines.

#### Action Guidelines

- We conduct rational transactions based on fair, transparent, and open competition.
- We select suppliers based on comprehensive assessment of product quality, technology, prices, deliveries, and efforts to continuously make improvements.
- We will enhance mutual trust with our suppliers, which are good partners for us, and strive to realize mutual development.
- Aiming to become a good corporate citizen, we engage in business operations that comply with applicable national and international laws and regulations.
- Aiming to procure more eco-friendly products, we strive to promote our green supplier system.

### **Basic Philosophy**

It is indispensable to establish healthy partnerships with our suppliers to procure better quality raw materials and parts in a more timely and stable manner. We will carry out activities for mutual growth while competing with one another with a rather tense atmosphere through our supply chain system for enhancement of the mutual trust.

### **Promoting CSR-Oriented Procurement**

We promote the following activities for suppliers and our employees respectively, for the purpose of ensuring fair transactions with suppliers and the establishment of mutually beneficial sound partnership with suppliers.

## For suppliers

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- We explain our “CSR procurement guidelines” on our websites.
- We implement our CSR program with suppliers self-checklist and provide feedback on the overall results.
- We explain our “Green Procurement Guidelines” on our websites.
- We visit the premises of suppliers for practical onsite activities, such as 5S\* kaizen (improvement) and Total Productive Maintenance (TPM), and hold various seminars.
- We actively communicate with our suppliers to explain our corporate policy through corporate policy conferences, etc.

\* 5S denotes five primary phases of workplace organization technique each starting from “S”, including “Seiri (Sort)”, “Seiton (Set in order)”, “Seisou (Shine)”, “Seiketsu (Standardize)”, “Shitsuke (Sustain)”. The workplace where 5S is thoroughly practiced may be regarded as being of high operation management level.

## For our employees

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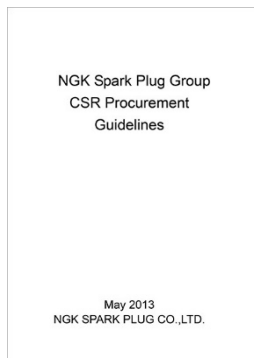
- We hold seminars for our procurement personnel to ensure their compliance with the Subcontract Act.

## CSR Procurement Guidelines

In order for the NGK SPARK PLUG Group to put CSR into practice, it is necessary that our business partners understand and cooperate with us on a daily basis. Toward that end, in the procurement policy that we established in April 2012, we indicated that we would promote our CSR efforts throughout the supply chain. In May 2013, we established the NGK SPARK PLUG Group CSR Procurement Guidelines and subsequently extended it to our business partners.

The “CSR Procurement Guidelines” describe the content of our initiatives in seven areas: human rights and labor; occupational health and safety; environment; fair trading; product quality and safety; information security; and contribution to society. We ask our business partners to understand the purpose of these guidelines and to put them into practice as well as to allow suppliers to develop the guideline.

In the field of the environment, we have established content for overall initiatives such as environmental conservation activities and the effective use of energy resources. With respect to the details of chemical substance management, we have separately established, and request cooperation with, our Green Procurement Guidelines.



English version: Text of CSR Procurement Guidelines

Japanese version: 【Appendix】CSR Self-Check List

Japanese version: Text of CSR Procurement Guidelines

### **Voice of Our CSR Procurement Manager**

#### **To Continuously Develop along with Our Suppliers**

Calling for changing "from a cost center to a profit center," our Procurement Group aims not just to engage in conventional cost management, but to build an organization that can closely connect NGK SPARK PLUG CO., LTD. with suppliers through purchasing and make proposals and value propositions. CSR is one important element of value that a company can offer. Therefore, we produced "CSR Procurement Guidelines", and made overall assessment of suppliers' trend through a suppliers' self-checklist, and provided feedback on the results.

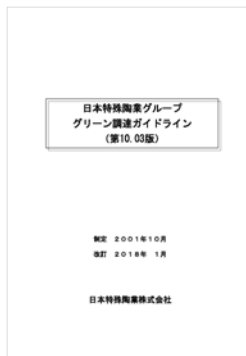
We aim to pave the way to continuous social progress through promoting CSR and mutual development together with our suppliers.



Group Manager  
Procurement Group  
Maeda

## Green Procurement Guidelines

These guidelines explain the basic concepts of our green procurement based on our environmental policies. We reviewed the list of related chemical substances in January 2018 and released version 10.03 of the guidelines. We ask our suppliers to study the guidelines and cooperate with our green procurement.



Japanese version: Green Procurement Guidelines

Survey sheet

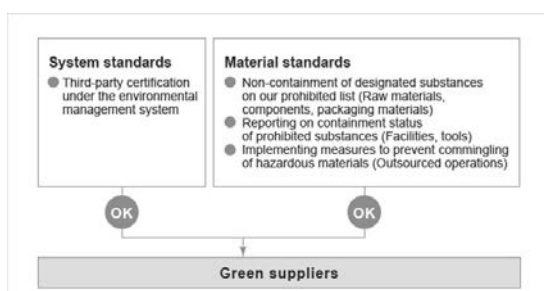
Japanese version: appendix table-1 Survey regarding the presence or absence of "substances of environmental concern"

Japanese version: appendix table-2 Non-use Declarations

## Green Suppliers

We certify suppliers that meet our system and material standards prescribed in "Green Procurement Guidelines" as "green suppliers," and give priority to these in purchasing.

In fiscal 2016, we conducted screenings of suppliers involved in facilities/jigs and tools, building/incidental facilities, and subcontract processing/inspections, resulting in new green supplier certification for 62 companies and continued certification for 79 companies.



## **Implementing Activities to Pull out Potential Capabilities (Seminars and Practical Onsite Courses) for Suppliers**

NGK SPARK PLUG CO., LTD. holds seminars for suppliers on themes that include process improvement, quality control, industrial safety and health, and the environment, as well as practical onsite courses in which we visit the production sites of suppliers to work for improvements. We implement the activities to help with human resource development at our suppliers, enhancing the capabilities of their companies. In fiscal 2016, we held a total of 25 lectures. We aim to work in partnership with our suppliers in the future to enhance their manufacturing capabilities.

## **Promoting Follow-Up Activities for Regular Supplier Assessments**

Once a year, we conduct regular assessments of targeted suppliers and inform them of the results. We visit suppliers where follow-up is particularly required to consult about difficulties, carry out onsite confirmation, consider together what to improve so as to overcome weaknesses and implement improvement activities. We will continue to further deepen our relationships of trust with suppliers not only through day-to-day purchasing transactions, but also through follow-up and support activities.

### **Voice of Our Supplier Improvement Promotion Organizer**

#### **Improvement through Communication**

Our hope is to communicate well with suppliers through follow-up activities for their “Continuous Improvement”. Rather than asking them to implement the improvement activities one-sidedly, we try to hear their opinions face to face for leading to the mutually beneficial improvement.



Procurement Div.  
Shimizu

## Sharing Corporate Policy

We hold a corporate policy conference with our main suppliers, offering them an opportunity to deepen their understanding of the present situation of our company and our goals. At the conference held in May 2016, we introduced our business results, the company's policy and the policies of each department, which are based on the basic policy, procurement policy and initiatives, and asked for further cooperation to enhance quality, reduce costs, and promote CSR initiatives.



Corporate Policy at Supplier Conference

## Handling of Conflict Minerals

Our Group promotes procurement activities taking full consideration of social problems, such as human rights and environment. Conflict minerals have been mined in the Democratic Republic of the Congo and its surrounding countries, and it is feared that they are a source of financing for armed factions. We see this conflict minerals issue as a serious social problem for procuring resources and raw materials.

We conduct surveys tracing back through the supply chain to find out whether conflict minerals are used or not, and if there is a risk as a result of the use, we make efforts to avoid using them.

## *Policy for Human Resources*

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### **Human Resource Policy**

We acknowledge that employees are the most important management resources. In light of this, we respect the diversity and individuality of our employees and promote the cultivation of physically and mentally healthy human beings, striving to promote the further development of our Group as a whole.

#### Action Guidelines

- Respecting the rights of our employees, we eliminate discrimination and harassment in employment, and avoid the use of forced labor or child labor.
- We secure and foster human resources who help pass down our quality products principle to the following generations. To this end, we provide learning opportunities and other programs to support the career development of our employees.
- We strive to smoothly introduce a personnel system that ensures that people with different qualities can fully realize their own capabilities into our Group.

### **Basic Philosophy**

Employees are the most important management resource. We promote the sustainable growth of the NGK SPARK PLUG Group by striving for human resources development that respects the diversity and individuality of our employees and by encouraging individual employees to reach their own full potential, to grow and to participate actively in a state of physical and mental health.

### **Voice of the General Manager of Human Resources Department**

## **Passing on a Richly Diverse Corporate Culture Forged through Global Activity and Producing Human “Assets” with Resilience to Change**

Based on the mission of the Human Resources Department, which is “creating foundations to produce ‘diverse human resources’ to support managerial and business strategies,” we are promoting the strengthening of individuals and organizations to identify environmental change in global business activities as opportunity, take on the challenge and act promptly.

In order to strengthen the foundations, we will work to upgrade skills while keeping each individual physically and mentally healthy and foster a mindset that takes advantage of diversity. In addition, we will train and support human “assets” that can contribute to providing the value expected by our customers around the globe and to creating new value derived from co-creation activities through opportunities that facilitate the expression of a can-do spirit in each role.



General Manager  
Human Resources Dept.  
Goto

## *Respecting Diversity*

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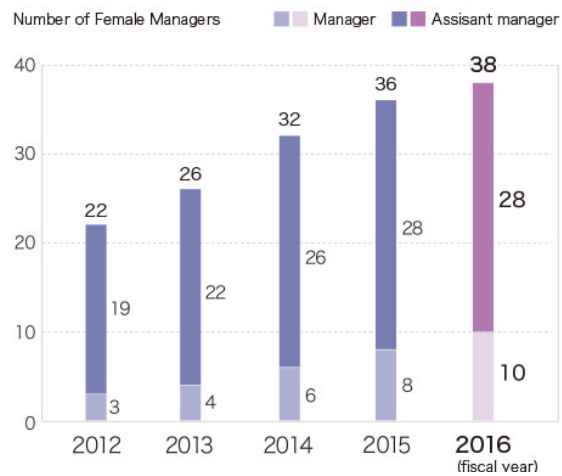
### **Basic Philosophy**

We promote diversity in our organization as we believe that diversity and inclusion are essential for companies to attain sound growth and ensure happiness for all employees. Here, diversity means an employee-friendly workplace that accepts different personnel "assets" (one in which all people regardless of their gender, age, disability or nationality, enjoy their work) and includes diverse values and ideas that move the company forward.

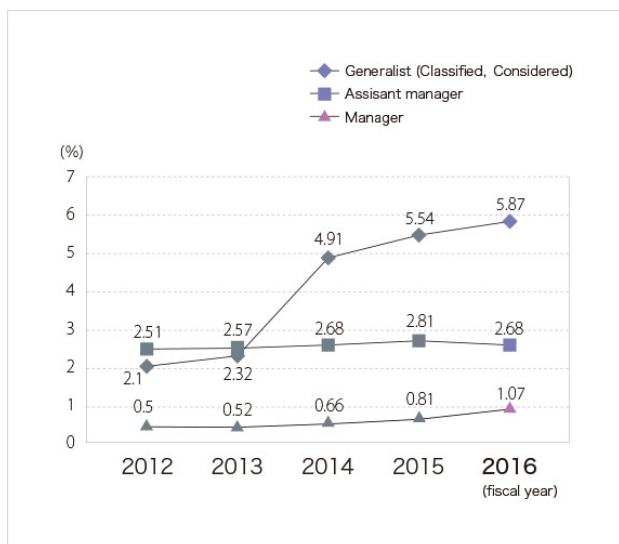
### **Strengthening and Maintaining Initiative to Promote Active Participation of Women**

We are promoting the active participation of women as a management strategy from the top down. The "DIAMOND Project" launched in June 2013 with the following principles: "changing the corporate culture," "changing the consciousness," and "changing the environment." We hold events, such as "Forum for Female Employees," "Training for Next Generation Female Leaders," and "Career Advancement Support Program," "Career Training for Employees Returning from Childcare Leave," and "Women's Networking" to support female employees in building their career and to stimulate their ambition. We also held lecture meetings and training sessions for all senior managerial employees once or twice a year to deepen their understanding of diversity management.

Furthermore, in all departments, including those of Japanese group companies, general managers devised and implemented action plans that suited their own departments. In fiscal 2016, we presented Encouragement Awards to departments with outstanding initiatives. We are also expanding systems to create a workplace that is more comfortable for female employees. Receiving approval for those activities, in fiscal 2016, NGK SPARK PLUG CO., LTD. was designated as one of Diversity Management Selection 100 (sponsored by Ministry of Economy, Trade and Industry), and also one of Semi-Nadeshiko brands (jointly planned by Ministry of Economy, Trade and Industry and Tokyo Stock Exchange).



Number of Female Employees  
in a Managerial Posts by Fiscal Year



Proportion of female employees to the whole workforce  
Corresponding to regular full-time position

### **Voice of the Project Leader**

## **We Aim to Create a Company Where All Employees Can Play an Active Role**

Working on promotion of diversity management has gradually made us realize the change. Aiming at the company allowing every employee to play an active role and actualize the idea, we will positively take the initiatives in promotion.

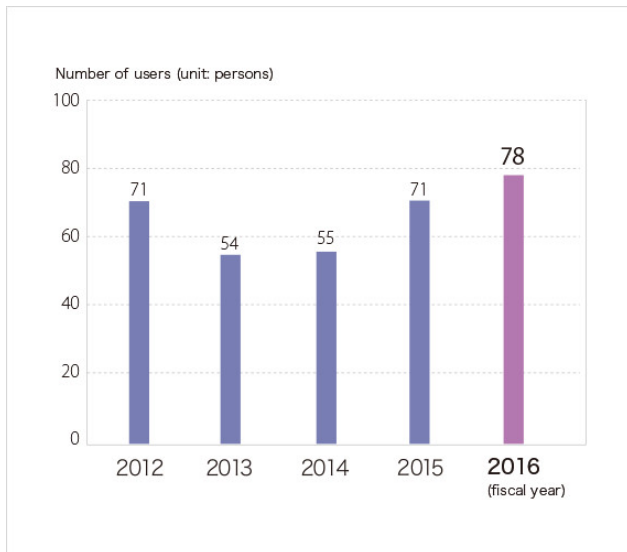


Member of DIAMOND Project  
(in the front row, third from the  
left: Project Leader Otsuka)

### **Utilizing Retired Employees**

Employment of the elderly population is an important issue for our society, as the starting age for recipients of the national pension has been increased and the shift into an aging society is progressing. In 2001, we introduced a post-retirement reemployment system for providing work opportunities to retired employees so that their long-accumulated knowledge and expertise are effectively utilized.

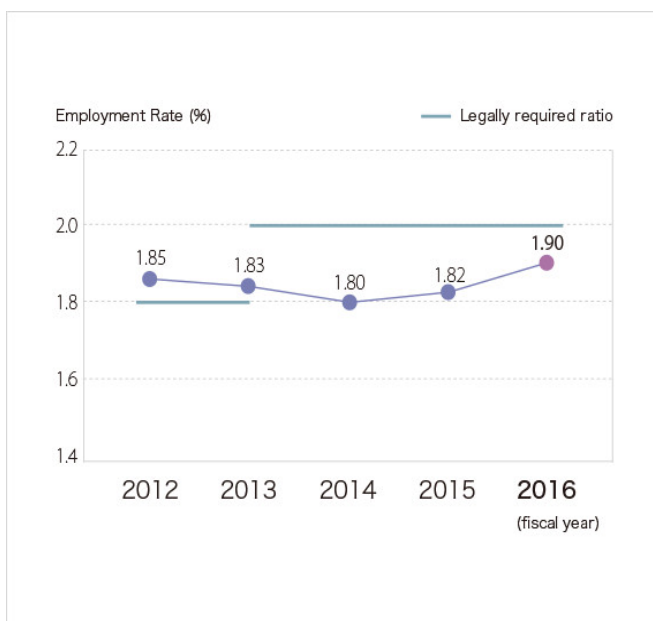
We are working hard to prepare an environment that meets the needs of elderly workers, our company and the worksite and use it in a way that takes into consideration the aptitudes, motivation and abilities of senior employees.



Number of Retirees Reemployed under the System

## Employment of the Disabled

Although the ratio of disabled employees at NGK SPARK PLUG CO., LTD. as of March 31, 2016 had increased slightly from the previous fiscal year to 1.90%, we were unable to meet the statutory employment rate of 2.0%. Recognizing that falling short of the statutory employment rate is an issue, we are visiting Hello Work public employment centers, Labor Bureaus, and companies that are pioneers in this area and considering what action to take.



Percentage of Disabled Employees

\* Data at the end of fiscal year

## Global Human Resource Development for Securing Management for the Next Generation

In fiscal 2011, we appointed officers of the overseas group companies to GEM (Global Executive Members). Every year, we hold global management meeting that GEMs are present as main attendants for discussing about the global management issues such as brand strategy and human resource strategy. Such meeting is held for fostering of GEMs as well as collection of various opinions from various nationalities besides those from Japanese.



GEM participants

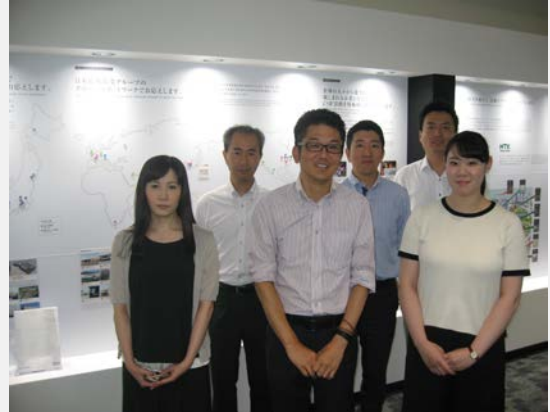
Additionally, in view of the globally expanding business operation, we have launched “Global Next-generation Management Personnel Development Program” for discovering and developing personnel eligible for the next-generation management among those from all group companies. We conduct hiring and recruitment of human resources regardless of nationality for providing opportunities and environments enabling every employee to do a worthwhile task. In recent years of great environmental change, the program is intended to offer learning opportunities for the subject personnel representing the next generation, and is called “HAGI” taken from “Shokason-juku” as private school located in Hagi-shi, Yamaguchi prefecture, from where many talented people went out into the world in the end of Edo era. The program has been offered since fiscal 2016 under the administration of President serving as the principal.

## Voice of a Global Human Resources Organizer

### Aiming at Promotion of True Globalization

We have been increasingly globalized by taking opportunity of the largest-ever acquisition of overseas company in 2015, for example. Company management in such times needs the human resources capable of thinking and acting from a global perspective. There may cause the risk of shortage of personnel adaptable to globalization unless non-Japanese employees are recruited from all group companies. Every year from 2013, our Human Resources department has been holding “Global Personnel Meeting” including employees in charge of personnel operation as major members, intended to promptly share and solve the problem concerning human resource development with whole group members.

We will promote global human resource development for the purpose of enhancing collective efforts of our group.



Global Personnel Office  
Human Resources Dept.

## Focus on Employing Non-Japanese Nationals

We have been working on personnel recruitment adapted to the global organization in response to rapid globalization.

Since 2013, we have started putting a particular focus on employing non-Japanese nationals in our new graduate recruitment, and have consistently employed at least three non-Japanese students each year.

Moreover, recently we have not only been putting efforts into employing foreign students at Japanese universities, but also non-Japanese students who have learned Japanese at universities overseas and wish to find work in Japan

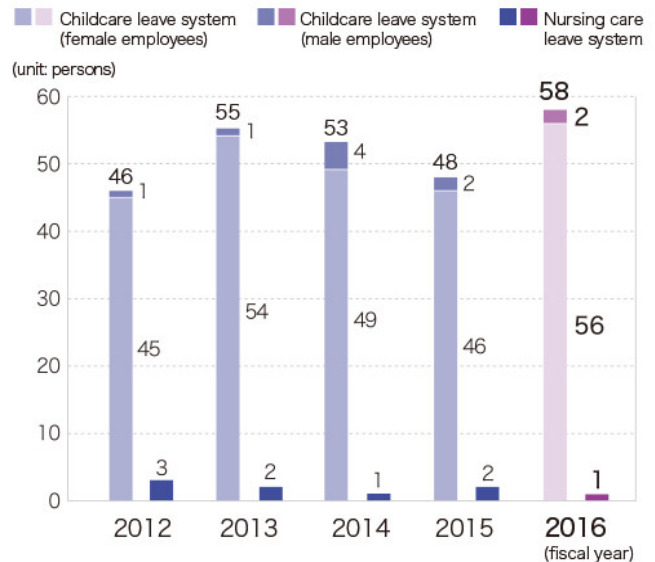
## Initiatives that Consider Work-Life Balance

We are promoting initiatives that consider the work-life-balance of our employees.

The number of employees on childcare leave is approximately 50, and recently, male employees take leave every year as well. Almost all employees returned to work after the leave.

In 2015, we have changed the short working hour system by allowing the divided use of the system up to 3 times within the term from fiscal 2017 in addition to extension of availability from the conventional term of the first grade of elementary school to the end of the third grade. This makes it possible for the employees who wish to use the system to spend more time with their children.

We have introduced another short working hour system for nursing care since 2017. In this way, we will work for actualizing the environment that allows diverse human resources to be active in the respective workplaces.



Number of Employees Using the Leave Schemes

## *Human Resource Development*

### **Basic Philosophy**

We aim at the development of those who can communicate the company's traditional attitude of emphasizing quality-oriented principle to younger employees, and also those who are dependable and have the ability to cope with changes inside and outside the organization and follow through reforms. To this end, we implement diverse education and training programs systematically, based on our corporate Human Resources Development Concept, with the aim of ensuring continuous capacity building of employees.

### **Education / Training Programs**

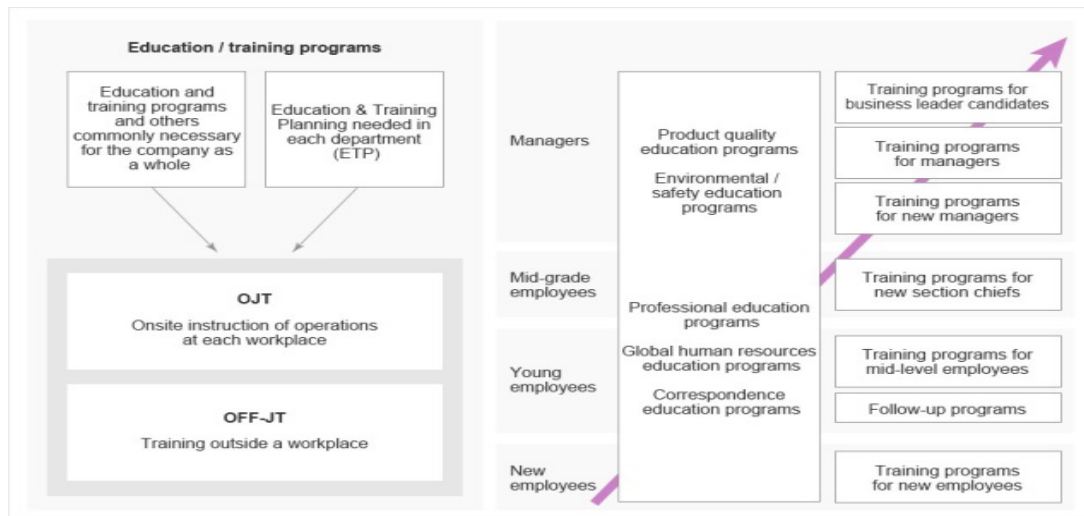
Our education and training activities consist mainly of OJT (on-the-job-training), through which employees are trained to acquire technologies and knowledge in their normal working situation. We also offer OFF-JT (off-the-job-training), providing employees with new technologies, knowledge, and skills outside their respective workplaces.

We have a wide range of OFF-JT programs that include training by organizational level and role to provide necessary knowledge and skills, product quality education, environment and safety education, manufacturing education, education in global business and career development support. During fiscal 2016, 6,754 employees participated in OFF-JT programs.

We are promoting ETP (Education & Training Planning) system intended to improve ability of employees necessary for the individual departments besides provision of the education programs. In reference to the abilities needed by the company in the expected role evaluation of the newly introduced personnel management system, those necessary for the individual departments are specifically defined. Then the system will be implemented by conducting the education and training systematically for improving the specific ability. Evaluation and education in the respective departments for the ability improvement are coordinated integrally so that the system is operated to achieve the companywide improvement for competitiveness.



Education and training



Education and Training System Diagram

### Implementation of training (Hours)

|                          | FY2014 | FY2015 | FY2016 |
|--------------------------|--------|--------|--------|
| Total hours of training* | 88,333 | 82,059 | 84,816 |

\*The total of hours x the number of students, for training (level-specific training, global training etc.) conducted by the Human Resources Dept. Training not conducted by the Human Resources Dept. is not included.

## Efforts to Upgrade Monozukuri Skills

NGK SPARK PLUG CO., LTD. is a manufacturing company, and maintaining and upgrading our monozukuri (manufacturing) skills is essential in order to continue producing quality items. However, there are concerns about a decline in monozukuri skills in companies in general due to the mass retirement of the baby boomers and the shift of young people away from monozukuri with the changing times. Therefore, we established the Monozukuri Education and Training Center and continually provide education and training on the necessary knowledge and skills at the appropriate



Practical training in the use of tools

times.

At the Monozukuri Education and Training Center, we prepare practical experience kits and have the elaborated curriculum corresponding to the level of knowledge and skills of the trainees (levels 0-3) so that they can complete the work on an interactive basis in the small group. The education and training is centered on “safety, quality, maintenance, and improvement”, based on which we establish rules to be observed by the trainees. We place importance on development of human resources through the education and training so that they are well adapted to social life. Since establishment of the system in 2014, we are providing education for new employees (Level 0), education for departmental transferees, seminars for suppliers, education for general applicants, and education for manufacturing departments. We have upgraded those programs to support overseas business activities and enhance the curriculums. We also engage in development of e-learning educational environment.

## Human Rights and Labor

### Basic Philosophy

The NGK SPARK PLUG Group respects the Universal Declaration of Human Rights and other international norms, and has made respect for human rights a part of our corporate code of conduct and our human resource policy. In addition, the group rules that we share throughout the NGK SPARK PLUG Group forbid discrimination on the basis of nationality, race, ethnicity, religion, sex, marital status, pregnancy, ideology, sexual orientation (LGBT), disabilities, and participation in labor unions, as well as all forms of harassment, child labor, and forced labor. In hiring and employment, too, we stipulate the granting of equal opportunity without discrimination.

Principles concerning human rights and labor are incorporated in the ten principles of the United Nations Global Compact which we joined in November 2016. The Group supports these principles and will connect them to our further activities.

Participation in "United Nations Global Compact" >

### The Status of Employees

#### NGK SPARK PLUG Group, total number of employees

(Persons)

|                  | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 |
|------------------|--------|--------|--------|--------|--------|
| Non-consolidated | 5,881  | 5,809  | 5,823  | 5,829  | 5,719  |
| Consolidated     | 12,563 | 12,760 | 13,197 | 14,524 | 14,926 |

#### NGK SPARK PLUG Group, form of employment (as of March 31, 2017)

(Persons)

| Regular employees | Temporary employees |
|-------------------|---------------------|
| 5,719             | 346                 |

## NGK SPARK PLUG Group, status of employees (FY2016)

|                         | Men   | Women | Total      |
|-------------------------|-------|-------|------------|
| No. of employees        | 4,822 | 897   | 5,719      |
| Average age             | 38.6  | 35.9  | 38.2       |
| No. of years of service | 16.4  | 15.2  | 16.2       |
| Turnover rate           | ---   | ---   | 1.3%       |
| Average annual salary   | ---   | ---   | ¥6,767,466 |

## Education and Awareness-Raising of Human Rights

Our Compliance Guidebook, issued in 2012, establishes matters including respect for human rights and the prohibition of harassment. The guidebook has been disseminated to employees to raise awareness of these issues.

Drawing on the United Nations Global Compact, which we signed in 2016, we will increase opportunities to offer education and information on human rights to raise awareness among employees.

In our CSR Procurement Guidelines, we also require that business partners engage in respect for human rights.

## Anti-harassment Measures

The company management and the labor union are working together to prevent any harassment and to protect the human rights of all employees.

Work Rules explicitly prohibit all sorts of behavior that constitute harassment, and we have an anti-harassment committee responsible for the prevention of such behavior by raising awareness through the company newsletter and provide level-specific training programs.

We have also prepared an environment that facilitates consultation, with consultation desks set up by labor and management in every factory, and have also enabled consultation through our Corporate Ethics Helpline.

## Labor-management Relations

Labor-management relations should be oriented to the combined employer-employee effort to contribute to society through the provision of good products and services. At NGK SPARK PLUG CO., LTD., both labor and management understand their respective responsibilities and strive to improve the work environment through mutual trust and cooperation.

Labor-management conferences are held three to four times a year on individual workplace and

companywide bases, providing communication opportunities. These are chances to discuss various topics including the company's situation and how to improve the labor environment, and opportunities for employees to have their opinions heard.

## Reduction in Working Hours

We are working to reduce overtime in order to reduce total working hours. When pre-planned overtime is known about, the company management and the labor union confirm the situation in the workplace and engage in consultation designed to keep working hours within the target. As a result of addressing the issues discussed in the “committee on labor-management working style”, we are promulgating no-overtime Wednesday and in-principle prohibition of late-night overtime in excess of five hours per day. The case failing to comply with the rules is expected to be subject of the labor-management consultation as a strategy for suppressing overtime work.

## Greeting Campaign

We have been engaging in our "greeting campaign" continuously since September 2008, encouraging employees to greet with each other, motivating them for work in the positive environment.

Once a month, in the morning and after work, representatives of the labor union and the company's officers and management stand on the sidewalks at the premises to greet arriving or leaving employees in an active manner.



Scene from the Greeting Campaign

## Group Company Response to Compliance

Group companies as a whole have been addressing the issue of information sharing for company compliance with the latest applicable laws and regulations. In the quarterly exchange meeting where general managers of the group companies attend, the briefing is made with respect to the policy based on current trends in applicable laws and regulations. We have been working to develop the group-wide risk management system by sharing the problems raised by the individual group companies as those that they face, and presenting case examples. The entire group continues to join hands in compliance issue.

## *Occupational Safety and Health Basic Policy*

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### **Basic Policy on Industrial Safety and Health**

We strive for occupational safety and health as the starting point of business activities on the basis of respect for human life and dignity.

#### Action Guidelines

- Observe the laws and regulation, and voluntary standards on industrial safety and health.
- Prevent occupational injury and decrease risks by continuously improving on the management system and performance of industrial safety and health.
- Conduct efforts to increase physical and mental health, and prevent health disabilities of employees.
- Disseminate this policy to all employees, promote awareness by education and enlightenment, and expand the industrial safety and health activities by involving all employees.

### **Basic Philosophy**

Occupational safety and health is the most familiar theme for employees in their daily duties. It is the most important theme for enterprises as well in their efforts to provide a working environment in which employees are encouraged to do their best in operations. We are well aware that offering a secure and safe workplace is our important corporate responsibility. To this end, we established our occupational safety and health management system (OSHMS) in 2006, aiming to realize "zero injuries" and secure safety at all workplaces. We will continue strengthening our safety and health management activities at a company-wide level, aiming to establish a corporate culture of "safety first."

### **OSHMS**

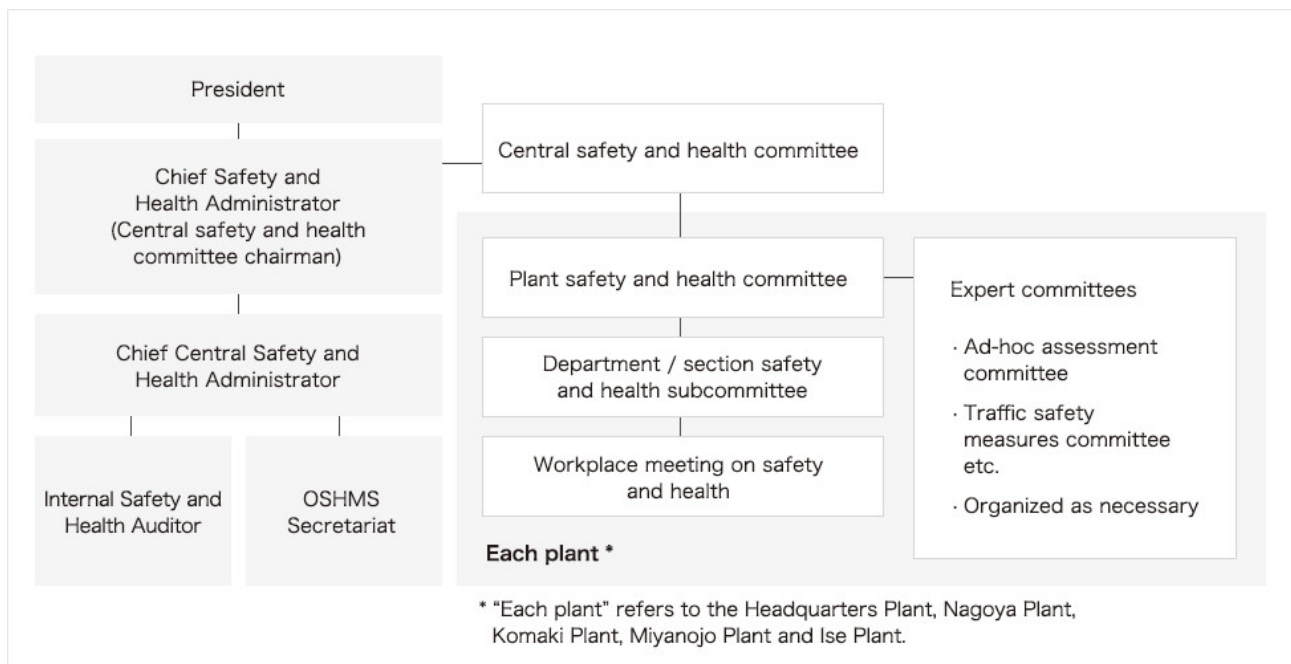
With the aim of eliminating on-the-job injuries and creating a comfortable, safe work environment, we have established an in-house occupational safety and health management system (OSHMS) while introducing OHSAS<sup>\*1</sup> for entire system such as manual and standard,

and JISHA<sup>\*2</sup> for actual application and activities. We are accredited as complying with JISHA OSHMS Standards.

Each plant and office set safety goals and safety plans in accordance with our OSHMS guidelines, aiming to conduct OSHM activities based on a "total involvement" principle. To attain a step-by-step improvement of our safety status, the progress and results of such OSHM efforts are verified by our internal safety and health auditors as well as the plant safety and health committee and the central safety and health committee.

\*1 OHSAS: OHSAS18001 is a management system standard which allows the organization to present its attitudes toward Industrial Safety and Health to its employees and society. The standard has not been standardized by ISO, but widely adopted around the world.

\*2 JISHA: JISHA system is a standard examined by Japan Industrial Safety and Health Association (JISHA), and organizations accredited by JISHA, incorporating items as the incidence typically practiced in Japanese workplace, for example, KY activities, Hiyari-Hatto (near-miss) activities, and 4S activities.



### Safety and Health Promotion Organization

## Targets & Results for Fiscal 2016

### 1. Elimination of Work-related injuries

| Fiscal 2016 Target                                | Fiscal 2016 Result                                                                                                                                  | Evaluation | Fiscal 2017 Target                                                                                                                                                          |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elimination of injuries in trouble shooting       | Two cases of injuries in trouble shooting occurred, decreased from the fiscal 2015 (3 cases), indicating progress towards eradicating the injuries. | ○          | <ul style="list-style-type: none"> <li>•Elimination of injuries in trouble shooting</li> <li>•Grasping the risk level of workplace, promotion of risk management</li> </ul> |
| Full understanding of the risk level of workplace | Risk assessment was conducted as scheduled at each workplace for full understanding of risk levels.                                                 | ○          | <ul style="list-style-type: none"> <li>•Safety observation promoted by the supervisor</li> </ul>                                                                            |

### 2. Improvement of Work Environment

| Fiscal 2016 Target                                                          | Fiscal 2016 Result                                                                                                                                                              | Evaluation | Fiscal 2017 Target                                                                                                               |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------|
| Improvement of work environment of workplace (Health aspect/ Safety aspect) | Conducted working environment measurement, based on which the working environment was improved. Continued Stop ! fall disaster PJ related activities for promoting improvement. | ○          | <ul style="list-style-type: none"> <li>•Improvement of work environment of workplace (Health aspect / safety aspects)</li> </ul> |

### 3. Promotion of Healthiness

| Fiscal 2016 Target                                                                       | Fiscal 2016 Result                                 | Evaluation | Fiscal 2017 Target                                                                                                               |
|------------------------------------------------------------------------------------------|----------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------|
| Self-management promotion of a healthy mind and body                                     | Conducted checking on employee's stress tolerance. | ○          | •Self-management promotion of a healthy mind and body                                                                            |
| Workplace inspection for personnel with suspected physical and/or mental health problems | Held health promotion fair, and lecture on health. | ○          | •Strengthening of workplace coordination between personnel and those who should take care of physical and mental health problems |

### 4. Enhancement of Education and Enlightenment

| Fiscal 2016 Target                                                                                   | Fiscal 2016 Result                                                                                                                                                                                                                                                        | Evaluation | Fiscal 2017 Target                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Promotion of Line Production Head-based safety observation                                           | Conveyed the safety observation method to the respective work sites, allowing line managers to conduct safety observation.                                                                                                                                                | ○          | •Promotion and practice of safety and health education at the workplace                                                                                                                                     |
| Practice and Promotion of safety and health education at the workplace                               | Held special education program for various safety and health education committees, and operators for handling chemicals. Continuously held safety and health, and environment meeting at the respective plants in fiscal 2016 for raising awareness on safety and health. | ○          | •Familiarization with risk prediction. <sup>※1</sup><br>Establishment of "Po・Ke・Te・Na・Shi" program <sup>※2</sup><br>•Promotion of traffic safety awareness activities by conducting risk prediction driving |
| Familiarization with immediate action KY, and pointing and calling, Follow company and factory rules | Promoted establishment of activities by sharing information from the safety and health committee, and workplace patrolling.                                                                                                                                               | ○          |                                                                                                                                                                                                             |

\*1: “On-the-spot risk prediction” refers to the activity performed in our company for confirming hazardous spot and procedures prior to work that is infrequent or has not been performed for a long time.

\*2: “Po•Ke•Te•Na•Shi” (Pocket-Phone-Handrail-Shortcut-Pointing”) is a general term indicating precautions to protect workers from being involved in an accident during walking on the workplace, for example, “Do not walk with hands in Pockets.”, “Do not use the cell Phone during walking.”, “Make sure to hold the Handrail while ascending or descending stairs.”, “Avoid oblique crossing (Shortcut)”, and “Never fail to conduct Pointing and calling at the point specified for conducting such practice.

## *Occupational Safety Activities*

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### **Basic Philosophy**

We have been conducting various safety activities for prevention of accidents besides recurrence prevention. Aiming at establishment of safety culture from the viewpoint of “personnel”, “object”, “mechanism”, we are taking the initiative to give the first priority to safety.

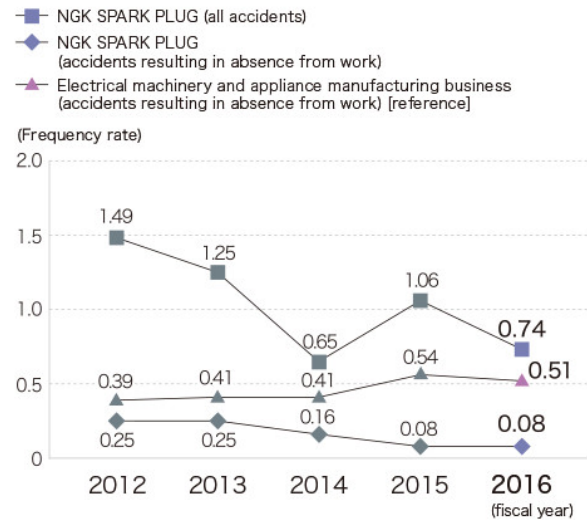
### **Toward Elimination of Occupational Accidents**

In fiscal 2016, the total number of accidents was 9 (fiscal 2015 : 13 cases), and the total frequency rate was 0.74.

One out of the 9 cases was the accident requiring leave from work (fiscal 2015 : 1 case). In this case, the employee suffered cut-wound accident, whose hand injured with sharp part of the jig. The total number of accidents and those related to a part of the equipment in operation which are likely to cause the serious risk results in reduced tendency. We will continue to take the lead in “safety observation”, “pointing and calling”, and “on-the-spot risk prediction” for practically doing away with occupational accidents. In fiscal 2015, the total number of accidents involved with temporary workers was 4. We took countermeasures by preparing education materials in Japanese, English, and Portuguese in collaboration with temporary employment agencies for enhancing safety and health education. As the consequence of our efforts, no accident that the temporary worker involved in occurred in fiscal 2016.



Safety observation



Frequency rate of NGK SPARK PLUG CO., LTD.  
covers the case of temporary workers  
Frequency Rate of Accidents

## Risk Assessment (RA) Initiatives

The risk assessment (RA) is the core activity of our occupational safety and health management system (OSHMS). Since 2013, we have reviewed the RA, directing us to take the approach for evaluating diverse potential risks resulting from workplace equipment, chemical substances, and work, which have been derived from detailed research. At present, we are in the transitional stage from research/evaluation phase to the RM (risk management) phase. The RM gives priorities to the potential risks researched/evaluated by RA for taking hardware/software countermeasures (residual risk management). The staff from the Environment & Safety Management Department performs resolution of uncertainties and follows up progress for workplaces by conducting individual inspections. In accordance with the trend of strengthened regulations, we have reviewed the new approach for evaluating chemical substances.

## Voice of Our Safety and Health Leader

### Utilization of chemical substance management system

Recently, the regulations on management of chemical substances has been increasingly severe, demanding us to strengthen the chemical substance management system. We have updated the chemical substance management system to cope with demands of society. The updated system allows more efficient in-house application of SDS (Safety Data Sheet), and makes management items on the workplace easy understandable. We have incorporated the chemical substance RA function to the system.



Environment & Safety  
Management Dept.  
Suzuki

## Improvement of Working Environment

We conduct working environment measurements based on laws and regulations, targeting workplaces that handle chemical substances and workplaces subject to significant dust pollution and severe noise.

Plants and operational sites that have been classified in the second or third management category are especially encouraged to implement effective solutions so that they can be reclassified in the first management category.

We also take measures to prevent cases of heat stroke in the summer by measuring the humidity and temperature in hot workplaces, encouraging an adequate intake of water and salt, providing cooling gear and the like. In our offices, we appropriately control the level of lighting, temperature and humidity to ensure that the environment is suited to the work. In winter, we install humidifiers to help prevent the spread of colds and influenza. Continuously engaging in the activities under the "STOP! Falls Project" being run by Japan's Ministry of Health, Labor and Welfare, labor and management united as a company to promote activities aimed at eliminating falls, including coping with fall hazard areas and separating pedestrians and vehicles, obtaining input and countermeasures through the themes at workplace meetings, and raising awareness.

## Enhancement of Education and Enlightenment

We provide safety education to match each organizational level, including safety and health education for new employees, third-year employees, tenth-year employees, leaders, subsection chiefs and managers.

We also hold a safety, health and environment conference at each plant every year as an awareness-raising activity for all employees. During the conference, we work to raise employees' awareness of safety and health through such means as introducing safety and health initiatives and providing experiences with risk simulators.

We distribute the "Handbook for Safety and Health Management" to all employees as a tool for building a safety culture at NGK SPARK PLUG CO., LTD. Reading through the handbook and other uses of it in each workplace translate into safe conduct by individual employees. Managers and supervisors on the workplace also carry out workplace patrols, risk prediction and share examples of Hiyari-Hatto (near misses), acting as the leaders of workplace safety and health management. The status of these workplace activities is confirmed through internal audits and other means.

## Safety and Health Education and Training in Safety Training Dojo

In order to provide education with a policy of believing that cultivating the sensitivity of employees to be aware of risks avoids accidents, we established the Safety Training Dojo in part of the Monozukuri Training and Education Center in March 2013.

Utilizing 34 kinds of simulation equipment, employees of NGK SPARK PLUG CO., LTD. and group companies virtually experience about accident risk and the circumstances in which they occur through simulations of industrial accidents that are difficult to communicate verbally such as pinching or entanglement with accident scenarios that could happen in the workplace.



Virtual reality simulation

In fiscal 2016, about 3000 participants experienced the program.

In fiscal 2017, we built the virtual reality simulation equipment focusing on fall/overturn prevention, and introduced the education intended to prevent the occupational accidents, placing importance on behavior.

## Standing sentry for observance of rules led by Safety and Health Committee

The Safety and Health Committee promotes standing sentry for appealing observance of rules as an activity aiming at a safe and secure human resources and workplaces.

The standing sentry especially places the importance on “pointing and calling”. In the premise of the plant of our company, the “pointing and calling” stickers are put on the points at the places such as pedestrian crossings. At the place with the stickers, those who stand sentry demonstrate “pointing and calling” to encourage the co-workers to apply such action to their actual work. Initially, some of them seemed to be passive about the “pointing and calling” action. However, the idea of the action has been gradually spread and established among the employees through practice of standing sentry. We will further promote the “pointing and calling” to be the foundation for the safe and health activities as it is effective for reducing errors and leading to prevention of occupational accidents.



Standing sentry for observance of rules

## Health Promotion Activities

### Basic Philosophy

We announced "Being your best physical and mental condition to your workplace and bring them to your home with good smile" as our company slogan. Self-discipline is a key to the maintenance of one's condition, and we promote employee's autonomous health management efforts. We also include health information in the company newsletter to raise employees' health consciousness and promote self-management.

### Health Checkups

Our industrial physicians, general practitioners and public health nurses follow up with employees with respect to findings in their health checkups and refer them to medical institutions when necessary. These coordinated efforts allow employees to maintain and improve their own health.

### Strengthening of Mental Health Care

We are working on in-house and external Line-Care educational programs for managers, and implementing to read the Self-care hand book in our workplace to make our employee prevent awareness of disease and self-management of health. Also we are strongly working on in-house lectures and setting up the Support-line for employees who feel stress and problems mentally.

We also carry out stress checks and analyze the mental and physical impacts that the workplace environment has on employees for prevention of mental illness among employees due to stress in our efforts to create a safe and secure workplace environment.

Thanks to the evaluation with respect to our activities, we have been certified as "Corporate Health Achievement Award Winners – White 500" sponsored by Ministry of Economy, Trade and Industry, and Nippon Kenko Kaigi.



The Self-Care Handbook

## Initiative to prevent infectious diseases

To protect employees from the seasonal influenza every year, we strive to prevent the spread of infection. Particularly regarding group infection at workplaces, which may affect our daily operations, we are ready to cooperate with the relevant divisions to implement immediate and intensive measures. During the flu season, we issue weekly reports so that all employees can share the information and take effective countermeasures. In addition, we are attentive to information on candidate viruses for novel influenza at all times by collecting relevant information.

### Voice of Our Disaster Control Organizer

#### Continuous Response for Infection Disease

We are concerned about new flu viruses, such as the swine flu (H1N1) in 2009, and the bird flu (H7N9) in 2013 being prevalent on a global scale. Therefore, we aim to be prepared to collect information and take countermeasures for a pandemic.



Health Care Promotion  
Human Resources Dept.  
Sakakibara

## Efforts by NGK SPARK PLUG CO., LTD. Health Insurance Society

Working together with the company and the labor union, the health insurance society provides a wide variety of programs to support the mental and physical good health of member workers and their families.

Specifically, health management and disease prevention efforts conducted by the health insurance society include: metabolic syndrome improvement / prevention programs; subsidies for flu vaccination; and other health management promotion programs such as walking tours and bus-hiking tours. The health insurance society also operates three clinics at our domestic plants, as well as a resort facility for member employees in the Gokasho Bay area located in Minami-Ise, Mie Prefecture.

## *Social Contribution Policy*

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### **Social Contribution Policy**

As a good corporate citizen, we at the NGK SPARK PLUG Group aim to contribute to society through the effective use of management resources.

#### Action Guidelines

- We focus on the following activities:
  - Activities closely related to our business fields and also to local communities
  - Activities that respect the cultures of individual countries and local communities, as well as activities that contribute to society such as traffic safety education programs
  - Activities that contribute to the next generation society, focusing on environmental conservation, science, and education, as well as cultures to be bequeathed to the next generation, etc.

We strive to create a corporate culture that encourages executives and employees to participate together in social contribution activities as social citizens. We also respect and support their active involvement in society.

### **Basic Philosophy**

The NGK SPARK PLUG Group respects local culture and customs in our established sites of the respective regions in the world while engaging in smooth communication with local communities. As members of those communities, we aim to work together in building a comfortable society, while striving to participate in regional development, environmental preservation, and other activities that contribute to society.

[Social Contribution Policy >](#)[Cultural activities >](#)[Sports activities >](#)

## *Eco Vision 2020*

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### **Environmental Policy**

As a globally developing core manufacturing corporation, we are aiming to simultaneously realize environmental preservation and corporate growth, based on the participation of all our employees, in order to contribute to the construction of a sustainable society.

#### Action Guidelines

- We strive to utilize our unique technology to develop and offer environmentally-friendly products.
- Through all of our business activities, we make particular efforts to prevent global warming, make efficient use of resources, and control chemical substances, in order to conserve the environment.
- We strive to raise the awareness of the environment among our employees to ensure that they all make positive efforts to conserve the environment.
- We observe the laws, ordinances, and agreements concerning environmental conservation.
- We aim to substantiate our information disclosure and communication activities, and also carry out environmental contribution activities aimed at coexistence with the regional community.
- In order to achieve these targets, we will strive to make ongoing improvements to our environmental management system.

### **Basic Philosophy**

Environmental issues are a common challenge for all mankind. Every member of the NGK SPARK PLUG's GROUP will work towards reducing environmental burdens from our business activities as much as possible and developing and providing products and technologies that contribute to improving the environment. We will also endeavor to communicate in greater

depth with our stakeholders including our local communities so that we may all work together to contribute to creating a sustainable society.

## Global Eco Vision 2020

In our activities for environmental conservation, we set medium-term environmental targets. From fiscal 2016, we have drawn up a vision for our company and launched activities under "Global Eco Vision 2020".

We set four important environmental tasks, "Natural resources", "Global warming", "Toxic, hazardous chemicals" and "Key quality (Environmentally-Friendly products)", under Global Eco Vision 2020. By tackling these tasks through our business activities while defining "Education", "Compliance", "Open communication" as foundation, we will work to enhance our manufacturing power, increase our brand value, and contribute to sustainable development of society.



## Environmental Action Plan and Results

(Attachment : Results and Consolidation in fiscal 2016)

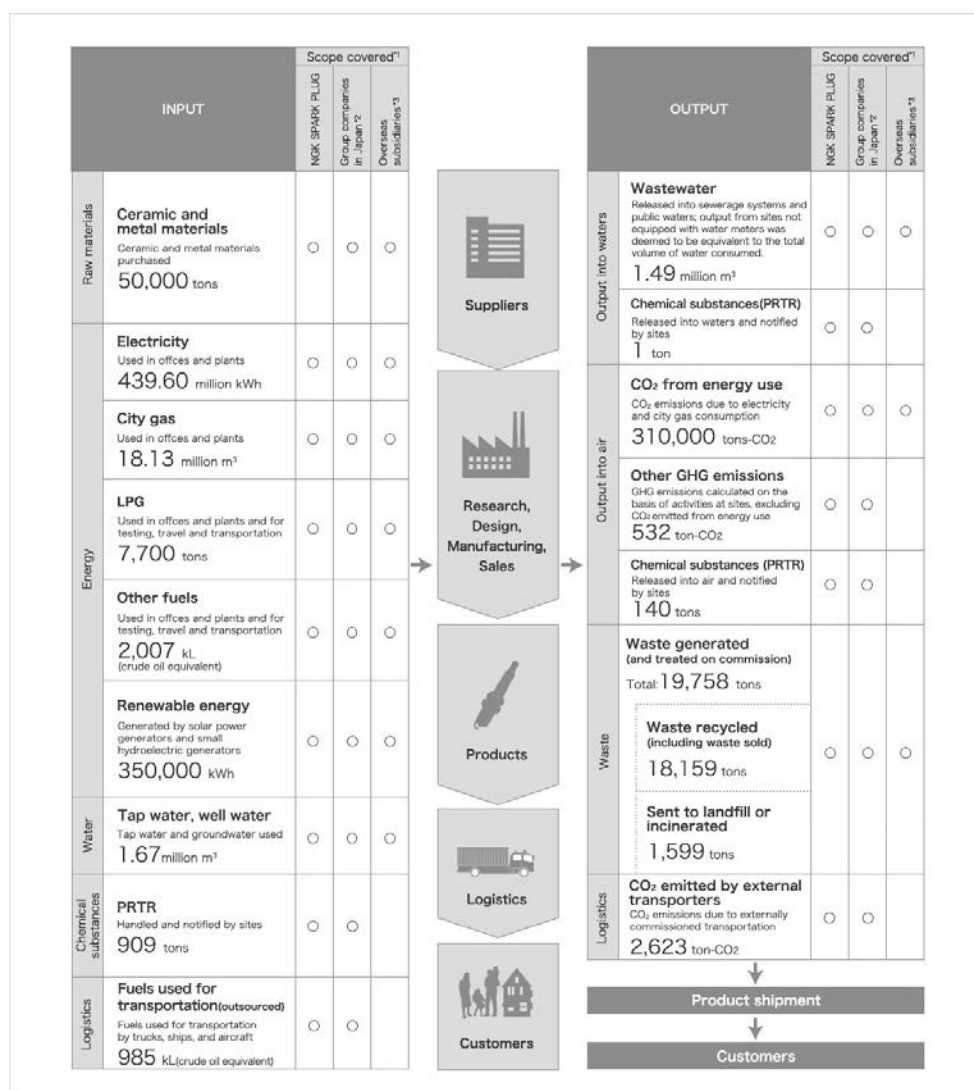
| Major items           | Minor items | Targets for fiscal 2020                                                                 | Results for fiscal 2016                                                                                                                                                                                                               |
|-----------------------|-------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Global Warming        | Production  | CO2 Basic unit 5% reduction compared to fiscal 2015<br>(Average yearly reduction of 1%) | <p>【Target】 CO2 basic unit: 1% decrease from fiscal 2015</p> <p>【Result】 CO2 basic unit: 3.3% decrease from fiscal 2015</p> <p>Conducted energy saving activities across the department by energy saving promotion sub-committee.</p> |
|                       | Logistics   | Promotion of efficient logistics                                                        | Optimized product transportation between plants.                                                                                                                                                                                      |
| Depletion of resource | Waste       | Promotion of reduction of waste material by reducing defective products                 | Reduced wastes by promoting activities along with regular business operations, for example, yield improvement.                                                                                                                        |
|                       |             | Promotion of product design which takes into consideration minimization of waste        | Conducted environmental impact assessment at the product design stage while considering product life cycle.                                                                                                                           |
| Depletion of resource | Water       | Promotion of efficient water utilization                                                | Reduced water utilization by modifying facilities and reviewing operations.                                                                                                                                                           |

| Major items                       | Minor items  | Targets for fiscal 2020                                                                                                       | Results for fiscal 2016                                                                                                          |
|-----------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Depletion of resource             | Raw material | Promotion of product design which takes into consideration minimization of the amount of raw material used                    | Conducted environmental impact assessment at the product design stage while considering product life cycle.                      |
| Environmentally-friendly products | ---          | Creation of an approval system for environmentally-friendly products, and expansion of environmentally-friendly product lines | Formulated environmentally-friendly product accreditation system (plan), and conducted partial trial run.                        |
| Hazardous chemical substances     | ---          | Taking decisive action to comply with the various laws and regulation including ELV, RoHS and REACH                           | Shared restriction information across the department by chemical management sub-committee, and took actions against restriction. |
|                                   | ---          | Promotion of the use of substitute materials to replace materials that place a burden on the environment                      | Implemented substitution for phthalic acid subject to banning by the RoHS in 2019.                                               |
|                                   | ---          | Total abolition of HCFC                                                                                                       | Promoted planned update of the device that demands filling of HCFC.                                                              |

## Environmental Burdens from Business Activities

### Environmental Burdens from Business Activities

Knowing what impacts our business activities have on the environment is the first step in carrying out environmental preservation activities. Our material balance, which expresses the amounts of our inputs (such as the raw materials and energy used by our Group) and the amounts of our outputs (such as the products shipped and the wastes emitted outside the Group as the result of our business activities), is as follows.



\*1 The covered scope of each amount reported in INPUT and OUTPUT is indicated with ●.

\*2 Domestic group companies are listed below.

Scope of ISO 14001 consolidated certification

Outside the scope of ISO 14001 consolidated certification

- NITTOKU ALFA SERVICE CO., LTD.
- NITTOKU UNYU CO., LTD.
- CERAMIC SENSOR CO., LTD.
- NTK CERAMIC CO., LTD.
- CERAMIC SENSOR NAKATSUGAWA CO.,LTD.
- NANSEI CERAMIC CO., LTD.
- KAMIOKA CERAMIC CO., LTD.
- Spark Tec WKS CO., LTD.
- (except Okusa plant of Headquarters)
- NICHIIWA KIKI CO., LTD.
- Spark Tech TONO CO., LTD.
- NITTOKU DENSHI CO., LTD.
- NTK CERATEC CO., LTD.
- Spark Tec WKS CO., LTD.
- Okusa Plant of Headquarters

\*3 Overseas group companies are listed below.

Manufacturing & Sales Organization

- NGK SPARK PLUG [SHANGHAI] CO., LTD.
- CHANGSHU NGK SPARK PLUG CO., LTD.
- WOOJIN INDUSTRY CO., LTD.
- NTK TECHNICAL CERAMICS KOREA CO., LTD.
- NGK SPARK PLUGS (THAILAND) CO., LTD.
- SIAM NGK SPARK PLUG CO., LTD.
- NGK SPARK PLUGS (ASIA) CO., LTD.
- NGK SPARK PLUGS MALAYSIA BERHAD
- PT NGK BUSI INDONESIA
- NGK SPARK PLUGS (INDIA) PVT. LTD.
- NGK SPARK PLUGS (U.S.A.), INC.
- WELLS VEHICLE ELECTRONICS, L.P.
- NGK SPARK PLUGS CANADA LIMITED.
- BUJIAS NGK DE MEXICO S.A. DE C.V.

- CERAMICA E VELAS DE IGNICAO NGK DO BRASIL LTDA.
- NGK SPARK PLUGS (FRANCE) S.A.S.
- NGK SPARK PLUGS SA (PTY) LTD.

#### Sales Organization

- TAIWAN NGK SPARK PLUG CO., LTD.
- NGK SPARK PLUGS (VIETNAM) CO., LTD.
- NGK SPARK PLUGS (PHILIPPINES), INC.
- NGK SPARK PLUG (AUSTRALIA) PTY. LTD.
- NTK TECHNOLOGIES, INC.
- BUJIAS NGK DEL ECUADOR CIA LTDA.
- NGK SPARK PLUG EUROPE GmbH
- NGK SPARK PLUGS (UK) LTD.
- LIMITED LIABILITY COMPANY NGK SPARK PLUGS (EURASIA)
- NGK SPARK PLUG MIDDLE EAST FZE

# Environmental Management

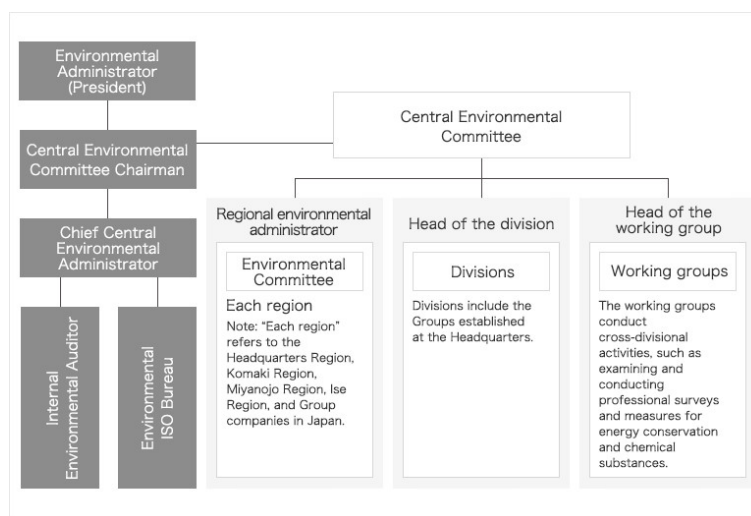
## Basic Philosophy

Our environmental management system, operating on the environmental policy shared by the entire Group, ensures systematic and effective environmental preservation activities. Under this system, all Group companies strive to achieve the Eco Vision.

## Promotion system

Our group has a matrix-type structure including business departments and respective regions, promoting environmental activities while having individual roles clarified. Each department is expected to manage its own targets on items relevant to business activities, for example, “Global warming”, “Natural resources”, “Toxic, hazardous chemicals”, and “Key quality” under the Global Eco Vision 2020 for the practice along with business activities. Meanwhile, we take the initiatives to such activities as compliance of regulations, and communication with local society mainly on the region basis in accordance with action plans. Various sub-committees are set up as the cross-functional team across the department for promoting activities.

The activities will be confirmed with respect to the progress toward the target, and task in Central Environmental Committee at which President, directors, department managers, environment control managers in the respective regions, and chairpersons of the sub-committees are present for continuous improvement.



Environmental Activity Promotion Organization

## The Establishment Status of our Environmental Management

### System

We received ISO 14001 consolidated certification for NGK SPARK PLUG CO., LTD. and 11 group companies in Japan. In fiscal 2016, we received ISO14001:2015 certification on December through upgrade audit.

Other domestic and overseas group companies have already received the ISO14001 certification, individually, resulting in 18 overseas group companies which have received the certification in the end of the fiscal 2016.

ISO 14001 Certified Locations

ISO14001 certificate

### Environmental Risk Management

Inherent in business activities are various risks including environmental incidents and pollution. NGK SPARK PLUG's GROUP identifies these risks and endeavors to reduce and/or prevent them

#### PCB Control

PCB wastes have been stored at our Headquarters Plant, Komaki Plant, and CS Nakatsugawa under strict control for proper disposal.

In fiscal 2016, we completed proper disposal of PCB wastes stored at SparkTec WKS.

#### On-site Confirmation of Waste Material Treatment

We regularly visit our waste disposers to confirm that consigned waste materials are being processed in accordance with our agreement. In fiscal 2016, we visited 65 companies.

#### Handling of Asbestos

We have been taking appropriate measures to prevent health hazards from asbestos. All asbestos used in our facilities has been completely removed. Some asbestos is still present in buildings as insulators, and we will continue to adhere to stringent control measures and periodical confirmation

### Preventing Chemical Leaks

In order to prevent soil and water contamination caused by chemical leaks, we have been implementing countermeasures involving equipment that includes preventing leaks through the development of double layered storage tanks and the early detection of leaks by installing pipes above ground. Wastewater treatment facilities of the respective plants discharge the wastewater only confirmed to be harmless through monitor measurement under routine management.

### Drills for Emergency Situations

We hold regular drills for emergency situations to prepare for unforeseen accidents, etc. Each department identifies potential environmental accidents to prevent associated adverse environmental impacts.

Ceramic Sensor held drills for blocking drainage assuming that wastewater in excess of the maximum limit value accidentally flows outside the premise.



Emergency Response Drill  
(Ceramic Sensor)

## Compliance Status

To ensure compliance with environmental laws and regulations as well as agreements with local municipalities, etc., we set stringent voluntary standards to prevent violations and complaints. In fiscal 2016, there were two instances of violations of laws and regulations in Japan, and two instances of demand for improvement concerning noise. As each of these involved problems in mechanisms for management and monitoring, we immediately carried out countermeasures, working to prevent recurrence.

### Numbers of Violations (cases)

| Company                  | 2013 | 2014 | 2015 | 2016 |
|--------------------------|------|------|------|------|
| NGK SPARK PLUG CO., LTD. | 0    | 1    | 3    | 0    |
| Affiliates (Domestic)    | 0    | 2    | 2    | 2    |
| Affiliates (Overseas)    | 0    | 0    | 0    | 0    |

### Numbers of Complaints (cases)

| Company                  | 2013 | 2014 | 2015 | 2016 |
|--------------------------|------|------|------|------|
| NGK SPARK PLUG CO., LTD. | 3    | 2    | 0    | 2    |
| Affiliates (Domestic)    | 0    | 0    | 0    | 0    |
| Affiliates (Overseas)    | —    | —    | —    | —    |

### Handling Violations and Complaints in Fiscal 2016

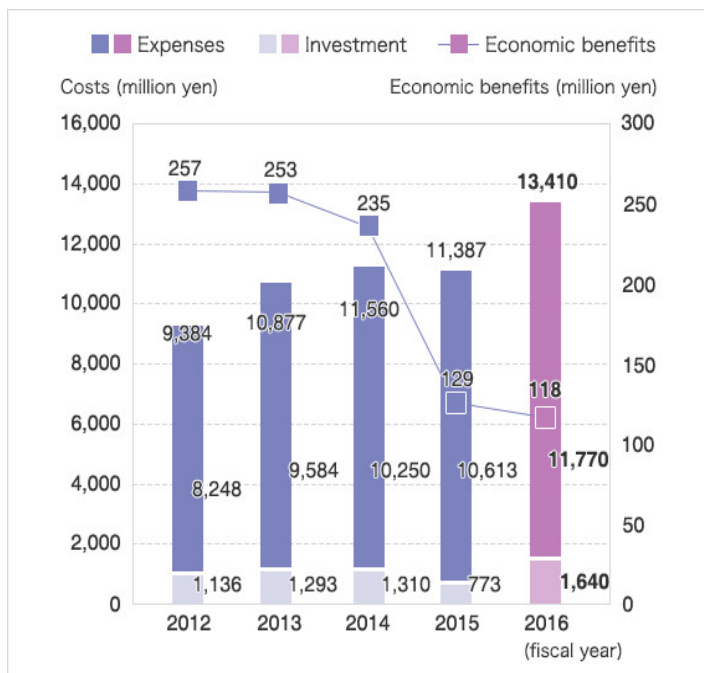
| Classification | Company     | Situation                                                                                                                                 | Countermeasures                                                                                                                                                                                                                      |
|----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Violation      | NTK Ceramic | Failed to submit the external industrial waste carry-in report no later than 30 days prior to the first day of scheduled carry-in period. | Tried to confirm whether or not the external industrial waste carry-in report has been submitted with respect to all the contracted waste-disposal service providers so that the respective submission terms are listed and managed. |

|           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                         |
|-----------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Violation | NTK Ceramic  | Failed to set up bulletin boards as prescribed in Waste Management Law at some of Industrial disposal sites.                                                                                                                                                                                                                                                                                                                                                                                                                                | Clarified the management department in charge of Waste Management Law, which is expected to make confirmations twice a year.                                                                                                                                                                            |
| Complaint | Komaki Plant | <p>Received two complaints from neighborhood residents with respect to operations performed by the external service providers during summer vacation.</p> <p>1 Noise was generated from vacuum vehicle and high-pressure washing vehicle during cleaning operation of cooling tower outside the plant 14 on the north side.</p> <p>2 Noise was generated from vacuum vehicle and high-pressure washing vehicle during cleaning operation of cooling water tank and tank outside the plant for trial model production on the south side.</p> | <p>As solution for those cases 1 and 2, soundproof sheet was set for noise suppression while reconsidering arrangement of the work vehicle. As for operations for the future, we will examine employment of the work vehicle with low-noise type motor pump in place of the engine-powered vehicle.</p> |

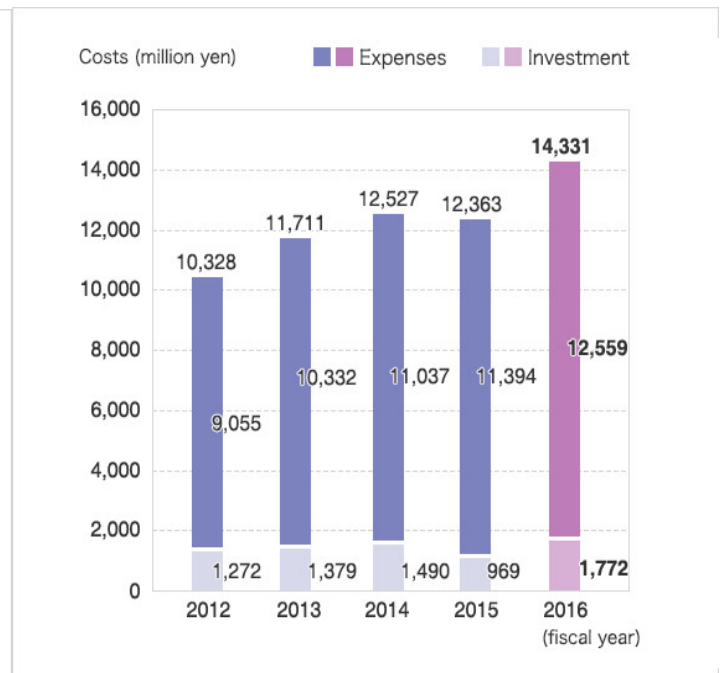
## Environmental Accounting

What is important in promoting environmental management is to gain a grasp of the costs and effectiveness of environmental preservation activities. We have been adopting environmental accounting since 1999, and in 2003 the accounting scope was expanded to include the entire Group.

In fiscal 2016, our environmental conservation costs were 13,410 million yen on a non-consolidated basis, and 14,327 million yen for the Group, an increase of 15.9% over the previous fiscal year. The economic benefit associated with environmental conservation activities totaled 118 million yen on a non-consolidated basis.



Environmental Conservation Costs and Economic Benefits (non-consolidated)



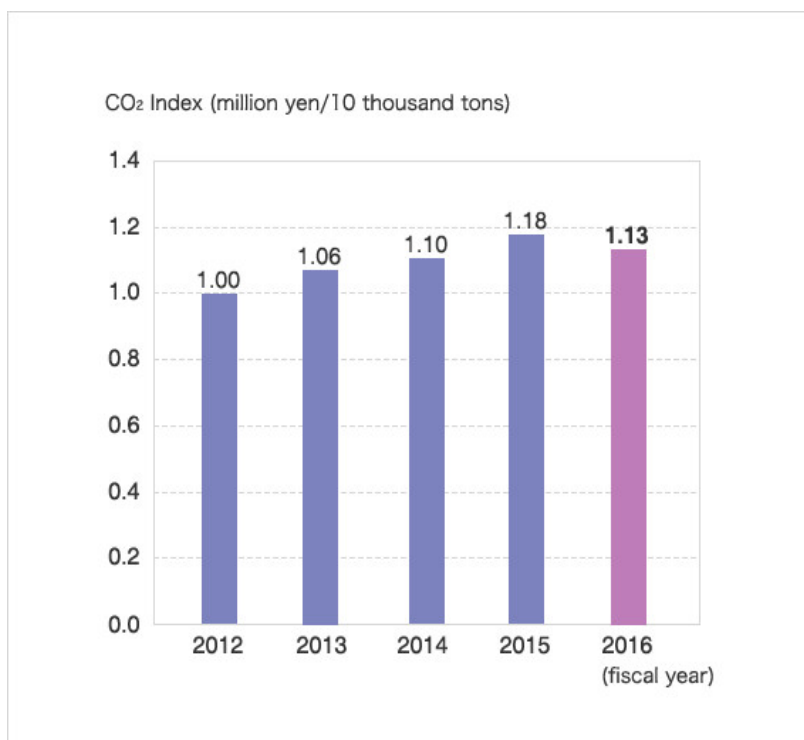
Environmental Conservation Costs (domestic group consolidated certification)

Environmental Accounting>

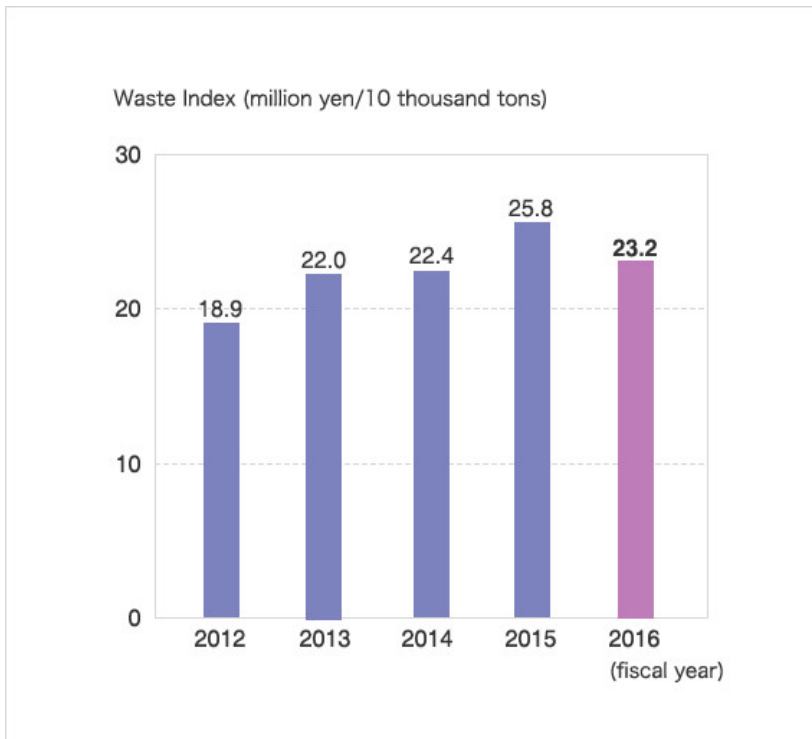
## Eco-efficiency

We calculate eco-efficiency by determining net sales per unit of CO<sub>2</sub> emissions and generated waste, and endeavor to improve it.

In fiscal 2016, figures of CO<sub>2</sub> emissions and generated waste were worsened compared with those of the previous fiscal year resulting from the temporary waste increase caused by start up of the new plant in addition to the waste increase owing to the steep production rise.



CO<sub>2</sub> Index  
(Domestic group 【consolidated certification】)



Waste Index  
(Domestic group 【consolidated certification】)

## Environmental Education

Environmental education is conducted to deepen employees' understanding of environmental issues, and raise their environmental awareness.

In fiscal 2016, we held four courses on "Environmental basics", "Environmental management system", "Calculation methods for substances with an environmental burden", and "Environmental laws and regulations (for facilities)".

We published "Environment Handbook"

concerning basic knowledge of environment and our approach to take the initiatives, distributed to all the employees including those of the domestic and overseas group companies.

We are planning to enhance our environmental education program in fiscal 2017 to improve the overall level of the environmental consciousness of Group employees.



Environmental education



Environment  
Handbook

### Status of course participation (FY 2016)

| Item                                                                      | Number of times | Number of persons taking course |
|---------------------------------------------------------------------------|-----------------|---------------------------------|
| Course on environmental basics                                            | 16 times        | 322 persons                     |
| Course on environmental management system                                 | 17 times        | 293 persons                     |
| Course on calculation methods for substances with an environmental burden | 5 times         | 71 persons                      |
| Course on environmental laws and regulations (for facilities)             | 7 times         | 92 persons                      |

#### Comment from an environmental education course participant

##### Taking course on environmental basics

Taking the course on environmental basics, I was able to realize the importance of facing with the environmental problem. As media has taken up global environmental issues, this course allows me to understand that effort of every employee may change or solve the environmental problem, and further become more conscious about acting in environment-friendly manner.

I think there still exists room for improving environment besides such efforts to prevent wasteful use of paper resource on the workplace, and to use public transportation for traveling or the refill container for detergent and the like in daily private life. I will further raise the environmental awareness higher by exchanging views on such issue with colleagues or family. I believe the initiatives for the environmental education may be a great help to actualize better environment.



Automotive Components  
Sales & Marketing Div.  
Okada

## Support for Suppliers

We offer our suppliers environmental education and support for establishing environmental management systems to acquire a third party certification. Since 2007 there have been applications for assistance from 43 companies, and 42 of them have obtained ISO 14001 or Eco-Action 21 certification. We continue to provide assistance to four companies configuring environmental management systems.

### Environmental Management Classes Held in Fiscal 2016

| Topic         | No. of Companies Attending | No. of People Attending |
|---------------|----------------------------|-------------------------|
| ISO14001      | 7                          | 8                       |
| Eco-Action 21 | 3                          | 6                       |

### EMS Third-Party Certification Support Conducted

| Topic         | No. of Companies Attending (total sum) |
|---------------|----------------------------------------|
| ISO14001      | 6                                      |
| Eco-Action 21 | 36                                     |

## *Environmentally-friendly Products*

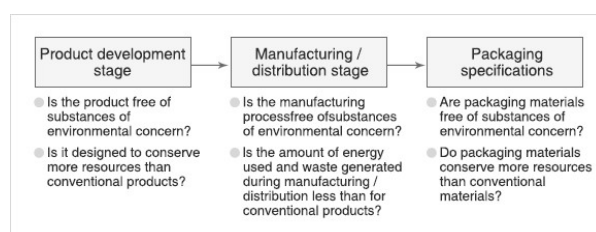
### Basic Philosophy

As a manufacturing company expanding globally, we strive to meet the expectations of customers around the world and, in order to contribute to the global environment, to develop and provide environmentally friendly products. At the same time, we also work to constrain the environmental impacts generated during production, and aim to reduce environmental impacts over the entire product life cycle.

### Product Assessment

To reduce the environmental burden of a product over its entire life cycle, we carry out product assessments during design and when changing specifications.

During a product assessment, the existence of substances of environmental concern, the amount of energy used, etc. are confirmed at each stage of product design, process design and package design. If the assessment determines that there is a significant environmental impact, countermeasures will be taken before development is continued.



### Developing Environmentally Friendly Products

Our company provides products that contribute to the environment, including spark plugs and automotive oxygen sensors that help improve fuel efficiency and purify exhaust gases from automobiles, as well as LED packages and cutting tools that are long-lasting and help conserve energy and resources. We are also undertaking development of new products in the environmental area, such as solid oxide fuel cells (SOFCs).

Receiving acceptance on our contribution to the environment by manufacturing the automotive oxygen sensors, in fiscal 2016, we won gold prize of “Aichi Environment Award” and “CEAA award (Corporate Environmental Achievement Award)” by the American Ceramic Society.

From here on out, we will strengthen activities to promote energy and resource conservation more than ever in the manufacturing process, by working these into the design stage. Through this, we will advance development of products that contribute to the environment in terms of both product functions and manufacturing processes.

## *Hazardous Chemical Substances*

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### **Basic Philosophy**

In association with the growing public awareness of environmental issues, regulations regarding hazardous chemical substances have become increasingly severe year by year. Taking appropriate measure to such concern has become vital to the continuation of business. We have a three-step management system for handling substances of environmental concern: 1. Answering requests from customers, 2. Handling within the Group, and 3. Procurement from suppliers.

Naturally we ensure compliance with laws and fulfill customer requests. More than that, we aim to reduce the use and emission of substances of environmental concern so as to minimize their effect on the environment and human health.

### **Answering Requests from Customers**

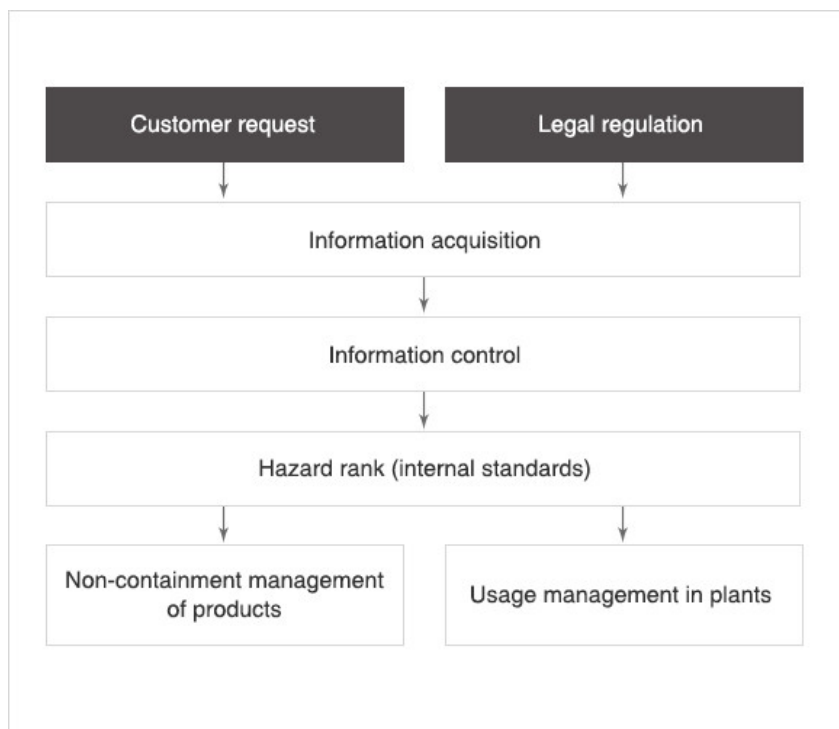
With the reinforcement of regulations on chemical substances contained in products, requests from customers in the automobile, electrical and electronics industry regarding improved compliance are increasing. The REACH Regulation of the EU has triggered an increase in the status of chemical substances contained in products; we are taking all the appropriate measures including submission of Non-Containing Declarations, submission of various data with IMDS, AIS, etc., and handling investigations and audits regarding our management systems.

### **Handling within the Group**

To respond appropriately to increasingly strict chemical substance regulations worldwide, we perform non-containment management for products and usage management within plants.

For hazardous chemical substances, we set hazard rankings according to toxicity and the strictness of regulations, and establish handling standards for each rank.

From here on out, we will work toward substitution of hazardous chemical substances and the strengthening of management, to assure compliance with laws and with the demands of customers.



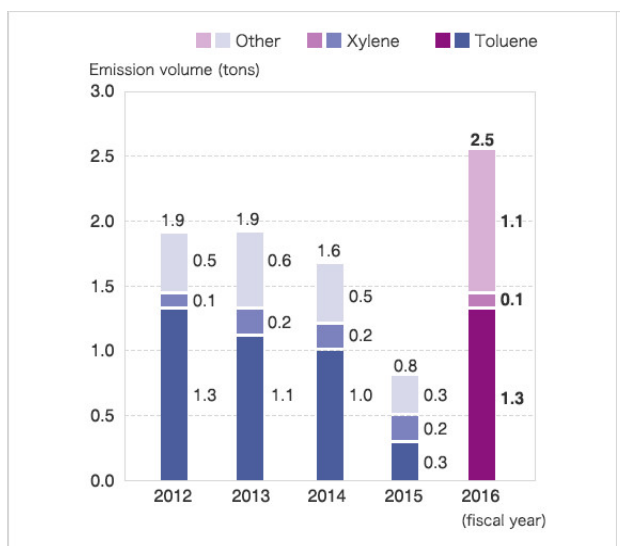
Management System

## Hazard Rank

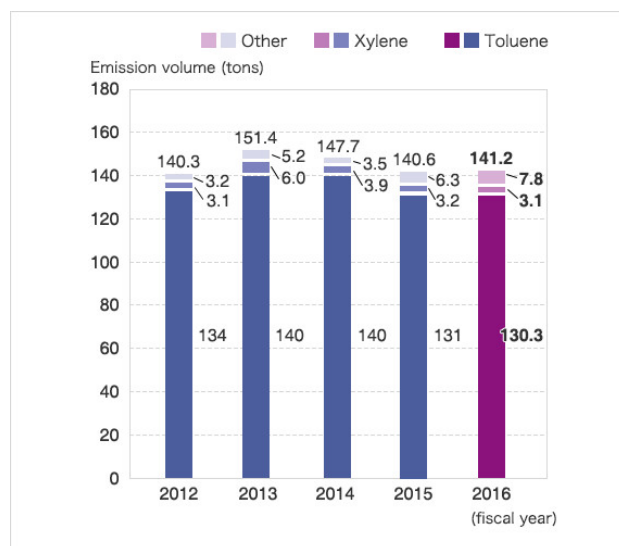
| Rank                  | Handling standard                                                                               | Substances covered                                                                                                                               |
|-----------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Prohibited substances | Use is prohibited.                                                                              | Substances prohibited from use or strongly restricted by regulations.                                                                            |
| Restricted substances | Safer substitutes will be sought, while making efforts to reduce the use of current substances. | Hazard level and toxicity are equivalent to prohibited substances, but an immediate changeover is impossible due to its special characteristics. |
| Monitored substances  | Supplies need to be examined to find existence / non-existence of applicable substances.        | Those not prohibited or restricted but that require monitoring.                                                                                  |

## Management of PRTR substance

Aiming at optimized management, the respective divisions have ensured to identify and totalize PRTR substances for clarifying handling volume, release volume, and transfer volume.



Emission Volume of PRTR Substances  
(non-consolidated)



Emission Volumes of PRTR Substances  
(domestic group【consolidated  
certification】)

## Procurement from Suppliers

To manage chemical substances contained in products appropriately, it is imperative that we gain the cooperation of our suppliers. For this reason, we request in our Green Procurement Guidelines that our suppliers not use hazardous chemical substances banned by NGK SPARK PLUG CO., LTD. We designate suppliers that meet our system and material standards as Green Suppliers. In collaboration with our Green Suppliers, we promote appropriate management of hazardous chemical substances.

Green Procurement Guidelines

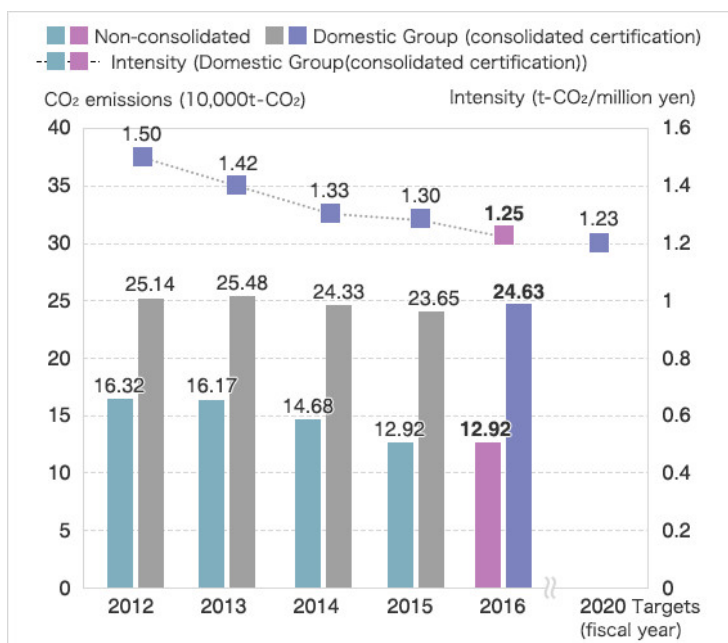
## Global Warming

### Basic Philosophy

Major climate change could cause the risk of hindering the establishment of a sustainable society. As a part of our activities to aid in mitigating climate change from medium- and long-term perspectives, we set targets for CO<sub>2</sub> emission basic unit in fiscal 2020 under Global Eco Vision 2020. Aiming at achievement of the targets, we have been proceeding with fractionalization of energy management, and reduction in energy consumed by air conditioning system while focusing on building ventilation amount.

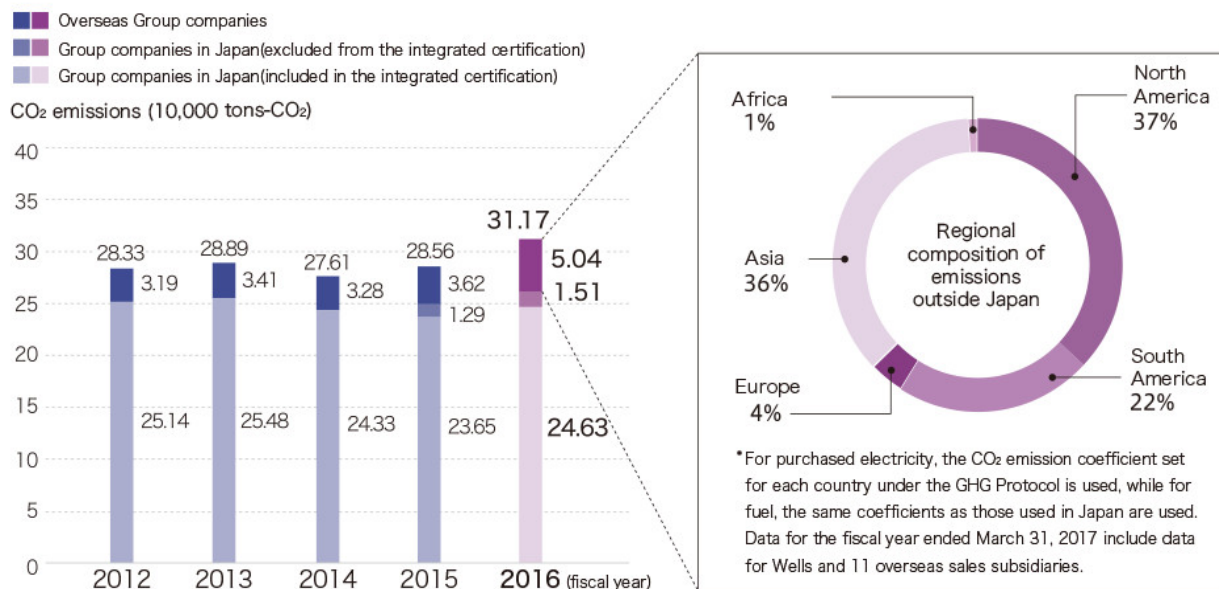
### Achieving Target CO<sub>2</sub> emission basic unit in fiscal 2016

The CO<sub>2</sub> emission basic unit in fiscal 2016 was 1.25 tons/million yen, meeting our fiscal 2016 target of 1.28 tons/million yen (decrease by 1% as compared with fiscal 2015). The CO<sub>2</sub> emission basic unit has been improved by 16% for 5 years since fiscal 2012 owing to energy saving effect resulting from updating of facilities (energy-saving type) and revising our manufacturing conditions.



Transition of Emission Volume of Energy-Origin  
CO<sub>2</sub> (Domestic group【consolidated certification】)

\* The denominator of the basic unit has been changed from sales to amount index in accordance with production sum.

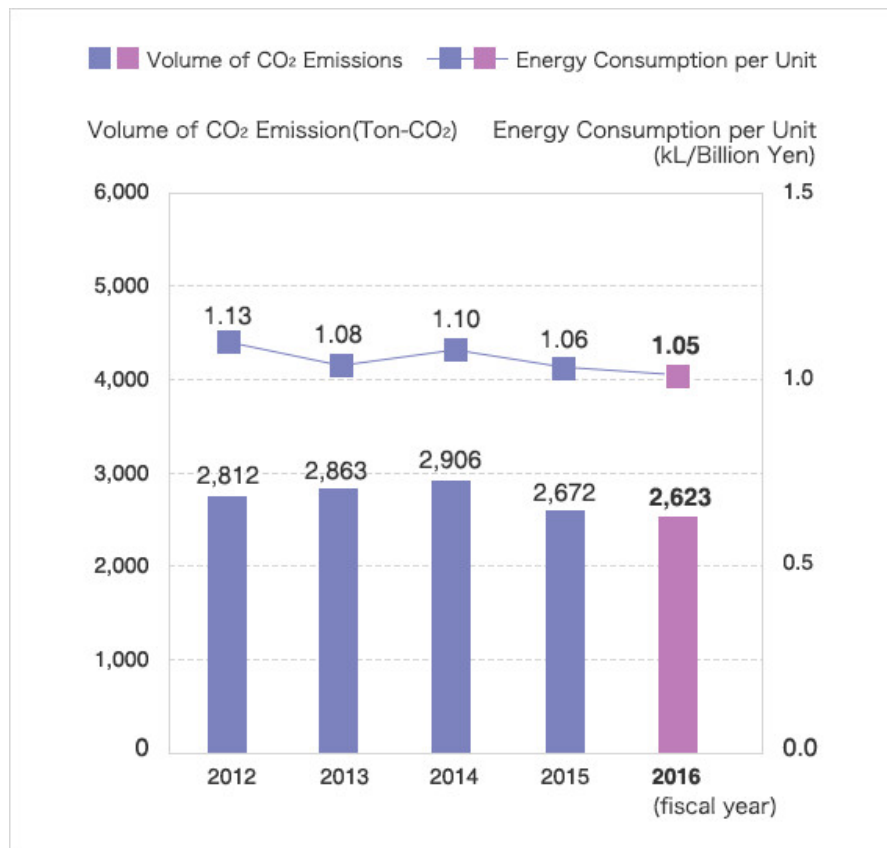


Transition of Emission Volume of Energy-Origin CO<sub>2</sub> (group)

## Energy Conservation during Transportation

As a Specified Consigner designated under the Act on the Rational Use of Energy, we endeavor to reduce CO<sub>2</sub> emissions during transportation, proceeding with reduction in shipping distance by reorganizing/integrating plants, and reconsidering the waste-disposal service vendor.

In fiscal 2016, our energy usage basic unit was 1.05 kL/100 million yen, improved by 1.3% as compared with the previous fiscal year.

CO<sub>2</sub> Emissions as Consigner (non-consolidated)

\* The volume derived from contracted cargo transporters is included.

\* The denominator of the basic unit has been changed from sales to amount index in accordance with production sum.

## Energy Conservation in Office

We implement daily energy-saving measures in our workplaces, including turning off lights and computers during breaks and keeping office air conditioning at moderate levels, 28°C in summer and 20°C in winter, to which we adjust by dressing lightly or adding layers of clothing. We are also creating green curtains, installing arched sunshades and thermally insulating the outdoor units of air conditioners to reduce power consumption for air conditioning in the summer.

In fiscal 2016, too, we worked to consolidate PC servers, upgrade air conditioners, and convert fluorescent lighting to LED lighting.

## **Use of Natural Energy**

We promote the use of natural energy.

We installed three solar power generation units and one solar water heater at our Headquarters Factory. The Komaki Plant has a solar power generator unit that can generate a maximum of 107 kW of electricity. In overseas, the solar power generation units have been introduced into Woojin Industry Co., Ltd., and NGK Spark Plugs (India) PVT. LTD. In fiscal 2016, we generated a total of 350 MWh sourced from natural energy in both domestic and overseas companies, which is equivalent to reduction of 200 tons of CO<sub>2</sub>.

## Depletion of Resources

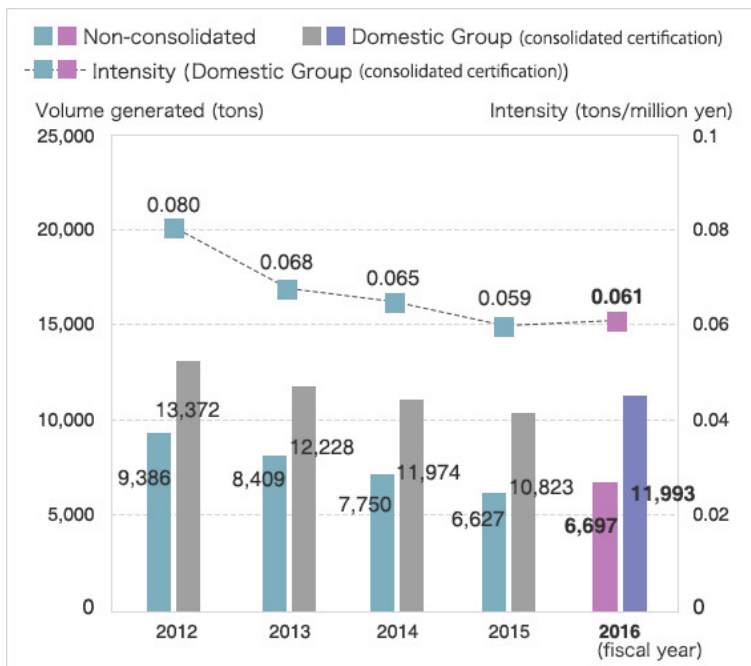
### Basic Philosophy

Our Group contributes to society by lowering defect rates in our manufacturing processes, reducing waste generated and further treating wastes to enable recycling, as measures to combat the depletion of resources.

And we contributes to the resolution of water resource issues by recognizing the tap water and well water used in our business activities as water resources, and by undertaking the reduction of usage, as measures to combat the depletion of resources.

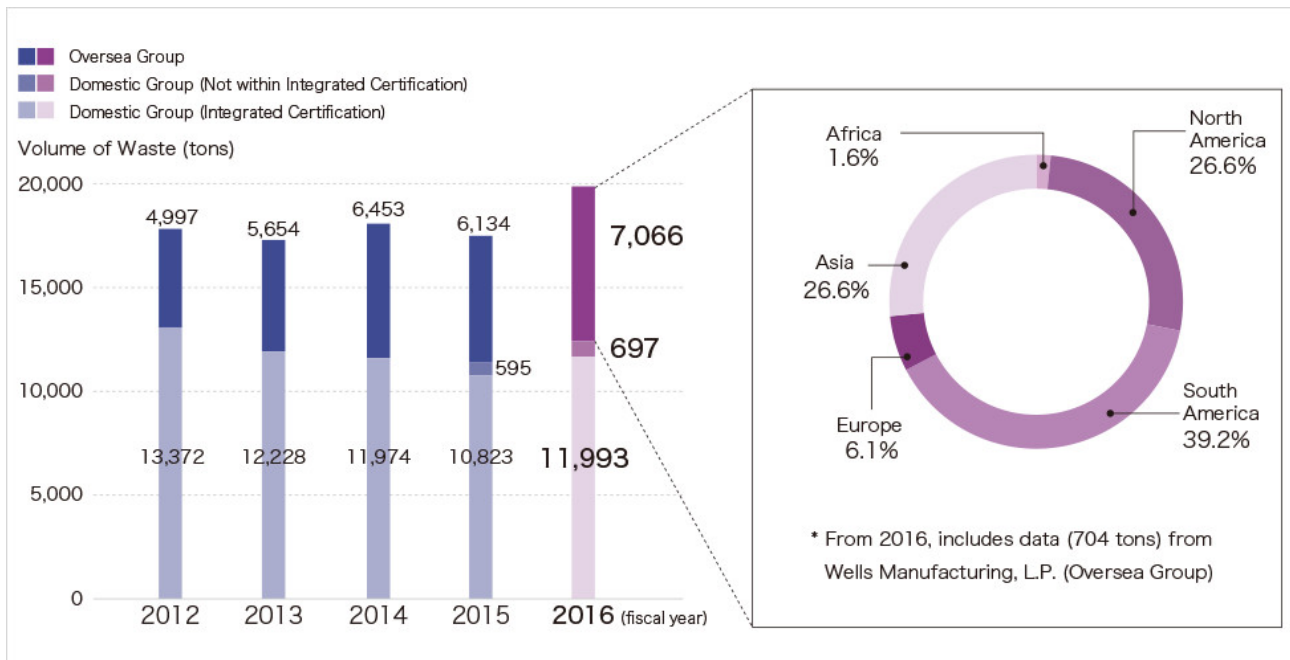
### Reduction of Waste Generated

In fiscal 2016, the waste emission basic unit was 0.061 tons/million yen, worsened by 2.8% as compared with fiscal 2015. Such worsened figure is thought to be caused by temporary emission increase as a result of establishment of new plant in addition to the emission increase as a result of steep production rise.



Trends in Volume of Waste Generated  
(domestic group [consolidated certification])

\* The denominator of the basic unit has been changed from sales to amount index in accordance with production sum.

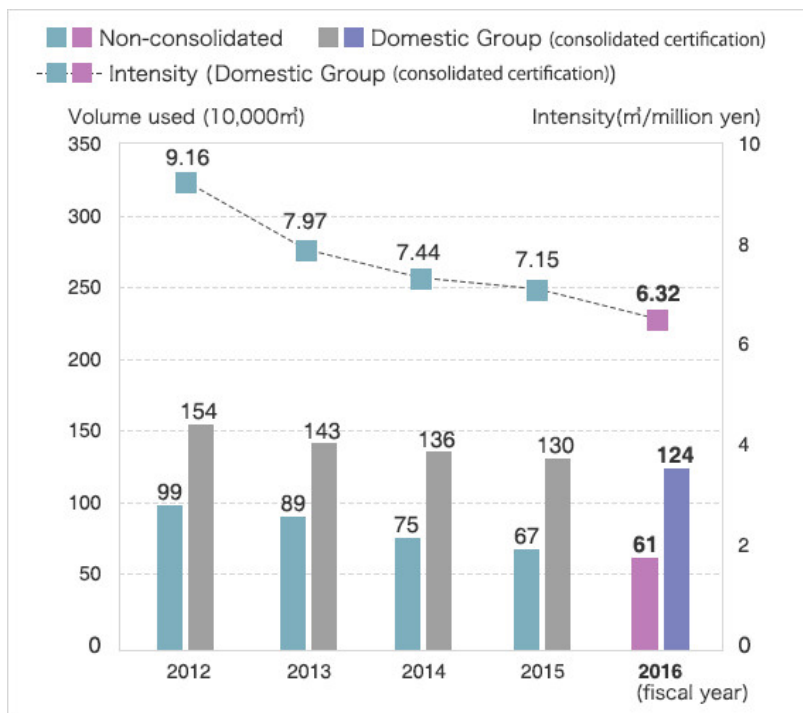


Trends in Volume of Waste Generated (group)

\* Since fiscal 2016, data on Wells Vehicle Electronics, L.P. have been added to the overseas group.

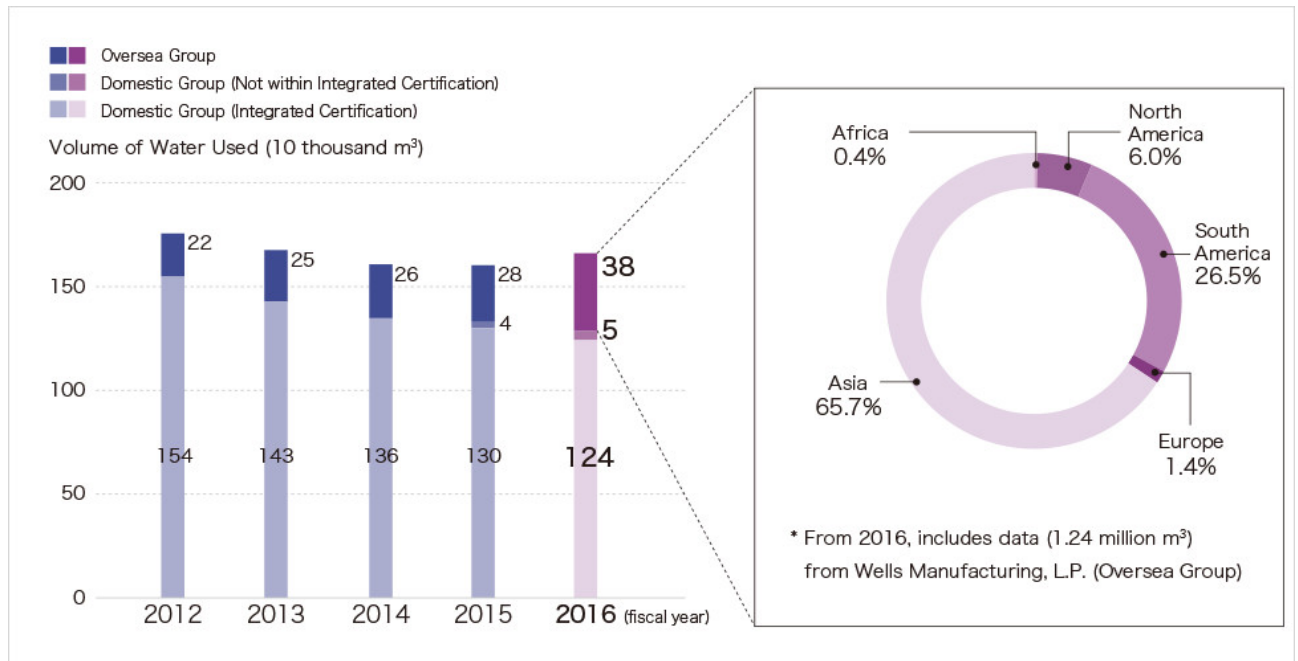
## Reducing the Amounts of Tap and Well Water Used

In fiscal 2016, our water usage basic unit was 6.32 m<sup>3</sup>/million yen. Water usage basic unit was improved by 11.6% compared with fiscal 2015, which is resulted from conserving water by changing manufacturing conditions and upgrading and updating to equipment with a high water-savings effect.



Trend in Volume of Tap Water/Well Water  
(Domestic group 【consolidated certification】)

\* The denominator of the basic unit has been changed from sales to amount index in accordance with production sum.



Trend in Volume of Tap Water/Well Water (group)

## *Environmental Communication*

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### **Basic Philosophy**

It is essential for the NGK SPARK PLUG's GROUP to realize close coordination with local communities and become highly reliable for continuous business operations. For achievement of the goal, sharing information on the Group's environmental activities is regarded as the best approach. We have been endeavoring to disclose information and improve communication in an accurate and easy-to-understand way.

### **Hosting plant tours**

We accept plant tours for the purpose of observing our environmental efforts and facilities. A deeper understanding of our Group's activities and better communication are achieved by seeing our facilities firsthand and engaging in question and answer sessions. In fiscal 2016, we hosted 56 tours and welcomed 1,198 visitors at our plants.

### **Environmental Meeting**

We host environmental meetings with local residents as a venue for communication. At these meetings, we explain our daily environmental activities as well as hear opinions and comments from participants on how we can further improve things. In fiscal 2016, we hosted 8 such meetings, with a total of 28 participants

### **Local Clean-up Activities**

We regularly hold clean-up activities near the office to preserve the local environment. We also continue to participate in beautifying activities hosted by local municipalities, etc. In fiscal 2016, a total of 832 people participated in such activities.



Clean-up activities (Head Office)



Clean-up activities  
(Nakatsu-gawa Plant, NTK  
Ceramic)

## Conservation of Biodiversity

NGK SPARK PLUG's GROUP defines preservation of biodiversity that has become increasingly important around the world as one of our environmental themes as essential as global warming control and recycling of resources.

In April 2013, we established the NGK SPARK PLUG Group Biodiversity Action Guidelines which indicate our policy and action plan regarding biodiversity.

Based on the guidelines, recognizing that activities such as the use of energy and resources have an effect on biodiversity, we will work in cooperation with business partners and external organizations to reduce the impacts of our entire business activities

## System for Environmental Commendations

Based on our target to “Improve Environment Consciousness” set under the Global Eco Vision 2020, we have established an environmental commendation system for the NGK SPARK PLUG's GROUP to commend outstanding environmental initiatives.

The environmental commendation system was launched in 2014 aimed at environmental activities and initiatives in all divisions and departments of the company groups. The outstanding case will be commended by the President during meetings of the Central Environmental Committee.

In fiscal 2016, the third year of the system, commendations were given to 10 cases with respect to, for example, reduced CO<sub>2</sub> emission during production by improving productivity and quality, reduced CO<sub>2</sub> emission during logistics by enhancing efficiency of transportation between plants, reduced waste disposal by reconsidering operation process, product design that suppresses the use of rare metal, and development of environment-oriented products.

### Comment by award-winning division

#### Contribution to Environment by Quality Improvement

We won the award on the theme of “Elimination of air cleaning step for removing adhered contaminant”.

As a result of our fundamental examinations on countermeasures against problem of chronic defective quality, we succeeded in elimination of cleaning air as well as quality improvement. Through our efforts, we have learned that quality improvement leads us to “Power reduction = CO<sub>2</sub> emission reduction”. In spite of very small amount of air fed to each cylinder, the total air amount resulting from conversion into the annual figure over horizontal business network results in surprising effects. We will further take the initiative of “Quality improvement = Environmental activity” for further effects onward.



Spark Plug Div.  
Miyanojo  
Manufacturing Dept.  
Takezoe

## *Third-Party Review*

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We have edited CSR Report 2017 to serve as an easily understood and trustworthy report, on the basis of information disclosure policies. So that we may hear objective opinions with the aim of creating a better report, we requested a third-party review from Mr. Tomohiro Tokura of SGS Japan Inc.

### Third-Party Review of CSR Report 2017

We have heard of your declaration once again towards accomplishing the CSR, and your signing of the UN Global Compact (UNGC) in relation to the four areas and ten principles: human rights, labor, environment, and anti-corruption. We have heard of your continuing CSR acts and commitment to the public regarding improved governance, response to individual and market demands, contribution to communities, and more. This can be viewed as a result of increased social concerns and company responsibilities. Work on increasing intra-company awareness of our signature of the UNGC will be carried out from now, while internal CSR training is ongoing and will be extended out to group companies in 2017. As well as basic training, we understand that you are also considering ongoing, follow-up training. We believe this will further increase company awareness of our social responsibilities and we look forward to hearing more on this.



Mr. Tomohiro Tokura  
Verification  
Specialist Sustainability  
Service Division SGS  
Japan Inc.

As mentioned in a previous commentary, actions such as the “greeting campaign” along with our “po-ke-te-na-shi” system, and following the rules laid out by the health and safety committee, also serve as ways to continually disseminate information throughout the company. Furthermore, through continuous support for the “5s kaizen”, and various types of seminar, mutually beneficial relations can be set up with client companies. For a company that possess an open culture with good communications, this will not be simply a passing fad but will become part of the corporate culture. Also, a good communication leads to improvements in governance and compliance. Continuing with these actions demonstrates a positive attitude towards

communication, and is a defining characteristic of NITTOKU. We look forward to further developments. Human Resources policy offers opportunities for employees to improve and grow, and has already had good results. In particular, the DNA (Dynamic New Approach) project gives employees the choice to suggest their own ideas, which may influence the direction of planned projects. For certain this approach encourages employee growth and is another defining characteristic of Nittoku. We very much look forward to hearing more on this .

The level of employment of the physically challenged is below the legally designated standard of 2 per cent. NGK Spark Plug Co, Ltd supports diversity, and through proactive efforts to increase awareness of this issue throughout the company, the figure was increased to 1.9 per cent in the fiscal year 2016. In the fiscal year 2017, a new group was set up to work on resolving this issue. To disclose this information in a written report increases trust in a company. The environmental report contains information pertaining to breaches and complaints, as well as how they are dealt with. We hope to continue receiving reports regarding ongoing issues.

With the recent prominence of SDG on the news, requests for information on the company's social responsibilities, along with requests for disclosure, have been rapidly increasing. Questionnaires for organizations such as CDP (Carbon Disclosure Project) and DJSI (Dow Jones Sustainability Index) not only request disclosure of data regarding environment and sociability verified by a third-party, but cover many fields, such as water sources and forest sources. Not only the investors, but society itself have concerns about the way a company operates. While Nittoku has signed the UNGC, we hope to see a yet higher level of transparency along with increased accountability.

\* This comment renders no judgment on whether the data presented in the report is accurately measured and calculated and is free from omissions, in accordance with standards for the preparation of environmental and other reports generally deemed to be fair and reasonable.

## 2017 Regarding CSR's Initiatives / In Response to Third-Party

### Suggestions

Thank you for your valuable advice concerning our initiatives. Since you have consistently been advising us on our initiatives for five years, we appreciate your suggestions as highly motivational.

To our stakeholders, who have high expectations of us, we have compiled the CSR report in line with our desire to “show our company as it is” even more than we did the year before. In addition, we have phrased it in simple vocabulary, and we treat all information as if it were new to the stakeholders, even though it may be obvious to ourselves.

The demands made on companies by our society are increasing year by year. In addition to responding with better results, we will work towards social approval through our business by contributing towards environmental and human rights issues.

We were selected by ESG-oriented investors as having reached their benchmark, and were highly acclaimed for our organization’s level of sustainability by the global investment research institution specializing in SRI. We will continue to make every effort to be a company which meets its customers’ expectations.

Masaya Futamura  
General Manager, Risk Management Department, Corporate Strategy Group  
NGK SPARK PLUG CO., LTD.

## Targets and Results of CSR Promotion Activities

| Field of Activities |                                     | Mid-term Targets<br>(by fiscal 2020)                                                                                             | Fiscal 2016 Targets                                                                                                                                                                                                                                                                                               | Fiscal 2016 Results                                                                                                                                                                                                                                                                                            | Evaluation | Fiscal 2017 Targets                                                                                                                                                                                                                                              | Department<br>in Charge                    |
|---------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Management          | Company-wide CSR<br>Management      | Implement PDCA cycle to<br>promote CSR on a global basis                                                                         | <ul style="list-style-type: none"> <li>Implementation of the PDCA cycle to promote CSR at domestic and overseas group companies</li> <li>Review of CSR policy</li> </ul>                                                                                                                                          | <ul style="list-style-type: none"> <li>Inspected activities in fiscal 2016, and set fiscal 2017 targets.</li> <li>Reviewed CSR policy for effectuation on April, 2017.</li> </ul>                                                                                                                              | ○          | <ul style="list-style-type: none"> <li>Implementation of the PDCA to promote CSR at domestic and overseas group companies</li> <li>Review of CSR policy</li> </ul>                                                                                               | Risk<br>Management<br>Dept.                |
|                     |                                     | Promote CSR awareness-raising<br>activities on a global basis                                                                    | <ul style="list-style-type: none"> <li>Ongoing implementation of CSR education (target number of course-takers: 2,000 people)</li> <li>Promotion of workplace education through a digest version of the CSR Report</li> </ul>                                                                                     | <ul style="list-style-type: none"> <li>Held CSR elementary training for 1614 participants (almost all the target employees).</li> <li>Distributed digest material to every employee in domestic group companies for promoting education in the workplace.</li> </ul>                                           | ○          | <ul style="list-style-type: none"> <li>Preparation of new training programs as the next step of CSR elementary training course</li> </ul>                                                                                                                        | Risk<br>Management<br>Dept.                |
|                     | Company-wide<br>Promotion<br>System | Construct a global promotion<br>system                                                                                           | <ul style="list-style-type: none"> <li>Preparation of rules (promotion system) for group companies</li> <li>Initiatives regarding high-risk projects, including the prevention of bribery of foreign public officials</li> </ul>                                                                                  | <ul style="list-style-type: none"> <li>Established compliance rules common to group companies, while improving those rules for some of the group companies.</li> <li>Purchased information on bribery cases in the respective countries, and held training courses in the overseas group companies.</li> </ul> | ○          | <ul style="list-style-type: none"> <li>Establishment of rules for all the group companies</li> <li>Preparation of trainings and guidelines regarding risk of bribery of foreign public officials</li> </ul>                                                      | Compliance<br>Committee                    |
|                     |                                     | Continue education on helpline<br>content                                                                                        | Continue education through seminars and the Compliance Newsletter, and awareness-raising through posters                                                                                                                                                                                                          | Continuously conducted awareness-raising activities by education through posters and compliance newsletters. Made a plan to issue posters in fiscal 2017.                                                                                                                                                      | ○          | <ul style="list-style-type: none"> <li>Awareness raising through Corporate ethics help line cards and posters</li> <li>Making internal report system available to suppliers</li> </ul>                                                                           | Compliance<br>Committee                    |
|                     |                                     | Continue compliance awareness<br>and knowledge training                                                                          | <ul style="list-style-type: none"> <li>Expand the number of people to participate in the seminars</li> <li>Continue to issue the Compliance Newsletter</li> </ul>                                                                                                                                                 | <ul style="list-style-type: none"> <li>Encouraged employees to further raise awareness of compliance in the regular training program.</li> <li>Issued 14 compliance newsletters.</li> </ul>                                                                                                                    | ○          | <ul style="list-style-type: none"> <li>Expansion of the target range of participants for Compliance seminar</li> <li>Continuous issue of the Compliance Newsletter</li> <li>Revision of Compliance guide book</li> </ul>                                         | Compliance<br>Committee                    |
|                     |                                     | Continue monitoring of<br>compliance awareness and<br>knowledge and corporate culture<br>change                                  | Conduct compliance<br>questionnaires                                                                                                                                                                                                                                                                              | Conducted survey to feedback analytical results.                                                                                                                                                                                                                                                               | ○          | Conducting compliance survey                                                                                                                                                                                                                                     | Compliance<br>Committee                    |
|                     | Compliance                          | Deploy educational tools to NGK SPARK PLUG and group companies in Japan and monitor implementation status and effectiveness      | Expand and operate e-learning content related to confidentiality management at NGK SPARK PLUG                                                                                                                                                                                                                     | Created e-learning contents, and conducted on trial.                                                                                                                                                                                                                                                           | ○          | Careful examination on e-learning contents, and monitor on operational situation and effectiveness                                                                                                                                                               | Confidentiality<br>Management<br>Committee |
|                     |                                     | Continuously improve security control, including group companies, and establish system for surveillance of implementation status | <ul style="list-style-type: none"> <li>Group companies in Japan: Continuous implementation of periodic inspections, and tracking of individual companies in accordance with situation</li> <li>Overseas group companies: Checking of status and problem areas in each company, in light of group rules</li> </ul> | <ul style="list-style-type: none"> <li>Domestic group companies: Conduct regular inspection for confirming circumstances of individual companies.</li> <li>Overseas group companies: Researched circumstances of individual companies.</li> </ul>                                                              | ○          | <ul style="list-style-type: none"> <li>Domestic group companies: Continuous tracking of group companies engaging in direct export</li> <li>Overseas group companies: Execute awareness-raising activities in accordance with the risk of each company</li> </ul> | Confidentiality<br>Management<br>Committee |
|                     |                                     | Establish a system for surveillance of implementation status of appropriate export controls, including group companies           | <ul style="list-style-type: none"> <li>Support for export control at subsidiaries in Japan (education, etc.)</li> <li>Checking of status of exports from overseas subsidiaries and assessment of risks</li> </ul>                                                                                                 | <ul style="list-style-type: none"> <li>Conducted education and inspection for domestic group companies engaging in direct export.</li> <li>Confirmed status of export from overseas group companies for identifying the risk.</li> </ul>                                                                       | ○          | <ul style="list-style-type: none"> <li>Domestic group companies: Continuous tracking of group companies engaging in direct export</li> <li>Overseas group companies: Execute awareness-raising activities in accordance with the risk of each company</li> </ul> | Export<br>Control<br>Committee             |
|                     |                                     | Continuously reduce security risk of group companies through deployment of Group Information Security Regulations                | Formulate a plan to improve the security level of group companies                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Domestic group companies: Formulated the company-wide basic plan. Completed countermeasure in 4 of those companies.</li> <li>Overseas group companies: Finished hearing from 23 companies. However, formulation of the plan was behind schedule.</li> </ul>             | ○          | <ul style="list-style-type: none"> <li>Domestic group companies: Completion of countermeasure</li> <li>Overseas group companies: Countermeasure completed by 60% of group companies</li> </ul>                                                                   | Information<br>Systems<br>Dept.            |

| Field of Activities |                 |                                                            | Mid-term Targets<br>(by fiscal 2020)                                                                                         | Fiscal 2016 Targets                                                                                                                                                                                                                                                                          | Fiscal 2016 Results                                                                                                                                                                                                                                                         | Evaluation | Fiscal 2017 Targets                                                                                                                                                                                                                                                                                                                                                               | Department<br>in Charge       |
|---------------------|-----------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Management          | Compliance      | Respect for and Protection of Intellectual Property Rights | Implement patent review activities for mainstay products prior to design review meeting, including group companies           | <ul style="list-style-type: none"> <li>Continuous implementation of patent reviews</li> <li>Identification of noteworthy patents, and drafting and management of counterproposals</li> </ul>                                                                                                 | <ul style="list-style-type: none"> <li>Implemented patent reviews continuously.</li> <li>Identified noteworthy patents, and launched drafting of counterproposals.</li> </ul>                                                                                               | ○          | <ul style="list-style-type: none"> <li>Continuous implementation of patent reviews</li> <li>Identification of noteworthy patents, and progress management of counterproposals</li> </ul>                                                                                                                                                                                          | Intellectual Property Dept.   |
|                     |                 |                                                            | Establish new methods to deal with increasingly sophisticated counterfeiters, particularly in emerging countries             | Implement counterfeit product countermeasures in emerging countries not yet addressed                                                                                                                                                                                                        | Started taking countermeasures against counterfeit product on electronic commerce to erase approximately 8334 cases of illegal articles.                                                                                                                                    | ○          | <ul style="list-style-type: none"> <li>Being aware of current status of counterfeit products distribution on the electronic commerce, and formulation of control method</li> <li>Implementation of counterfeit product countermeasures in emerging countries not yet addressed</li> </ul>                                                                                         | Intellectual Property Dept.   |
|                     |                 |                                                            | Have at least 15% of submitted patents be differentiation patents utilizing a patent portfolio that adds rivals' information | Establish and execute mechanisms aimed at creating a patent portfolio using information on other companies                                                                                                                                                                                   | Examined on formation of mechanism utilizing existing database. However, we found it difficult, resulting in substantially no developments                                                                                                                                  | ×          | <ul style="list-style-type: none"> <li>Preparation of balance sheet of key product</li> <li>Identification of patents relating to the respective technical fields, and collection of database information with excellent visualization capability</li> </ul>                                                                                                                      | Intellectual Property Dept.   |
|                     |                 |                                                            | Involve trademark aspects in strengthening our brand organization                                                            | Involve and assist related companies that have been newly added to our Group with trademark aspects in building the brand organization                                                                                                                                                       | Building of the brand organization for the company newly joined with our Group was not determined, failing to assist them with trademark aspects.                                                                                                                           | ×          | <ul style="list-style-type: none"> <li>Establishment of corporate brand in collaboration with relevant internal divisions/organizations, and support for improving the value</li> </ul>                                                                                                                                                                                           | Intellectual Property Dept.   |
|                     |                 |                                                            | Enhance intellectual property education, including group companies                                                           | Training being conducted at NTK CERATEC CO., LTD.                                                                                                                                                                                                                                            | Held elementary, intermediate, advanced, and search training courses.                                                                                                                                                                                                       | ○          | Holding Intellectual Property training for employees including those working for group companies                                                                                                                                                                                                                                                                                  | Intellectual Property Dept.   |
|                     | Risk Management | BCP/BCM                                                    | Expand business continuity management system to group companies in Japan                                                     | Improvement of the crisis response process                                                                                                                                                                                                                                                   | Held BCP training, and updated task management sheet and action check list.                                                                                                                                                                                                 | ○          | <ul style="list-style-type: none"> <li>Conducting training in collaboration among BCP departments</li> </ul>                                                                                                                                                                                                                                                                      | BCM Working Group             |
|                     |                 |                                                            | Construct a management system that can respond to not only earthquakes but also other disasters                              |                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                             |            |                                                                                                                                                                                                                                                                                                                                                                                   |                               |
|                     |                 |                                                            | Construct a procurement BCP framework and expand and operate it at group companies                                           | <ul style="list-style-type: none"> <li>Creation and operation of NGK SPARK PLUG mechanisms for procurement BCP</li> <li>Expansion to planned group companies</li> </ul>                                                                                                                      | <ul style="list-style-type: none"> <li>Standardized procurement BCP system through re-examination, and expanded the system into some of Divisions.</li> <li>Carried out as scheduled.</li> </ul>                                                                            | ○          | <ul style="list-style-type: none"> <li>Expanding covered items for procurement BCP in our company</li> <li>Deployment to planned group company</li> </ul>                                                                                                                                                                                                                         | Procurement Div.              |
|                     |                 |                                                            | IT-BCP countermeasures for server infrastructure (cloud utilization)                                                         | Construct a cloud environment inside the company                                                                                                                                                                                                                                             | Built in-house cloud environment, proceeding file server aggregation.                                                                                                                                                                                                       | ○          | Enhancement of in-house cloud environment for conducting file server transition                                                                                                                                                                                                                                                                                                   | Information Systems Dept.     |
|                     |                 | Company-wide Risk Management                               | Build company-wide risk management suited to NGK SPARK PLUG                                                                  | <ul style="list-style-type: none"> <li>Establishment of risk management rules</li> <li>Establishment of risk management rules in group companies</li> <li>Assessment in Corporate division concerning global risk management system and mechanism, and review of relevant manuals</li> </ul> | <ul style="list-style-type: none"> <li>Established risk management rules.</li> <li>Established risk management rules in domestic group companies</li> <li>Conducted assessment in Corporate division. Found no sections to be re-examined in the related manual.</li> </ul> | ○          | <ul style="list-style-type: none"> <li>Establishment of risk management rules for overseas group companies</li> <li>Promotion of activities for coping with risks with priority unified in the group</li> <li>Risk to be coped with priority unified in the group in fiscal 2017</li> <li>①Promotion of BCM (Business Continuity Plan)</li> <li>②Corruption prevention</li> </ul> | Risk Management Working Group |

| Field of Activities                 |                             | Mid-term Targets<br>(by fiscal 2020)                                                                   | Fiscal 2016 Targets                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Fiscal 2016 Results                                                                                                                                                                                                                                                                                                                                                        | Evaluation | Fiscal 2017 Targets                                                                                                                                                                                                                                                                                                                           | Department<br>in Charge                                |
|-------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| With Our Customers                  | Safety and Quality          | Expand quality assurance to all group companies with a focus on goods for all customers                | <ul style="list-style-type: none"> <li>• Readying and establishment of companywide QMS</li> <li>• Practice of root cause identification for customer complaints, and enhancement of recurrence prevention</li> <li>• Improvement of the level of measurement management in the NGK SPARK PLUG Group</li> <li>• Improvement of equipment assurance precision from a measurement point of view</li> <li>• Establishment of a global procurement system for gauges</li> </ul> | Built framework of company-wide QMS applicable to indirect division.<br>• Developed sheet classified by cause.<br>• Issued procedure manual certified by proof-readers for skilled technician.<br>• Standardized and expanded procedure for measuring facility deterioration with vibrometer.<br>• Started local procurement of gauges in two of overseas group companies. | ○          | • Formulation of company-wide QMS structure<br>• Improving upstream process analysis capability from customer complaints<br>• Enhancing measurement control systems of overseas group companies                                                                                                                                               | Quality Committee, Corporate Quality Management Div.   |
|                                     |                             | Expand quality management to all group companies aimed at delivering value to all customers            | <ul style="list-style-type: none"> <li>• Establishment and entrenchment of integrated standards for production management innovation</li> <li>• Improvement of skill levels through the use of quality technologies in creating products</li> <li>• Expanded deployment of workplace and ongoing small-group activities, and establishment of a human resource development platform</li> </ul>                                                                             | • Formulated production management rules, and held briefings in the group companies.<br>• Upgraded engineers utilizing quality technology for manufacturing products.<br>• Continuously supported a newly established circle.                                                                                                                                              | ○          | • Establishment of education system of quality-related rules and regulations<br>• Efficient use of personnel with professional skills of quality control                                                                                                                                                                                      | Quality Committee, Corporate Quality Management Div.   |
| With Our Shareholders and Investors | Information Disclosure      | Disseminate information that leads to increased shareholder trust                                      | Enhance and expand communication with stakeholders                                                                                                                                                                                                                                                                                                                                                                                                                         | • Renewed company website into multilingual (Simplified Chinese, Traditional Chinese, Spanish, German, Portuguese) .<br>• Added information about Company story, Open innovation, Transparency guideline for Medical institution.                                                                                                                                          | ○          | Enhancement and expansion of communication with stakeholders                                                                                                                                                                                                                                                                                  | Public Relations Dept.                                 |
|                                     |                             | Disseminate information in an easy-to-understand and approachable manner on a global level             | Enhance the CSR report and website                                                                                                                                                                                                                                                                                                                                                                                                                                         | • Issued CSR reports and updated website.<br>• Added "actions coping with Competition Law", "corruption prevention", "taxation policy" in CSR page on the company website.                                                                                                                                                                                                 | ○          | Enhancement of CSR website                                                                                                                                                                                                                                                                                                                    | Risk Management Dept.                                  |
|                                     |                             | Construct a framework for an IR strategy aimed at institutional investors                              | Enhance the provision of analytical data related to account settlement and disclosure                                                                                                                                                                                                                                                                                                                                                                                      | Added new index to settlement from the end of March 2016 as well as information in the statement in English.                                                                                                                                                                                                                                                               | ○          | Optimizing quick report and comprehensiveness of various disclosed documents                                                                                                                                                                                                                                                                  | Accounting & Finance Dept.                             |
|                                     |                             | Disseminate information that captures stakeholders' expectations and the changes in social trends      | Disseminate information that captures stakeholders' expectations and the changes in social trends                                                                                                                                                                                                                                                                                                                                                                          | • Disclosed opinion of the third person about CSR reports on the website.<br>• Held meeting with institutional investors with the theme of ESG.                                                                                                                                                                                                                            | ○          | Disseminating information that captures stakeholders' expectations and the change in social trends                                                                                                                                                                                                                                            | Risk Management Dept.                                  |
| With Our Employees                  | Employment and Human Rights | Implement fair evaluations that correspond to clear expectations                                       | Promotion of personnel system reform<br><ul style="list-style-type: none"> <li>• Entrenchment of system in companies where it has been introduced</li> <li>• Preparation for expansion of system into group companies in Japan</li> <li>• Assessment of conditions in companies where the new system has not been introduced</li> </ul>                                                                                                                                    | • Implemented a part of target management system through reviewing<br>• Expansion to one of domestic group companies was completed as scheduled.<br>• Identified circumstances of domestic group companies to summarize items to be addressed.                                                                                                                             | ○          | Promotion of personnel system reform<br><ul style="list-style-type: none"> <li>• Entrenchment of system in companies where it has been introduced</li> <li>• Preparation for expansion of system into group companies in Japan</li> <li>• Determination of the direction of companies where the new system has not been introduced</li> </ul> | Human Resources Dept., Strategic Human Resources Dept. |
|                                     |                             | Establish educational programs that target the leaders of each group company                           | Begin formulating surveys and policies for professional development systems and training programs                                                                                                                                                                                                                                                                                                                                                                          | Inspected on the professional development systems and training programs in the domestic group companies, and launched formulation of the future policy.                                                                                                                                                                                                                    | ○          | Formulating the policy of introducing education programs in domestic group companies, and forming consensus                                                                                                                                                                                                                                   | Human Resources Dept.                                  |
|                                     |                             | Employ diverse human resources strategically                                                           | Plan mechanisms for hiring diverse human resources                                                                                                                                                                                                                                                                                                                                                                                                                         | Formulated keyword of "human resources with diversity". Implemented planned recruiting from the long-term viewpoints.                                                                                                                                                                                                                                                      | ○          | Constructing the mechanism for hiring diverse human resources                                                                                                                                                                                                                                                                                 | Human Resources Dept.                                  |
|                                     |                             | Achieve personnel and human resource functions that contribute to the promotion of management strategy | Survey personnel systems in major overseas group companies                                                                                                                                                                                                                                                                                                                                                                                                                 | Conducted survey to all overseas group companies.                                                                                                                                                                                                                                                                                                                          | ○          | Implementation of program for developing global management human resources                                                                                                                                                                                                                                                                    | Strategic Human Resources Dept.                        |

| Field of Activities                              |                                | Mid-term Targets<br>(by fiscal 2020)                                                                               | Fiscal 2016 Targets                                                                                                                                                                                                                          | Fiscal 2016 Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Evaluation | Fiscal 2017 Targets                                                                                                                                                                                                                                                                                                                                                                           | Department<br>in Charge                 |
|--------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| With Our Employees                               | Employment and Human Rights    | Further encourage the promotion of active participation by women                                                   | <ul style="list-style-type: none"> <li>Identify and work to resolve issues in all departments</li> <li>Continue to hold lecture meetings for senior managerial positions and networking events for women</li> </ul>                          | <ul style="list-style-type: none"> <li>Selected one of divisions from hearing results of all divisions as the model case, and supported the division with solution of the task.</li> <li>Continuously held the lectures for those on major carrier path, and gathering for female employees.</li> </ul>                                                                                                                                                                               | ○          | <ul style="list-style-type: none"> <li>Clarifying problems from progress report on the action plan in the respective departments, and results of hearings from female members</li> <li>Holding the diversity management training course for every chief official in addition to lectures for those on major carrier path, and gathering for female employees held on regular basis</li> </ul> | Strategic Human Resources Dept.         |
|                                                  |                                | Zero workers leaving their jobs in order to provide nursing care                                                   | Review of nursing care program                                                                                                                                                                                                               | Introduced short working hour system.                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ○          | Holding the training program for the purpose of avoiding leaving of employees due to nursing care                                                                                                                                                                                                                                                                                             | Strategic Human Resources Dept.         |
| With Our Employees                               | Employment and Human Rights    | Achieve the mandatory number for employment of people with disabilities                                            | Consider establishment of a special subsidiary company                                                                                                                                                                                       | Established special subsidiary company "Nittoku Smile Co., Ltd.".                                                                                                                                                                                                                                                                                                                                                                                                                     | ○          | Putting the special subsidiary company on the path of growth                                                                                                                                                                                                                                                                                                                                  | Human Resources Dept.                   |
|                                                  |                                | Promote active participation by seniors                                                                            | Adoption of a target management program for persons under continued employment                                                                                                                                                               | Introduced target management system for persons under continued employment.                                                                                                                                                                                                                                                                                                                                                                                                           | ○          | Improving motivations of employees in late fifties or older                                                                                                                                                                                                                                                                                                                                   | Strategic Human Resources Dept.         |
| With Our Employees                               | Occupational Safety and Health | Raise productivity by decreasing the rate of onset of mental illness                                               | Operate a stress checking program                                                                                                                                                                                                            | Conducted stress check, and interviewed with all those expected to need care.                                                                                                                                                                                                                                                                                                                                                                                                         | ○          | Taking countermeasure for reforming the division marked as higher stress level as a result of stress checking                                                                                                                                                                                                                                                                                 | Human Resources Dept.                   |
|                                                  |                                | Develop systems that make it difficult for accidents to occur aimed at developing a global safety culture          | <ul style="list-style-type: none"> <li>Elimination of work-related accidents</li> <li>Improvement of work environments</li> <li>Promotion of health improvement</li> <li>Enhancement of education, training, and awareness</li> </ul>        | <ul style="list-style-type: none"> <li>Reduced cases called "disaster caused by actions taken against failure during operation" through activities such as risk assessment and KY on site.</li> <li>Conducted working environment measurement, and took countermeasure in accordance with measurement results.</li> <li>Held health promotion fair, and lectures on health and sanitation</li> <li>Promoted safety observation facilitated by Safety and Health Committee.</li> </ul> | ○          | <ul style="list-style-type: none"> <li>Elimination of work-related accidents</li> <li>Improvement of work environments</li> <li>Promotion of health improvement</li> <li>Enhancement of education, training, and awareness</li> </ul>                                                                                                                                                         | Safety and Health Committee             |
|                                                  |                                |                                                                                                                    | <ul style="list-style-type: none"> <li>Promotion of support for voluntary safety and health management activities by departments and business sites</li> <li>Sharing of information on activities in domestic and overseas plants</li> </ul> | <ul style="list-style-type: none"> <li>Incorporated safety observation conducted by management to the company-wide policy for future safety and health activities on the initiative of department.</li> <li>Conducted top safety patrol by chairperson of Central Safety and Health Committee.</li> </ul>                                                                                                                                                                             | ○          | <ul style="list-style-type: none"> <li>Global development of safety and health activities</li> <li>Preparation of tool used for safety and health activities overseas</li> <li>Review on safety and health management system in workplace</li> <li>Establishment of system offering the training for employees expected to be transferred overseas</li> </ul>                                 | Environment & Safety Management Dept.   |
| With Our Suppliers                               | CSR Procurement                | Improve the framework for evaluation aimed at global optimum procurement and deploy and operate at group companies | <ul style="list-style-type: none"> <li>Improvement of evaluation at NGK SPARK PLUG</li> <li>Expansion to planned Group companies</li> </ul>                                                                                                  | <ul style="list-style-type: none"> <li>Conducted periodic review and selection review continuously to solve the identified problem for improvement.</li> <li>Expanded to a part of the group companies.</li> </ul>                                                                                                                                                                                                                                                                    | ○          | <ul style="list-style-type: none"> <li>Improvement of evaluation at NGK SPARK PLUG</li> <li>Expansion to planned Group companies</li> </ul>                                                                                                                                                                                                                                                   | Procurement Div.                        |
|                                                  |                                | Reduce risk in the supply chain by thoroughly establishing CSR procurement                                         | <ul style="list-style-type: none"> <li>Communication at corporate policy conferences</li> <li>Analysis of risk; ideas and proposals aimed at its reduction</li> <li>Trial launch of proposed ideas aimed at suppliers</li> </ul>             | <ul style="list-style-type: none"> <li>Communicated at corporate policy conferences.</li> <li>Conducted risk analysis and formulated the plan for reducing the risk.</li> </ul>                                                                                                                                                                                                                                                                                                       | ○          | <ul style="list-style-type: none"> <li>Communication at corporate policy conference</li> <li>Summarizing idea of risk reduction, and start activities</li> <li>Conduct risk assessment in the planned group companies</li> </ul>                                                                                                                                                              | Procurement Div., Risk Management Dept. |
|                                                  |                                | Promote education and enlightenment aimed at reducing risk utilizing supplier seminars, etc.                       | Improvement of supplier seminar content and expansion of targeted suppliers                                                                                                                                                                  | Improved contents of seminars for suppliers, leading to 473 suppliers as participants for the seminars.                                                                                                                                                                                                                                                                                                                                                                               | ○          | Facilitation of education and awareness-raising by continuously holding seminars for suppliers                                                                                                                                                                                                                                                                                                | Procurement Div., Risk Management Dept. |
| With Local Communities and International Society | Social Contribution            | Continually enhance the social status of the NGK SPARK PLUG Group through social contribution activities           | Consider sustained social contribution activities that only NGK SPARK PLUG can perform                                                                                                                                                       | Evaluated on our "sustainable social contribution activities unique to NGK SPARK PLUG can perform"                                                                                                                                                                                                                                                                                                                                                                                    | ○          | Planning and implementing sustainable social contribution activities unique to NGK SPARK PLUG                                                                                                                                                                                                                                                                                                 | Public Relations Dept.                  |

| Field of Activities                |             | Mid-term Targets<br>(by fiscal 2020)                                  | Fiscal 2016 Targets                                                                                                                                                                | Fiscal 2016 Results                                                                                                                                                                                     | Evaluation | Fiscal 2017 Targets                                                                                                                                                                                                     | Department<br>in Charge                        |
|------------------------------------|-------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| For<br>Environmental<br>Protection | Environment | Promote environmental activities aimed at achieving global Eco Vision | Global warming<br>• CO2 in production: Reduce emissions per unit of production by 1% from fiscal 2015<br>• CO2 in physical distribution: Promote efficient distribution            | Global warming<br>• CO2 in production: Reduced emissions per unit of production by 3.3% from fiscal 2015<br>• CO2 in physical distribution: Engaged in efficient distribution between factories.        | ○          | Global warming<br>• CO2 in production: Reduce emissions per unit of production by 1% from fiscal 2015<br>• CO2 in physical distribution: Promote efficient distribution                                                 | Environment<br>al<br>Committee                 |
|                                    |             |                                                                       | Depletion of resources<br>• Waste: Improve per unit emissions from fiscal 2015<br>• Water: Improve per unit usage from fiscal 2015                                                 | Depletion of resources<br>• Waste: Improved per unit emissions by 12.2% from fiscal 2015<br>• Water: Improved per unit usage by 8.7% from fiscal 2015                                                   | ○          | Depletion of resources<br>• Promotion of waste reduction by decreasing defective products<br>• Promotion of product design considering suppression of generated waste quantity<br>• Promotion of efficient use of water | Environment<br>al<br>Committee                 |
|                                    |             |                                                                       | Hazardous chemical substances<br>• Promote substitution of substances of environmental concern ahead of regulations, and formulate a substitution plan for HCFC targeted equipment | •Substituted alternative for phthalic acid expected to be prohibited material for use from 2019 prescribed by RoHS Directive.<br>• Promoted planned updating of the equipment to be charged with HCFC . | ○          | Hazardous chemical substances<br>• Promoting substitution of substances of environmental concern ahead of regulations<br>•Formulating a substitution plan for HCPC targeted equipment                                   | Environment<br>al<br>Committee                 |
|                                    |             |                                                                       | Environmentally-friendly products<br>• Strengthen development and design activities that contribute to saving energy                                                               | Formulated the plan of certification system for environmentally-friendly products, and partially implemented on trial.                                                                                  | ○          | Environmentally-friendly products<br>•Strengthening development and design activities that contribute to saving energy                                                                                                  | Environment<br>al<br>Committee                 |
|                                    |             |                                                                       | Promotion of the integration of business activities and environmental activities                                                                                                   | •Clarified the latest circumstances of both domestic and overseas companies for support in accordance with activity levels.<br>•Reviewed the method for utilizing environmental performance data.       | ○          | Promoting integration of business activities and environmental activities                                                                                                                                               | Environment<br>& Safety<br>Management<br>Dept. |

## ISO 14001 Certified Locations

Certification covering multiple units (Scope of applicability)

| Country | Name of factories and companies      |                                         | Certified initially in: |
|---------|--------------------------------------|-----------------------------------------|-------------------------|
| Japan   | NGK SPARK PLUG CO., LTD.             | Headquarters and Nagoya Plant           | '99. 8                  |
|         |                                      | Komaki Plant, Miyanajo Plant, Ise Plant | '00. 12                 |
|         |                                      | Takenami Plant                          | '07. 1                  |
|         |                                      | Inuyama Logistics Center                | '99. 8                  |
|         | Nittoku Alfa Service Co., Ltd.       |                                         | '99. 8                  |
|         | Nittoku Unyu Co., Ltd.               |                                         | '00. 12                 |
|         | Ceramic Sensor Co., Ltd.             |                                         | '00. 12                 |
|         | NTK Ceramic Co., Ltd.                | Komaki Plant                            | '00. 12                 |
|         |                                      | Iijima Plant, Kani Plant                | '02. 12                 |
|         | CERAMIC SENSOR NAKATSUGAWA CO., LTD. |                                         | '16. 12                 |
|         | Nansei Ceramic Co., Ltd.             |                                         | '02. 12                 |
|         | Kamioka Ceramic Co., Ltd.            |                                         | '04. 1                  |
|         | SparkTec WKS CO., LTD.               | Head Office Plant, Oguchi Plant         | '04. 1                  |
|         |                                      | Satsuma Plant                           | '09. 12                 |
|         | Nichiwa Kiki Co., Ltd.               |                                         | '04. 1                  |
|         | SparkTec Tono Co., Ltd.              | Tono Plant                              | '04. 1                  |
|         |                                      | Nino Headquarters Plant                 | '15. 12                 |

Certification obtained individually

| Country      | Name of factories and companies                 |          | Certified initially in: |
|--------------|-------------------------------------------------|----------|-------------------------|
| Japan        | NTK CERATEC CO., LTD.                           |          | '04. 10                 |
| U.S.A.       | NGK Spark Plugs (U.S.A.), Inc.                  | WV Plant | '00. 7                  |
|              | Wells Vehicle Electronics,L.P                   |          | '03. 3                  |
| Mexico       | Bujias NGK de Mexico S.A. de C.V.               |          | '12. 11                 |
| Brazil       | Ceramica e Velas de Ignicao NGK do Brazil Ltda. |          | '01. 12                 |
| France       | NGK Spark Plugs (France) S.A.S                  |          | '00. 5                  |
| U.K.         | NGK Spark Plugs (U.K.) Ltd.                     |          | '01. 12                 |
| Germany      | NGK Spark Plug Europe GmbH                      |          | '04. 11                 |
| Thailand     | Siam NGK Spark Plug Co., Ltd.                   |          | '02. 11                 |
|              | NGK Spark Plugs (Thailand) Co., Ltd.            |          | '12. 10                 |
|              | NGK SPARK PLUGS (ASIA) CO.,LTD.                 |          | '16. 10                 |
| South Korea  | Woo Jin Industry Co., Ltd.                      |          | '05. 4                  |
|              | NTK Technical Ceramics Korea Co., Ltd.          |          | '06. 4                  |
| Malaysia     | NGK Spark Plugs Malaysia Berhad                 |          | '06. 3                  |
| China        | NGK Spark Plug (Shanghai) Co., Ltd.             |          | '07. 4                  |
|              | Changshu NGK Spark Plug Co., Ltd.               |          | '14. 3                  |
| Indonesia    | P.T. NGK Busi Indonesia                         |          | '07. 10                 |
| India        | NGK Spark Plugs (India) Pvt. Ltd.               |          | '10. 12                 |
| South Africa | NGK Spark Plugs SA (Pty) Ltd.                   |          | '08. 4                  |

## Environmental Accounting

### Environmental Conservation Cost

(Unit: million yen)

| Items                              |                                        |                                                                     | Non-consolidated |       |         |        | NGK SPARK PLUG Group |       |         |        |
|------------------------------------|----------------------------------------|---------------------------------------------------------------------|------------------|-------|---------|--------|----------------------|-------|---------|--------|
| Classification                     |                                        | Major efforts                                                       | Investment       |       | Expense |        | Investment           |       | Expense |        |
|                                    |                                        |                                                                     | 2015             | 2016  | 2015    | 2016   | 2015                 | 2016  | 2015    | 2016   |
| Costs within the business area     | Pollution prevention cost              | Air/water pollution prevention and noise reduction                  | 16               | 23    | 442     | 335    | 129                  | 48    | 863     | 788    |
|                                    | Global environmental conservation cost | Global warming prevention, energy conservation                      | 15               | 16    | 374     | 372    | 38                   | 88    | 472     | 443    |
|                                    | Resource circulation cost              | Effective resource utilization, industrial waste treatment/disposal | 8                | 26    | 285     | 415    | 52                   | 55    | 464     | 606    |
|                                    | Sub-total                              |                                                                     | 38               | 65    | 1,101   | 1,122  | 219                  | 190   | 1,799   | 1,836  |
| Upstream & downstream cost         |                                        | Employee environmental education, EMS construction and operation    | 0                | 0     | 0       | 0      | 2                    | 0     | 15      | 9      |
| Management activity cost           |                                        | Employee environmental education, EMS construction and operation    | 3                | 12    | 476     | 879    | 14                   | 18    | 538     | 938    |
| R&D cost                           |                                        | R&D of products promoting environment preservation                  | 732              | 1,562 | 8,721   | 9,445  | 732                  | 1,562 | 8,721   | 9,445  |
| Social activity cost               |                                        | Nature protection, afforestation, environmental ads                 | 0                | 0     | 305     | 310    | 2                    | 1     | 311     | 316    |
| Environment damage correction cost |                                        | Repair of soil contamination, disrupted nature                      | 0                | 0     | 10      | 10     | 0                    | 0     | 10      | 10     |
| Other costs                        |                                        | —                                                                   | 0                | 0     | 0       | 4      | 0                    | 0     | 0       | 4      |
| Total                              |                                        |                                                                     | 773              | 1,640 | 10,613  | 11,770 | 969                  | 1,772 | 11,394  | 12,559 |

\* Any inconsistency between an aggregate of all itemized figures and a "Total" figure is due to rounding of fractions.

### Economic Benefits Associated with Environmental Conservation Activities (non-consolidated)

(Unit: million yen)

| Area of recognized effect |                                                                                        | 2015 | 2016 |
|---------------------------|----------------------------------------------------------------------------------------|------|------|
| Revenue                   | Revenue generated from the recycling of waste generated in operations or used products | 93   | 99   |
| Cost saving               | Energy cost saving achieved from energy conservation efforts                           | 35   | 17   |
|                           | Reduction of water expenses through water saving                                       | 0.45 | 0.41 |
|                           | Waste disposal cost saving achieved by resource conservation and recycling efforts     | 0.33 | 1.6  |
| Total                     |                                                                                        | 129  | 118  |

## Quantity of Environmental Conservation Benefits

| Classification                                                                        |                                                                  |                                  | Non-consolidated |         |                                          | NGK SPARK PLUG Group |         |                                          |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------|------------------|---------|------------------------------------------|----------------------|---------|------------------------------------------|
| Effect measured in the business area                                                  | Types of effect                                                  |                                  | 2015             | 2016    | Difference from the previous fiscal year | 2015                 | 2016    | Difference from the previous fiscal year |
| Effect measured with respect to resource input into operations                        | Energy consumption                                               | Purchased electricity (GWh)      | 17,258           | 17,388  | 130                                      | 32,433               | 33,910  | 1,476                                    |
|                                                                                       |                                                                  | Gas (million m <sup>3</sup> )    | 770              | 699     | -71                                      | 1,150                | 1,175   | 25                                       |
|                                                                                       |                                                                  | LPG (million m <sup>3</sup> )    | 3,392            | 3,688   | 296                                      | 6,943                | 7,181   | 238                                      |
|                                                                                       | Water consumption                                                | Tap water (m <sup>3</sup> )      | 365,970          | 314,010 | -51,961                                  | 681,744              | 706,115 | 24,371                                   |
|                                                                                       |                                                                  | Well water (m <sup>3</sup> )     | 300,665          | 293,768 | -6,897                                   | 622,529              | 535,419 | -87,110                                  |
|                                                                                       | Quantity of PRTR law-regulated substances handled (tons)         |                                  | 586              | 599     | 13                                       | 864                  | 856     | -8                                       |
| Effect measured with respect to environmental load and waste from business activities | CO <sub>2</sub> emission from energy consumption (tons)          |                                  | 129,184          | 129,197 | 12                                       | 236,452              | 246,299 | 9,847                                    |
|                                                                                       | Waste                                                            | Effectively utilized mass (tons) | 6,600            | 6,672   | 73                                       | 10,782               | 11,944  | 1,162                                    |
|                                                                                       |                                                                  | Buried, incineration (tons)      | 27               | 24      | -3                                       | 40                   | 49      | 9                                        |
|                                                                                       | PRTR law-regulated substances released into air and water (tons) |                                  | 0.8              | 2.5     | 2                                        | 141                  | 141     | 1                                        |

\* Transport energy data and sales office data is not included.