

**Report on investigation into the causes of the Kobe Steel Group's  
improper conducts and on measures to prevent recurrence**

November 10, 2017

Kobe Steel, Ltd.

## Table of contents

	Page
1. Introduction	2
2. Background	3
3. Outline and activities of the Quality Issue Investigation Committee	6
4. Public announcements to date <u>&lt;Attachment (i)&gt;</u>	8
5. Progress of communications with customers and safety verification	8
6. Explanations on improper incidents made public so far	9
(1) Explanation on improper incidents <u>&lt;Attachment (ii)&gt;</u>	
(2) Classification of incidents of misconduct based on business location	
(3) Classification of incidents of misconduct based on type of misconduct	
7. Analysis of cause	12
8. Preventive measures	17
9. Establishment of an Independent Investigation Committee	23
<u>&lt;Attachments&gt;</u>	
(i) Facts publicly announced so far	25
(ii) Explanations on improper incidents made public so far	26
(iii) List of business locations where quality self-inspection was conducted	31

## 1. Introduction

---

We sincerely and deeply apologize for the enormous trouble we have caused to our customers, suppliers, shareholders and others in respect of the improper conducts by our company and our group companies.

---

After Shinko Wire Stainless Co., Ltd. (a wholly-owned subsidiary of Shinko Wire Company, Ltd., one of our equity-method affiliates), a company in our Iron & Steel Business, was found in violation of the Industrial Standardization Act (the “JIS Act”) in June 2016, our head office, in April of this year, launched a quality audit of the manufacturing facilities and service locations in the Kobe Steel Group, with the audit scope being extended to examining compliance with customer specifications in addition to the mandatory standards concerning product quality set forth in laws and regulations (“Mandatory Standards”). Early in August, we also requested the entire Group to conduct, beginning in September, a self-inspection of the products shipped during the past one year period. In response, the Aluminum & Copper Business started part of its inspection activities ahead of the schedule and, at the end of August, detected its improper handling of test data.

Our self-inspection, which was generally completed on October 25, has confirmed so far that multiple business locations were engaged in inappropriate conducts. While we believe that our self-inspection was effective in detecting inappropriate conducts, we encountered interference at the extrusion plant in the Chofu Works during the inspection. This incident made us aware of the limits of our self-inspection. Accordingly, we established the Independent Investigation Committee on October 26.

There were differences among the inappropriate conduct cases uncovered by the inspection, depending on the types of products, manufacturing systems, and the sizes of plants. However, there were cases where the employees of multiple departments such as a manufacturing department and a quality assurance department were involved, and those where such misconducts continued for a long period. We believe that what is most important in our deliberation of measures to prevent recurrence is to analyze the characteristics of those misconducts and find out the reasons why they happened and why they have gone undetected for such an extended period.

The fact that the management has failed to detect and deal with such major infractions that happened at the plant level is itself a significant issue. We recognize that it is the management’s responsibility to find out the real causes for these misconducts, and formulate and implement measures to prevent such infractions from recurring. With that recognition, we established a task force (i.e., Cause Investigation TF) and conducted investigation and analyses.

Our analyses of the causes of the confirmed misconducts led us to conclude that the following five factors are the causes for those inappropriate conducts.

- 1) Management propensity to overemphasize profitability and the insular organizational culture

- 2) Imbalanced operation of manufacturing facilities
- 3) Inadequate quality control processes that permitted improper conducts
- 4) Reduced awareness for the need to strictly comply with contractual specifications
- 5) Inadequate organizational system

Based on our analyses of the causes for the inappropriate conducts, we have decided to adopt measures to address management propensity to overemphasize profitability and the insular organizational culture, by such means as the establishment of a “Quality Charter” and sufficient opportunities to have dialogues between the management and employees. We will also take process-related measures and management-related measures. Process-related measures will reform system and business processes which provided opportunities for inappropriate conducts. Management-related measures include a clear segregation of the quality control function from the quality assurance function, strengthening of each of those functions, and establishing a quality assurance department under the direct control of each business unit.

Furthermore, the head office will establish a Quality Audit Department (as it is tentatively named), which will be dedicated to quality audit for the purpose of strengthening quality governance. It will also have the Quality Governance Restructuring Deliberation Committee (established on November 10) consider measures to strengthen quality governance of Group companies, organizational reforms, and awareness reforms, use of external talents, and reinforcement of the functions of the overseas holding companies, among others.

Besides the planned measures described above, we will have the Quality Governance Restructuring Deliberation Committee deliberate a series of measures based on a report that the Independent Investigation Committee is aiming to provide to the board of directors around the end of the year. The outcomes of the discussions in the Quality Governance Restructuring Deliberation Committee will be reflected in final preventive measures.

## 2. Background

After Shinko Wire Stainless Co., Ltd. (a wholly-owned subsidiary of Shinko Wire Company, Ltd., one of our equity-method affiliates), a company in our Iron & Steel Business, was found in violation of the JIS Act in June 2016, we conducted a Group-wide inspection with respect to the Mandatory Standards.

Thereafter, the Iron & Steel Business further reinforced the quality audit system, and expanded the audit scope to include sub-subsidiaries. In addition to performing audit work under the previously-used methods, the Iron & Steel Business decided to compare the data on test reports with raw test data as an audit of actual goods. We also reinforced the audit of our overseas Group companies. An external expert (JMA Consultants Inc.) has advised that there is no inappropriate procedure in our methods of quality audit of the Group companies, including Kobe Steel, Ltd. itself.

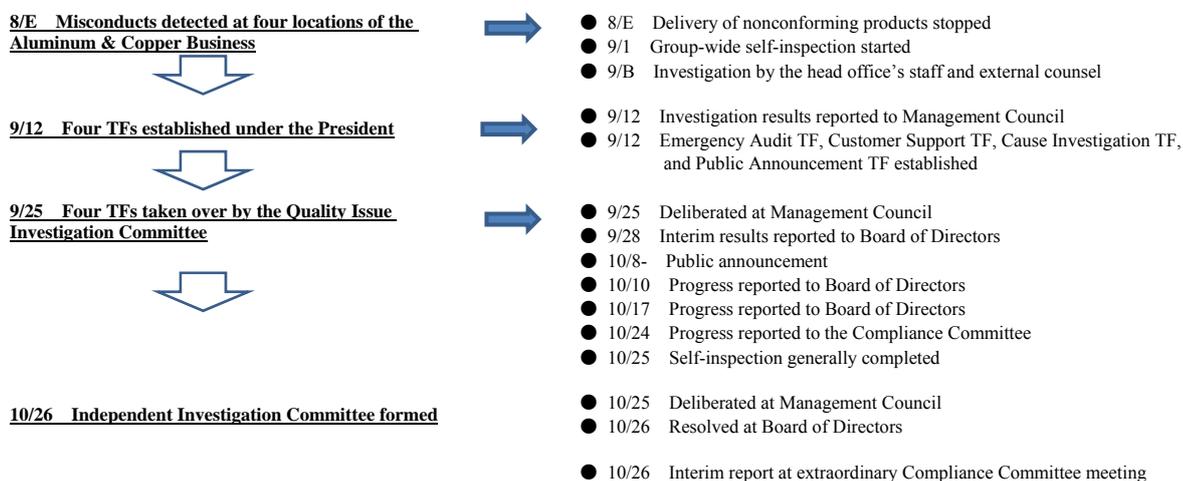
Meanwhile, the Kobe Steel Group established the Quality Management Section in the head office's MONODZUKURI (Product Manufacturing) Planning and Promotion Department in November 2016 to strengthen the quality control system, especially quality audit, and in April 2017 commenced quality audit of the Kobe Steel Group's compliance with customer specifications as well as Mandatory Standards.

We also required early in August that, for two months starting from September, the entire Group conduct a self-inspection of records for the products shipped in the past one year period. In response, the Aluminum & Copper Business started part of its inspection ahead of the schedule and, at the end of August, detected its improper handling of test data.

After the misconducts were detected, the Aluminum & Copper Business as an initial step immediately ceased shipping nonconforming products, while the staff of the head office and outside counsel investigated the inappropriate conducts and, on September 12, reported the results to the Management Council.

After the Management Council's meeting, we established four task forces (TF) under the President: the Emergency Audit TF, the Customer Support TF, the Cause Investigation TF, and the Public Announcement TF. We also started activities such as an emergency audit, to confirm whether the self-inspection was conducted in a proper manner. On September 25, the Quality Issue Investigation Committee took over the four TFs, and conducted each task force's activities.

The self-inspection was generally completed on October 25, and the Independent Investigation Committee was established on October 26.



[Fig. 2-1 Main events from the detection of the misconducts up until the establishment of the Independent Investigation Committee]

<Outline of self-inspection and emergency audit>

(i) Purpose of self-inspection:

Confirm if any inappropriate conduct has taken place within the Kobe Steel Group

(ii) Target of self-inspection:

A total of 100 locations at which our Group conducts manufacturing activities or provides inspection and testing services: 21 locations of Kobe Steel, Ltd., 55 locations of domestic Group companies, and 34 locations of overseas Group companies (Please refer to Attachment 3 for more details on locations.)

(iii) Period covered by self-inspection:

One year from September 2016 to August 2017

(iv) Specific methods of self-inspection:

Check by comparing real data:

- Compare test reports with test data
- Compare specifications required by customers with the company's instructions on testing

\*1: Departments which do testing or decide whether to ship products refrained from taking part in self-inspection as much as possible. In cases they needed to participate in the self-inspection, they had other departments involved in the self-inspection to ensure objectivity.

\*2: We received from JMAC its advice that our inspection methods were reasonable.

(v) Emergency audit:

The head office conducted an emergency audit to make sure that the self-inspection had been properly conducted.

### 3. Outline and activity of the Quality Issue Investigation Committee

#### (1) The position of the committee

In response to the Shinko Wire Stainless Company, Ltd. incident last year, the Quality Issue Investigation Committee (the “Quality Committee”) was established in June 2016 as the president's independent advisory committee. Its purpose is to confirm whether products supplied by Kobe Steel and its affiliated companies comply with laws and various regulations regarding product quality. In addition, when a problem is identified, it is to investigate the cause and to formulate preventive measures.

#### (2) Organization (Its Structure)

The structure of the Quality Committee at the time of establishment was as follows:

Chair: Managing Executive Officer Miyake (Currently Director and Senior Managing Executive Officer) (Executive in charge of MONODZUKURI (Product Manufacturing) Planning and Promotion Department (“MONODZUKURI Department”))

Committee Vice Chair: Managing Executive Officer Yamamoto (changed to Executive Officer Goto as of April of this year)

Committee members: Executive Officer Okubo, Executive Officer Katsukawa, Adviser Seishi Sui (former police officer)

Organization committee members: MONODZUKURI Department, Audit Department, Legal Department, Corporate Planning Department

Secretariat: MONODZUKURI Department

In addition, our investigation was supported by Midosuji Legal Profession Corporation and JMA Consultants, Inc. (JMAC) as outside experts.

#### (3) Activities Immediately After Establishment

Immediately after the establishment, the Quality Committee started investigating the Shinko Wire Stainless Company, Ltd. incident, and conducted a Group-wide inspection of Kobe Steel's entire business locations and group companies' compliance with the Mandatory Standards. Thereafter, based on the results, it performed the following:

- Thorough inspection of quality compliance
- Based on the results of the “Iron & Steel Business SSK (Shinko Wire Stainless Company, Ltd.) Quality Compliance Issue Countermeasure Project”, an in-depth analysis of the cause and formulation of preventive measures
- Formulation of a preventive measure action plan specific for the Shinko Wire Stainless Company, Ltd. incident

The Quality Committee has since been in a temporary recess after formulating the preventive measure in regard to Shinko Wire Stainless Company, Ltd.

#### (4) After Detection of the Current Incident of Misconduct

After the incidents of misconduct by the Aluminum & Copper Business were discovered, an investigation of subject business locations by the headquarters staff and outside attorneys was

conducted. The results were reported on September 12 to the Management Council. On the same day, after the Management Council meeting, temporary task forces (“TF”) were established to report to the president. The organizational structure is as follows:

Emergency Audit TF

Conduct an emergency inspection of group companies in the Aluminum & Copper Business (whether it was in compliance with JIS regulations, other laws and regulations, and customer specifications), and an inspection of any issues with other business departments outside of the Aluminum and Copper Business and all products and services of our group companies.

Customer Support TF

Coordinate explanations to customers of the Aluminum & Copper Business’s group companies that also do business with other business departments, such as auto and aircraft manufacturers.

Cause Investigation TF

Conduct an investigation of departments with an incident of misconduct with support from an outside law firm, and investigate the cause and plan preventive measures based on the result of the investigation.

Public Announcement TF

Formulate public announcement policies and prepare public announcements in regards to the incidents of misconduct in this case.

Then, on September 25, the dormant Quality Committee was restructured. The task force activities were to continue under the Quality Committee. At that time, to accomplish the president's orders to investigate the cause of the current issue and to implement preventive measures, the Chair of the committee was changed from Director and Senior Managing Executive Officer Miyake to Representative Director, Chairman, President and CEO Kawasaki (Director and Senior Managing Executive Officer Miyake became the Vice Chair).

Under the direction of the Quality Committee, self-inspections and emergency audits were continuously conducted. As of October 25, the self-inspections for a year’s worth of shipments, going back for one year from August 2017, were mostly completed. A number of misconducts were confirmed during the self-inspections and emergency audits. On the other hand, on October 20, based on the findings of the interference publicly announced by headquarters, we came to recognize that a review and evaluation of the adequateness and validity of the self-inspections and the analysis of causes and formulation of preventive measures should be done by an organization composed primarily of independent experts. Thus, all investigations onward are to be conducted by the Independent Investigation Committee, comprised only of independent outside committee members (attorneys), and established pursuant to a delegation of authority by the company. With that committee conducting the investigation, the objectiveness and independence of the investigation will be secured.

The Quality Committee, still under the direction of the president, continues to be active in

preparing this “Investigation of Cause and Measures to Prevent Recurrence” report regarding the incidents of misconduct in the current case. The committee will continue to exist for the purpose of verifying customer support and safety, ensuring coordination with relevant government offices, and coordinating the schedules for the Independent Investigation Committee’s visits to various locations.

4. Public announcements to date

Please see <Attachment (i)>for the matters publicly announced from October 8, 2017 up to now.

5. Progress of communications with customers and safety verification

(1) Communications with customers and provision of information to them

(A) Initial responses to customers after the detection of improper incidents

After improper conducts were detected at the Aluminum & Copper Business at the end of August 2017, we promptly stopped shipment of nonconforming products and also recovered work-in-process and inventory to minimize the number of nonconforming products that may have reached the market.

At the same time, we worked to grasp the full picture of the incidents by, for example, identifying the product numbers, quantity, and purchasers of nonconforming products. We also conducted an examination of the impact on product quality from a technical viewpoint. Early in September, we began providing explanations to each customer.

Technical staff from sales, quality assurance and manufacturing, among others, visited each customer’s office to (i) explain the details of nonconformity, (ii) report serial numbers of delivered nonconforming products, and (iii) give explanations on actual test data for delivered products or estimated test data supported and the grounds for such estimate.

Since it is difficult for us, a materials manufacturer, to judge on how nonconforming products may impact final products, we committed ourselves, as our base position, to give the highest priority to providing customers with explanations and maximum cooperation in confirming safety of final products.

In response to our explanations, customers on the whole made critical comments on the company’s operations and trust, as well as reprimanding us for the improper incidents. In the meantime, we asked some customers to allow us to take interim measures, including tentatively making specifications less stringent, and many of them agreed to continue transactions with us or to give the highest priority to confirming safety of final products.

(B) Provision of information to customers

We have provided each customer with the following information necessary for the customer to make overall evaluation of the issues, including safety, and explained its details:

(i) Technical opinions on nonconforming products

- (ii) Past test data
- (iii) Circumstances surrounding delivery of nonconforming products to customers and provisional preventive measures against them

We also had our customers and end users to conduct audits, as necessary, in order to verify the quality control system of our respective business locations and plants and a retroactive review of the products delivered in the past.

(2) Progress of safety verification

Please see our release *Update on safety verification status concerning improper conduct in the Kobe Steel Group* made public on November 10, 2017

6. Explanations on improper incidents made public so far

- (1) Please see <Attachment (ii)>, which explains the inappropriate incidents made public so far.

(2) Classification of incidents of misconduct based on business location

The Table below (Table 6-1) shows a classification of all incidents of misconduct, organized based on business locations in Item (1) above based on the type of the business location (rows indicate business divisions, and columns indicate whether the business location belongs to the headquarters, a domestic group company, or an overseas group company).

In the Iron & Steel Business, there are a total of six incidents including those that have been already settled with customers. However, as for Kobe Steel, Ltd. itself, there was one incident confirmed at one location which is a steel powder plant. No incidents were detected at the Kakogawa Works, Kobe Works, Steel Casting & Forging Division, or Titanium Division. There were other incidents of misconduct found in three domestic group companies and two overseas group companies.

In the Aluminum & Copper Business, incidents of misconduct occurred at all four locations operated by Kobe Steel, Ltd. itself. In addition, within the Kobe Steel Group, incidents of misconduct are confirmed to have taken place at three domestic companies and three overseas companies.

For Group companies within the headquarters' jurisdiction, the Sputtering Target Business of Kobelco Research Institute, Inc. had one confirmed incident of misconduct. In addition, there are no confirmed incidents of misconduct in the Welding Business, the Engineering Business, Kobelco Construction Machinery Co. Ltd, or the Electric Power Business.

Further, as for the four incidents which have been announced to be possible misconducts, it is confirmed that there was misconduct such as altering inspection data in each of the four incidents. Currently, the Independent Investigation Committee is investigating those incidents. We have already started explaining the situation to customers, and we are proceeding with safety verifications.

[Table 6-1 Classification of business locations where inappropriate incidents occurred]

	Kobe Steel Main Business	Domestic Group Companies	Overseas Group Companies
Iron & Steel Business	Steel Powder Plant	Nippon Koshuha Steel Co., Ltd. Shinko Wire Company, Ltd. Shinko Kohan Kako, Ltd.	Jiangyin Sugita Fasten Spring Wire Co., Ltd. Kobelco Spring Wire (Foshan) Co., Ltd.
Welding Business	—	—	—
Aluminum & Copper Business	Moka Plant (aluminum flat-rolled products) Daian Works (aluminum castings & forgings) Chofu Works, Copper Rolled Products Plant (copper strips) Chofu Works, Extrusion & Fabrication Plant (aluminum extrusions)	Shinko Metal Products Co., Ltd. Shinko Aluminum Wire Co., Ltd. Kobelco & Materials Copper Tube Co., Ltd.	Kobelco & Materials Copper Tube (Thailand) Co., Ltd. Kobelco & Materials Copper Tube (M) Sdn. Bhd. Suzhou Kobe Copper Technology Co., Ltd.
Machinery Business	Industrial Machinery Division (coating service) [Under investigation]	Shinko Engineering Co., Ltd. [Under investigation]	—
Engineering Business	—	—	—
Kobelco Construction Machinery Business	—	—	—
Electric Power Business	—	—	—
Head Office	—	Kobelco Research Institute, Inc. (Sputtering Target Business) [One out of two cases is under investigation.]	—

\*1 In addition, there is one case which needs an investigation to confirm if misconduct took place.

(3) Classification of incidents of misconduct based on type of misconduct

Based on the currently known facts, the types of misconduct that have been confirmed can be classified by how employees were involved (\*) and the length of time such misconduct continued, as follows:

1. “Individual” type: When an individual performed misconduct without traces of orders from superiors or cooperation with other departments
2. “Group” type: Those involved were from multiple departments, or were given explicit or implied instructions by their direct supervisors
3. “Long period” type: When the misconduct occurred continuously for over five years

All of the incidents of misconduct that were classified according to location in Item (1) above are classified according to the types in [Table 6-2]. In addition, in order to determine whether the matter is for a specific product or for products of all types, the rightmost column indicates the number of customers.

As a result, excluding the three incidents of overseas business locations, the Aluminum & Copper Business had seven incidents that belonged to both the “group” and “long period” types at Kobe Steel and domestic group companies’ locations.

Improper conducts occurred at, among others, the production department (responsible for operating plants), the quality control department (responsible for confirming the specifications for the products, and deciding production and inspection methods, as well as conducting inspections to judge whether a product passes or fails), and the quality assurance department (independent from departments responsible for inspection and production, and responsible for assuring the legitimacy of the inspection, and guaranteeing the quality of the product to be shipped) .

The production department and the quality control department which are subject to inspection and the quality assurance department that does the inspection were involved in incidents that fall under both “Group” and “Long period” types. We believe that the cases which show both of these classification types are problematic in that the failure of the monitoring system to work as intended became normalized over a long period.

The incidents of misconduct at the Iron & Steel Business and Kobelco Research Institute, Inc. all fall under the “Individual” type, excluding the incident at Nippon Koshuha Steel Co., Ltd. There is no observable tendency that shows a majority of the incidents falling into the “group” and “long period” type, as with the Aluminum & Copper Business.

\* We confirmed initially that dozens of people, including those in managerial positions, were involved in the misconduct. This is currently under investigation by the Independent Investigation Committee.

[Table 6-2 Classification of inappropriate conducts by business]( \*1)

	Business offices	Involved by		Long period	Number of customers
		Individual	Group		
Iron & Steel Business	Steel Powder Plant	○		○	1
	Jiangyin Sugita Fasten Spring Wire Co., Ltd.	○			1
	Kobelco Spring Wire (Foshan) Co., Ltd.	○			1
	Nippon Koshuha Steel Co., Ltd.* Note 2		○	○	19
	Shinko Wire Stainless Company, Ltd.	○		○	1
	Shinko Kohan Kako, Ltd.	○			1
Aluminum & Copper Business	Moka Plant (flat-rolled aluminum)		○	○	57
	Daian Works (aluminum castings & forgings)		○	○	67
	Chofu Works, Copper Rolled Products Plant (copper strips)		○	○	38
	Chofu Works, Extrusion & Fabrication Plant (aluminum extrusions)		○	○	34
	Kobelco Materials Copper Tube Co., Ltd.		○	○	23
	Shinko Metal Products Co., Ltd.		○	○	176
	Shinko Aluminum Wire Co., Ltd.		○	○	2
	Kobelco & Materials Copper Tube (M) Sdn. Bhd.	○		○	28
	Kobelco & Materials Copper Tube (Thailand) Co., Ltd.	○		○	5
Suzhou Kobe Copper Technology Co., Ltd.		○		1	
Headquarters	Kobelco Research Institute, Inc. (Sputtering Target Business)	○		○	70

<Reference> Four cases where misconducts are alleged to have taken place (released as of October 26). (The details are under investigation by the Independent Investigation Committee.)

	Business locations		Involvement by		Long period	Number of customers
			Individual	Group		
Machinery Business	Industrial Machinery Division (coating service)		○			1
	Shinko Engineering Co., Ltd.	1. Casting	○			1
		2. Speed reducer	○			1
Headquarters	Kobelco Research Institute, Inc. (Sputtering Target Business)		○			8

\*1: In addition, there is one case which needs an investigation to confirm if misconduct took place.

\*2: Nippon Koshuha Steel Co., Ltd., which is classified as both “group” type and “long period” type, established a Steel Industry Compliance Special Committee in the company in July 2016, immediately after the inappropriate cases were uncovered. The committee devoted itself to planning and implementing preventive measures and measures to strengthen systems in terms of quality control function, internal control, and coordination with Kobe Steel, Ltd. The committee’s activities were completed with the report to Kobe Steel, Ltd. in April 2017.

## 7. Analysis of cause

Many incidents of misconduct show such characteristics as “involvement of a wide range of people across multiple departments”, “continuation for an extended period of time”, and “not being detected officially in the company in which such misconduct occurred”, although each case differs depending on the types of products, manufacturing systems, and the size of plants.

The fact that the management failed to detect and deal with such major incidents that happened at plants is in itself a significant problem. We recognize that it is the management’s responsibility to find out the real causes for these incidents, and formulate and implement measures to prevent such incidents from recurring. In light of this, we established a task force (i.e., Cause Investigation TF) and conducted an investigation and analyses.

(1) Management style that put too much emphasis on profitability and insular organizational culture  
 Being faced with a harsh business environment, we have evaluated the performance of each business focusing on its profitability. At the same time, in order to realize a speedy and efficient management style, we have delegated management authorities to lower organizations who are to assume management responsibilities and operate autonomously.

As the delegation of authority progressed, the management did not show an inclination to help resolve issues that the plants were facing. As a result, the organizational discipline must rely on the “self-control” of each organization. As the control exercised by the management at the head office on each

business was so focused on profitability, as long as plants were profitable, the management did not do enough to try to look into whether there were improper conducts with respect to quality control, or grasp various issues that occurred in the production activities at the plants.

We recognize that such management structure is the main reason resulting in an insular organizational culture where no voice from the plants regarding “issues at the plants” would be heard or, even if someone would speak up, nothing would change. In order to recover the trust that we have lost, it is essential to reform such management structure and the organizational culture that resulted from such structure.

(2) Imbalanced operation of plants

(A) Culture that gives priority to production volume and meeting delivery deadlines

As is visibly shown by the Aluminum & Copper Business, where the highest number of inappropriate cases occurred, the plants or locations involved in inappropriate cases appear to have historically suffered from the inability to contribute to the entire Group’s profit. When deciding whether to accept orders for products which are highly profitable or, in other words, have high added values, it is essential to examine the required standards in light of the process capability such as quality levels of products to be manufactured and the plant’s production volume capability, to consider necessary inspection tests, and also to formulate process designs, including sufficient trial production and quality checking. Nonetheless, the plants and locations were so eager to contribute to profit that they apparently agreed on specifications without adequately examining the specifications with their own process capability, evaluating trial products, or holding organized deliberations on such matters. Some oral evidence shows that they did not even grasp their process capability enough to do such evaluations and deliberations, and we also have confirmed that no corrective action had been taken with respect to making test pieces in an unstable manner. These facts suggest a character that underrates the importance of understanding their own production capability.

Against the backdrop described above, the business locations accepted orders without adequately taking their capability into account, but required the plants, as with other factories in general, to make efforts to improve the capacity utilization rate and the on-time delivery rate to customers’ satisfaction with the aim of boosting profits. These situations presumably resulted in the plants producing products that failed to meet quality requirements, and caught them in a dilemma where they were unable to achieve their production or sales volume goals.

Business locations exposed to such circumstances for a long period would shape a culture that gives priority to production volume and meeting delivery deadlines. As a result, that culture would motivate people to lead to improper conducts, such as making light of testing specifications which should have been properly implemented or of specifications concerning strength of products, to the extent no complaints over quality came from customers.

(B) Insular organization (no movement of personnel)

The Aluminum & Copper Business's business locations where inappropriate cases occurred are spread over the country and the world, and manufacturing processes and customers' industries varied among bases and factories. As such, the operational, manufacturing and development functions tended to become self-contained at each location.

In this environment, each manufacturing base placed so much emphasis on its specialization that employees were rarely transferred between different locations even within the same Business, especially in the departments relating to manufacturing or quality assurance. In a word, each organization operated in an insular manner. Once someone started inappropriate conducts in such an insular organization, those once involved in misconducts could be promoted to a senior post or could move between the manufacturing department and the quality department as part of their career paths. In consequence, we believe that implicit instructions for inappropriate conducts were given, and as the quality department could not secure independence from the manufacturing department, it could not exercise its check functions.

(3) Inadequate quality control procedures bringing on inappropriate conducts

(A) Testing processes allowing falsification and fabrication

As is visibly shown by the Aluminum & Copper Business, it was possible for staff members who collected test data entered by the quality testing department to falsify them, for the quality assurance department or the manufacturing department to tamper with test data already entered into the system, or for the management to request the authority to tamper with data or authorize themselves to tamper with data, although perpetrators of misconducts differ from factory to factory. We believe that these operational realities provided an opportunity for and promoted misconducts.

(B) Excessively stringent internal standards

Certain plants such as the Moka Plant have adopted internal product standards stricter than customers' standards. These standards were introduced with the hope that the stricter internal standards would enable the plants to be aware of a deficiency in their process capability at an early stage and, by rectifying it, to prevent delivery of substandard products to customers. However, the system adopted by those plants disallowed shipment of products falling short of the internal standards, although whether to ship products should have been determined based on the conformity with customers' standards. As customers' standards were made more stringent, it became normal to consider it impossible for some products to meet the internal standards. As a result, employees started to falsify test data on products falling short of the internal standards, instead of reviewing their production capacity, requesting customers to ease their standards, or following other proper procedures.

(4) Reduced awareness for compliance with contractual specifications

(A) Lack of awareness for compliance with specifications resulting from misplaced confidence in product quality

As a company engaged in the materials business, we have built strong relationships with specific customers as part of our manufacturing activities. Under the company's business policy which aims to manufacture products with high added value, our employees in charge are required to deepen their knowledge on quality required by customers through the process of developing products jointly with customers, soliciting and receiving orders from customers, and handling complaints from customers. In such circumstances, some employees began to place importance on whether or not they received complaints from customers, rather than whether the products satisfied customers' specifications. We suspect that those employees conducted business by falsifying test data, taking into account test items and process capability comprehensively, within the range that could avoid customer complaints.

Also, some employees would make their own interpretation about whether certain test items were required or not, which resulted in misconducts such as an omission of testing or fabrication of test results.

The companies continued their operations based on misplaced confidence in their production processes and under the wrong assumption that noncompliance with customers' specifications and data-tampering would be allowed as long as customers made no complaints (mistakenly believing that the customers were satisfied with products). This situation resulted in, over time, integrating misconducts into the ordinary course of business and depriving employees of the awareness of the need for compliance with specifications.

(B) Continuance of improper conducts

A lack of awareness of the need for compliance with specifications led to the continuance of inappropriate conducts. As a result, the products affected by misconducts accounted for several percent of annual sales, and the scale itself made a self-declaration difficult. At times some would ask for a negotiation with a customer to modify specifications in order to rectify the situation. However, in a competitive environment, customers that would agree to modify contractual specifications that were once accepted were scarce, and we suspect that it became even more difficult to correct the situation as time passed. The range of misconducts expanded over the years, and at some locations, supervisors were once the perpetrators of misconducts and thus such misconducts were left untouched. Once such misconducts were left untouched for a long time, no one even discussed them in routine meetings. Combined with the distinctive atmosphere an insular organization has, detection of the problem became even more difficult. This ultimately led to a climate in which employees would lose awareness of the need for compliance with specifications.

(4) Inadequate organizational structure

(A) Lack of audit functions

For the sake of operational efficiency, quality control systems for plants within the Aluminum & Copper Business were conducted and completed within the plants. On the other hand, the product quality audit function was nonexistent in the Planning & Administration Department and the Technology Control Department, which are under the Aluminum & Copper Business's direct control, and manufacturing processes and product quality were left to each plant's local management.

In the business locations where improper cases were detected, sections responsible for quality control and those responsible for quality assurance were placed in the same department. It means that quality assurance departments did not maintain independence as required by the *Guidelines for Enhancing the Quality Assurance System* by the Japan Iron and Steel Federation (JISF). Such structures spurred operations that were plant-centric, and led to a loss of external control functions, especially in regard to product quality.

In addition, the head office's failure to conduct a quality audit also caused the continuation of misconducts.

While misconducts were found at business units other than the Aluminum & Copper Business, such as the Iron & Steel Business, the Machinery Business, and group companies under the head office's control, many business locations did not exhibit a tendency to spread inappropriate cases in the categories of the "group" or "long period" types, unlike the Aluminum & Copper Business. In the business units where the misconducts were detected, we believe that the misconducts arose from a failure to instill the awareness for product quality as the norm across the entire organization and also from a failure to have a thorough audit.

These business units neither systematized training on quality assurance and control nor provided thorough internal training sessions, and thus never brought about consciousness reforms.

(B) Weak corporate governance function of headquarters

Based on past compliance cases, we have continuously made efforts to strengthen our compliance functions. For instance, in 2000, we implemented an ethics consulting section (the name was changed to Compliance Hotline in 2016) and in 2003, we established a Compliance Committee and a whistle-blowing system. In terms of product quality issues, however, we focused only on the prevention of recurrence of past major problematic inappropriate cases, and it cannot be denied that the effort was insufficient to prevent compliance issues regarding customers' specifications, as in the present case.

In 2010, the head office established the MONODZUKURI Department. Its main function was to promote manufacturing by group cooperation, but we put off establishing a product quality audit function. After the 2016 misconduct by Shinko Wire Company, Ltd., we established the Quality Management Section within the MONODZUKURI Department and aimed to strengthen

quality governance. However, the misconducts in the current case predated it, and it cannot be denied that our effort to carry out our quality governance policy was insufficient.

## 8. Preventive measures

Based on our analyses of the causes for the misconducts, we will promptly implement a preventive measure as it becomes concrete. We plan to reflect in our final preventive measures, taking into account the suggestions of the Independent Investigation Committee, such matters as the strengthening of the head office involvement in governance.

The Iron & Steel Business and the Welding Business have already established assurance systems in accordance with the *Guidelines for Enhancing the Quality Assurance System* by the JISF. We plan to create rules in accordance with the said guidelines taking into consideration this incident, and implement such rules in all business units and group companies.

### (1) Measures to address the management style that put too much emphasis on profitability and the insular organizational culture

- Promotion of management to regain and strengthen trust

Our Group cannot continue to exist without gaining “trust.” Products with unique features may become the sources of our competitiveness only because we have the customers’ trust in our Group’s technology, products and services. Rather than having excessive confidence in our technological strength and understanding product quality in a self-righteous way, the correct attitude is for us to face our customers squarely and keep our promises. We will set forth the value that “product quality has priority over cost and delivery date” in the “Quality Charter”, and share it among our officers and employees in our maximum efforts to restore trust.

- Reexamination of our views on goals and indicators

We have based our business operation on indicators that focus on financial numbers relating to short-term and medium to long-term performance. From now on, to achieve our Group’s continuous growth, we will add goals and indicators from the perspectives of product quality (including process capability and the percentage of nonconforming products), customer satisfaction, and technological development, among others.

- Creation of an active organizational culture where everyone can tell each other what they want to tell

We will make our attitude clear that the employees can discuss freely the troubles occurring in plants and problems in the workplace, and that the management will not ignore such troubles and problems, and build a culture where “everyone can talk about anything, even about things that hit a sore spot”. We will also provide all employees with more communication opportunities, such as dialogue meetings with officers and executives.

(2) Measures to address imbalanced operation of plants

- With respect to the measures to rectify the imbalanced organizational operation having the operation style that gives priority to delivery date and manufacture over product quality and with the insular organizational structure, the Quality Governance Restructuring Deliberation Committee (\*1), which was established by the Board of Directors' resolution dated November 10, will discuss measures (applicable to the group companies) for strengthening quality governance, organizational reforms, consciousness reforms, utilization of external human resources, and reinforcement of overseas headquarters' functions, taking into account the Independent Investigation Committee's report to the Board of Directors and the executives' reports on preventive measures.

\*1 The Quality Governance Restructuring Deliberation Committee provides suggestions to the Board of Directors as an advisory body to the Board of Directors. The committee consists of the following eight members:

Five outside directors and three other members comprising the president and the executives in charge of the Legal Department, Corporate Planning Department, and MONODZUKURI Department.

- As a measure to eliminate the culture of prioritizing production and delivery dates, we will carry out the reexamination of the business flow, when considering orders for products, with respect to the specifications requested by the customers, in order to understand the production capabilities, confirm the concrete test inspection methods and conduct adequate prototype assessment, and deliberate whether to accept the order as an organization.
- We will conduct personnel rotation between business units and plants. We place quality assurance personnel as common specialists for the entire company. Across the entire group, the Quality Management Section of the MONODZUKURI Department will be responsible for overlooking the placement of quality assurance personnel and carrying out concrete plans for the rotation of quality assurance personnel across business units and business locations and the training of such personnel. In the implementation of human resources development, outside personnel will be utilized.

(3) Measures to address inadequate quality control procedures bringing inappropriate conducts

We will take technological and administrative measures related to process factors at each plant where misconducts occurred, and change the operational structure and systems that allowed such misconducts in accordance with JISF's *Guidelines for Enhancing the Quality Assurance System*. Some of the specific measures are being discussed in detail or implemented. With respect to the plants where no misconduct occurred, we will inspect whether they have the same problems as the problematic operational structure and systems discovered this time, and take measures as necessary.

- Promote implementation of automatic recording of test inspection data as a measure against the inspection procedures where falsification and fabrication may occur

With respect to the handling of test inspection data, we will promote the implementation of a direct link from a test device to a server, and carry out improvements such as eliminating the opportunities to “re-write” the test inspection data by data locking that utilizes an IoT technology, the preservation of the raw data from the test inspection device, and automated judgment on whether the test inspection data satisfies the customers’ specifications.

< Setting up a system that automatically records test inspection data >

Aluminum & Copper Business: Moka Plant, Daian Works, Chofu Works’ Copper Rolled Products Plant

Kobelco & Materials Copper Tube, Ltd.

Kobelco & Materials Copper Tube (M) Sdn. Bhd.

Kobelco & Materials Copper Tube (Thailand) Co., Ltd.

Shinko Metal Products Co., Ltd.

Iron & Steel Business: Nippon Koshuha Steel Co., Ltd, Shinko Wire Group

Headquarters: Kobelco Research Institute, Inc.’s Sputtering Target Business

- For test inspection data that cannot be automatically captured, a system will be established whereby a single-man process is eliminated and actual data will always be checked by multiple people.
- With respect to internal standards that are overly strict, we will review shipping decisions based on internal standards and undertake correction action by unifying shipping decisions based on customer standards.

Aluminum & Copper Business: Moka Plant, Kobelco Materials Copper Tube, Ltd., etc.

- In regard to insufficient process capabilities, we will implement measures to increase capacity as required.

Aluminum & Copper Business:

- Improve distortion by upgrading the heat treatment furnace leveler. (Moka Plant)
- Improve distribution of the furnace temperature in the heat treatment furnace. (Daian Works), etc.

#### (4) Measures to address the reduced awareness for the need to strictly comply with contractual specifications

- Regretting the fact that we have not learned from past incidents, as part of an educational effort, we will prepare an internal training program aimed at preventing the recurrence of past product quality incidents and hold quality assurance staff meetings, etc. throughout the entire Kobe

Steel Group. In addition, we will conduct training that follows the Japan Iron and Steel Federation's *Guidelines for Enhancing the Quality Assurance System*, making use of tools such as e-learning to ensure that employees fully understand the importance of strictly complying with rules (laws and regulations, contracts, standards), etc.

- Regretting the fact that we have not been able to sufficiently listen to the voices of employees at the plants, we will promote the creation of an open working environment by providing opportunities where employees can exchange honest opinions at the workplace level and where employees from different levels can communicate with the plant management people.

(5) Measures to address the inadequate organizational system

The following measures will be taken to improve the lack of quality control check (Quality Audit Function, Quality Governance Function) by business units and headquarters:

- Strengthening the quality control check by the business sector

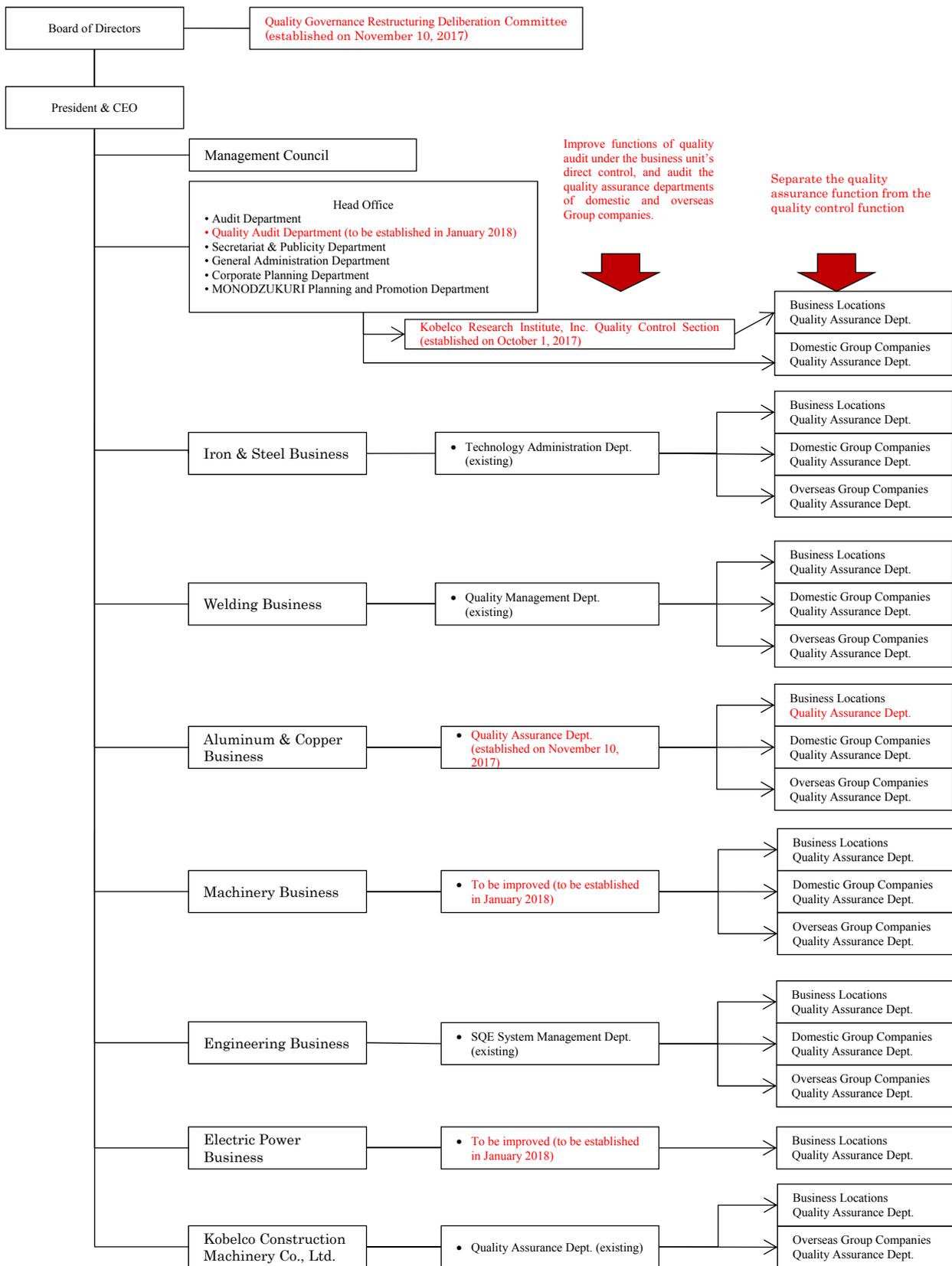
In the Aluminum & Copper Business, a "Quality Assurance Department" under direct control of the business unit is established (November 10, 2017). This "Quality Assurance Department" will carry out audit functions for quality control and quality maintenance and will be responsible for related training at each business location (Moka Plant, Daian Works, Chofu Works) and group companies.

In addition, the quality control function and the quality assurance function of each business location (Moka Plant, Daian Works, and the Copper Rolled Products Plant and Aluminum Extrusion & Fabrication Plant, both at Chofu Works) will be clearly separated. The quality assurance sections responsible for quality assurance shall be under direct control of each business location's chief (Moka Plant general manager, Daian Works general manager, Chofu Works general manager) and shall be independent from the manufacturing departments (November 10, 2017).

As a measure to address the absence of movement of people within plants and the independence of quality assurance departments becoming a mere formality, as explained in 7. Analysis of Cause (2) (B), the "Quality Assurance Department" under the direct control of the business unit will be responsible for personnel allocation, interaction and training plans for quality assurance staff and each plant will be responsible for the training of quality assurance personnel.

Other than in the Aluminum and Copper Business, we will establish a quality assurance function under the direct control of each business unit to strengthen the quality control function. Specifically, for the Machinery Business and Electric Power Business, which do not already have a quality assurance function under their direct control, a quality assurance function will be newly established. Even for other business units that already have a quality assurance department under the direct control of the business unit, the quality related audit function will be strengthened to cover the entire Kobe Steel Group (throughout to the smallest organization).

- Quality Control: Confirm the required product specifications and determine if manufacturing/inspection methods and tests are adequate
  - Quality Assurance: Perform product inspections independent of manufacturing and other departments to ensure the legitimacy of the inspections and the quality of the products to be shipped.
- Strengthen the quality control check function of the head office
    - Currently, the Quality Issue Investigation Committee is working with the MONODZUKURI Department to control the quality governance of the Kobe Steel Group, but as a permanent measure, a “Quality Audit Department (as it is tentatively named)” that specializes in quality audits will be established at the head office (scheduled for January 1, 2018)
    - The head office’s Quality Audit Department will check the quality audit status performed by the quality assurance departments of each business unit, as well as audit the quality of each business location of each business unit and group companies. In addition, it will gain a full understanding of the production capability of each plant.



[Fig 8-1 Group-wide quality governance system (planned) as of November 10, 2017]

## 9. Establishment of an Independent Investigation Committee

### (1) Purpose of establishment

The Independent Investigation Committee was established by a resolution at the Board of Directors' meeting on October 26 for the following purposes:

- (i) Reexamine the appropriateness and validity of the self-inspection and emergency audit done so far, as well as the investigation conducted into the facts relating to a series of misconducts
- (ii) Reexamine the appropriateness and validity of the investigation into the cases already made public
- (iii) Investigate the direct causes of the inappropriate conducts and the background factors contributing to such conducts, including corporate culture, compliance, and organizational management systems, and propose preventive measures and improvement plans
- (iv) Take up any other matters which the committee considers necessary

### (2) Members

The following three persons have been appointed by the Board of Directors to be the members of the Independent Investigation Committee:

Chairperson:

Gan Matsui, attorney-at-law, a former superintendent public prosecutor of the Fukuoka High Public Prosecutors Office

Other committee members:

Hisashi Yamazaki, attorney-at-law, a former chief justice of the Sapporo High Court and a former member of the Japan Fair Trade Commission

Mamoru Wada, attorney-at-law, a former public prosecutor

When selecting committee members, the Board of Directors focused on whether each member was adequately capable of conducting investigations and analyses and proposing improvement plans and also took into account their career history (experience as a member of an external committee handling corporate scandals) and specialization areas.

Each member of the Independent Investigation Committee has no interest in relation to our company, and there are no factors that may prejudice the independence and objectivity of the Independent Investigation Committee.

### (3) Operation method, etc.

The Independent Investigation Committee will hold interviews with those involved and verify data and documents at our company's offices and affiliate companies that are investigated. Then, it will deliberate and examine the causes that led to the inappropriate conduct cases and plans for improvement at sessions in which no company personnel will participate. The Committee's

investigation is expected to be completed by the end of the year. We will fully cooperate with the Committee's investigation.

(4) Investigation methods, etc.

Investigation methods are determined by the Independent Investigation Committee's authority and in its sole discretion. According to the Committee, at this point in time, in order to confirm the validity of the self-inspection and emergency audit, they intend to conduct onsite investigations as necessary in addition to conducting surveys and interviews with those concerned. In addition, on November 2, the Committee established at its secretariat a hotline which accepts reports on inappropriate conducts.

<Attachment (i)>

Facts publicly announced so far

(Improper conducts made public)

Date Announced	Business Unit	Company	Materials	Main Use	Number of Customers
Oct. 8	Aluminum & Copper	Kobe Steel, Ltd., Moka Plant	aluminum flat-rolled products	cans; cars	57
	Aluminum & Copper	Kobe Steel, Ltd., Daian Works	aluminum castings & forgings	aircrafts; rolling stock	67
	Aluminum & Copper	Kobe Steel, Ltd., Chofu Works, Aluminum Extrusion & Fabrication Plant	aluminum extrusions	cars; rolling stock	34
	Aluminum & Copper	Kobe Steel, Ltd., Chofu Works, Copper Rolled Products Plant	copper strips	semiconductor; terminals	38
	Aluminum & Copper	Kobelco & Materials Copper Tube Co., Ltd.	copper tubes	air-conditioning	23
Oct. 11	Iron & Steel	Kobe Steel, Ltd., Iron & Steel Business, Steel Powder Division	steel powder	sintered parts	1
	Headquarters	Kobelco Research Institute, Sputtering Target Business	sputtering target materials	FPD; optical discs	70
Oct. 13	Aluminum & Copper	Shinko Metal Products Co., Ltd.	copper alloy tubes; molds	electrical machinery; steelmaking equipment	176
	Aluminum & Copper	<ul style="list-style-type: none"> <li>• Shinko Aluminum Wire Co., Ltd.</li> <li>• Kobelco &amp; Materials Copper Tube (M) Sdn. Bhd.</li> <li>• Kobelco &amp; Materials Copper Tube (Thailand) Co., Ltd.</li> <li>• Suzhou Kobe Copper Technology Co., Ltd.</li> </ul>	aluminum wire; copper tubes; copper strips	air-conditioning; terminals	36
	Iron & Steel	<ul style="list-style-type: none"> <li>• Nippon Koshuha Steel Co., Ltd.</li> <li>• Shinko Wire Stainless Company, Ltd.</li> <li>• Jiangyin Sugita Fasten Spring Wire Co., Ltd.</li> <li>• Kobelco Spring Wire (Foshan) Co., Ltd.</li> </ul>	special steel; stainless wire; steel wire	bearings; springs	22
Oct. 20	Iron & Steel	Shinko Kohan Kako, Ltd.	steel plate processing	plate processed products	1
Total					525

(Suspected incidents of misconduct made public)

Date Announced	Business Unit	Company	Materials	Main Use	Number of Customers
Oct. 26	Machinery	Kobe Steel, Ltd., Industrial Machinery Division	coating services	machine parts	1 *Note 1
		Shinko Engineering Co., Ltd.	castings	machine parts	1
		Shinko Engineering Co., Ltd.	speed reducers	industrial machinery	1
	Headquarters	Kobelco Research Institute, Inc., Sputtering Target Business	sample alloy	sample materials	Max. 8
A case which needs an investigation to confirm if misconducts took place (1 case)					

\*Note 1: [Facts made public by customers]

The measurement device was upgraded in 2013, but data obtained by the upgraded device were found lower than those before the upgrade. When recording test data, therefore, we added the differences between values before the upgrade and those after the upgrade.

(Other matters made public)

Date Announced	Business Unit	Company	Outline
Oct. 17	Other	Kobe Steel USA Inc.	• The U.S. judicial authorities' request for submission of documents
Oct. 20	Aluminum & Copper	Kobe Steel, Ltd., Chofu Works, Aluminum Extrusion & Fabrication Plant	• Non-compliance with reporting directives in quality self-investigation in the Kobe Steel Group
Oct. 26	--		• Improper conduct in the Kobe Steel Group (Report on "Verification Status of Safety" and "Establishment of Independent Investigation Committee")
	Aluminum & Copper	Kobelco & Materials Copper Tube Co., Ltd.	• Cancellation of JIS mark display at Kobe Steel subsidiary Kobelco & Materials Copper Tube Co., Ltd.
Oct. 31	--		• Update on safety verification status concerning improper conduct in the Kobe Steel Group
Nov. 7	--		• Update on safety verification status concerning improper conduct in the Kobe Steel Group
Nov. 10	-		• Update on safety verification status concerning improper conduct in the Kobe Steel Group

<Attachment (ii)>

Explanations on improper incidents made public so far

- (1) The following business locations were found to have been involved in improper conducts such as falsification and fabrication of test reports.

At the locations where data falsification occurred, staff falsified test results which fell short of the standards under customers' specifications, when they judged from their experience that product quality would not be affected.

As an example of data fabrication, staff measured only one segment of each product despite the need to measure two segments, and recorded data on the unmeasured segment which were estimated to meet the standards.

The quantity shipped by each business location specified below was already made public as the number/volume of shipped products affected by improper conducts uncovered in our self-inspections.

**<Aluminum & Copper Business of Kobe Steel, Ltd.>**

[Moka Plant]

(Affected products: Aluminum flat-rolled products)

[Daian Works]

(Affected products: Aluminum castings and forgings)

[Chofu Works, Copper Rolled Products Plant]

(Affected products: Copper strips)

[Chofu Works, Aluminum Extrusion & Fabrication Plant]

(Affected products: Aluminum extrusions)

- Improper conduct:

When products failed to meet specifications agreed with customers (e.g., technical properties such as strength, elongation and stress-resistance, or dimensional tolerance), the Aluminum & Copper Business's locations (including Group companies under the division) tampered with data on test certificates to make the certificates appear as if they had met the specifications before shipping the products.

- Quantity of products shipped from September 2016 to August 2017:  
Aluminum products (flat-rolled and extrusions)      Approx. 19,300t  
Copper products (strips)      Approx. 2,030t

Aluminum castings and forgings

Approx. 19,400 pieces

**<Aluminum & Copper Business of Group companies>**

[Shinko Aluminum Wire Co., Ltd.]

- Affected products: Aluminum alloy wire and bars
- Improper conduct:  
The company failed to inspect trace components of some products in breach of the agreement with customers, and tampered with test data on strength.
- Quantity of products shipped from September 2016 to August 2017: 12.5t

[Shinko Metal Products Co., Ltd.]

- Affected products: Aluminum alloy tubes and molds
- Improper conduct:  
The company failed to inspect the measurements and other items on some products in breach of the agreement with customers, and tampered with test data required under specifications agreed on with customers.
- Quantity of products shipped from September 2016 to August 2017:  
Approx. 700t of copper alloy tubes and approx. 5,300 pieces of molds

[Hatano Plant of Kobelco & Materials Copper Tube, Ltd.]

- Affected products: Copper and copper alloy seamless tubes
- Improper conduct:  
Even when products fell short of specifications agreed with customers, the company tampered with data on test certificates to satisfy the specifications before shipping the products.
- Quantity of products shipped from September 2016 to August 2017: 170t

[Kobelco & Materials Copper Tube (M) Sdn. Bhd.]

- Affected products: Copper tubes (capillary tubes)
- Improper conduct:  
The company failed to inspect measurements and test mechanical property, among others, in breach of the agreement with customers.

- Quantity of products shipped from September 2016 to August 2017: Approx. 170t

[Kobelco & Materials Copper Tube (Thailand) Co., Ltd.]

- Affected products: Copper tubes
- Improper conduct:  
The company performed hardness tests instead of tensile tests agreed with customers.
- Quantity of products shipped from September 2016 to August 2017: Approx. 1,140t

[Suzhou Kobe Copper Technology Co., Ltd.]

- Affected products: Copper strips
- Improper conduct:  
The company tampered with test data required under specifications agreed with customers (measurements).
- Quantity of products shipped from September 2016 to August 2017: 31t

#### **<Iron & Steel Business of Kobe Steel, Ltd.>**

[Steel Powder Plant at Takasago Works]

- Affected products: Steel powder for powder metallurgy (sintering)
- Improper conduct:  
The company tampered with test data on products that were outside the compact density agreed with customers.
- Quantity of products shipped from September 2016 to August 2017: 140t

#### **<Iron & Steel Business of Kobe Steel, Ltd. of Group companies>**

[Shinko Kohan Kako, Ltd.]

- Affected products: Heavy plate processed products (for sectors other than steel frames, bridges, and transportation)
- Improper conduct:  
The company failed to undertake a portion of the measurements for plate thickness requested by the customer and fabricated data on plate thickness.
- Quantity of products shipped from November 2015 to September 2017: 3,793t

[Jiangyin Sugita Fasten Spring Wire Co., Ltd.]

- Affected products: Steel wires
- Improper conduct:  
The company failed to perform visual inspection on a portion of the products, in breach of the agreement with customers.
- Quantity of products shipped from June 2011 to July 2017: 3,525t

[Kobelco Spring Wire (Foshan) Co., Ltd.]

- Affected products: Steel wires
- Improper conduct:  
The company failed to perform visual inspection on a portion of the products, in breach of the agreement with customers.
- Quantity of products shipped from December 2015 to April 2016: 306t

[Toyama Works of Nippon Koshuha Steel Co., Ltd.]

- Affected products: Special steel
- Improper conduct:  
The company tampered with results of mechanical strength tests, in breach of the specifications agreed with customers.
- Quantity of products shipped from June 2008 and May 2015: 3,990t

[Shinko Wire Company, Ltd.]

- Affected products: Steel wire
- Improper conduct:  
The company tampered with results of tensile strength tests, in breach of specifications agreed with customers.
- Quantity of products shipped from April 2007 and May 2016: 553t

**<Group company under the head office's control>**

[Sputtering Target Business of Kobelco Research Institute, Inc.]

- Affected products: Sputtering target materials

- **Improper conduct:**

The company failed to conduct component inspections agreed with customers, and tampered with test data on products that did not have component values agreed on with customers.

Quantity of products shipped from November 2011 and June 2017: 6,611 pieces

Suspected cases of misconducts (4 cases as of October 26, 2017)

We will report the following cases to the Independent Investigation Committee and have the Committee investigate the cases.

**<Machinery Business of Kobe Steel, Ltd.>**

[Industrial Machinery Division]

- Coating services for materials supplied to customers (surface treatment services)

**<Machinery Business of Group companies>**

[Shinko Engineering Co., Ltd.]

- Affected product (i): Castings
- Affected product (ii): Speed reducers

**< Group company under the head office's control >**

[Sputtering Target Business of Kobelco Research Institute, Inc.]

- Affected products: Sample alloy sold externally

\*1 In addition, there is one case which needs an investigation to confirm if misconduct took place.

<Attachment (iii)>

List of business locations where quality self-inspection was conducted

[Domestic]

No	Business unit	Company name	Business location	Main lines of products
1	Iron & Steel	Kobe Steel, Ltd. (Iron & Steel)	Kakogawa Works	Steel plates, steel sheets, wire rods, titanium sheets/plates
2			Kobe Works	Various wire rods and bars
3			Steel Casting & Forging Plant	Crankshafts, etc., castings and forgings
4			Titanium Plant	Titanium forgings
5			Steel Powder Plant	Steel powder
6		Nippon Kokusha Steel Co., Ltd	Toyama Works	Special steel forgings, special rolled steel
7		Koshuha-Foundry Co., Ltd.		Steel castings
8		Koshuha Precision Co., Ltd.		Dies, tools
9		Koshuha All Metal Service Co., Ltd.	Chubu Techno Center	Special steel processing, heat treatment, etc.
10			Atsugi Plant	Special steel processing, heat treatment, etc.
11		Shinko Engineering & Maintenance Co., Ltd.		Design, construction and maintenance of plants and equipment
12		Shinko Wire Company, Ltd.	Amagasaki Works	PC steel products, steel wires
13			Onoe Works	Wire ropes
14		Shinko Wire Stainless		Stainless steel wires

		Company, Ltd.			
15		Tesac Wire rope Co., Ltd.		Wire ropes	
16		Kobelco Steel Tube Co., Ltd.		Seamless stainless steel tube, titanium welded tube	
17		Shinko Bolt, Ltd.		Various bolts	
18		Kobelco Engineered Construction Materials Co., Ltd.		Guard fences, gratings, anti-slip steel plates	
19		Shinko Kohan Kako, Ltd.		Steel plate cutting	
20		Sakai Steel Sheets Works, Ltd.		Leveling and slitting of steel, titanium, etc.	
21		Sanwa Tekko Co., Ltd.		Leveling, slitting, melt-cutting of flat steel products	
22	Welding	Kobe Steel, Ltd. (Welding)	Fujisawa Plant	Solid wires, flux-cored wires	
23			Ibaraki Plant	Flux-cored wires, covered welding electrodes	
24			Saijo Plant	Covered welding electrodes	
25			Fukuchiyama Plant	Solid wires	
26			Quality Management Department	Product testing	
27			Welding System Department	Design, services	
28			Hanshin Yosetsu Kizai Co., Ltd.		Flux for automatic welding
29			Shinko Welding Service		Welding-related testing

		Co., Ltd.		
30	Aluminum & Copper	Kobe Steel, Ltd. (Aluminum & Copper)	Moka Plant	Aluminum can stock, aluminum sheet for heat exchangers
31			Daian Works	Aluminum sand casting, hydraulic forging, pressing, etc.
32			Chofu Works, Copper Rolled Products Plant	Copper strips, coated copper strips
33			Chofu Works, Aluminum Extrusion & Fabrication Plant	Aluminum extrusions
34		Shinko Leadmikk Co., Ltd.		Electronic parts, semiconductors, integrated circuit parts
35		Shinko Metal Products Co., Ltd.		Condenser tubes, copper tubes
36		Shinko North Co., Ltd.		Aluminum processed products
37		Shinko Aluminum Wire Co., Ltd.		Aluminum alloy wires and bars
38		Kobelco & Materials Copper Tube Co., Ltd.		Copper tubes for air conditioners, copper tubes for cold/hot water supply
39		Machinery	Kobe Steel, Ltd. (Machinery)	Industrial Machinery Plant/Services
40	Equipment Plant			Heat exchangers, vaporizers

41			Rotating Machinery Plant	Various compressors
42			Standard Compressor Plant	Standard compressors
43		Shinko Engineering Co., Ltd.		Internal combustion engines, power transmission devices, testing machines
44		Shinko Inspection & Service Co., Ltd.		Non-destructive testing, general testing & inspection
45	Engineering	Kobe Steel, Ltd. (Engineering)		Planning, design, and construction of various plants
46		Kobelco Eco-Solutions Co., Ltd.	Water Environment Technology Division	Water treatment business
47			Environmental Plant Technology Division	Waste treatment business
48			Process Equipment Division	Glass-lined reactors, alloy-made equipment
49			Technical Research Center, Analysis Lab	Water analysis
50		Transnuclear, Ltd.	Technology Department	Transport casks
51			Transport Department	Transportation services

52		Industrial Services International Co., Ltd.		Spare parts for plants, equipment
53	Electric Power	Kobe Steel, Ltd. (Electric Power)	Kobe Power Plant	Wholesale power supply business
54	Construction Machinery	Kobelco Construction Machinery Co., Ltd.	Hiroshima Factory	Hydraulic excavators
55			Ogaki Factory	Mini excavators
56			Okubo Factory	Cranes
57	Head Office	Shinko Kosan Kensetsu K.K.		Construction
58		Shinko Industrial Co., Ltd.		High-pressure gas tanks
59		Kobelco Research Institute, Inc.	LEO Division	Evaluation systems for semiconductors, FPD, etc.
60			Sputtering Target Business	Sputtering target materials
61			Shintetsu Laboratories	Analysis and testing of various materials
62			Takasago Laboratories	
63			Kakogawa Laboratories	
64			Kanmon Laboratories	
65			Japan Superconductor Technology, Inc.	Seishin Factory
66		Moji Factory		Superconducting wires

[Overseas]

No	Business unit	Company Name	Business Location	Main lines of products
67	Iron & Steel	Kobe Wire Products (Foshan) Co., Ltd.	Foshan, Guangdong, China	Cold-finished steel bars and CHQ wires
68		Kobelco Spring Wire (Foshan) Co., Ltd.	Foshan, Guangdong, China	Steel wires for high-grade springs
69		Kobe Special Steel Wire Products (Pinghu) Co., Ltd.	Pinghu, Zhejiang, China	CHQ and bearing steel wires
70		Jiangyin Sugita Fasten Spring Wire Co., Ltd.	Jiangyin, Jiangsu, China	Oil tempered wire for automotive suspension springs
71		Kobe CH Wire (Thailand) Co., Ltd.	Bangkok, Thailand	CHQ wires
72		Kobelco Millcon Steel Co., Ltd.	Rayong, Thailand	Special and ordinary steel wire rods
73		Tesac Usha Wirerope Co., Ltd.	Pathum Thani, Thailand	Wire ropes
74	Welding	Kobe MIG Wire (Thailand) Co., Ltd. Thai-Kobe Welding Co., Ltd.	Samutprakarn, Thailand	Solid welding wires
75		Kobelco Welding Asia Pacific Pte. Ltd. Kobe Welding (Malaysia)	Singapore	Covered welding electrodes

		Shn. Bhd.		
76		Kobelco Welding of Europe B.V.	Heerlen, Netherlands	Flux-cored welding wires
77		Kobe Welding of Korea Co., Ltd.	Changwon, Gyeongnam, South Korea	Flux-cored welding wires
78		Kobe Welding of Tangshan Co., Ltd.	Tangshan, Hebei, China	Solid welding wires
79		Kobe Welding of Qingdao Co., Ltd.	Qingdao, Shandong, China	Flux-cored welding wires
80	Aluminum & Copper	Kobe Aluminum Automotive Products, LLC	Bowling Green, Kentucky, USA	Aluminum forgings for automotive suspensions
81		Kobelco Automotive Aluminum Rolled Products (China) Co., Ltd.	Tianjin, China	Aluminum sheet for automotive closure panels
82		Suzhou Kobe Copper Technology Co., Ltd.	Suzhou, Jiangsu, China	Copper strips for electronic materials
83		Kobe Aluminum Automotive Products (China) Co., Ltd.	Suzhou, Jiangsu, China	Aluminum forgings for automotive suspensions
84		Kobelco & Materials Copper Tube (Thailand) Co., Ltd.	Rayong, Thailand	Copper tubes for air conditioning, freezing and refrigerating
85		Kobe Electronics Material (Thailand) Co., Ltd.	Ayutthaya, Thailand	Copper strips for electronic materials
86		Singapore Kobe Pte. Ltd.	Singapore	Leadframes
87		Kobelco & Materials Copper Tube (M) Sdn. Bhd.	Selangor Darul Ehsan, Malaysia	Copper tubes for air conditioning, freezing and refrigerating
88		Kobe Precision Technology Sdn. Bhd.	Penang, Malaysia	Aluminum disks for hard disk drives

89	Machinery	Kobelco Advanced Lube-system Asia Co., Ltd.	Busan, South Korea	Industrial machinery and compressor LO units
90		Kobelco Stewart Bolling, Inc.	Hudson, Ohio, USA	Tire and rubber machinery
91		Kobelco Advanced Coating (America), Inc.	Buffalo Grove, Illinois, USA	PVD toll coating
92		Kobelco Compressors America, Inc.	Corona, California, USA	Process gas compressor systems, refrigeration systems
93		Kobelco Compressors Manufacturing (Shanghai) Corporation	Shanghai, China	Standard compressors
94		Kobelco Compressors Manufacturing Indiana, Inc.	Elkhart, Indiana, USA	Screw compressors
95		Engineering	Midrex Technologies, Inc.	Charlotte, North Carolina, USA
96	Construction Machinery	Hangzhou Kobelco Construction Machinery Co., Ltd.	Hangzhou, Zhejiang, China	Hydraulic excavators
97		Chengdu Kobelco Construction Machinery Co., Ltd	Chengdu, Sichuan, China	Hydraulic excavators
98		Kobelco Construction Machinery Southeast Asia Co., Ltd.	Rayong, Thailand	Hydraulic Excavators
99		Kobelco Construction Machinery U.S.A. Inc.	Spartanburg County, South Carolina, USA	Hydraulic Excavators

100		Kobelco Construction Equipment India Pvt. Ltd. Kobelco Cranes India Pvt. Ltd.	Andhra Pradesh, India	Hydraulic excavators, cranes
-----	--	--	--------------------------	---------------------------------