Customers

JFE Standards of Business Conduct (Excerpt)

(1) Provide quality products and services
Earn the trust and regard of customers by endeavoring to provide safe, high-quality products and services based on superior technology, and by fully respecting and protecting the privacy of personal and customer information. Also, leverage our superior technologies for the sustainable growth of the Group and society.

Quality Initiatives

The JFE Group manages quality by ensuring compliance with quality standards set by each operating company. All manufacturing sites that require ISO 9001 certification for their quality management have been duly certified.

Strengthening Quality Assurance System

To serve customers by meeting their quality requirements and delivering products that boast the world’s highest quality, JFE Steel has established a quality assurance system with advanced sensors for process monitoring, in addition to its ongoing efforts to develop new products and advanced manufacturing technologies.

The company’s quality assurance system is being continually improved based on the Guidelines for Enhancing Quality Assurance Systems, issued by the Japan Iron and Steel Foundation (JISF). Moreover, in an effort to enhance reliability in its product testing, the company has introduced high-precision equipment and is working to thoroughly eliminate human error and data tampering by automating various testing components, including reporting.

JFE Steel has received all quality assurance certifications required for steel products, including the JIS mark and approvals from ship classification bodies, regarding its quality management system based on ISO 9001. In response to customer demand, the company has also received certification under the national standards of relevant foreign countries.

Products and services that JFE Engineering designs, procures, manufactures or constructs must comply with all required rules and regulations, and quality must satisfy the needs of our customers. Under this corporate policy, the company continually strives to improve the quality of its products and services.

For example, certified inspectors conduct inspections at each phase of a plant construction project, including the design, construction and test-run phases. Immediately prior to final delivery to the customer, a witness inspection is conducted so that the customer can be directly assured of its quality with their own eyes.

In addition, JFE Engineering has published quality-management manuals based on the specific characteristics of each product and obtained ISO 9001 certification for each product category.

To further strengthen its quality assurance system, JFE Engineering is raising employee awareness through training while also seeking to prevent omissions in inspection data and data tampering by introducing an electronic document processing system into quality inspections.

JFE Shoji Trade is constantly striving to enhance its quality assurance through quality management. Its processing centers in Japan and abroad are systematizing and automating operations to eliminate human errors. Raising employee awareness is essential for preventing human error at every stage, including receiving orders, issuing work orders and shipping. The company continues to strengthen quality education for employees by introducing case studies of non-conformance at other companies as well as Group companies in Japan and abroad.

JFE Shoji Trade also recognizes that improving and maintaining the standard of control in product processing are the key to assuring quality. Accordingly, it implements a quality audit at all relevant Group companies in and outside of Japan at least once a year to confirm the quality of each processing center and to provide advice. Moreover, the company follows up as necessary by continuously monitoring the progress of improvements to maintain and enhance quality.

Ensuring Stable Supply

Under its Sixth Medium-term Business Plan, JFE Steel is continuously strengthening its manufacturing base while also seeking to bolster the capabilities of the West Japan Works by increasing its capacity and maximizing performance. In addition to making strategic investments that exceed the Fifth Medium-term Business Plan and upgrading old facilities, the company is establishing a system for
promoting stable furnace operations and introducing technologies and facilities for detecting abnormalities at an early stage of operation. Through these activities JFE Steel will realize stable facility operations and production to continue providing high-quality products to customers.

As a licensed contractor undertaking mechanical, civil engineering, and construction work, JFE Engineering is required by the Construction Business Act to assign dedicated managing engineers at construction sites to oversee the technical aspects of construction work. The smooth implementation of plant construction projects depends on licensed specialists. The company is always striving to secure the necessary human resources by encouraging employees to acquire qualifications by granting expenses and through mid-career hiring of licensed personnel.

Recognizing that processing and distribution operations represent the key for ensuring stable supply, JFE Shoji Trade is committed to investment in strengthening these operations.

Improving Customer Satisfaction

* Integration of a Maintenance System for Steel Manufacturing Plants and Use of Advanced ICT (AI)

Problems in steel manufacturing plants can result in lost opportunities for production and shipping, and any interruption in the supply chain can also considerably impact customer businesses.

To ensure the prompt recovery from malfunctions, JFE Steel has created a database that integrates massive information from manuals along with the knowledge and experience of veteran employees. By incorporating AI technology with the database, the company introduced the control recovery support system called J-mAlster™* in 2017, a first in the Japanese steel industry. The system enables maintenance staff to efficiently search for the information required for repairs and was deployed throughout the manufacturing line in FY2018.

JFE Steel will continue to deploy advanced ICT effectively in order to ensure the stable supply of steel products.

*JFE Maintenance AI of Smart TPM for Electric Repairs

* Testing and Research Centers for Collaboration with Customers on Product Development

JFE Steel collaborates with customers in research and development. The Customers’ Solutions Lab (CSL) for auto industry customers and the Steel Structural Materials Solutions Center (THiNK SMART) for infrastructure-related customers are located in eastern Japan, while the Customer Center Fukuyama (CCfI), which develops materials and conducts applied technology research, is in western Japan. Using these facilities to strengthen early vendor involvement (EVI)* enables the company to develop products that reflect an accurate understanding of customer needs, cutting-edge evaluation techniques and innovative production processes.

*Customer participation in product development is from an early stage to facilitate innovative new methods, functions, processes and evaluations for new steel materials.

Unified Customer Care

JFE Steel regularly conducts customer questionnaires and interviews to draft strategies for greater customer satisfaction. Business strategies are shared among the sales divisions, business sectors, steelworks, and research divisions to facilitate unified customer care and proposals that leverage the collective strengths of the JFE Group.

Training Sales Personnel to Excel in Customer Relations

To strengthen customer-oriented sales efforts, the Sales Department holds training sessions by position and job, according to their work experience, targeting sales personnel from the headquarters and branch offices (i.e., newly appointed sales employees, mid-rank sales employees and office heads). The department also provides group training in Japan for regional employees of overseas offices to enhance job performance. Training goals include developing abilities in areas such as engaging in technical conversations, picking up clues from customer relations and using them in product development, offering suggestions to improve logistics and distribution, and analyzing financial indicators and costs.
**Company Assessments Based on Customer Evaluations**

JFE Engineering uses customer surveys, interviews, and contractor performance evaluation forms to collect and assess data on the company’s construction management, product quality, advanced technologies and innovation. Each division analyzes and applies the data for quality improvement, new product development and the overall strengthening of after-sales service, to ultimately enhance customer satisfaction.

**Meeting Customer Needs**

To respond quickly to diversifying markets and increasingly sophisticated requests from customers, JFE Shoji Trade is strengthening its entire supply chain from materials procurement to processing and distribution. The company is also aware that equipping employees to respond with information and proposals is a key element in serving customer needs and provides training to upgrade their abilities. Furthermore, selected regional employees of overseas subsidiaries and offices receive group training in Japan to strengthen the satisfaction of the company’s customers in Japan and overseas.

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<th>JFE Shoji Trade Training Programs (FY2018)</th>
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<td>Training</td>
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<td>Technical Presentation by Overseas Group Companies</td>
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<td>National Staff (NS) Training</td>
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**Responsible Export Practices**

Each JFE operating company promotes international peace and security by working against the spread of weapons of mass destruction and excess accumulation of conventional weapons. Specifically, the company carries out inspections to confirm the final destinations, customers and applications of its exported products, and then ensures that export procedures are carried out properly. In addition, the Legal Affairs Department conducts internal briefings to disseminate knowledge of export-related laws and regulations, such as the Foreign Exchange and Foreign Trade Act. Also, JFE provides education on export security controls and related measures for the employees of Group companies involved in trading.

**Promotion of Research and Development**

JFE Steel views automobiles, infrastructure materials and energy as the three key areas for research and development. In each area, the company intends to accelerate the pace of introducing new products and solutions. In regard to its manufacturing process, the company will work on developing innovative manufacturing technologies such as eco-friendly raw material pre-processing. These technological developments leverage data science and robotics to closely align with the needs of customers and society at large. JFE Steel plans to invest 110 billion yen into research and development over the span of three years, starting in 2018.

JFE Engineering’s “create” and “ni-na-u,” the foundation for life, support and remain responsible for the foundation for life. In regard to “create,” the company developed its own combustion technology for waste-treatment and power-generation facilities. The technology supports stable, clean incineration treatment and generates power at the highest level of efficiency in Japan. As for “ni-na-u,” JFE Engineering continues to develop technologies that collect and analyze data from the various types of plants it operates in Japan as well as technologies that leverage AI to achieve optimal plant operation and automation.

**Internal Awards**

The following technical and product developments were awarded in FY2018.

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<thead>
<tr>
<th>Prize/Award</th>
<th>Project</th>
<th>Recipient</th>
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<tr>
<td>JFE Steel</td>
<td>Excellence Award, JFE Steel President’s Awards</td>
<td>Development of coke oven refractory repair technology</td>
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<tr>
<td>JFE Steel</td>
<td>Development of highly efficient combustion technology based on large-scale flow model</td>
<td>Establishment of automation technology for high-efficiency cranes in thin coil storage</td>
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<tr>
<td>JFE Engineering</td>
<td>Grand Prize, JFE Engineering President’s Awards</td>
<td>Achievement of fully-automated operation of waste incineration furnace</td>
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