REPORT ON MISCONDUCT IN KOBE STEEL GROUP

March 6, 2018

Kobe Steel, Ltd.

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Chapter 1: Introduction

We deeply and sincerely apologize once again for causing substantial troubles to our customers, business partners, shareholders, and other stakeholders due to misconduct of Kobe Steel, Ltd. (the "**Company**" or "**we**") and its Group (the "**Group**" or "**Kobe Steel Group"**).

1. Background

In light of our discovering that JIS Standard violations took place in June 2016 at the Iron & Steel Business's Shinko Wire Stainless Company, Ltd. (a 100% subsidiary of Shinko Wire Company, Ltd., which is an affiliated company accounted for using the equity method), the Company, in April 2017, began a quality-assurance audit covering all business divisions. This audit, which was led by the Head Office, focused on determining whether the quality of shipped products conformed not only with public standards related to quality, such as the JIS Standard, but also with customer specifications. Furthermore, in early August 2017, we also instructed all Kobe Steel Group companies to begin conducting quality self-inspections from September covering products shipped over the previous one-year period (September 2016 to August 2017).

In response to this request, the Aluminum and Copper Business, which had already started its self-inspections, discovered in late August 2017 that misconduct had taken place. Through data falsification and/or fabrication of inspection results, products that did not meet, among others, public standards or customer specifications were shipped or provided to customers as if they had met these requirements (the **"Misconduct"**). When this was discovered, the Company immediately halted shipment of products affected by the Misconduct (the "**Affected Products**"), and, after conducting an internal investigation using an external law firm, began providing explanations to customers starting in September 2017, and made voluntary announcements to the public starting from October 8, 2017.

The quality self-inspections were generally completed by October 25, 2017. Through the quality self-inspections, we confirmed that the Misconduct had been taking place at multiple business locations. Furthermore, after finding out that a quality self-inspection was hampered at Chofu Works's Aluminum Extrusion Plant, the Company established an Independent Investigation Committee (the "**IIC**")[1] on October 26, 2017.

[1] The IIC consists of Gan Matsui, Hisashi Yamazaki (a lawyer, former Chief Judge of the Sapporo High Court, and former member of the Japan Fair Trade Commission), and Mamoru Wada (a lawyer and former prosecutor). As announced on October 26, 2017, the IIC investigation's objectiveness and independence is being secured by having selected lawyers who were not previously involved in the Company's internal investigations and who do not have any

The IIC, which subsequently took over the investigation, was chaired by Committee Chairman Gan Matsui (a lawyer and former superintendent public prosecutor of the Fukuoka Public Prosecutor Office).

Afterward, the Company, on November 10, 2017, published "Report on investigation into the causes of the Kobe Steel Group's improper conducts and on measures to prevent recurrence," which summarized the cause analyses that had been compiled by the Company up to that point in time. On the same date, the Company, by a Board of Directors' resolution, also established a "Quality Governance Restructuring Deliberation Committee" consisting of 8 members, with 5 persons being outside board members, as an advisory body to the Board. Even after the IIC's establishment, the Quality Governance Restructuring Deliberation Committee continued to examine issues related to the governance of Kobe Steel Group, as indicated in the above-mentioned report.

Furthermore, the previously established "Quality Problem Investigation Committee," continued its functions of deliberating on, and developing, concrete measures to address issues from management and processing perspectives.

In December 2017, having received a communication from the IIC of the necessity to investigate further, and on a more complete basis, the validity of the quality self-inspections, the IIC's investigation period was extended and the Company has cooperated in full with the IIC.

2. Positioning and Structure of This Report

Upon receipt of the results of the investigations by the IIC, this report summarizes, among others, the facts regarding, the cause analyses of, and the measures for preventing the recurrence of, the Misconduct, by combining the examination results of the Company's Compliance Committee, Quality Governance Restructuring Deliberation Committee[2], and Quality Problem Investigation Committee.

On October 17, 2017, the Company announced that one of its U.S.-based subsidiaries received a subpoena from the United States Department of Justice; as of this report's publishing, the Company is under investigation by that authority. Also, as announced on December 8, 2017, lawsuits for damages with respect to the Misconducts were filed in

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vested interest in the Company.

[2] After becoming aware of the Misconduct, the Board of Directors established this committee on November 10, 2017, as an advisory body to the Board, with the aim to deliberate not only on the Company's, but also on the Group's, measures for strengthening quality governance, organizational reforms, awareness-raising, and utilization of external personnel, as well as strengthening of the functions of overseas regional headquarters. In addition to the Company's President, the Quality Governance Restructuring Deliberation Committee also consists of the 2 executives – overseeing the Legal Department, the Corporate Planning Department, and the MONODZUKURI (Production System Innovation) Planning and Promoting Department – and 5 Outside Board Members.

Canada against some of the Group companies. Given those circumstances described above, making public the results of the IIC's investigation would be inconsistent with legal practices in the United States and other countries. The results of the IIC's investigation, moreover, contain a large quantity of personal and customers' information, business and trade secrets, and other confidential information.

Aiming to fulfill our public accountability to the greatest extent possible, even under the circumstances described above, we hereby prepared this report to the general public[3].

After explaining the status of the quality self-inspections and the safety verifications that have been conducted by the Company (see Chapter 2 below), this report: provides an overview of facts relating to the Misconduct, as identified by the IIC's investigation (see Chapter 3 below); provides cause analyses of the Misconduct (see Chapter 4 below); and describes measures to be taken by the Company in order to prevent recurrences of the Misconduct, based on the cause analyses (see Chapter 5 below).

Chapter 2: Quality Self-inspections and Safety Verifications

1. Overview of the Quality Self-inspections Led by the MONODZUKURI (Production System Innovation) Planning and Promoting Department

To determine whether the Misconduct took place within the Group, the MONODZUKURI (Production System Innovation) Planning and Promoting Department, on September 1, 2017, instructed each business location of the Group to conduct a quality self-inspection covering products that the location manufactured or supplied during a one year period[4]. As part of the inspection, each business location was instructed to determine: (1) whether manufacturing specifications – as provided in the mill test certificates and other testing documents – matched the specifications called for by the applicable public standards, customer specifications, and other product requirements (**specification check**); and (2) whether actual testing / inspection results matched those recorded in the mill test certificates (**document comparison**). An overview of the quality self-inspections is as follows.

<Overview of the quality self-inspections>

(i) Objective of the quality self-inspections:

Check whether the Misconduct took place within the Group

[3] The Company's five Outside Board Members have confirmed that the content of this report is free of unjustified omissions and distortions in relation to the factual situations determined as a result of the IIC's investigation.

[4] Note that some locations of the Aluminum & Copper Business already started their quality self-inspections before instructions were issued on September 1.

(ii) Focus of quality self-inspections:

The main business locations that provide products and testing / inspection services within the Group, comprising 21 Company business locations, 45 business locations of Group companies in Japan, and 34 business locations of Group companies overseas, for a total of 100 business locations

(iii) Time period subject to the quality self-inspections:

One year, from September 2016 to August 2017

(iv) Specific methods of quality self-inspections:

Confirm by making comparisons against raw data (see also Diagram 1 below)

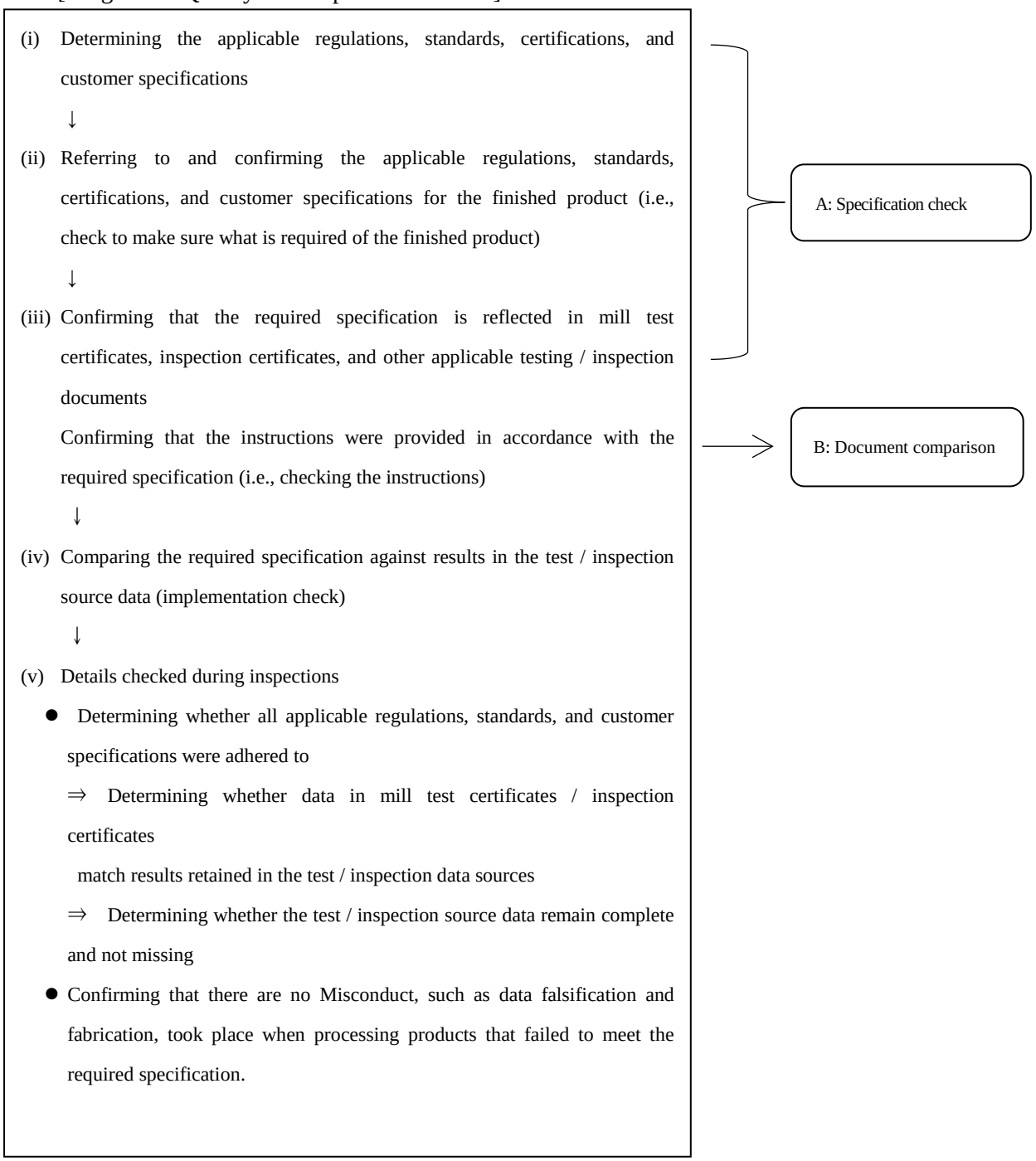
- Compare Specifications Required by Customers with Contents of Testing / Inspection Instructions at the Company (specification check)

・Compare Inspection Report with Inspection Results Data (document comparison)

Note 1: To the extent possible, departments that conducted testing / inspections and thereafter made the decision to ship the tested / inspected products were not involved in the quality self-inspections of products they had previously tested / inspected. In cases where a department was involved in the quality self-inspection of products that it had previously tested / inspected, objectivity was ensured by having people from other departments participate in the self-inspection and/or having the self-inspections conducted by multiple people.

Note 2: By obtaining advice from JMA Consultants (“JMAC”), we confirmed the validity of the methods by which the self-inspections were conducted.

[Diagram 1: Quality self-inspection methods]



Through the quality self-inspections that the MONODZUKURI (Production System Innovation) Planning and Promoting Department led, we confirmed, by October 22, 2017, that the Misconduct took place in a total of 12 out of the 66 business locations that were the subject of the self-inspections in Japan. This total includes the number of Misconduct

announced by the Company on October 8, 2017[5].

2. Safety Verifications

After becoming aware of the Misconduct, the Company has been, among other actions, providing explanations to all our customers who received an Affected Product. Through these explanations, which are based on and derived from data, we are providing our customers with information such as identification of the Affected Products, the identification of inspection items that were affected by the Misconduct, and the degree to which Affected Products deviated from the applicable standards / requirements. We have also been verifying and confirming the quality of, and the safety of, the customers' products that incorporate the Affected Products.

The Company has regularly been reporting the progress of our safety-verification efforts. As of March 6, 2018, we have – generally with minor differences in degrees – completed safety verifications for the 525 customers who, as we announced on October 26, 2017, had received an Affected Product. Much of this progress is attributable to the immense cooperation and support that we received from the customers and others involved in the effort. An overview of the progress is provided in Diagram 2 below:

[Diagram 2: State of the safety verifications]

As of March 6, 2018

Major category	Company name	Material	Main purpose	Announced on October 26, 2017		Since the IIC's establishment (October 26, 2017)	
				No. of customers	Safety verification	No. of customers	Safety verification
Aluminum & Copper	Kobe Steel, Ltd. Aluminum & Copper Business	Aluminum sheets	Can stock Cars	57	52	7[*4]	6
		Aluminum cast & forged parts	Aircraft Rolling stock	67	67	4[*5]	2
		Aluminum extrusions	Cars Rolling stock	34	34	-	-
		Copper sheets	Semiconductors Terminals	38	38	2[*6]	2
	Kobelco & Materials Copper Tube, Ltd.	Copper tubes	Air conditioning	23	23	88[*7]	87
	Shinko Metal Products Co., Ltd.	Copper alloy tubes, Molds	Electrical machinery Steelmaking equipment	176	176	29[*8]	1
	Domestic subsidiary: 1 Overseas subsidiaries: 3[*2]	Copper tubes Copper strips Aluminum	Air conditioning Terminals	36	36	-	-

[5] Refer to Chapter 3 below for details on the confirmed Misconduct.

		wires					
	Shinko Moka Sohgo Service Ltd.*2	Aluminum plate	Prototype materials	-	-	1*9	0
Other	Kobelco Research Institute, Inc.	Sputtering target materials Prototype alloys	FPD Optical disks Prototype alloys	70	70	14*10	13
		Corrosion analysis	Corrosion analysis				
	Kobe Steel, Ltd. Iron & Steel Business Steel Powder Division	Steel powder	Sintered parts	1	1	-	-
	Domestic subsidiaries, etc.: 2 Overseas subsidiaries, etc.: 2*3	Steel wire Stainless steel wire Heat treatment	Bearings Springs	22	22	-	-
	Shinko Kohan Kako, Ltd.	Heavy plate processing	Heavy plate processed products	1	1	-	-
	Koshuha All Metal Service Co., Ltd.	Heat treatment	Heat treatment	-	-	1*11	1
	Kobe Steel, Ltd. Machinery Business	Machinery	Industrial machinery Standard compressors	-	-	10*12	10
	Shinko Engineering Co., Ltd.	Machinery	Industrial machinery	-	-	3*13	3
	Kobelco Eco-Solutions Co., Ltd.	Water analysis	Water analysis	-	-	4*14	4
				525	**520**	**163*1**	**129**

<The numbers of customers are cumulative>

*1 Shinko Aluminum Wire Co., Ltd., Kobelco & Materials Copper Tube (M) Sdn. Bhd., Kobelco & Materials Copper Tube (Thailand) Co., Ltd., and Suzhou Kobe Copper Technology Co., Ltd.

*2 The portions shaded in red in Diagram 2 indicate the locations where the Misconduct was detected after the IIC's establishment.

*3 Nippon Koshuha Steel Co., Ltd., Shinko Wire Stainless Company, Ltd., Jiangyin Sugita Fasten Spring Wire Co., Ltd., and Kobelco Spring Wire (Foshan) Co., Ltd.

The Misconduct of *4 - *14 is outlined in the following sections of Chapter 3 "Facts regarding the Misconduct." (*4) P12, 1(1), Misconduct (i)(ii)(iii); (*5) P20, 1(4), Misconduct (ii); (*6) P15, 1(2); (*7) P31, 3(1), Misconduct (i)(iii); (*8) P33, 3(2), Misconduct (ii)(iii); (*9) P39, 3(4); (*10) P47, 4(7), Misconduct (ii); P49, 4(8); (*11) P43, 4(4); (*12) P28, 2(2), Misconduct (i)(ii)(iii); p30, 2(3); (*13); P44, 4(5), Misconduct (i)(ii); (*14) P46, 4(6), Misconduct (i)(ii)(iii).

3. The IIC's Investigation into the Quality Self-inspections, and Its Completion

After being established on October 26, 2017, the IIC began its investigation into the quality self-inspections that the Company conducted. Through that process, inadequacies in the self-inspections were identified, and the Company took steps to address these inadequacies to ensure the suitability of the scope and depth of the quality self-inspections. For example, the Company conducted supplemental inspections (**re-inspections**), through

which we: included product samples within the inspection's scope; performed document comparisons that put to test all inspection items, including items that were previously skipped; and conducted document comparisons that tested all items on an inspection certificate, including those items that the contract with the customer did not specifically require to be tested so long as such inspection items were actually recorded on the certificate..

Previously unknown instances of Misconduct were discovered through a series of investigation derived by the IIC, including that concerning the IIC's inquiry into the quality self-inspections conducted by the Company. The IIC's inquiry into the self-inspections was completed around the end of February 2018[6]. To date, no particular issues have been found with respect to whether the quality self-inspections that the Company conducted were proper.

[Diagram 3: Business locations that have completed their quality self-inspections]

[Domestic locations]

No.	Division	Company	Business location
1	Iron & Steel	Kobe Steel, Ltd.	Kakogawa Works (Steel Plates / Steel Sheet)
2			Kakogawa Works (Wire Rod / Titanium)
3			Kakogawa Works (Slag)
4			Kakogawa Works (Pig Iron)
5			Kobe Works (Wire Rod / Steel Bars)
6			Kobe Works (Slag)
7			Kobe Works (Pig Iron)
8			Takasago Steel Casting & Forging Plant
9			Takasago Titanium Plant
10			Takasago Steel Powder Plant
11		Nippon Koshuha Steel Co., Ltd.	
12		Koshuha Foundry Co., Ltd.	
13		Koshuha Precision Co., Ltd.	
14		Koshuha All Metal Service Co., Ltd.	Chubu Techno Center
15			Atsugi Plant
16			Nagano Sales Office
17			North Kanto Sales Office
18			Yokohama Plant
19			Hokuriku Techno Center
20			Nishinomiya Plant
21		Shinko Engineering & Maintenance Co., Ltd.	
No.	**Division**	**Company**	**Business location**
22		Shinko Wire Company, Ltd.	Onoe Business Office

[6] See Part 3 below for the details of the Misconduct newly revealed in the IIC's inquiry into the self-inspections.

23	Iron & Steel		Amagasaki Business Office
24		Shinko Wire Stainless Co., Ltd.	
25		Tesac Wirerope Co., Ltd.	
26		Kobelco Steel Tube Co., Ltd.	
27		Zirco Products Co., Ltd.	
28		Shinko Bolt, Ltd.	
29		Kobelco Engineered Construction Materials Co., Ltd.	
30		Shinko Kohan Kako, Ltd.	
31		Sakai Steel Sheets Works, Ltd.	
32		Sanwa Tekko Co., Ltd.	
33	Welding	Kobe Steel, Ltd.	Ibaraki Plant
34			Fujisawa Plant
35			Saijo Plant
36			Fukuchiyama Plant
37			QMD (Quality Management Department)
38			Welding System Department
39		Hanshin Yosetsu Kizai Co., Ltd.	
40		Shinko Welding Service Co., Ltd.	
41		Shinko Actec Co., Ltd.	
42	Aluminum & Copper	Kobe Steel, Ltd.	Moka Plant
43			Daian Plant
44			Chofu Works, Copper Rolled Products Plant
45			Chofu Works, Aluminum Extrusion & Fabrication Plant
46		Shinko Leadmikk Co., Ltd.	
47		Shinko Metal Products Co., Ltd.	
48		Shinko-North Co., Ltd.	
49		Shinko Aluminum Wire Co., Ltd.	
50		Kobelco & Materials Copper Tube, Ltd.	Hatano Plant
51	Machinery	Kobe Steel, Ltd.	Takasago Industrial Machinery Plant
52			Takasago Equipment Plant
53			Takasago Rotating Machinery Plant
54			Standard Compressor Plant
55		Shinko Engineering Co., Ltd.	
56		Shinko Inspection & Service Co., Ltd.	
57	Engineering	Kobe Steel, Ltd.	Engineering Business
58		Kobelco Eco-Solutions Co., Ltd.	Water Environment Department
59			Environment Plant Department
60			Process Equipment Department
61			Analysis Testing Department
62		Transnuclear, Ltd.	
63		Industrial Services International Co., Ltd.	
64	Electric	Kobe Steel, Ltd.	Kobe Power Plant

	Power		
65	Construction Machinery	Kobelco Construction Machinery Co., Ltd.	Hiroshima Factory
66			Ogaki Factory
67			Okubo Factory
68	Head Office	Shinko Kosan Kensetsu K.K.	
69		Shinko Industrial Co., Ltd.	
70		Kobelco Research Institute, Inc.	LEO Division
71			Material Solutions Division
No.	**Division**	**Company**	**Business location**
72	Head Office	Kobelco Research Institute, Inc.	Machinery Process Solutions Division
73			Target Division
74			Shintetsu Laboratories
75			Takasago Laboratories
76			Kakogawa Laboratories
77			Kanmon Laboratories
78		Japan Superconductor Technology, Inc.	Seishin Factory
79			Moji Factory

[Overseas locations]

No.	Division	Company
1	Iron & Steel	Kobe Wire Products (Foshan) Co., Ltd.
2		Kobelco Spring Wire (Foshan) Co., Ltd.
3		Kobe Special Steel Wire Products (Pinghu) Co., Ltd.
4		Jiangyin Sugita Fasten Spring Wire Co., Ltd.
5		Kobe CH Wire (Thailand) Co., Ltd.
6		Kobelco Millcon Steel Co., Ltd.[*1]
7		Tesac Usha Wirerope Co., Ltd.
8	Welding	Kobe MIG Wire (Thailand) Co., Ltd. Thai-Kobe Welding Co., Ltd.
9		Kobelco Welding Asia Pacific Pte. Ltd. Kobe Welding (Malaysia) Sdn. Bhd.
10		Kobelco Welding of Europe B.V.
11		Kobe Welding of Korea Co., Ltd.
12		Kobe Welding of Tangshan Co., Ltd.
13		Kobe Welding of Qingdao Co., Ltd.
14	Aluminum & Copper	Kobe Aluminum Automotive Products, LLC.
15		Kobelco Automotive Aluminum Rolled Products (China) Co., Ltd.
16		Suzhou Kobe Copper Technology Co., Ltd.
17		Kobe Aluminum Automotive Products (China) Co., Ltd.
18		Kobelco & Materials Copper Tube (Thailand) Co., Ltd.
19		Kobe Electronics Material (Thailand) Co., Ltd.
20		Singapore Kobe Pte. Ltd.
21		Kobelco & Materials Copper Tube (M) Sdn. Bhd.
22		Kobe Precision Technology Sdn. Bhd.
23	Machinery	Kobelco Advanced Lube-system Asia Co., Ltd.
24		Kobelco Stewart Bolling, Inc.
25		Kobelco Advanced Coating (America), Inc.
26		Kobelco Compressors America, Inc.
27		Kobelco Compressors Manufacturing (Shanghai) Corporation
28		Kobelco Compressors Manufacturing Indiana, Inc.
29	Engineering	Midrex Technologies, Inc.

30	Construction Machinery	Hangzhou Kobelco Construction Machinery Co., Ltd.
31		Chengdu Kobelco Construction Machinery Co., Ltd.
32		Kobelco Construction Machinery Southeast Asia Co., Ltd.
33		Kobelco Construction Machinery U.S.A. Inc.
34		Kobelco Construction Equipment India Pvt. Ltd. Kobelco Cranes India Pvt. Ltd.

*1 The investigation into this location was discontinued based on the JV partners' opinion that the investigation was unnecessary.

Certainly, the additional instances of the Misconduct, which we discovered through our conducting the quality self-inspections, are truly and deeply regrettable. However, these new findings also demonstrate that the quality self-inspections were conducted without compromise and that the IIC fulfilled its role appropriately.

Even with respect to the instances of the Misconduct that were newly discovered through the IIC's investigation, we have already contacted our customers and also partially completed the safety verification. Although there still remain cases where the safety verification is not complete at this time, the Company will make its utmost effort to confirm the safety of these cases in the future.

4. Self-Inspection at Overseas Business Locations

For the 34 locations overseas that were subject to self-inspections (United States, China, Thailand, South Korea, Malaysia, Singapore, India, and Netherlands), we engaged local law firms to verify the validity of the quality-self inspections at those locations. As of March 6, 2018, the verification processes have been generally completed. At locations where the verifications are complete, we found no material issues that may prejudice the appropriateness of the quality self-inspections conducted by the Company.

Chapter 3: Facts Regarding the Misconduct

The following section provides an overview of facts surrounding the Misconduct as they were identified in IIC's investigation[7].

[7] While conducting its investigation, the IIC received notice regarding issues that were different in nature than that of the Misconduct; we are prepared to also address these issues appropriately and as needed.

1. Aluminum & Copper Business (Kobe Steel, Ltd.)

(1) Moka Plant

A. Overview of the Misconduct

(a) Misconduct involving material inspection

The Quality Assurance Section within the Quality Assurance Department conducts inspections of materials (i.e., a pre-shipment inspection conducted to check a product's strength as well as the amount of coating oil and coating film on the product). If a product fails to satisfy its corresponding customer specification, the proper procedure requires the applicable Quality Assurance Section[8] to create an abnormality report and thereafter determine whether the non-compliant product needs to be re-inspected, scrapped, or redirected for other use.

However, there were instances when some of the Quality Assurance Sections' staff members – after obtaining inspection results revealing that the tested products failed to meet their corresponding customer specifications – accessed the system storing the inspection results and rewrote the inspection data. Data that was rewritten included that corresponding to tensile and yield strengths. Although each product affected by the rewriting was subject to different sets of inspection items, in each case, data was rewritten to make it appear as if the affected product met the customer specification. Persons rewriting the data did so either in their own discretion or after having discussions within their section. Consequently, based on the falsified inspection results, products that did not meet the customer specifications were shipped to customers as compliant products (**Misconduct (i)**).

At the Moka Plant (in particular, among each of the Quality Assurance Section in the Quality Assurance Department), this practice of shipping products based on falsified inspection results, as described above, was referred to as "**Tokusai**" [9].

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[8] Each of the Quality Assurance Sections is in charge of handling different materials. The Sections, however, are all tasked with processing products that failed under testing / inspection. And, because they also responsible for quality management, the Quality Assurance Sections at the Moka Plant have roles that are slightly different than those of the Quality Assurance Sections' of departments at other divisions.

[9] "Tokusai" means the practice of shipping products that fall short of internal standards but meet either public standards or customer specifications without conducting re-inspections, etc. or the practice of shipping products failing to satisfy customer specifications with the customer's consent. *"Tokusai"* is different in nature from normal Tokusai. Hereinafter, such practice, which is different in nature from normal Tokusai, will be referred to as

(b) Misconduct involving longitudinal warpage inspection

When the inspection results of longitudinal warpage (inspection of the state of coil warpage) of can materials – conducted by the Finishing Section of the Manufacturing Department or employees of a third-party vendor – failed to meet the corresponding customer specifications, proper procedure requires the Finishing Section's staff members to determine whether the non-compliant product needs to be processed for Concession, re-inspection, or scrapping.

However, there were instances when the Finishing Section's staff members – after obtaining inspection results revealing that the tested products failed to meet their corresponding customer specifications – nevertheless deemed that the degree of the discrepancy between the inspection results and numbers called for by the customer specifications were insignificant enough to not prompt complaints from the customers. In such instances, Finishing Section's staff members instructed either the staff members of the Finishing Section's Can Material Inspection Team (which is part of the Can Finishing's Inspection Group) or the vendor's staff members to enter manually falsified inspection results that would satisfy the customer specifications. Based on the falsified inspection results, products that did not meet the customer specifications were shipped to customers as compliant products (**Misconduct (ii)**).

(c) Misconduct involving thick plate inspection

The balance (discrepancy) in the can materials' thickness (plate thickness) between the widths of the left and right sides were, upon specific request, reported to certain customers. Such thickness measurements were to be examined and taken at three different points on the can materials – the left side, the center, and the right side; these measures would be recorded as the inspection results and entered into the inspection sheet. Considering the manufacturing process for can materials, the expectation is for the inspection results to show one of two relationships, namely "left side ≤ center ≤ right

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"*Tokusai*."
[Translator's note: In the Japanese original report, references to special waivers / concessions are written in Kanji format (特採) and a different Katakana format (トクサイ) is used when referring to the practice of shipping the Affected Products. 特採 – i.e., special waiver / concession – is a practice that is expressly provided for and accepted under the ISO Standard (see International Standard 9000, 3.6.11, concession). Accordingly, 特採, i.e., proper tokusai, will be referred to as "Concession," and トクサイ, improper tokusai, will be referred to as "Tokusai" in this translation.]

side" or "left side ≥ center ≥ right side."

However, if an inspection failed to yield the expected thickness relationship described above (e.g., "left side ≤ center ≥ right side"), A, the team leader of the Inspection Team ("Team Leader A"), and/or his subordinates instructed staff members of a third-party vendor to enter a re-ordered, or altered, set of values into the inspection sheet as a way of recreating the expected results. Consequently, there were products that were shipped based on the falsified inspection results (**Misconduct (iii)**). With respect to the products that failed to meet the customer specifications, no instances were found where the measurements (and not the relationships) were falsified to satisfy the customer specifications.

The Inspection Team had a written document titled "*Inspection Sheets, Plate Thickness, and Others → Data Entry Methods,*" which contained the methods to satisfy requirements specified by the customers. Referring to this document, Team Leader A and his subordinates gave the instructions described above.

B. Affected Products and the Period

Among the aluminum products manufactured at the Moka Plant, the Misconduct (i) took place at least with respect to automotive panel materials (materials for automobiles), aluminum can materials for beverages (can materials), and fins for air conditioners' heat-exchange units (fin materials); the Misconduct (ii) and the Misconduct (iii) took place with respect to can materials.

The Misconduct (i) started no later than the 1970s and continued until all shipment of products failing to satisfy the customer specifications ceased after the Misconduct was detected. The Misconduct (ii) and the Misconduct (iii) took place from the early 2000s until around December 2017, and from at least around May 2005 until February 2018[10], respectively.

C. People Who Were Involved in or Knew about the Misconduct

The Misconduct (i) was conducted by the staff of each Quality Assurance Section in the Quality Assurance Department. The Misconduct (ii) was

[10] The Misconduct (iii)'s purpose was to serve the customers' convenience and took place according to fixed rules. Persons involved in the Misconduct, therefore, maintained the incorrect belief that such conduct did not amount to data falsification or fabrication. For this and other reasons, the Misconduct (iii) continued to take place even after instructions to halt shipment of Affected Products was issued to the entire Kobe Steel Group in October 2017.

conducted by staff members of the Inspection Team and the staff members of a third-party vendor (based on instructions from the Finishing Section's staff members)[11]. The Misconduct (iii) was conducted by staff members of the previously mentioned vendor (based on instructions from Team Leader A and his subordinates)[12].

For the Misconduct (i), B, who served as the head of the Moka Plant from April 2008 to May 2009, had experience working in inspection work after joining the Company, and was aware of the Misconduct's taking place while working in inspection and also became aware of its taking place during his appointment as the head of the Moka Plant. And C, who served as the head of the Moka Plant from April 2013 to March 2015, received a report – around the end of 2014 or the beginning of 2015 – providing that the Misconduct (i) was taking place in connection with some of the automotive materials. C, therefore, was aware that Misconduct (i) had taken place. Furthermore, D, the current head of the Moka Plant, received reports on "Tokusai Rate" (which specifies, as numbers, the percentage of products that were subject to the Tokusai practice) at budget hearings that are held biannually and was aware that the Misconduct (i) had taken place.

No evidence has been found pointing to other persons, including the head of the Finishing Section, having been aware of the Misconduct (ii) and the Misconduct (iii).

(2) Chofu Works, Copper Rolled Products Plant

A. Overview of the Misconduct

The Copper Rolled Products Plant outsourced the material tests to Shinko Kanmon Sogo Service, Ltd. (**SKSS**), which is one of the Kobe Steel Group companies. If the inspection results of the material tests conducted by inspectors in the SKSS Inspection Group did not satisfy customer specifications, the Copper Sheet Quality Control Section was supposed to decide whether to handle it as Concession, perform a re-inspection, or scrap the materials.

However, if the results of the material test on a product did not satisfy customer

[11] From their predecessors, staff members who were involved in the Misconduct (i) and the Misconduct (ii) received knowledge, and develop a sense regarding the range within which data, for products failing to conform to the internal standards, could be falsified without their receiving complaints from customers.

[12] The vendor's staff, however, were inputting these data under the impression that doing so was within the normal, acceptable business practice.

specifications, and the staff or head of the Copper Sheet Quality Control Section considered factors such as the safety of the product and the customer's purpose of use, changed the inspection results to that would meet the customer specifications on a document called the Inspection Information Notification issued by the SKSS Inspection Group, and instructed the inspectors in the SKSS Inspection Group to enter the altered numbers into the system where the inspection results were stored. Products that did not actually satisfy the customer specifications were shipped as acceptable products based on the falsified inspection results (**Misconduct (i)**).[13][14]

Furthermore, for products that specified spring elastic limit as a customer specification, the staff of the Copper Sheet Quality Control Section removed the process of taking measurement samples for the spring elastic limit from the work instructions because it could not be measured using equipment owned by the Copper Rolled Products Plant or SKSS. Then the inspectors in the SKSS Inspection Group were instructed to enter a theoretical spring elastic-limit into the system by calculating them using a conversion chart without actually conducting inspections. Products were shipped based on the fabricated inspection results (**Misconduct (ii)**).

In addition, for products with "copper undercoat thickness" as a customer specification, the staff of the Copper Sheet Quality Control Section entered the number from manufacturing line settings into the system as measurements without actually performing measurements because this could not be measured at the Copper Rolled Products Plant due to the design of the manufacturing process. Products were shipped based on the fabricated inspection results (**Misconduct (iii)**)[15].

B. Affected Products and the Period

The Misconduct was carried out with respect to a subset of products manufactured in the Copper Rolled Products Plant, such as copper-alloy strips for

[13] The Misconduct (i) mainly involved issues in connection with certain inspection items, such as hardness, tensile strength (including stretch and proof stress), surface roughness, conductivity, reflectance, and heat resistance.

[14] Although a small number, we have confirmed that, in some cases, the results of chemical composition analyses that failed to satisfy the internal standards were rewritten to indicate acceptable numbers, and these falsified numbers were entered into the system.

[15] In addition to the cases described above, we have also confirmed that the employees at the Copper Rolled Products Plant (i) adopted inspection methods different from those required under the customers' specifications in inspections relating to burrs and distortion, inspections relating to product shape (distortion and edge wave), inspections relating to the frequency of evaluation of plating (removal of plating, solder wettability, and brine spraying), inspections relating to conductivity, inspections relating to measurements of the width of welded zones, and inspections relating to chemical composition, (ii) failed to inspect certain inspection items which were omitted from instruction manuals, and (iii) used oil different from that required under the customers' specifications to prevent deviation in winding of products.

lead frames[16] and copper-alloy strips for terminals / connectors.[17]

The Misconduct (i), (ii) and (iii) had been conducted since no later than the early 1990s, around 1999, and around 2001, respectively. Each of the Misconduct continued until the shipment of all products that did not satisfy the customer specifications were stopped after the Misconduct were detected.

C. People Who Were Involved in or Knew about the Misconduct

The Misconduct (i) was carried out by inspectors in the SKSS Inspection Group based on instructions from the staff or head of the Copper Sheet Quality Control Section. The Misconduct (ii) was carried out by inspectors in the SKSS Inspection Group based on instructions from the staff of the Copper Sheet Quality Control Section. The Misconduct (iii) was carried out by the staff of the Copper Sheet Quality Control Section.

A, who served as the head of the Chofu Works from October 2015 to March 2017, was aware that products that did not meet customer specifications were being shipped because he received reports about shipments of unqualified products from B, the head of the Quality Assurance Section at the time, during meetings of the Quality Control Committee of the Chofu Works held from November 2015 to April 2016.

Furthermore, C, the incumbent head of the Chofu Works and head of the Copper Rolled Products Plant, received a report at a meeting of the Quality Control Committee held around December 2013 that the inspection results concerning electrical conductivity of KFC-SH and phosphorous-deoxidized copper (1DCB) – copper alloy plate strips for lead frames intended for specific customers – did not satisfy customer specifications at an extremely high level of probability, and thus was aware that products falling short of customer specifications were being shipped.

(3) Chofu Works, Aluminum Extrusion & Fabrication Plant

A. Overview of the Misconduct

(a) Misconduct involving inspections of dimensions and appearance

[16] Lead frames are components that support semiconductor chips (IC chips) and serve as connecting terminals to external wiring.

[17] Specifically, in addition to copper-alloy strips for lead frames and copper-alloy strips for terminals / connectors, products such as brass and phosphorous-deoxidized copper are among the Affected Products.

The Chofu Works Aluminum Extrusion & Fabrication Plant outsources the manufacturing as well as inspections of dimensions and appearance to Shinko Fab Tech, Ltd. (**SFT**), a member of the Kobe Steel Group. If the results of the inspections of dimensions and appearance conducted by inspectors in the SFT Extrusion & Fabrication Finishing Section did not satisfy customer specifications, a document called Quality Information was created, and the staff member in the SFT Extrusion & Fabrication Manufacturing Section or the SFT Extrusion & Fabrication Finishing Section was supposed to decide whether to handle it as Concession, screen the products[18], perform a re-inspection, or scrap the materials.

However, the staff of the SFT Extrusion & Fabrication Manufacturing Section or the SFT Extrusion & Fabrication Finishing Section (including cases where the head of the SFT Extrusion & Fabrication Manufacturing Section and the head of the SFT Extrusion & Fabrication Finishing Section) falsely indicated "Passed upon Re-Assessment" in the Quality Information form for products that did not satisfy customer specifications as a result of the inspections of dimensions and appearance. Products that did not satisfy customer specifications were shipped based on the assessments (**Misconduct (i)**).

(b) Misconduct involving the JIS mark

At the Aluminum Extrusion & Fabrication Plant, the JIS mark was printed on packaging labels of products by an internal system for managing the shipment of products. Until the system was replaced in November 2017, the system was designed to automatically display the JIS mark on packaging labels of all products shipped unless specifically set not to display them. The non-display setting was made by the assistant staff under instructions from the staff responsible for the issuance of product specifications (**staff issuing specifications**).

However, at the Aluminum Extrusion & Fabrication Plant, products that were not eligible for the JIS mark due to lack of the tensile test, which is required under JIS standards, were shipped with the JIS mark because the staff in charge of issuing the product specifications failed to give the

[18] Under this practice, only a subset of products (with in a lot) that satisfies the customer specifications are handled as acceptable products.

instructions to change the JIS setting (**Misconduct (ii)**)[19].

B. Affected Products and the Period

With the exception of the ABS materials[20], Misconduct (i) was conducted on almost all of the form products[21] manufactured in the Aluminum Extrusion & Fabrication Plant. Misconduct (ii) was conducted on three types of alloys.

The Misconduct (i) had been carried out since no later than the late 1970s until it was detected, and the Misconduct (ii) had been carried out since January 2008 until the September 5, 2017 shipments.

C. People Who Were Involved in or Knew about the Misconduct

The Misconduct (i) was carried out by the staff of the SFT Extrusion & Fabrication Manufacturing Section or SFT Extrusion & Fabrication Finishing Section. Although there was not an explicit handover concerning the Misconduct between staff members within the SFT Extrusion & Fabrication Manufacturing Section and SFT Extrusion & Fabrication Finishing Section, the Misconduct was passed down through business conduct. The Misconduct (ii) was conducted by the staff in charge of issuing the specifications and assistant staff.

There was no evidence suggesting that the superiors of the head of the SFT Extrusion & Fabrication Manufacturing Section and that the SFT Extrusion & Fabrication Finishing Section (including the head of the SFT Manufacturing Department and SFT officers), the head of the Aluminum Extrusion & Fabrication Plant, and the head of the Chofu Works were aware of the existence of the Misconduct (i), with the exception of people with experience working in the SFT Extrusion & Fabrication Manufacturing Section or the SFT Extrusion & Fabrication Section.

We did not find evidence demonstrating that anyone, other than those identified above who engaged in the Misconduct, as having been aware of the Misconduct (ii).

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[19] These are products that the customers did not request to be made as JIS-compliant products and are therefore non-JIS products.

[20] ABS material is used in the housing (protective casing) of Anti-lock Brake Systems (devices that reduce slipping caused when the wheels get locked upon the brakes being suddenly applied) installed in automobiles.

[21] The products manufactured in the Aluminum Extrusion & Fabrication Plant are generally classified into (i) bars, which are bar-shaped, (ii) tubes, which are in tubular shape, and (iii) forms, which are products other than bars and tubes.

(4) Daian Plant

A. Overview of the Misconduct

(a) Misconduct involving tensile and other tests of hydraulic forging products[22]

If the inspection results of tensile tests or stress corrosion crack sensitivity tests on hydraulic forging products conducted by inspectors in the Quality Assurance Section did not satisfy customer specifications, they were supposed to determine the measures to be taken such re-inspecting or reprocessing, handling as Concession, or scrapping the products.

However, even if inspection results of the values of tensile strength, yield strength, or elongation in the tensile tests or the stress corrosion crack sensitivity tests did not satisfy customer specifications, the head or the manager of the Hydraulic Forging Section instructed the staff in charge of entering mill test certificates in the Quality Assurance Section to enter false inspection results into the system for issuing mill test certificates should they deemed that there were no safety concerns with the product. The head or the manager of the Hydraulic Forging Section allowed these products to be shipped based on the falsified inspection results as acceptable products (**Misconduct (i)**).

(b) Misconduct involving inspections of dimensions of hydraulic forging products

If the inspection results of dimensions of hydraulic forging products conducted by inspectors in the Quality Assurance Section did not satisfy customer specifications, they were supposed to determine the measures to be taken in the same way as in (a) above.

However, during a meeting, which was attended by the section heads, managers and staff members of the Hydraulic Forging Section and the chief operator, general foreman and staff of the Quality Assurance Section, it was determined that products whose dimensions did not meet the customer specifications as a result of the inspection would be treated as passed products; or the instructions were given by the manager or staff of the Hydraulic Forging Section that the inspection results could be falsified

[22] Products wrought using a hydraulic press to produce the predefined shape.

without escalating to the meetings in the future. Consequently, inspectors in the Quality Assurance Section recorded on the mill test certificates that products passed the dimension tests and shipped the products that did not actually meet the customer specifications based on the inspection results (**Misconduct (ii)**).

(c) Misconduct involving tensile and other tests of sand casting products[23]

If the inspection results of tensile tests of sand casting products conducted by inspectors in the Quality Assurance Section did not satisfy customer specifications, they were supposed to determine the measures to be taken in the same way as in (a) above.

However, even if inspection results such as tensile strength, yield strength and elongation did not satisfy customer specifications, the head of the Casting Section or other members of the section, including the managers, falsified the inspection results on the system that issues mill test certificates if they determined that there were no safety concerns with the products, and had the products shipped as acceptable products (**Misconduct (iii)**).

The head of the Casting Section or other members of the section, including the manager, had been initially entering falsified inspection data using a terminal located within the Quality Assurance Section that had access to the system that issues mill test certificates. In or around 2009, they were told by A, then-head of the plant, that the Misconduct (i) and the Misconduct (iii) needed to stop, the staff member of mill test certificates in the Quality Assurance Section also expressed his desire to stop the falsification. Both events prompted the members of the Casting Section to modify a terminal installed in the Casting Section to enable access to the system that issues mill test certificates, and they resumed the falsification using the terminal in the Casting Section.

(d) Misconduct involving chamber[24] leak tests

Chambers shipped to some customers required leak tests[25] to be conducted as part of the customer specifications, which were supposed to be conducted by inspectors in the Quality Assurance Department.

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[23] Products made into a predetermined shape by pouring molten aluminum alloy into molds made of casting sand.
[24] These are vacuum chambers (containers that create a vacuum inside) used in liquid crystal and semiconductor manufacturing equipment.
[25] These are inspections of airtightness conducted to confirm the soundness of welded sections.

However, at a meeting called by B, who was the head of the Machining Section at the time, and other members of the section on November 24, 2010, a decision was made not to perform leak tests thereafter as part of the measures to address a shortage of personnel. Based on this, a staff member of the Machining Section instructed inspectors in the Quality Assurance Section to create chart forms that showed the products met customer specifications without actually conducting the leak tests. The products were then shipped based on the fabricated inspection results (**Misconduct (iv)**).

B. Affected Products and the Period

The Misconduct (i) and Misconduct (ii) were carried out for hydraulic forging products manufactured in the Hydraulic Forging Section. The Misconduct (iii) was carried out for sand casting products manufactured in the Casting Section. The Misconduct (iv) was carried out for chambers manufactured in the Machining Section.

The Misconduct (i) was carried out from no later than around 1982-1983[26] until it was found during the quality self-inspection. The Misconduct (ii) is likely to have been carried out from no later than around 1998 until it was detected during the quality self-inspection. The Misconduct (iii) was carried out from no later than around 1995 until the problem was detected in the quality self-inspection. The Misconduct (iv) had been conducted since the leak tests that were scheduled for November 24, 2010, until it was detected in the quality self-inspection.

C. People Who Were Involved in or Knew about the Misconduct

The Misconduct (i) was carried out by the staff member of entering and issuing mill test certificates in the Quality Assurance Section based on instructions from the head of the Hydraulic Forging Section and the managers and others of the section. The Misconduct (ii) was carried out by inspectors of the Quality Assurance Section with the instructions from the manager or staff of the Hydraulic Forging Section. The Misconduct (iii) was carried out by the head of the Casting Section or other members of the section, including managers. The Misconduct (iv) was carried out by inspectors in the Quality Assurance Section based on instructions from the Machining Section.

[26] At the time, it was the Nagoya Plant, which was the predecessor of the Daian Plant.

A, who served as the head of the Daian Plant from January 2009 until March 2011, called C, then-deputy head of the plant, D, then-head of the Quality Assurance Section, E, then-head of the Hydraulic Forging Section, and F, then-head of the Casting Section, into his office after learning that the Misconduct (i) and the Misconduct (iii) were still being carried out in the plant, and instructed them to cease the Misconduct. Based on the foregoing, A was aware of the existence of the Misconduct (i) and (iii).

C, who served as the deputy head of the Daian Plant from October 2008 until March 2011, and subsequently the head of the plant from April 2011 until March 2015, was also aware of the Misconduct (i) and the Misconduct (iii) during his time as the head of the plant.

E, who served as the deputy head of the Daian Plant from January 2015 to March 2015, and subsequently the head of the plant from April 2015 until November 2017, knew of the existence of the Misconduct (i) and the Misconduct (ii) during his time as the head of the plant.

Meanwhile, there was no evidence that indicates that the previous heads and deputy heads of the Daian Plant were aware of the Misconduct (ii) and the Misconduct (iv).

(5) Involvement and Awareness of Executive Officers[27]

A. Executive Officer A

We did not find any evidence suggesting that Executive Officer A, the current Representative Director, Executive Vice President as well as the head of the Aluminum & Copper Business, was involved in the Misconduct within the Aluminum & Copper Business. Furthermore, no evidence was found that he was aware of the existence of the Misconduct prior to receiving a report on the Misconduct at a business council meeting of the Aluminum & Copper Business held on August 30, 2017.

B. Executive Officer B

As stated in (4) c. above, Executive Officer B received reports on and was aware of the Misconduct concerning the tensile tests of hydraulic forging products and sand casting products conducted in the Daian Plant from January

[27] Unless otherwise specified, “executive officers” refer to directors and executive officers.

2009 until around March 2011 while he was the head of the Daian Plant. When he received these reports, Executive Officer B called for the abolishment of such practice, but there was no indication that he subsequently took specific measures to stop or minimize the Misconduct. Additionally, we found no evidence suggesting that he reported the facts regarding the Misconduct to his superior, Executive Officer F, who was President of the Aluminum & Copper Company (currently, the Aluminum & Copper Business), or to other executive officers.

Furthermore, as stated in (1) c. above, Executive Officer B received reports on and was aware of the Misconduct on some automotive materials manufactured in the Moka Plant while he was the head of the Moka Plant from the end of 2014 until around the beginning of 2015. However, Executive Officer B did not take specific measures to stop or minimize the Misconduct after learning about the Misconduct, nor did he report the facts to Executive Officer A, his superior, and the head of the Aluminum & Copper Business at the time, or to executive officers.

Furthermore, Executive Officer B remained aware that Misconduct was still conducted at least in the Daian Plant even after he became the senior executive officer overseeing the Aluminum & Copper Business in 2015. Additionally, Executive Officer B did not take any specific measures to investigate, stop or minimize the Misconduct despite that he had been reported enough information to recognize that the head of the Quality Assurance Section was concerned about the issue, nor did he report these facts to Executive Officer A, his superior and the head of the Aluminum & Copper Business at the time, or to other executive officers.

Although Executive Officer B was not involved in the Misconduct in the Aluminum & Copper Business, he failed to report the Misconduct to the head of the Aluminum & Copper Business, who was his superior, or take steps to stop it despite being aware of its existence.

C. Executive Officer C

Executive Officer C served as the head of the Process Control Section of the Chofu Works' Copper Rolled Products Manufacturing Department from January until December 2002 and was aware of the Misconduct at the time because he witnessed the conduct by the personnel in the Quality Assurance Section. Further, he served as the head of the Quality Assurance Section of the Chofu Works Copper Rolled Products Plant from April 2006 until March 2008, and he was therefore aware of the Misconduct based on his experience from this

time period.

In addition, Executive Officer C served in the positions as the head of the Chofu Works Copper Rolled Products Plant from January 2008 until March 2013, and as the head of the Chofu Works from April 2013 until March 2015. During his time at these positions, he had been aware that the Misconduct remained active but did not take measures to prohibit it.

Thereafter, in April 2015, Executive Officer C was appointed as the executive officer assigned to the copper flat rolled products business of the Aluminum & Copper Business. Despite being aware that the Misconduct was being conducted in the Chofu Works, he did not take measures such as an order to stop shipments of the products that were affected by the Misconduct, nor did he report to or consult with the managing directors.

Although Executive Officer C was not involved in the Misconduct in the Aluminum & Copper Business, he failed to report on the Misconduct to his superior, the head of the Aluminum & Copper Business, or take steps to stop the Misconduct despite being aware of its existence.

D. Executive Officer D

Executive Officer D was appointed as executive officer of the Aluminum & Copper Business on April 1, 2017. At a meeting held at the Chofu Works on April 24, 2017, he received a report from several people including E, who was the head of the Copper Rolled Products Plant at the time, that inspection data had been altered for out-of-specification KFC-SH and phosphorous-deoxidized copper (1DCB) products for many years at the Chofu Works. This fact indicates that Executive Officer D was aware of the existence of Misconduct by this meeting. Executive Officer D conveyed to E and other individuals that another meeting would be held after the Golden Week, and instructed them to arrange specific corrective measures and their deadlines by the next meeting.

In the second meeting held on or around May 10, 2017, Executive Officer D and the attendees of the above meeting decided as the basic policy that they would not stop the shipment of out-of-specification products due to the pressing state of pending orders at the time and the confusion it would cause to customers, but instead cease the Misconduct and the shipment of the Affected Products gradually by or around September 2017 by improving the manufacturing process and declining some orders. Executive Officer D received monthly progress reports after that time. Nonetheless, he did not report these facts to Executive

Officer A, who was his superior.

As described here, despite being aware that the Misconduct was conducted on at least two products in the Copper Rolled Products Plant at the latest by the end of the April 24, 2017 meeting, Executive Officer D's efforts did not extend so far as to call for an investigation to identify the details or take direct actions to halt the Misconduct. Instead, his actions were limited to lay the basic policy to gradually phase out the Misconduct and shipment of the Affected Products, improve the manufacturing processes, and stop the acceptance of some orders while checking the progress on a monthly basis.

E. Executive Officer F (Former executive officer)

Executive Officer F was the staff of the Quality Assurance Department before serving as the manager of the section and the head of the Quality Assurance Section at the Moka Plant. He not only engaged himself in the Misconduct in or around 1983, but was he also giving instructions to his subordinates at the Quality Assurance Section to carry out Misconduct on the can materials from 1992 until around 1993.

Furthermore, Executive Officer F held several position thereafter, including the head of then-Aluminum & Copper Business Moka Plant Technology Department, the head of then-Aluminum & Copper Company Hatano Plant, the head of then-Aluminum & Copper Company Chofu Works, the head of then-Aluminum & Copper Company Moka Plant, managing executive officer, senior managing executive officer, representative director, executive vice president and the head of the Aluminum & Copper Business, and advisor. During the course of his time at these positions, while he was aware the possibility that Misconduct was occurring at the Moka Plant, but Executive Officer F did not investigate the situations, take specific actions to halt or minimize the Misconduct, or report the facts regarding the Misconduct to the Board of Directors or other executive officers.

As described above, Executive Officer F was engaged in the Misconduct at the Moka Plant (however, no evidence indicated his involvement either by receiving reports or consultation, or giving instructions or orders concerning specific cases of the Misconduct after April 1999 when he was the head of the Hatano Plant), and he continued to fail to report the Misconduct to the Board of Directors or attempt to stop the Misconduct, though he was aware of its existence.

F. Other executive officers

Executive Officer G, who served as a senior managing executive officer until June 2008, worked at the former Chofu Works from 1970 and at the Chofu Works Aluminum Extrusion & Fabrication Plant, where he served as a staff member and a manager. In addition to initially engaging in the Misconduct himself, he remained aware that his subordinates' engaging in the Misconduct. Although he later became the head of the Manufacturing Department and was no longer involved in the Misconduct himself, he was aware that there was a high probability that the Misconduct was still taking place.

Meanwhile, of persons who served as officers in the Aluminum & Copper Business since April 2006, other than those mentioned above, no one had experience working in the departments where the Misconduct were conducted, and we did not find evidence that indicated their awareness of the Misconduct.

Similarly, we found no evidence that officers outside of the Aluminum & Copper Business were aware of the Misconduct.

2. Divisions Other Than Aluminum & Copper Business (Kobe Steel, Ltd.)

(1) Takasago Steel Powder Plant (Iron & Steel Business)

A. Overview of the Misconduct

If the inspection results of compact density[28] of sintering steel powder conducted by inspectors in the Quality Assurance Section did not satisfy customer specifications, staff in the Quality Assurance Section was supposed to determine the measures to be taken such as conducting re-inspection, changing to another type of steel, or scrapping the product.

However, on one steel type for a specific customer, if the customer specifications were not satisfied due to the inspection figure for the compact density exceeding the upper threshold in the customer specifications (i.e., the product's quality exceeded that requested by the customer), the staff of the Quality Assurance Department rewrote the values of the initial tests to make them appear as if the values fell within the threshold as a result of the re-inspections without actually performing the re-inspections. The products were then shipped

[28] This refers to a number indicating the density of steel powder compact. Density measurements are derived by placing the steel powder in a predetermined mold and thereafter applying a predetermined pressure on the product.

based on the fabricated re-inspection results.

With respect to the steel type for which the Misconduct was found, no Misconduct was found in cases the compact density values were below the specified threshold. Furthermore, no Misconduct was found for the remainder of the products that were shipped to customers.

B. Affected Products and the Period

The Misconduct took place with respect to only one type of steel used for sintering steel powder; these products were shipped to only one specific customer.

The Misconduct occurred from no later than around 2004[29] until it was discovered.

C. People Who Were Involved in or Knew about the Misconduct

The Misconduct was carried out by at least two staff members of the Quality Assurance Section, but no one other than those two individuals was found to have been aware of its existence.

(2) Standard Compressor Plant[30] (Machinery Business)

A. Overview of the Misconduct

(a) Misconduct involving oil-free screw air compressors

It was found that A, an inspector at the Manufacturing Group at the time, altered the test results to meet the internal standard when inspection results for some products showed that the amount of air exhausted at the time of commissioning before shipment valued less than the internal standard[31]. The altered test results were conveyed to the Quality Assurance Group, and the products were shipped based on the falsified test results (**Misconduct (i)**).

Furthermore, B, who was an employee in the Quality Assurance Group,

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[29] However, the existence of the Misconduct was confirmed by comparison with the raw data since May 2009.

[30] In or before April 2017, most of the organization and personnel of the Standard Compressor Plant had been in the Harima Plant, while part of the organization and personnel involved in the manufacture of some air compressors had been assigned to the Takasago Works in the form of the Takasago Standard Compressor Manufacturing Section. The Takasago Standard Compressor Manufacturing Section was integrated with the Harima Plant by transferring the organization and personnel to the Harima Plant on May 1, 2017. The Harima Plant prior to the integration is referred to as the "**Harima Plant**" and the Harima Plant and the Takasago Standard Compressor Manufacturing Section are collectively referred to as the "**Standard Compressor Plant**" below.

[31] However, it must be taken into consideration that these internal standard were displayed as allowed values on the test reports.

also at times entered falsified values that would satisfy the internal standard on the inspection reports when actual inspection results for some products revealed that the amount of air exhausted or shaft power at the time of the commissioning before shipment failed to meet the internal standard. There were instances where this was done even when the amount of air exhausted or shaft power was compliant with the internal standard (**Misconduct (ii)**).

(b) Misconduct involving iZSB brine chiller freezers

If the inspection results of the commissioning conducted by inspectors of the Harima Plant Manufacturing Section did not satisfy the internal standard, the inspectors were supposed to enter the results in a check sheet.

However, C, who was an inspector in the Manufacturing Section, failed to check the measurement mode of the power meter during the commissioning, and in the event the result of the power meter did not meet the internal standard due to use of an improper measurement mode, he entered values of the power meter that satisfied the internal standard on the check sheets. Products were shipped based on the falsified inspection results (**Misconduct (iii)**).

B. Affected Products and the Period

The Misconduct (i) and the Misconduct (ii) were carried out for oil-free screw air compressors manufactured in the Takasago Standard Compressor Manufacturing Section, and the Misconduct (iii) was carried out for iZSB brine chiller freezers manufactured in the Harima Plant.

The Misconduct (i) was continued the latest for the products manufactured between July 2007 and November 2011. With the respect to the Misconduct (ii), the falsification of the exhausted air amount was conducted on the products manufactures from at the latest June 2007 to the first half of 2014, and the manipulation of the shaft power values continued until April 2017. The Misconduct (iii) was committed from April 2015 until August 2016.

C. People Who Were Involved in or Knew about the Misconduct

Each of the Misconduct was solely conducted by one employee who was assigned to the respective process.

With respect to the Misconduct (i) and (ii), D, who served as the head of the Manufacturing Section from April 2009 until March 2013, was aware of the

possibility of the Misconduct. However, we found no evidence that other individuals such as the head of the Standard Compressor Plant and the head of the plant's Quality Assurance Section were aware of the Misconduct.

As for the Misconduct (iii), there was no evidence that C's superiors such as the head of the plant, the chief operator and general foreman of the Manufacturing Group as well as the staff members of the Quality Management Section had knowledge of the regarding Misconduct.

(3) Industrial Machinery Division Advanced Products & Technology Department (Machinery Business)

A. Overview of the Misconduct

The Industrial Machinery / Advanced Products & Technology Departments are responsible for providing coating services. Coating services involve the process of receiving a product from a customer, treating the product's surface with coating using a coating device designed by the Industrial Machinery / Advanced Products & Technology Departments, and delivering the finalized (coated) product together with an inspection report to the customer.

An inspection device is used to test the hardness of the coated product. In March 2013, two changes were made, including updating part of the inspection device and replacing the device's inspection terminal. As a result, it was revealed that an error – caused by the two changes – led to the inspection device providing a lower hardness reading in measurements that occurred on or after April 2013. In response, A, the Chief of the Services Group at the time, falsified the inspection results by adding difference to the actual result across the board. Products were shipped based on the falsified inspection results.

B. Affected Products and the Period

The Misconduct was carried out for hard coating processing services on centrifuge rotor axle bearings entrusted by one particular customer.

The Misconduct was carried out from April 2013, after changes were made to the inspection device, until October 2017.

C. People Who Were Involved in or Knew about the Misconduct

The Misconduct was carried out by the staff members of inspection based on instructions from A.

B, the head of the Hard Coating Technology Section, who was A's superior, was not aware of the policy of adding the difference to actual measurements across the board. Further, C, who was the head of the Advanced Products & Technology Department, was not even aware that the difference occurred in hardness measurements. As such, we found no evidence that these persons were aware of the existence of the Misconduct.

(4) Involvement and Awareness of Executive Officers

We did not find any evidence that executive officers of the Company were involved in the Misconduct in the businesses other than the Aluminum & Copper Business, or that they failed to take measures to stop the Misconduct while being aware of it.

3. Group companies in the Aluminum & Copper Business

(1) Kobelco & Materials Copper Tube Co., Ltd. Hatano Plant

A. Overview of the Misconduct

(a) Misconduct involving material test

If the inspection results of material test carried out by inspectors in charge of material test in the Quality Assurance Section of the Engineering Department (**Material Test Inspectors**) did not satisfy the customer specifications or public standards, the staff of the Quality Assurance Section were supposed to decide whether to handle it as Concession, perform re-inspection, re-processing, re-manufacturing, or scrap the materials.

However, even if the inspection results of tensile test, crystal grain size measurement, yield stress test, hardness test or oil measurement did not satisfy the customer specifications or public standards, the staff of the Quality Assurance Section instructed the staff in charge of creating the mill test certificates or the Material Test Inspectors to fill in the inspection certificates with inspection results that would satisfy customer specifications or public standards should they determine that there would be no product safety issues. Consequently, they had the products shipped based on the falsified inspection results (**Misconduct (i)**).

In addition, the Test Survey Group to which the Material Test Inspectors belong were recording the product numbers, customer names, product specifications, inspection dates and measurement data relating to the products on which Misconduct (i) took place in an excel file titled the "Tokusai List."

And even if the inspection results of material test did not satisfy the customer specifications or public standards, each material test inspectors would refer to previous Misconduct (i) that took place with respect to the same type of products on the Tokusai List, and completed the inspection certificates with inspection results that would satisfy customer specifications or public standards in their sole discretion without consulting with the staff of the Quality Assurance Section. The products were then shipped based on the falsified inspection certificates (**Misconduct (ii)**).

(b) Misconduct involving chemical component analysis

Certain products manufactured at Kobelco & Materials Copper Tube Co., Ltd. Hatano Plant required chemical component analysis to be conducted by extracting sample test pieces[32].

When the inspection results of chemical component analysis using the wet analysis method did not fall within a certain range, the inspectors in charge of chemical analysis in the Quality Assurance Section of the Engineering Department (**Chemical Analysis Inspector**) filled in the inspection certificate with values falling within such range and had the products shipped with the falsified inspection results. This conduct was made even when the results of chemical component analysis satisfied the customer specification or public standards (**Misconduct (iii)**).

B. Affected Products and the Period

Misconduct were committed on at least air-conditioning piping (inner-grooved tubes, smooth bore tubes, processed tubes), copper tubes used for construction and cold/hot water supply (smooth bore tubes, outer-finned tubes), and other general copper tubes among the tube products manufactured at the Hatano Plant of Kobelco & Materials Copper Tube Co., Ltd.

The Misconduct (i) took place from around 1994 at the latest until when the Misconduct was discovered in the quality self-inspection. Misconduct (ii) took place from around 2008 at the latest until August 2017[33]. Misconduct (ii) took place from around the 1990s or 2000s until when the Misconduct was discovered in the

[32] The method of chemical analysis is classified into wet analysis (a method of measuring elements by a specified measuring method after solubilizing solid sample through acid decomposition) and dry analysis (a method of using dry reaction instead of reagent solution). In this case, the former method needed to be adopted in principle.
[33] The oldest Tokusai List confirmed is for around 2008 and the newest is for August 2017.

quality self-inspection.

C. People Who Were Involved in or Knew about the Misconduct

The Misconduct (i) was committed by staff in charge of creating the mill test certificates or the Material Test Inspectors upon the instructions of the staff of the Quality Assurance Section. The Misconduct (ii) was committed by the Material Test Inspector based on the *Tokusai* List created by the Test Survey Group. The Misconduct (iii) was committed by the Chemical Analysis Inspectors.

We did not find evidence that the past executive officers of Kobelco & Materials Copper Tube, Ltd. or plant managers of the Hatano Plant were aware of the existence of any of the Misconduct.

(2) Shinko Metal Products Co., Ltd.

A. Overview of the Misconduct

(a) Misconduct involving dimensional inspection of condensate pipes[34]

For condensate pipes, measurements of the outer diameter and wall thickness of one end (or both ends if required) of the pipe material and the length of the pipe material (as well as measurement of the height for low-finned tubes[35]) were supposed to be performed on a required number of samples, and a test/inspection results chart and dimension results chart containing these results were supposed to be provided to customers.

However, A, who was a staff member of the Quality Assurance Section, performed the actions such as the following either independently or after consultation with the section head and colleagues of the Quality Assurance Section: (i) Despite the fact that measurements were only taken from one end of the pipe, the staff member wrote the dimension inspection results of both ends in the dimension results chart, and if there were not enough samples, the staff member wrote inspection results in the dimension results chart for the missing quantity of samples; and (ii) If the average value of the height of low-finned tubes did not meet the catalog specifications, the staff member wrote a height that satisfies the specifications in the dimension results chart.

[34] Refers to pipes with a diameter of 60 mm or less among the copper alloy tubes, etc. manufactured by Shinko Metal Products Co., Ltd.

[35] Refers to copper pipe where the thermal conductivity has been increased by forming a spiral-shaped fin on the outer circumference of the pipe in order to increase the surface area.

The products were then shipped based on the falsified or fabricated inspection results. Furthermore, in cases where the measured result of the length of a condensate pipe did not meet the customer specifications and where the difference was less than 1 mm, A, together with the inspection staff of the No. 1 Manufacturing Section of the No. 1 Manufacturing Department, treated the pipe as a passing product. They then wrote a measured value that satisfied the customer specifications in the test/inspection results chart, and products that did not actually meet the customer specifications were shipped as passing products based on the falsified inspection results (**Misconduct (i)**).

(b) Misconduct involving water pressure tests on condensate pipes and general pipes[36]

For condensate pipes and general pipes shipped to some customers, water pressure tests were supposed to be performed by inspectors of the No. 1 Manufacturing Section of the No. 1 Manufacturing Department or the No. 2 Manufacturing Section of the No. 2 Manufacturing Department.

However, employees that historically held these positions engaged in entering inspection results of water pressure tests on the test/inspection results chart despite the fact that they did not conduct the water pressure tests, had staff members of the Quality Assurance Section create mill test certificates, and allowed the products to be shipped based on these fabricated inspection results (**Misconduct (ii)**).

(c) Misconduct involving penetrant testing[37] for sealed short pipes for condenser capillary tubes[38]

In relation to sealed short pipes for condenser capillary tubes that did not require penetrant tests to be performed as part of the customer specifications, A, who was a staff member of the Quality Assurance Section, created mill test certificates on which he wrote the inspection results of the penetrant test without actually performing the tests, and the products were

[36] Refers to pipes with a diameter of over 60 mm among the copper alloy tubes, etc. manufactured by Shinko Metal Products Co., Ltd.
[37] This is an inspection method used for investigating whether or not there are surface defects on copper alloy pipes, etc.
[38] A condenser is a device in which the steam used in a steam turbine is cooled and condensed into water by heat exchange with cooling water, and where the accompanying reduction in volume is used to create a vacuum state that reduces the pressure, and that pressure difference is used to rotate a turbine. Condenser capillary tubes are pipes for circulating the cooling water.

shipped based on the fabricated inspection results (**Misconduct (iii)**).

(d) Misconduct involving material inspection of condensate pipes

For condensate pipes, material inspection was supposed to be performed of items such as tensile strength, hardness, and tempering[39] on a required number of samples.

However, A, who was a staff member of the Quality Assurance Section, performed the following actions based on instructions from the previous section heads of the Quality Assurance Section such as B, C and D, or E who was the assistant manager of the Quality Assurance Unit of the section: (i) If there were not enough samples, he wrote inspection results for the number of missing samples in the mill test certificates. (ii) If the measured values of the tensile tests or the tempering did not meet the customer specifications, he wrote measured values and tempering that satisfied the customer specifications in the mill test certificates. Products were shipped based on these falsified or fabricated inspection results (**Misconduct (iv)**).

(e) Misconduct involving film inspection of Ferroco Tube[40]

For Ferroco Tube, film inspections were supposed to be performed of items such as whether or not there were any film defects, film thickness, and adhesion on a required number of samples.

However, for products where the average value of the film thickness did not meet the customer specifications, C, who was the head of the Quality Assurance Section, shipped[41] the products with the failing specifications despite receiving reports about the defects (**Misconduct (v)**).

(f) Misconduct involving dimensional inspection of molds[42]

For molds that were shipped to certain customers, the inspectors of the No. 2 Manufacturing Section of the No. 2 Manufacturing Department were supposed to perform dimensional inspection of the inner diameter of the exit part.

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[39] Tempering refers to the hardness of products that have been modified by performing processes such as heat treatment of the material.

[40] FerrocoTube (the inner surface is coated in iron hydroxide) is a product in which a film is formed for preventing rust on the inner surface of copper alloy tube, and is used for applications such as in heat exchangers and condensers in power plants.

[41] No cases of writing a falsified average value of the film thickness of Ferroco Tube on the mill test certificates and providing it to the customer were confirmed.

[42] These are used for casting iron and steel billets for making iron and steel products.

However, since it was not physically possible to measure the inner diameter of the exit part using the automated tester owned by Shinko Metal Products Co., Ltd., the inspectors estimated the inner diameter of the exit part by the measured value of a different part. If the estimated value did not meet the customer specifications, F and the other staff members in charge of issuing inspection results charts within the Production Control Section of the No. 2 Manufacturing Department wrote inspection results that satisfied the customer specifications in the inspection results chart. Consequently, the products that did not actually meet the customer specifications were shipped as passing products based on the falsified inspection results (**Misconduct (vi)**).

(g) Misconduct involving chemical composition analysis of molds

For molds, chemical composition analysis was supposed to be performed on a required number of samples, and unlike usual products, the customer specifications for zirconium (Zr) were set stricter than the internal company standards.

If the analysis results for zirconium did not meet the customer specifications but did meet the internal company standards, A, who was a staff member of the Quality Assurance Section, upon instructions from B and C, both previously the head of the Quality Assurance Section, wrote analysis results that satisfied the customer specifications on the inspection certificate. Products that did not actually satisfy the customer specifications were shipped as passing products based on these falsified inspection results (**Misconduct (vii)**).

(h) Misconduct involving material inspection of molds

For molds, material inspection was supposed to be performed of items such as electrical conductivity.

However, with respect to products for which the inspection results for electrical conductivity did not meet the customer specifications, A, who was a staff member of the Quality Assurance Section, wrote inspection results that satisfied the customer specifications in the mill test certificates upon instructions from B, C and D, each the head of the Quality Assurance Section when the instructions were given. Products that did not actually satisfy the customer specifications were shipped as passing products based on these falsified inspection results (**Misconduct (viii)**).

B. Affected Products and the Period

Misconduct has been committed on copper alloy tubes and molds among the products manufactured at Shinko Metal Products Co., Ltd.

Misconduct started as early as approximately 26 years ago and continued at the latest until September 2017.

C. People Who Were Involved in or Knew about the Misconduct

The Misconduct (i), the Misconduct (iii), the Misconduct (iv), the Misconduct (vii), and the Misconduct (viii) were committed by A and others of the Quality Assurance Section either independently or with instructions from B, C and D – the successive section heads of the Quality Assurance Section – or E, the assistant manager of the Quality Assurance Unit in the Quality Assurance Section. The Misconduct (v) was carried out by C. The Misconduct (ii) was engaged by the successive inspectors of the No. 1 Manufacturing Section of the No. 1 Manufacturing Department or the No. 2 Manufacturing Section of the No. 2 Manufacturing Department. The Misconduct (vi) was committed by persons such as F, who was in charge of issuing the inspection certificate in the Production Control Section of the No. 2 Manufacturing Department.

G, the current president of Shinko Metal Products Co., Ltd. became aware of the existence of Misconduct (ii) after being reported on the matter by B, C and D in addition to H, the head of the No. 1 Manufacturing Section, and I, the head of the No. 2 Manufacturing Section, in or around August 2017. However, since he felt that the Misconduct would not be detected simply by comparing numbers because the original test data were also falsified, he did not report the Misconduct (ii) during the quality self-inspections.

We found no evidence that past presidents or the heads of the plant were aware of the existence of other instances of Misconduct.

(3) Shinko Aluminum Wire Co., Ltd.

A. Overview of the Misconduct

For some products manufactured by Shinko Aluminum Wire Co., Ltd., trace component inspection is supposed to be performed by the manager of Engineering Department's Quality Assurance Section at the time of receiving materials, and product inspection is supposed to be performed by the Quality Engineering Group of

the same Department before shipment. In addition, if the results of the inspections do not satisfy the customer specifications, the mill test certificates will not be issued.

However, the successive Quality Assurance Section manager engaged in the Misconduct as follows: (i) although the inspections of natrium (Na), nickel (Ni), and calcium (Ca), were not actually performed, he instructed the inspectors of the Quality Engineering Group to enter values satisfying the customer specifications into the total management system[43], and (ii) for phosphorus (P), when the products did not satisfy the customer specifications, they instructed the same inspectors to enter values satisfying the customer specifications, and had the products shipped with the falsified or fabricated inspection data (**Misconduct (i)**).

In addition, when the proof stress/tension inspection results of the pre-shipment product inspection did not satisfy the customer specifications, the inspectors of the Quality Engineering Group filled in the mill test certificates with inspection results satisfying the customer specifications and had the products which actually did not satisfy the customer specifications shipped as acceptable products with the falsified test results (**Misconduct (ii)**).

B. Affected Products and the Period

The Misconduct (i) was committed with the aluminum wire to be shipped to a specific customer, and the Misconduct (ii) was committed with the aluminum bar to be shipped to a specific customer.

It is likely that the Misconduct (i) started in around May 2006 and continued until May 2017, and that the Misconduct (ii) had been committed since around 2010 at the latest. Also, among the products shipped from September 1, 2016 to August 31, 2017, there was one instance (the shipments in June 2017) where the Misconduct (ii) was found.

C. People Who Were Involved in or Knew about the Misconduct

Inspectors of the Quality Engineering Group engaged in the Misconduct (i) under the instructions of the successive managers of the Quality Assurance Section[44]. The same inspectors engaged in the Misconduct (ii).

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[43] A management system used by Shinko Aluminum Wire Co., Ltd., which allows the total management of inspection results entries, judgement of acceptance/rejection related to such inspection results and issuance of mill test certificates.

[44] In Shinko Aluminum Wire Co., Ltd., the organization name of the division that handles quality assurance has been changed frequently such as “Engineering Division,” “Engineering Section” and “Quality Assurance Division,” and the inspection at material reception and Misconduct (1) were both performed by the heads of the divisions equivalent

Regarding Misconduct (i), a former head of the plant, A, who also at one time simultaneously held the posts of the head of the Engineering Section and the Manager of the Quality Assurance Section, took over from the former head of the Section in March 2016, and was aware of the existence of such Misconduct. However there was no evidence that other heads of the plant or executives of Shinko Aluminum Wire Co., Ltd. were aware of the existence of the Misconduct.

Regarding Misconduct (ii), the current Quality Assurance Section manager, B, was informed of it in around 2012, and was aware of the existence of such Misconduct. However, we did not find that former heads of the plant or executives were aware of the existence of such Misconduct.

(4) Shinko Moka Sohgo Service Ltd.

A. Overview of the Misconduct

The Commissioned Research Department of Shinko Moka Sohgo Service Ltd. entrusted the production of prototypes and the inspections such as the tensile strength test of prototypes to Kobe Steel Moka Plant's Research and Test laboratory. If the results of the inspection conducted by Moka Plant's Research and Test laboratory did not satisfy the customer specifications, the Commissioned Research Department was required to decide whether to remanufacture or retest.

However, A[45], the head of the Commissioned Research Department, wrote inspection results that satisfied the customer specifications in a material evaluation sheet when the inspection results of prototypes did not satisfy the customer specifications and enabled delivery of the prototypes which in fact did not satisfy the customer specifications based on such falsified inspection results (for at least five times).

B. Affected Products and the Period

Among the entrusted tasks performed by the Commissioned Research Department of Shinko Moka Sohgo Service Ltd., this Misconduct was committed at least with aluminum sheet materials which were manufactured in the course of performing a task to manufacture material prototypes.

This Misconduct took place at the latest from around October 2015 through

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to Quality Assurance Section.

[45] Between 2002 and March 2017, A, the head of this department, was the sole researcher at the Commissioned Research Department of Shinko Moka Sohgo Service Ltd.

around April 2016.

C. People Who Were Involved in or Knew about the Misconduct

This Misconduct was committed solely by A, the head of the Commissioned Research Department.

We found no evidence that A's superiors in Shinko Moka Sohgo Service Ltd. or the Quality Assurance Department of the Moka Plant was aware of this Misconduct.

4. Group Companies Not in the Aluminum & Copper Business

(1) Shinko Wire Stainless Company, Ltd.

A. Overview of the Misconduct

When inspection results of the tensile test carried out by inspectors of the Quality Assurance Section (until the Quality Assurance Section was established in April 2013, inspectors belonged to inspection team of the Manufacturing Department Technology Division) did not satisfy customer specifications or public standards, the company was supposed to decide in a daily defect line handling meeting whether to apply for Concession, sell externally, or perform a re-inspection, etc.

However, the technical/design staff of Manufacturing Department who were in charge of stainless steel wires used for springs instructed inspectors to enter inspection results satisfying customer specifications and public standards even if the tensile inspection results did not satisfy customer specifications or public standards, and had products that did not actually satisfy customer specifications or public standards shipped as acceptable products with falsified inspection results.

As mentioned in the beginning, this matter was discovered in June 2016, and provoked the Company to conduct the quality audit and the quality self-inspection of the entire Group.

B. Affected Products and the Period

The Misconduct was carried out on stainless steel wires that were used for springs and that were JIS standard products and also those which they made-to-order among all the other products which were manufactured by Shinko Wire Stainless Company, Ltd.

This Misconduct was carried out between April 2007 at the latest and the end of May 2016 when the Misconduct was found out.

C. People Who Were Involved in or Knew about the Misconduct

This Misconduct was carried out by inspectors upon instructions of technical/design staff of the Manufacturing Department who were in charge of the stainless-steel wires used for springs.

Certain other technical/design staff members were aware of the existence of the Misconduct, but it was not confirmed that the superior officers of the technical/design staff of stainless steel wires used for springs were aware of the Misconduct.

(2) Shinko Kohan Kako, Ltd.

A. Overview of the Misconduct

Of the heavy steel plates processed in Shinko Kohan Kako, Ltd. and shipped to a specific customer, the customer had required in their specifications that the thickness of the plates be measured in six points. This measurement was supposed to be carried out by staff of the Cutting Work Group of the Manufacturing Team within the Manufacturing Department.

However, around October 2015, A, who had been working as the Manufacturing Team Leader, made a request to the customer that they change the specifications, but the request was declined. He then decided on his own to omit the steps and to measure only in two points. He instructed his subordinates accordingly and also instructed B of the sales department, who was responsible for creating measurement inspection results sheets, and asked him to create measurement inspection results sheets, which included columns to provide measurement results in six points, based on the results of the measurements in two points and had products shipped with fabricated inspection results.

B. Affected Products and the Period

This Misconduct was carried out on heavy steel plates processed products that were shipped to a specific customer.

This Misconduct took place between October 2015 and September 2017.

C. People Who Were Involved in or Knew about the Misconduct

This Misconduct was based on the instruction of A, who worked as the Manufacturing Team Leader and it was carried out by B in the sales department.

No evidence was found that those in positions higher than A were aware of the Misconduct's having taken place.

(3) Nippon Koshuha Steel Co., Ltd., Toyama Works

A. Overview of the Misconduct

When results of the hardness test which was carried out by inspectors of the Inspection Section of the Technology Department of the Toyama Works of Nippon Koshusha Steel Co., Ltd. (**Inspection Section Inspectors**) did not meet customer specifications the Inspection Section Inspectors would send an inspection defect report to staff of the Inspection Section of the Technology Department ("**Inspection Section Staff**"), and the Inspection Section Staff would decide whether to apply for Concession or to issue a re-inspection direction.

However, around August 19, 2008, A, the head of the Inspection Section of the Technology Department at that time, was told by B, the head of the Bar Technology Section of the Technology Department that it was permissible to approve a product so long as the inspection results were within the acceptable margin of error for an inspection device, which was provided in a section for measuring hardness in the JIS regulations. Based on this input, in spite of its erroneous interpretation of the JIS regulations, A did not review or confirm the relevant section of the JIS regulations and decided to reevaluate the inspection results based on the erroneous interpretation. The head of the Quality Assurance Section agreed to this. The Inspection Section Staff entered "passed within the margin between -1 and 2 differences" into an inspection defect report when a difference between inspection results and specifications was within the acceptable margin of error for an inspection device and passed the inspection defect report to the Quality Assurance Section, and staff of the Quality Assurance Section provided values that satisfied customer specifications in mill test certificates even though they satisfied customer specifications only because they were erroneously reevaluated and had products that did not actually satisfy customer specifications

shipped as accepted products with falsified inspection results.[46]

B. Affected Products and the Period

This Misconduct was carried out in relation to some of the special steels[47] among the products manufactured at the Toyama Works of Nippon Koshusha Steel, Co., Ltd. between around August 2008 and around June 2015.

C. People Who Were Involved in or Knew about the Misconduct

This Misconduct was carried out by the Bar Technology Section and the Inspection Section of the Technology Department and the Quality Assurance Section.

A, the head of the Inspection Section, B, the head of the Bar Technology Section, and C, the head of the Quality Assurance Section were aware of the existence of the Misconduct, but we found no evidence that the head of Toyama Works was aware of its existence.

(4) Koshuha All Metal Service Co. Ltd., Kanto Techno Center

A. Overview of the Misconduct

With respect to the heat treatment processing[48] of special steels[49] carried out by the Kanto Techno Center of Koshusha All Metal Service Co. Ltd., when inspection results of the hardness test carried out by the Heat Treatment Group inspectors satisfied customer specifications the inspectors were supposed to place the product and a production instruction sheet containing the inspection results on the Acceptance Shelf, and when inspection results did not satisfy customer specifications on the Rejection Shelf,[50] and sales representatives were supposed to enter inspection results provided in production instruction sheets into the product purchase order receipt information central management system.

When they were under a time pressure sales representatives falsified

[46] On a separate note, in Toyama Works of Nippon Koshuha Steel, Co., Ltd., it was revealed in an external audit that in the past a daily check sheet that was used for a specific type of manufacturing equipment was falsified.

[48] The heat treatment processing is a process that heats steel to an appropriate temperature and then cools it to bring out the characteristics of steel.

[49] An alloy created by combining mateials, such as chrome and nickel.

[50] The Kanto Techno Center is located in the same site as the Kita-Kanto Sales Office, and the plant where the heat treatment processing and inspection are carried out, and office where the heat treatment sales representative carries out operations are adjacent to each other within the same building.

inspection data for some products that were placed on the Acceptance Shelf by entering into the system those data points that satisfied customer specifications without actually looking at production instruction sheets, and had products shipped based on such falsified inspection results.

We did not find evidence that the Misconduct was committed in relation to products that fell short of customer specifications.

B. Affected Products and the Period

This Misconduct was carried out with respect to the heat treatment process for special steels in the Kanto Techno Center.

It is likely that the Misconduct took place at the latest from around 2012 or 2013 until around October 2017[51].

C. People Who Were Involved in or Knew about the Misconduct

This Misconduct was carried out by seven sales representatives.

We found no evidence that the head of the Sales Department or the officers of Koshusha All Metal Service Co. Ltd. were aware of the existence of the Misconduct.

(5) Shinko Engineering Co. Ltd.

A. Overview of the Misconduct

For the various inspections carried out by inspectors of the Quality Assurance Section and employees in the manufacturing lines, staff members of the Quality Assurance Section were supposed to enter inspection results into inspection results sheets after confirming that the inspection results satisfied customer specifications.

However, A or B, who were staff of the Quality Assurance Section, provided inspection results in inspection results sheets that satisfied customer specifications or public standards when (i) results of property and performance qualification tests (tensile strength, elongation, 0.2% yield strength, hardness and graphite spheroidizing ratio) of molded parts for gas coolers[52], (ii) results of appearance and dimension inspections and results of slip torque and clutch torque

[51] However, the Misconduct is only confirmed for the period spanning September 2016 to August 2017.
[52] This refers to the molded components used in devices for cooling compressed air in compressors.

measurements of decelerators for shield machines, (iii) results of paint thickness inspections of pump hydraulic clutches[53], and (iv) results of dimension inspections of engine connecting rods[54] did not satisfy customer specifications or public standards. In addition, despite the failure to actually inspect measurements for (v) certain items in appearance and dimension inspections of decelerators for shield machines, and (vi) mass inspections of engine connecting rods, A fabricated inspection results that satisfied customer specifications and wrote them on inspection results sheets. Products were shipped based on these inspection results (**Misconduct (i)**).

Furthermore, when mass inspections for engine connecting rods did not satisfy customer specifications it was confirmed that there were instances where an on-site personnel responsible for stamping the mass on products ("**stamper**") stamped a fabricated value of mass to satisfy customer specifications. A or C who was an inspector in the Quality Assurance Section provided the value of mass that was stamped in inspection results sheets even though they were aware of the fabrication; and that there were instances where A instructed D, who was an inspector in the Quality Assurance Section, to enter falsified inspection results that satisfied customer specifications into inspection results sheets when the dimension inspections and parallelism inspections of engine blocks[55] did not satisfy customer specifications (**Misconduct (ii)**).

B. Affected Products and the Period

The Misconduct (i) was conducted in regard to the molded parts for gas coolers, decelerators for shield machines, pump hydraulic clutches and engine connecting rods, and the Misconduct (ii) was conducted in regard to engine connecting rods and engine blocks, among the products manufactured by Shinko Engineering Co., Ltd.

The Misconduct (i) by A took place from around January 2003 at the earliest, and the Misconduct (i) by B took place from around January 2015, and both lasted until the problem was discovered in the quality self-inspection. The Misconduct (ii) related to engine connecting rods may have been carried out since around 1977, and the Misconduct (ii) related to engine blocks may have been

[53] This refers to the rotating machinery parts used in drain pumps, for conducting or controlling power hydraulically.
[54] This is a rod for communicating power from the engine piston to the crank shaft (shaft for converting the return movement from the piston into rotating force).
[55] This is the frame of the engine, and is comprised of cylinder blocks for housing multiple pistons and a crank case for housing the crank shaft.

carried out since around 1994. The Misconduct (ii) was also carried out until it was discovered in the quality self-inspection.

C. People Who Were Involved in or Knew about the Misconduct

Either of the Quality Assurance staff A or B was engaged in the Misconduct (i). And A, with the involvement of C and D, stampers and inspectors of the Quality Assurance Section, engaged in the Misconduct (ii).

We did not find evidence that the head of the Quality Assurance Section, the head of the Quality Assurance Department, or the President of Shinko Engineering Co. Ltd., etc. was aware of the existence of any of the Misconduct.

(6) Kobelco Eco-Solutions Co., Ltd. Technology Development Center Analytical Test Division

A. Overview of the Misconduct

The Treatment Inspection Group of the Analytical Test Section of the Technology Development Center of Kobelco Eco-Solutions Co., Ltd. received orders from the Chemicals Group (**Requesting Department**), among others, of the Eco-Solutions Sales Department and performed services such as treatment and selection tests on water treatment chemicals to evaluate their aptness for receiving treatments. The Treatment Inspection Group was supposed to perform the tests and report the test results.

However, A, who was the manager of the Treatment Test Group, provided test results in reports that differed from those actually obtained in selection tests of water treatment chemicals, and submitted test reports to the Requesting Departments. As a result, the test results were provided from the Requesting Departments to customers based on the falsified test results (**Misconduct (i)**). Furthermore, in the course of quality self-inspection, A did not present the actual test reports which he submitted to the Requesting Departments and newly created test reports and pretended that those were submitted to customers even though they were not in order to prevent the Misconduct (i) from getting noticed.

Furthermore, B, who was an examiner of the Treatment Test Group, provided in test reports test results that differed from those actually obtained in the selection test of water treatment chemicals. In some instances, B wrote test results when he

did not actually perform the test. Based on such falsified or fabricated test results, B enabled submission of test reports to customers (**Misconduct (ii)**)[56].

D, another examiner of the Treatment Test Group, provided in test reports test results that differed from those actually obtained in the water treatment test when he considered some of the values obtained in the relevant test to be abnormal, and based on those falsified test results, submitted test reports to customers (**Misconduct (iii)**).

B. Affected Products and the Period

The Misconduct (i) and (ii) were carried out in the selection test of polymer flocculant materials and the Misconduct (iii) was carried out in the water treatment test among all the other analysis and inspection services which Kobelco Eco-Solutions Co., Ltd. performed.

The Misconduct (i) took place from around October 2016 until around August 2017; the Misconduct (ii) took place from around February 2017 until around May 2017; and the Misconduct (iii) took place in around January 2017 and around March 2017.

C. People Who Were Involved in or Knew about the Misconduct

The Misconduct (i) was carried out by A, Misconduct (ii) was carried out by B and C, and the Misconduct (iii) was carried out by D.

B was aware of the Misconduct (i) and A was aware of the Misconduct (ii). However, we found no evidence that E, the head of the Analytical Test Section, was aware of either of the Misconduct (i) or (ii). We found no evidence that anyone other than D was aware of the Misconduct (iii).

(7) Kobelco Research Institute, Inc. Target Division

A. Overview of the Misconduct

(a) Misconduct involving target materials[57]

If inspection results of the chemical composition analysis conducted on

[56] C belonging to the Requesting Department was also involved in the Misconduct (ii).

[57] Refers to the metal that is a raw material in liquid crystal displays and optical recording media and the above products are manufactured by depositing the target materials into the base. These can be classified as spray foaming materials, vacuum melting cast steel materials, and powder compact materials according to differences in the production process.

target materials by inspectors of the Vacuum Melting Team of the First Manufacturing Group of the Manufacturing Department did not satisfy customer specifications, the inspectors would report the inspection results to the leader among others of the Vacuum Melting Team and the team leader among others would decide whether to perform re-analysis or scrap the materials.

However, even when inspection results of the composition analysis did not satisfy customer specifications, inspectors of the Vacuum Melting Team, A and B, entered inspection results that satisfied customer specifications into the test system of Kobelco Research Institute, Inc., and also entered inspection results that satisfied customer specifications for some items without performing the composition analysis, and had the products shipped with the falsified or fabricated inspection results (**Misconduct (i)**).

(b) Misconduct involving prototype alloys[58]

Inspection results of the chemical composition analysis carried out by inspectors of the Vacuum Melting team and also inspectors of the other teams of Kobelco Research Institute, Inc. in relation to prototype alloys were entered into the test system by the same inspectors, and staff of the Process Design of the Production Control Section of the Manufacturing Department (**Production Control Staff**) created reports for customers after confirming whether the inspection results in the system satisfied customer specifications.

However, C, one of the Production Control Staff, created reports with estimated values based on past results, and had products shipped with such fabricated inspection results under certain circumstances where a delivery deadline for the product was approaching, even though no chemical composition analysis results were entered into the test system. Additionally, another Production Control Staff, D, entered values that satisfied customer specifications in reports although the chemical composition analysis results that were entered into the test system did not meet customer specifications[59], and had products that did not actually meet customer specifications shipped

[58] Refers to alloys manufactured by melting and combining multiple metals using a vacuum induction melting furnace.

[59] With regard to component analysis, when customer specifications require ladle analysis taking a sample from molten metal rather than product analysis taking a sample of a fragment of solid metal, it is necessary to state the analysis results based on ladle analysis in the report to the customer. However, if the results of ladle analysis did not satisfy customer specifications but the product analysis results satisfied customer specifications, the analysis results of product analysis were shown on the report.

as accepted products with falsified analysis results (**Misconduct (ii)**).

B. Affected Products and the Period

Among the products manufactured in the Target Division of Kobelco Research Institute, Inc., Misconduct (i) was carried out in relation to target materials (spray foaming materials, vacuum melting cast steel materials, and powder compact materials), and Misconduct (ii) was carried out in relation to prototype alloys.

Misconduct (i) was carried out from around 2006 until it was discovered through the self-inspection that was conducted in the summer of 2017, and Misconduct (ii) by C was carried out from around 2009 to around March 2017, and the Misconduct (ii) by D was carried out from around 2014 to when Misconduct (ii) was discovered in the self-inspection that was conducted in the summer of 2017.

C. People Who Were Involved in or Knew about the Misconduct

Misconduct (i) was carried out by A and B, inspectors of the Vacuum Melting Team, and the Misconduct (ii) was carried out by the Production Control Staff who created reports, C and D. However, we did not identify any evidence that anyone other than those were aware of its existence.

(8) Kobelco Research Institute, Inc. Material Solution Division

A. Overview of the Misconduct

In regard to some of the services continuously provided by the Material Technology Department/Corrosion Technology Section (**Analysis Service**), the Corrosion Technology Section requested measurement of the hydrogen gas concentration and metal concentration, among others, not only to the Evaluation Test Section of the Material Technology Department but also to the Microanalysis Group of the Chemical Analysis Section of the Process Technology Department of the Machinery, Process Solution Division, and to the Analysis Technology Section of the Chemical Analysis Department of Takasago (**Requested Departments**). The Corrosion Technology Section collected analysis results from the Requested Departments, created annual reports, and submitted them to customers.

However, A of the Corrosion Technology Section, the main staff of the

Analysis Service, falsified values to achieve consistency when the analysis results of the hydrogen gas concentration and metal concentration, among others, that he received from the Requested Departments were not consistent with the analysis results generated in the previous year. Also, he fabricated values in the reports to customers without making an analysis request when he realized at the last minute of a delivery deadline that an analysis request had not been made to the Requested Departments for reasons such as a failure to check specifications or confusion with similar cases, and reported falsified or fabricated results to customers.

B. Affected Products and Period

This Misconduct was carried out in relation to the corrosion analysis services among the services provided by the Material Solution Division of Kobelco Research Institute, Inc.

The Misconduct was carried out from around 2012 until the last report was submitted to a customer in around June 2017.

C. People Who Were Involved in or Knew about the Misconduct

This Misconduct was carried out by A of the Corrosion Technology Section, who was the main staff of the Analysis Service.

We have identified no evidence that the following persons were aware of the existence of this Misconduct: B, who was involved in issuing reports to customers; C, the Section Manager of the Correction Technology Section and also the manager of A; D, the Material Evaluation Technology Director, ; and E, a staff member who requested the Analysis Service from the Corrosion Technology Section.

Chapter 4: Cause Analyses of the Misconduct

Misconduct took place not only in the Company's Aluminum & Copper Business but also in other divisions and the Group companies. The Company takes this fact very seriously, and we take it upon ourselves to shoulder the responsibility of understanding the true causes of the Misconduct, preparing remedial measures to prevent reoccurrence, and carrying out thoroughly these remedial measures.

The Company organized the Root Cause Analysis Task Force and conducted root cause analyses of the Misconduct. Based on these analyses, the Company considered the following five circumstances to be the main causes of, and what delayed our becoming aware of, the

Misconduct: (i) the management propensity to overemphasize profitability and the insular organizational culture; (ii) the imbalanced operation of manufacturing facilities; (iii) the inadequate quality processes that permitted improper conduct; (iv) the reduced awareness for the need to strictly comply with contractual specifications; and (v) the inadequate organizational system. The Company published an overview of the analyses in the "Report on investigation into the causes of the Kobe Steel Group's improper conduct and on measures to prevent recurrence" dated November 10, 2017.

The IIC conducted an investigation starting from October 26, 2017. Analyzing the findings of the IIC's investigation and the subsequent examinations conducted by the Company, we conclude that the following three points were the direct causes of the Misconduct:

Direct Causes:

1. Having accepted purchase and manufacturing orders even when doing so did not align with our production capacity;
2. Having allowed an environment where it was readily feasible for inspection results to be falsified or fabricated; and
3. Having allowed the dulling of the employees' awareness with respect to quality compliance.

We believe that the root causes can, furthermore, be grouped into the following three categories:

Root Causes:

1. The management style that overemphasized profitability and the inadequate corporate governance;
2. The imbalanced operation of plants that resulted in the reduced awareness of quality compliance among employees; and
3. The insufficient quality control procedures that allowed the Misconduct to take place.

In businesses other the Aluminum & Copper Business, the Misconduct was generally conducted by specific, small groups of culpable individuals; these instances of Misconduct, for the most part, cannot be said to have taken place in a systematic and organized manner over a long span of time. In contrast, with the Aluminum & Copper Business, we find the causes identified above more noticeable. In particular, within the Aluminum & Copper Business, employees who belonged to certain departments or sections, and employees who held certain managerial positions, passed on from person to person – either actively or passively – the practice of engaging in the

Misconduct. And, after a long period of time, such practice became a normal course of conducting business.

1 The Management Style that Overemphasized Profitability and the Inadequate Corporate Governance

(1) The Head Offices' Strategies for Management

The Company faced a difficult business environment for many years. In 1999, we introduced an organizational restructuring called the Company System that transferred authority broadly to business units in an attempt to reduce costs and to increase production output. As a result, on one hand, the Head Offices became a "small headquarters" that had, for example, the minimal functions of serving as the Company's nerve center, managing profit and loss, procuring funds, and recruiting. On the other hand, each "company" (or business unit) obtained the authority to make decisions about its own management matters, such as those concerning investment, capital expenditures, and personnel affairs.

Subsequently, from 2010, although the Company removed the Company System and adopted a business division system, this transition did not change the organizational structure described above, and only changed the name of each company (thereafter known as Business), and split the Machinery & Engineering Company into the Machinery Business and the Natural Resources / Engineering Business[60].

The organizational structure as described above encouraged each Business to develop self-governance for its specific business field, and aimed at holding each Business accountable for profit and loss and expediting the decision-making process. Following this restructuring, we achieved a certain amount of growth.

At the same time, each division followed a new approach adopted by the management that aimed at significantly decreasing costs, increasing production and generating profit. It was inevitable for each manufacturing location to follow the same and set a high standard for generating profit, and as a result, as shown in 2(1) below, the attitude for prioritizing production over quality (the "Production-Over-Quality Attitude") became part of the culture and it resulted in many purchase orders which did not reflect the actual production capacities.

[60] Hereinafter **"Business"** may refer to a company under the Company System depending on the context.

(2) Head Offices Lost Power for Central Management

The large-scale transfer of authority to each Business, such as what we saw in the Company System, weakened our power to manage the Company centrally.

Regarding system-related problems, the Head Offices could not adequately operate its quality compliance across all Businesses because the Head Offices lacked an officer or a department responsible for ensuring Company-wide quality compliance across all Businesses and a mechanism for conducting audit to ensure quality.

Regarding awareness and culture, as long as each business location was growing revenue, the administrative departments of the Head Offices did not intervene actively with respect to the Business's quality efforts and quality problems, nor did they otherwise in a position to speak up on such issues. In short, the Head Office's administrative departments were unable to listen sufficiently to the voices of employees in each location.

These types of structural problems, and problems with respect to awareness and corporate culture, created an environment where the Head Offices entrusted each Business entirely with their developing and implementing a quality assurance system. We believe that this kind of management structure created a culture in which employees, on the ground, felt that they were unable to voice their concerns about problems occurring in factories or, even if they voiced their concerns, doing so would not make any difference.

(3) Inadequate Quality Compliance Awareness Among the Top Management

At companies in the Kobe Steel Group, a few incidents similar to the Misconduct were discovered in the past[61], and the top management of the Company could have taken these incidents as good opportunities to review quality compliance for the entire Kobe Steel Group and to carry out thorough, major company-wide reforms.

However, the Company's top management responded to those incidents in the following ways: (i) they entrusted the company at issue with the task of developing and implementing specific remedial measures, and thereby the Company did not take any specific actions; and (2) they took actions to improve the quality control system at one of the Businesses, but the Head Office failed to expand upon such actions by carrying them out horizontally across the other Businesses to implement thorough, major company-wide reforms. Each of these responses was limited to remedying local and

[61] Examples include the data fabrication incident in Kobelco Research Institute, Inc. in 2006 and the data fabrication incident in Nippon Koshuha Steel Co., Ltd. in 2008.

particular problems. We understand that this shows that the Company's top management had insufficient compliance awareness. Consequently, the Company's top management failed to connect the above-mentioned incidents to an effort that could have prevented, or led to the early detection of, the Misconduct.

Particularly with respect to the Aluminum & Copper Business, individuals who used to belong to each of the relevant business locations, and those who were either involved in or aware of the Misconduct, later became managing executive officers and took part in managing the Aluminum & Copper Business. These persons did not introduce measures to prevent the Misconduct from taking place in spite of their being aware that the Misconduct was still taking place at those relevant business locations. Again, we understand that this simply shows that the Company's top management had insufficient compliance awareness.

We conclude that this insufficient level of quality compliance awareness among the top management was one of the key causes behind the Misconduct's taking place over a span of many years and consequently becoming an issue affecting the entire Kobe Steel Group.

(4) Weak Monitoring Functions in Divisions

We think one of the other reasons for failing to discover the Misconduct at an earlier stage was that monitoring functions were not adequately placed in each division.

In the Aluminum & Copper Business, in particular, a confined quality system was developed and implemented in each business location because each business location had different manufacturing processes and produced different kinds of metal and it was particularly important to increase efficiency for managing the business. On one hand, these circumstances gave manufacturing plants a dominant status and created a mindset to entrust the plants entirely for quality problems. On the other hand, administrative departments of the divisions such as the Planning and Administration Department and the Technology Control Department saw their authority to control weaken, and this created an environment where they entirely entrusted the relevant business locations for developing and implementing quality assurance systems.

Quality assurance departments were not functioning to place constraints on the manufacturing departments; and those employees who belonged to quality assurance departments and those who were supposed to assure their customers that they deliver products that meet customer specifications engaged themselves in the Misconduct or did not take any action despite of being aware of the Misconduct. The reasons were: (i) quality assurance departments were subordinate to manufacturing departments and they

were not assured of their organizational independence; (ii) employees of quality assurance departments had an inadequate level of understanding of quality assurance; (iii) managers and those who held a responsible position in quality assurance departments did not receive an adequate level of education and training; and (iv) personnel were rarely reassigned across different business locations.

We conclude that this weak monitoring function in each business division was one of the causes for the Misconduct to last for many years without being discovered.

(5) Inadequate Quality Compliance System in the Head Offices

In order to respond to various compliance incidents in the past, the Company established the Ethics Consultation Section in 2000, the Compliance Committee in 2003, and introduced the whistleblower system in the same year, and improved its compliance functions over time.

Despite these efforts, coupled with the inadequate level of quality compliance awareness among the management as we described in 1(3) above, we did not have an adequate system implemented for quality compliance, and we conclude that this was an important reason for the Misconduct to last for an extended period of time without being discovered.

(a) Absence of an Executive Officer in Charge of Quality Compliance

The Head Offices did not have an executive officer who was in charge of quality compliance until they introduced a Company-wide Compliance Director in November 2016. If the Head Offices had had such an executive officer, we could have engaged ourselves in quality compliance activities earlier and prevented the Misconduct from taking place or discovered the Misconduct at an earlier stage.

(b) Absence of a Quality Compliance Department

The Head Offices did not have a department that was responsible for quality compliance until the MONODZUKURI (Product Manufacturing) Planning and Promotion Department started to take part in quality compliance assignments in November 2016. If the Head Offices had had such a department earlier, we could have engaged ourselves in quality compliance activities earlier and prevented the Misconduct from taking place or discovered the Misconduct at an earlier stage.

(c) Absence of Quality Audits

The Head Offices did not conduct a company-wide quality audit until the MONODZUKURI (Product Manufacturing) Planning and Promotion Department

conducted a quality audit in April 2017. If we had conducted an effective quality audit and reviewed consistency between inspection results and mill test certificates, we could have prevented the Misconduct from taking place or discovered the Misconduct at an earlier stage.

(d) Inadequate Education and Training for Quality Compliance

The Head Offices have been offering the annual Compliance Top Seminar to executive officers since October 2003 and the Training Programs by Career Stage to all employees as well as the annual Compliance Training to those who are responsible for compliance in each division since April 2004. We have provided these training opportunities to feature quality compliance. However, we did not provide a standard education or training that had a focus or an emphasis on quality compliance to company-wide employees, and we think that employees on the ground in each location could not develop an adequate level of quality compliance awareness.

(e) Lack of Tools to Communicate with Employees

The top management and the administrative departments of the Head Offices did not have a tool or an opportunity to listen to raw voices raised in each location and could not effectively understand the problems which each location was experiencing.

2 The Imbalanced Operation of Plants That Resulted in the Reduced Awareness of Quality Compliance Among Employees

(1) Plants Manufactured Products When Customer Specifications Went Beyond Their Production Capacities

In many of the business locations where the Misconduct took place, employees engaged themselves in the Misconduct in order to avoid negative consequences. Those business locations continuously faced a situation where they did not have the production capacities to constantly produce products that met customer specifications. If they had followed the process in due course and reverted all the non-conforming products for re-inspection, scrapping, or recycling, they could not have met the delivery deadlines which they agreed with their customers, and they could have received claims by their customers for damage or lost purchase orders for competitors, and these would have resulted in the loss of sales and in ceasing the operation of the plant itself.

For example, we found that there were plants that accepted purchase orders when they did not review and confirm that they had a production capacity to constantly deliver

products that met the customer specifications; and plants that found out that it would possibly be difficult to constantly deliver products to a customer only after they agreed to customer specifications, however, they declined to request to the customer that they revise the specifications, extend delivery deadlines, or apply for Concession, among others, because they wanted to prevent the Misconduct that had already continued for an extended period of time from being discovered, or to avoid failing to meet the income targets by prompting the customer to initiate a negotiation to lower the price.

In this way, on one hand, purchase orders that exceeded the actual production capacities increased, on the other hand, plants followed the general trend in society and implemented measures to increase the facility-operating ratio and to improve delivery speed in order to further satisfy customers. Consequently, plants were caught in a dilemma in which they could not achieve their goals for the production volume or sales. We think that this dilemma strongly invited the Misconduct to take place.

(2) Culture That Prioritized Production Over Quality

The attitude for prioritizing production over quality (the "Production-Over-Quality Attitude") hindered employees from making efforts to control production capacities and they operated to achieve goals that were set high to make a profit. Employees were encouraged to always accept purchase orders if there was a chance and to produce as many products as possible and make a profit.

This Production-Over-Quality Attitude encouraged employees in each location to consider that nothing was more important than winning purchase orders and meeting delivery deadlines. They started to engage themselves in the Misconduct for the purposes of securing a short-term profit and as they were involved in the Misconduct for a prolonged period of time, we assume that they even lost the awareness that the act of the Misconduct was the act to deceive the trust of customers.

It was particularly noticeable in the Aluminum & Copper Business that they developed this attitude of prioritizing production and delivery deadlines more than anything else and that it even encouraged them to accept impossible purchase orders and to disregard customer specifications. We assume one of the reasons was that they had a history of suffering from failing to make an enough contribution to the Company's revenue and that they had a very strong willingness to make a contribution to the Company's revenue.

(3) Insular Organization (Little Movement of Personnel)

We failed to mitigate the risks of having the Misconduct by moving personnel because we seldom reassigned or transferred personnel across different business divisions and we frequently had our former plant managers become executive officers of the relevant business divisions.

With respect to the Aluminum & Copper Business, in particular, the Business did not have any locations in the Kansai region by contrast to all the other business divisions which all had a major business location in the Kansai region, and the Aluminum & Copper Business had few opportunities to interact with other business divisions. In addition, each location of the business divisions of the Aluminum & Copper Business was located in remote areas of the Kanmon, Kanto, and Chubu regions and not only that each location produced different kinds of metals (Aluminum or Copper) but also that each location had different production processes (rolling, extruding, forging, and casting). These resulted in little interaction and movement among personnel and a closed operation of the organization.

This closed organizational culture enabled those who were actually involved in the Misconduct be promoted to higher positions and the Misconduct be carried out over time by different generations of individuals, and these resulted in having senior employees who were supposed to supervise their subordinates give instructions to their subordinates to conduct the Misconduct, or approve the Misconduct either expressly or impliedly, and we identified cases where an organization lacked a monitoring function of supervisors and the organization itself was engaged in the Misconduct for many years.

In addition, personnel were rarely transferred across locations, and some individuals were transferred back and forth between a manufacturing department and a quality assurance department in the same location. We identified a few instances where a quality assurance department virtually did not function to place any constraints on a manufacturing department and those employees who were in the quality assurance department and those who were supposed to assure customers that their products met customer specifications were actually involved in the Misconduct themselves, or neglected to take any actions when they were aware of the Misconduct.

We consider this closed organization (i.e., little movement of personnel) was one of the causes for losing the monitoring function of supervisors on subordinates and virtually losing the function of quality assurance departments to place constraints on manufacturing departments.

(4) Low Awareness of Quality Compliance Among Employees

Employees had an incentive to commit the Misconduct in order to avoid the pressures to meet delivery deadlines, among others, as we described in 2(1) above because each location did not have a production capacity to constantly deliver products that met customer specifications; and they had an opportunity to do so because as we described in 2(3) above that their environment did not prevent it. However, we believe that employees could have refrained from engaging themselves in the Misconduct if they could have remembered that they could achieve the most important value for quality assurance by satisfying customer specifications; and if they could have realized that the Misconduct was an act to breach contractual obligations and to deceive the trust of customers as well as an act that was ethically and socially unacceptable. However, employees in many locations significantly lacked the quality compliance awareness and failed to realize the wrongfulness and they engaged in the Misconduct in many cases.

This reduced awareness of quality compliance became obvious in various forms. For example, we found individuals, who developed an understanding of the qualities which a customer sought in the course of doing joint development projects, acquiring new purchase orders, and dealing with customer complaints, among others, and thought that there would be no problem even if a product did not technically meet customer specifications so long as they could tell based on their understanding of the qualities that the qualities did not deviate from the qualities which the customer sought. We also found individuals who rationalized their failure to meet customer specifications based on their wrong understanding or assumptions and said “test results always produce variations in a certain range and if they deviate from customer specifications only to a limited extent, there’s no problem;” “the products don’t exhibit any safety issue and we have not received any complaints from the customers;” and “we know we have to comply with public standards but we don’t always have to observe customer specifications.”

(5) Misconduct Took Place for an Extended Period of Time

Misconduct took place persistently, as a result, affected products that were subject to the Misconduct accounted for several percent of the annual sales of the relevant divisions, and we presume that this size itself hindered suspension and correction of the Misconduct. We found instances where the relevant divisions requested customers that they revise their customer specifications, however, in a highly competitive environment, few customers accepted such requests, and when the divisions failed to revise customer

specifications, they reluctantly chose to engage themselves in the Misconduct.

We also found instances where individuals took over a practice of the Misconduct from their predecessors for an extended period of time, and it was almost implemented as part of the regular course of their operation and manufacturing, and it was difficult for them to realize the wrongfulness even though it could have been possible for them to realize it in the normal course of their business, and they accepted the Misconduct as part of the norm.

We think we accelerated the Misconduct as we let the Misconduct repeat over time and we saw the quality compliance awareness among employees decline significantly, but we did not provide enough education and training regarding quality compliance nor did we take a disciplinary action against those who were non-compliance with rules regarding quality[62].

3 The Insufficient Quality Control Procedures That Allowed the Misconduct to Take Place

(1) Inspection Processes That Enabled Falsification and Fabrication

Locations where the Misconduct took place adopted an inspection process that made it easy to falsify or fabricate inspection results and the relevant process did not function effectively at all to prevent the Misconduct. In such process: 1) inspectors were supposed to manually record inspection results; 2) a person who was in charge of issuing mill test certificates were supposed to prepare mill test certificates manually; and 3) it was feasible for employees of a manufacturing department or a quality assurance department to falsify inspection results without any constraints. We think that this kind of inspection process provided an easy opportunity to those who had an incentive to commit the Misconduct to actually commit it.

(2) Isolated and Rigid Organization

Especially in the locations where the Misconduct took place continuously for many years, we found a few cases where inspectors and those who issued mill test certificates carried out their respective work assignments alone, without having a work flow where they subjected themselves to any other person's review, and performed the same work assignments without being reassigned to any other positions for an extended period of

[62] To address those issues, we revised our disciplinary action system in 2010.

time.

In this kind of cases, they were able to commit the Misconduct without the supervision of anyone and also they had no opportunity such as transitions in personnel changes that could have revealed the Misconduct. In addition, we found cases where individuals were able to commit the Misconduct without the supervision of anyone even though a few individuals were assigned in the inspector position because the inspection room was physically isolated from the other areas and no patrols came to the inspection room.

(3) Establishment and Operation of Overly Strict Internal Standards

A few locations had an internal standard that was stricter than customer specifications. They introduced such internal standards because they thought that such internal standards would prompt them to improve their production capabilities; and to make a request to customers that they revise the customer specifications to avoid delivering products which did not meet the customer specifications when they found a certain number of products always failed to meet the internal standards.

Despite these good intentions, some internal standards were set so high that it was almost impossible to comply with them and it was normal that products did not meet these internal standards. As a consequence, the internal standards did not fully achieve the initial intentions because they did not improve production capabilities or make a request to revise customer specifications even when they failed to meet the internal standards. Also, we assume that as they developed a thinking that it did not matter even though they regularly failed to meet the internal standards, they eventually started to take customer specifications less seriously.

Chapter 5: Measures to Prevent Recurrence of the Misconduct

Based on the causal analyses described above in Chapter 4, and in light of the proposals of the IIC, the Quality Governance Restructuring Deliberation Committee, and the Quality Problem Investigation Committee, the Company herein provides the following policies to prevent recurrence of the Misconduct.

I. Governance Aspects: Building a Quality Governance System

1. Penetration of the Corporate Philosophy

At the beginning of 2017, the Company revised its Corporate Philosophy, which had been established in 2006, to the one entitled “Core Values of KOBELCO.” In order to

fulfill commitments under it, the Company established the Six Pledges of KOBELCO Men and Women which all employees must uphold. The Six Pledges of KOBELCO Men and Women are a set of concrete actions for fulfillment of the Core Values of KOBELCO and provide a guideline for conduct that each employee must follow.

Core Values of KOBELCO

1. **We provide technologies, products and services that win the trust and confidence of our customers we serve and the society in which we live.**
2. **We value each employee and support his and her growth on an individual basis, while creating a cooperative and harmonious environment.**
3. **Through continuous and innovative changes, we create new values for the society of which we are a member.**

Six Pledges of KOBELCO Men and Women

We, the men and women of KOBELCO, in the spirit of honoring Core Values of KOBELCO, make the following Six Pledges:

1. **Heightened Sense of Ethics and Professionalism**

   We not only follow the laws, corporate rules and societal norms, but also conduct our corporate activity in a fair and sound manner with the highest sense of ethics and professionalism.

2. **Contribution to the Society by Providing Superior Products and Services**

   Guided by our "Quality Charter," we provide safe, sound and innovative products and services to our customers, and thereby ensure customer satisfaction and contribute to the advancement of the society.

"Quality Charter"

"The KOBELCO Group will comply with all laws, public standards, and customer specifications, and make continuous efforts to improve quality, with the goal of providing 'Trusted Quality' in our products and services."

3. Establishing a Comfortable but Challenging Work Environment

We provide a safe and comfortable work environment, and we value each employee's character, personality and diversity, and provide each employee with a challenging work experience so as to allow each employee to use his and her fullest capability.

4. Living in Harmony with Local Community

We make efforts to be a good "corporate citizen" in each local community which serves as the base for our group.

5. Contribution to a Sustainable Environment

We aim to build a richer and more sustainable world, and we conduct environmentally friendly manufacturing and contribute to the betterment of the natural environment through our technologies, products and services.

6. Respect for Each Stakeholder

We respect all of our stakeholders, including customers, business associates, employees and shareholders, as our colleagues and build good and sound relationships with all of them.

In April 2017, the Group initiated the Next 100 Project (a project aimed at the next 100 years). The Misconduct came to light in the midst of conducting this project.

The Next 100 Project activities have begun to show a certain degree of achievements such as sharing of values, cultivation of a sense of group unity, and increasing opportunities for communication between the top management and the worksites, and it could be said that the various initiatives implemented as part of the Next 100 Project provided the opportunity to discover the Misconduct.

However, because it is undeniable that this was overdue, in the future we will strive to compensate for weaknesses in those activities and further reinforce them with the aim of ensuring that the Group's values and the Company's attitudes towards quality issues are commonly understood and shared by all of our employees.

To permeate the management's thoughts on quality issues and restore trust in the Group, we will need, for example, to explain adequately to the Group's employees that it is important for each of them to fully comprehend the Core Values of KOBELCO and the Six Pledges of KOBELCO and put the ideas underlying them into practice in his/her ordinary course of duties. Through those actions, the Group will unite to make improvements and prevent recurrences.

(1) Further Promotion of the Next 100 Project - Core Values of KOBELCO Activities

The management led by the President will visit each business location in and outside Japan, and continue activities of talking to employees face-to-face about the intent of the Core Values of KOBELCO and the Six Pledges of KOBELCO along with the management's thoughts on these, in order to actively show how committed the management is to these initiatives and the reform aimed at restoring trust.

We will encourage employees of each department of each organization to cultivate their understanding of the Core Values of KOBELCO and the Six Pledges of KOBELCO as well as to promote activities for them to learn how to act in accordance with those values and principles by way of such as offering a forum for discussions.

(2) Establishment of Core Values of KOBELCO Month

All of our employees must have an opportunity to remind themselves in order for us to keep remembering the quality issues that materialized this time and pass on the lessons that we learned to the next generations as well as to keep reminding ourselves of the firm resolution that we will never raise any quality related non-compliance problems. We will designate every October as Core Values of KOBELCO Month

to provide our employees with an opportunity to consider how we can avoid being non-compliant and how we can prevent others from being non-compliant.

During Core Values of KOBELCO Month, we will provide our employees with an opportunity to remind themselves of the Core Values of KOBELCO and the Six Pledges of KOBELCO. In addition, we will create a platform where employees of each department, on one hand, can feel free to express their views, and supervisors of that department, on the other hand, can listen to their subordinates. This will encourage them to build a relationship in which they feel free to exchange their opinions with each other. Also, we expect that this platform will help subordinate employees to better understand their supervisors and both subordinate employees and their supervisors will truly feel free to express their views with each other.

(3) Revision of the Six Pledges of KOBELCO

We do not intend to revise the Core Values of KOBELCO because they are equivalent to what we consider to be our corporate philosophy; however, we have expected the Six Pledges of KOBELCO to change in order to fulfill our responsibilities in society as well as to respond to changes in circumstances that surround us.

We are determined to revise the Six Pledges of KOBELCO as follows in order to put a larger emphasis on our role to promote customer satisfactions and make contributions to our society by providing products and services. We have decided to do so because we regret that we caused significant troubles to our customers and made a significant impact in our society.

[Review of the Six Pledges of KOBELCO]

Before revision	After revision
2. We Will Providing High Quality Products and Services We will provide safe, sound and high quality products and services to our customers, and thereby contribute to the society.	**2. We Will <u>Make Contribution to the Society</u> by Providing High Quality Products and Services** <u>Guided by our "Quality Charter,"</u> we will provide safe, sound and high quality products and services to our customers, and thereby <u>promote customer satisfactions and contribute to the improvement of the society</u>.

2. Desirable State of the Board of Directors

In 2016, the Company replaced the Board of Statutory Auditors with an Audit & Supervisory Committee. We increased the number of independent outside directors from 2 to 5 to achieve the goal of ensuring fairness and transparency of the Board of Directors, and now the number of them accounts for 30% of the 16 board members. Among the 16 board members, we have 5 members from the Audit & Supervisory Committee and 3 of them are independent outside directors.

The Board of Directors has a Compliance Committee which primarily consists of outside experts as advisors to the board, and this Committee has assumed the role of ensuring that any compliance related activities as well as any incidents reported through the whistleblower system are adequately conducted or handled by the Company from an independent perspective. It reports to the Board and also recommends remedial measures.

We also regularly hold meetings among independent outside directors and they exchange their views and also discuss matters related to candidates for new directors as well as the board members' remuneration, and business information with regard to making large investments, among others.

Despite our efforts, however, we could not implement measures more than to just remedy local and particular problems when we had to address issues in the past. We would like to take this as an opportunity to reinforce our risk management and develop a system that will enable us to prevent and promptly detect compliance incidents. It is critically important that we will expand this effort into the entire Group.

Taking lessons from our current experience of handling the Misconduct, we will reinforce our corporate governance to ensure quality, and in an attempt to achieve fairness and transparency of the Board of Directors to a greater extent, we will restructure the advisory board of the Board of Directors and also change the structure of the Board of Directors as follows and reinforce the monitoring function of the Board.

(1) We Will Increase the Number of Independent Outside Directors on the Board

For the purposes of advancing our strategies for growing our business and also enhancing fairness and transparency of the Board of Directors, independent outside directors will account for 1/3 or more of the board. As for now, we have a total of 16 board members, but the authorized number of members on the board is 18 (see Diagram 4). We will change the authorized number to 15 and make sure that 5 of them are independent outside directors.

(2) We Will Restructure the Advisory Board of the Board of Directors

We will introduce a Nomination and Compensation Committee as voluntary advisory board of the Board of Directors, and enhance fairness and transparency of the Board of Directors.

(3) We Will Remove the Chairman Position and Appoint a Chairman of the Board of Directors

The Company had a chairman of the Board as well as a chairman of the Company who was in charge of external corporate affairs as positions on the Board. We reconsidered our past practice of appointing each division head as director. We will remove the chairman of the Company position and appoint a chairman of the Board from the independent outside directors in order to enhance the function of the Board to monitor the business activities of each division.

(4) We Will Cease the Practice of Appointing Each Division Head as Director

The Company used to appoint each division head as director but we will cease that practice. For the purposes of reinforcing the monitoring function of the Board, we will assign one director position to the materials business (i.e., Iron and Steel, Welding, Aluminum & Copper), one director position to the machinery business (i.e., Machinery, Engineering, Construction Machinery), and one director position to the electric power business.

(5) We Will Appoint Director Who Will be in Charge of Risk Management

We admit that our efforts to enhance our risk management activities were not enough even though we introduced a system and engaged in activities for assessing risks and remedying the risks by regularly reporting the activities when the Companies Act was revised in 2006 and we were prompted to develop an internal control system of a corporate group.

For the purposes of improving our corporate governance to ensure compliance, in particular, we will appoint a director who will primarily oversee compliance and risk management activities so that the Group can engage in risk management activities effectively with a focus on preventing any Misconduct from taking place. In addition, a group of managing executive officers who will be exclusively in charge of compliance will reinforce the monitoring function of the Board by overseeing the activities conducted by a Compliance Management Committee which will be newly

established.

(6) We Will Appoint a Director Who Will be in Charge of Quality Assurance

Taking lessons from a series of our quality problems, we will appoint a director who will be in charge of quality assurance and oversee quality assurance of the Company for the purposes of strengthening our corporate governance regarding quality as a corporate group. We will recruit candidates from outside the Company and appoint them as managing executive officers who will be exclusively responsible for quality assurance. They will reinforce the monitoring function of the Board over the activities conducted by the Quality Supervision Committee that has been established in the Head Offices, as well as any quality assurance and quality control activities conducted by each business division and each business location.

(7) We Will Establish an Independent Quality Supervision Committee

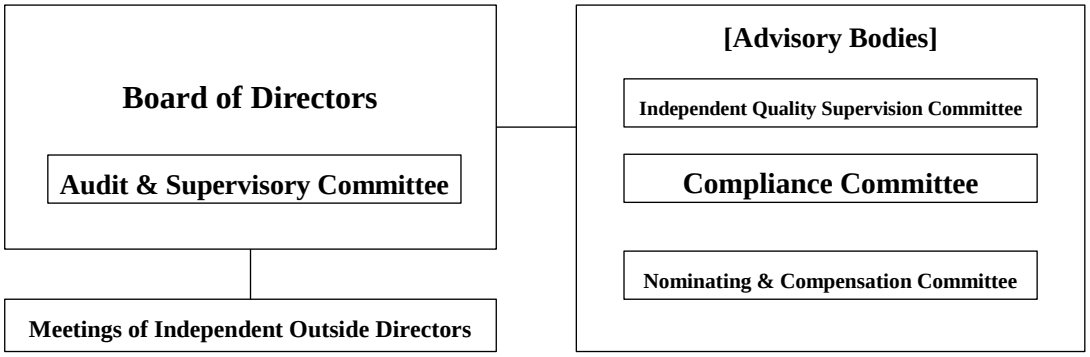
We have a history of repeatedly facing quality problems such as the incidents in Kobelco Research Institute, Inc. in 2006; and in Nippon Koshuha Steel Co., Ltd. in 2008. As we described above, we admit that we could not take measures promptly more than just to remedy local and particular problems.

We will establish an Independent Quality Supervision Committee as a temporary measure to keep our effort to regularly monitor the status of correcting the Misconduct and implementing remedial measures as well as to provide a platform to discuss appropriate measures to overcome various quality compliance problems that the Group may face in the future.

In addition, we will establish a task force of the Independent Quality Supervision Committee within the Quality Control Department for the purposes of ensuring that the Committee can take the initiative and conduct activities effectively.

(Diagram 4　Corporate Governance System)

[Corporate Governance System]



[Current System]

Summary		No. of directors	Current
Chairman		1	1
President (CEO)		1	
Iron & Steel Business		1	1
Welding Business		1	1
Aluminum & Copper Business		1	1
Machinery Business		1	1
Engineering Business		1	1
Construction Machinery Business		1	1
Electric Power Business		1	*
Corporate		1	1
Corporate (technical)		1	1
Independent Outside Directors		2	2
Audit & Supervisory Committee Members	Outside	3	3
	Inside	2	2
Total number		18	16
Of which Independent Outside Directors		5	5

* Currently held concurrently by the director in charge of Corporate

[New System]

Summary		No. of directors
President		1
Materials		1
Machinery		1
Electric Power		1
Quality		1
Corporate		1
Risk Management		1
Corporate (technical)		1
Independent Outside Directors		2
Audit & Supervisory Committee Members	Outside	3
	Inside	2
Total number		15
Of which Independent Outside Directors		5

3. Restructuring of the Risk Management System

We have been promoting activities since 2009 for improving our risk management and growing our ability to detect issues as well as developing a culture that is highly conscious of following rules. However, our activities lacked substance because over time we did not improve our activities, and even though we were supposed to review our risk management activities by discussing any issues when we held meetings for allocating budgets, we allocated little time to do so.

We failed to increase the awareness of the management because we did not provide substantive information to them. We did not relate our daily work assignments to risk management assignments and we could not detect risks from our daily operations. Nor did we develop our ability to detect them.

We will review the current state of our risk management activities and ensure that we will engage in those activities effectively.

For more detail about how we are going to put more emphasis on quality assurance in our risk management activities, please see Section II below.

(1) We Will Regularly Conduct a Compliance Awareness Survey

We will conduct a compliance awareness survey regularly among all of our employees and evaluate the effectiveness of our risk management activities. We will use findings from our evaluation to improve our risks assessment abilities and ensure that we appropriately detect risks and assess them. At the same time, we will take each survey as an opportunity to increase awareness of all ranks of employees of the Group and encourage them to engage in our risk management activities.

(2) We Will Strengthen the Risk Management of the Group

As we expand our business globally, it has become an important challenge for the management that we do not have sufficient human resource for managing risks in our foreign Group companies because if we do not handle risks appropriately an issue could materialize and jeopardize our brand.

Our risk management activities were dependent on self-governance of each Group company and this has been one of the causes for the recent quality problems. As such, first, we will issue the Standard Practice for the Group and provide threshold rules for the Group. Each of our Group companies will be required to establish its own code of conduct in accordance with the Standard Practice for the Group and we will promote and educate our risk management based on the Standard Practice for the

Group.

With respect to quality control and quality assurance, we will issue the KOBELCO Quality Guidelines as our Group's guidelines for ensuring quality. It will be in line with the quality guidelines of the Japan Iron and Steel Federation. We will require each company to conduct its business in accordance with the Guidelines and also develop a system to conduct risk management activities and implement the PDCA cycle effectively by way of such as conducting audits of actual evidentiary documents.

Also, since we learned from our activities for managing the environment, among others, that it is effective to strengthen corporation among the Group companies horizontally, we will strengthen the function of the regional head office of the foreign Group companies in each region (i.e., the U.S., China, South East Asia, and India) for controlling and promoting quality assurance.

By way of example, by the end of the fiscal year 2018, we will appoint a quality assurance representative in each head office of the foreign Group companies in each region. These representatives and the Quality Management Department of the Head Offices will work together to review the audits of quality control and quality assurance conducted by our Group companies as well as support them to offer education and training of quality control and quality assurance. That way, we will be able to promptly detect any problems which our Group companies experience, and we can strengthen our functions for ensuring and monitoring quality.

(3) We Will Establish a Compliance Management Department

We will combine the compliance management function of the Compliance Management Section of the Legal Department of the Head Offices and the risk management function of the Planning and Development Department of the Head Offices (it manages risks of the entire Company) and establish a Compliance Management Department. We will establish this department to effectively implement each of the above measures, and enhance the Group's ability to control risks and ensure compliance.

The Compliance Management Department will control risks and implement and promote activities for controlling risks by overseeing the risk management activities conducted by the relevant supervising department (excluding the function to supervise quality assurance[63]). It will also engage in activities to increase awareness for managing risks across business divisions.

[63] This will be handled by the Quality Management Department.

We will ask third parties to evaluate whether our activities are effective and substantive and also evaluate the same by using the responses that we received when we conducted the compliance awareness survey in 2017. That way we will improve our activities.

4. We Will Restructure Divisions

We will consider restructuring our organizational structurers, including those across divisions, in order to renovate the Aluminum & Copper Business, where the Misconduct continued over a long period of time.

(1) We Will Correct the Insular Nature of Each Unit in the Aluminum & Copper Business

In the Aluminum & Copper Business the following four units were granted broad authority to manage the Business: the Aluminum Flat-Rolled Products (Moka); the Aluminum Castings and Forgings (Daian); the Aluminum Extrusions (Chofu); and the Copper Flat Rolled Products (Chofu).

This management strategy brought negative consequences such as fixating human resource in one location, and weakening the Business's ability to cooperate across different units horizontally. We understand that these have caused a series of quality related incidents to take place. We need to restructure the organization to allow openness and movement of human resources, and develop a system to enable each unit to cooperate with each other, such as holding meetings to make decisions.

(2) We Will Reform the Level of Quality Control and the Corporate Culture of the Aluminum & Copper Business

We will promote employees to cultivate their compliance awareness and reform our existing quality control systems in order to renovate the corporate culture which has been built based on the wrong understanding of quality assurance.

In order to do this quickly and effectively we will gather those employees from outside our units who have the expertise and experience in building an ideal quality control system and a corporate culture, and include them to our activities for the renovation. To do so, we will reassign them in the units and establish an environment where experts outside the units can support the units.

(3) We Will Restructure the Materials Business From the Strategic Perspective for Critical Market Segments

As part of our strategy to increase our presence in the high value-added industries such as automobiles, aircrafts, and energy, we will shift from our former business structure that corresponded to types of metals to a business structure that corresponds to market segments we serve.

5. We Will Restructure the Group Companies

The Kobe Steel Group has always thought that it is our top priority not to miss a business opportunity for each of our business industries, and by way of breaking down our business entities into units and incorporating new business locations and corporations as we expanded our business into overseas locations, we have grown our business by meeting the needs in the market. As a result, the number of our Group companies has now increased to 213 (as of March 31, 2017).

On the other hand, 95% of the consolidated revenues of the Company were accounted for by 58 companies, and the situation is such that there are many relatively small-scale companies; the remaining 155 companies are stuck at a level of average annual revenue of about 1.7 billion yen. It was a challenge for us to have a numerous number of Group companies to effectively manage them from the Head Offices, however, our discussions did not develop into restructuring the Group companies across business divisions.

In the course of applying remedial measures to the entire Group going forward, the Head Offices will make sure that each Group company and each business division will receive support, control, and management from the Head Offices, and promote compliance and substantially improve our corporate governance; however, each Group company should not remain in a passive mode and should be determined to actively engage itself in strengthening its governance, otherwise, we will not reach our goals for renovation. It is true, however, that we lack human resource to have each Group company reach the level that we expect it to reach.

In order to overcome those challenges, we will proceed with restructuring the Group with the goal of creating a system that will enable the Head Offices to provide support and management for each Group company more individually, and enhance the quality of the corporate governance of each Group company (such as strengthening the management level; strengthening technology, technical skills, and increasing the power to innovate products; and optimizing management efficiency).

We have various issues that we need to consider to restructure the Group companies,

but our approach for the future is to proceed with a specific sense of objectives from the following points of view:

(i) Is the company necessary for our business strategy (i.e., we will clearly define the significance of each company)?

(ii) What are the functions that should be strengthened from the business strategy perspective (i.e., we will review each function and allocate responsibilities)?

(iii) What business infrastructure is missing, and what is necessary?

(iv) Is it possible to supplement what is lacking (i.e., we will consider using external resources and also providing support from the Head Offices)?

6. We Will Establish a System for Rotating Personnel Among Divisions

To rectify the insular nature of our organization (i.e., lack of mobility of people) which was one of the causes for creating the recent quality problems, we must consciously change the mindset that created the insular organization, increase the added-value of the organization, and educate managers who can lead the organization in the right direction. To this end, we will diversify personnel transfer routes (i.e., diversification of career paths), aim at creating an organization that has mobility of personnel among different business divisions; and the Human Resources Department will take the initiative of preparing and executing plans for personnel transfers and assignments.

We will accelerate personnel rotations by establishing rules such as requiring a certain personnel transfer to be a condition precedent for getting a promotion. At the same time, we will be mindful of the fact that those personnel who developed special expertise in the relevant business have been the source of competitiveness in the market.

Additionally, we will promote a rotation of personnel who are responsible for ensuring quality among different business locations and business divisions. We will call them Specially Designated Personnel and encourage rotating them. We will consider the following seven fields to be those that have a special function in order to train Specially Designated Personnel: 1) accounting, 2) IT, 3) intellectual property, 4) environmental disaster prevention, 5) health and safety, 6) labor, and 7) construction technology. We will prepare a personnel map in order to understand the positions and the level of expertise of each employee who has special skills. We will use the map to strategically allocate train and allocate human resource across different business divisions and locations.

By adding quality assurance to those that have a special function, we will implement the plan that we provided in the report dated November 10, 2017 where we stated that “we will promote rotation of personnel whom we consider as those who have special skills and those who are responsible for quality assurance for the entire Company across business

divisions and locations."

The Quality Management Department of the Head Offices, which was newly established on January 1, 2018, will plan personnel development and prepare rotation plans related to personnel who are involved in quality assurance for the entire Group from a medium-to-long term perspective, and will also assume a function to oversee that these plans are put in place at each business division and Group company.

7. We Will Understand Issues Occurring at Worksites

To create an open workplace where the management can receive necessary information without delay about any problems that arise in each location, it is ideal for us to implement a system that will send necessary information via our regular line of reporting smoothly to the top management. However, information about risks by its nature tends to be minimized in the reporting process, and in some cases, doesn't reach the management.

Top management's generous attitude to listen to voices from each location will develop trust between the management and employees, and this trust relationship will be critical to the Company to implement its plans for reforms. As such, we decided to take measures to further encourage the activities under the "Next 100 Project," which started in April 2017, and we will conduct activities to encourage the management not only to send their message but also to actively listen to the raw voices from the ground.

(1) Dialogue Between the Top Management and Employees

We will set up opportunities for executives to travel regularly to multiple business locations and sites in Japan and abroad to speak directly with employees. At these opportunities for speaking, the President will, for example, field questions from employees and answer them, in addition to speaking about management philosophy and indicating the Kobe Steel Group's mission in the society, so that our principles may be disseminated through an interactive exchange.

(2) Conduct an Employees Survey

We will conduct an Employees Survey at the same time we conduct the regular Compliance Awareness Survey in an effort to systematically gather opinions from our employees and develop understanding of the well-being of them as well as their awareness for compliance and any circumstances arising in each worksite. This way, the management will listen to raw voices from worksites, understand issues, and resolve them.

(3) Quality Caravan Team

We will establish a Quality Caravan Team that consists of in-house personnel with special skills and have it visit business divisions and locations in and outside Japan periodically for the purposes of find issues in manufacturing locations and make recommendations for resolving them.

8. We Will Issue the Quality Charter

In addition to the Three Core Values of KOBELCO in which we have our fundamental philosophy for ensuring quality, we will newly issue the Quality Charter to provide guidelines for ensuring quality. All of the employees of the Group will follow the Quality Charter and commit ourselves to restoring trust in the Group.

(*4) the Quality Charter

Quality Charter

The KOBELCO Group will comply with all laws, public standards, and customer specifications, and make continuous efforts to improve quality, with the goal of providing Trusted Quality in our products and services.

In October 2017, we announced that misconduct affecting product quality had occurred at a number of our divisions. This misconduct caused problems for and had a substantial impact on society particularly our customers. Learning a lesson from this incident, we have adopted the Quality Charter. Its purpose is to elucidate our views on quality, which underlies the Core Values of KOBELCO, our company philosophy, and the Pledges of KOBELCO, our code of ethics. The Quality Charter declares those views to a wide range of our stakeholders and engraves them on the hearts of all of our Group's employees as shared values.

Quality is not something that can be created by a single department. We have a heightened awareness that quality is achievable only when all of the divisions in the company pull together, and we will review and reinforce our efforts towards quality.

Safety and health, as well as environmental preservation and disaster prevention, always come first. Quality takes priority over everything else when products and services are provided to our customers. When considering quality, delivery deadlines, and costs of products and services, a company must, in principle, act to satisfy all of them. When the balance among the three is not feasible, however, we will give the highest priority to quality because delivery deadlines and costs by no means take precedence over quality.

The Quality Assurance Department will always be aware, and act on the recognition, that it is the linchpin of the company's commitment to preventing nonconforming products from being delivered to our customers regardless of the circumstances.

The KOBELCO Group will continue to work tirelessly to improve quality. All employees will strive to improve themselves and explore what they can do to deliver the highest customer satisfaction.

9. We Will Restructure the Quality Assurance System

We will take lessons from the fact that we did not have a system implemented in our organization to control quality and based on such lessons we will reinforce the quality assurance system with respect to each of the three layers: 1) manufacturing sites and factories; 2) business divisions; and 3) the Head Offices.

(1) The Quality Assurance System with Respect to Each Layer

In manufacturing sites and factories of the first layer, we have separated the quality control function from the quality assurance function, and ensured independency of the quality assurance function. In business divisions of the second layer, we have established a quality assurance organization (either a department or a section) under the direct supervision of each business division. This organization is responsible for conducting quality assurance audits and educating personnel who are responsible for quality control as well as offering training to them. In addition, in the Head Offices of the third layer, we have established the Quality Management Department in the Head Offices. This Department is in charge of not only conducting quality audits but also supporting the quality assurance department of each business division for offering education and training opportunities as well as developing personnel who are responsible for quality assurance.

(2) We Will Appoint Executive Officer Responsible for the Quality Management Department (This will be effective from April 1, 2018)

The Quality Management Department will lead and direct the Group's quality assurance activities, but in order to create an environment where it feels free to execute reforms that are nonconventional compared to the Company's old common sense, we will appoint an executive officer from outside the Company on April 1, 2018 and assign him to be in charge of the Quality Management Department.

10. We Will Revise Our Strategy for Managing the Business

In order to increase our sustainable corporate values, we will change our attitude that over prioritized profitability and adopt a management strategy that will aim at implementing a well-balanced internal control system throughout the organization and being capable of detecting risks and taking remedial measures.

Basic requirements of this strategy are: 1) we are capable of finding risks for our sustainable business development both quantitatively and comprehensively; 2) we are

capable of exercising the internal control system throughout the Company; and 3) the strategy is sustainable for a long time.

(1) Business Management Goals

With respect to those goals regarding business management excluding the goal regarding economy, we will define and determine how to implement the following in the fiscal year of 2018:

(i) Economy: Business is producing economic values

(ii) Legal and contractual compliance: We create economic values by following rules

(iii) Customer satisfaction: We achieve fairness in providing values to customers

(iv) Sustainable quality: We take it our top priority to ensure sustainable quality

(v) Safety: We ensure safety of employees in each workplace

(vi) Employee satisfaction: We provide a work environment where employees can work for a long time

(vii) Environmental Friendly Management: we take a great responsibility in ensuring that our management is friendly to the natural environment

II. Management – Ensuring Quality Control

1. Measures for Quality Management

(1) Establishment of Quality Management Department

(i) Objectives of establishment

We established the Quality Management Department on January 1, 2018 with the goal of unifying the divisions' Quality Assurance Departments where decisions to ship products are made, and conducting audits related to quality. It engages in company-wide measures related to strengthening the quality assurance system by collecting information (such as quality management indicators and incidents) related to quality assurance for each business divisions, determining problems, and reporting such information to and sharing it with the senior management periodically.

(ii) Work descriptions

We will have a group that will plan and develop strategies under the direct supervision of the Quality Management Department and it will be assigned for the following tasks:

- Tasks of the group
  - Report the company-wide operational status regarding quality to the senior management;
  - Develop annual plans for quality control and announce quality policies;
  - Gather information related to quality from each business division and understand problems;
  - Develop education programs;
  - Plan and announce reassignments of personnel;
  - Centrally manage status of obtaining certifications from public authorities for the Company;
  - Gather and provide quality related information (e.g., information regarding JIS revisions, ISO revisions, etc.);
  - Be the contact point of the Head Offices for external communications with the certification authorities and the International Standards Bureau of the Ministry of Economy, Trade and Industry;
  - Gather information related to quality for various industry bodies; and
  - Secretariat for the External Quality Audit Committee
- Tasks of the Quality Management Department

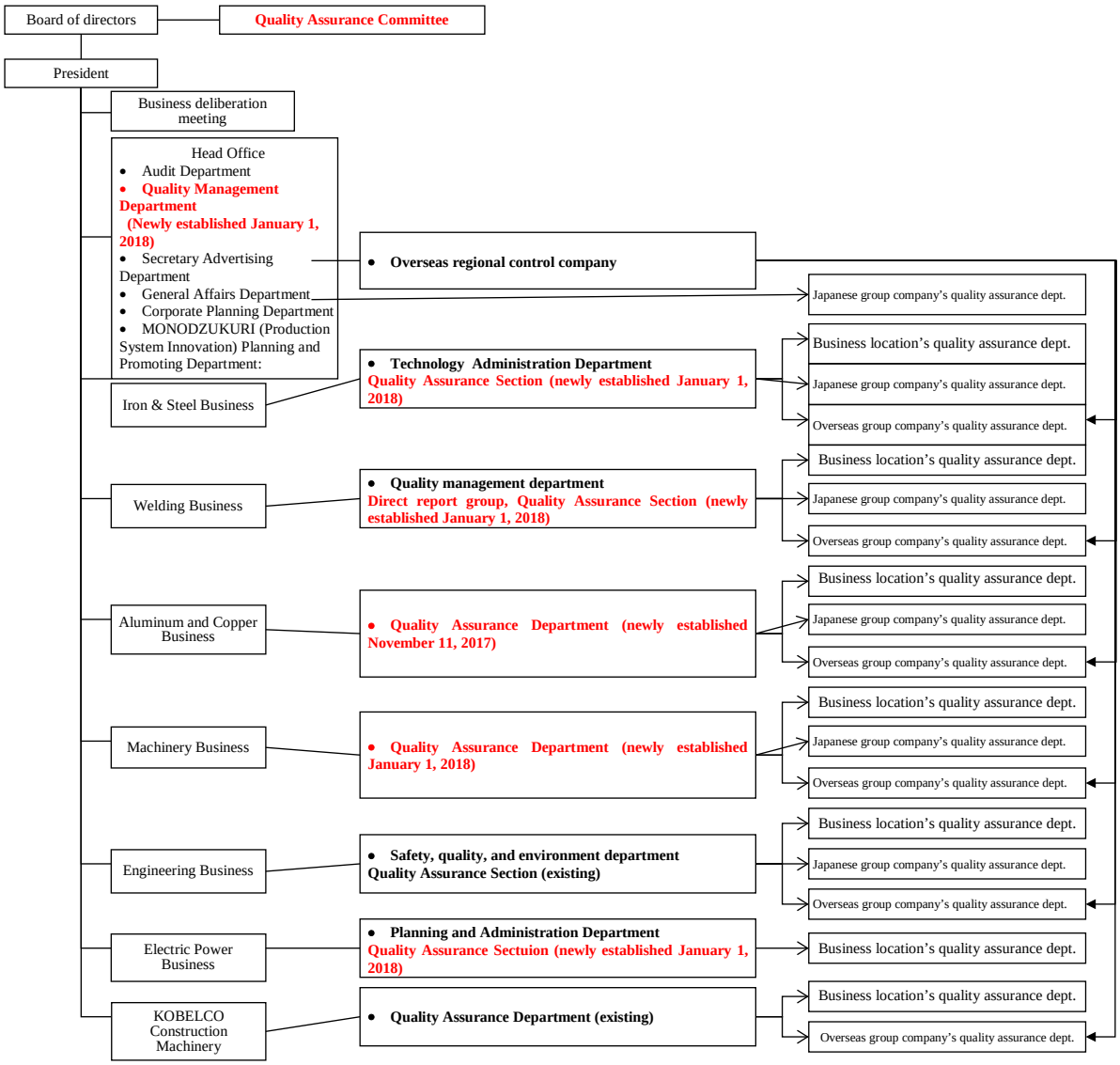
- Perform specific audits regarding quality;
- Report audit results to the External Quality Audit Committee; and
- Review audit results

(2) Establishment of a Quality Assurance Department Directly Under Each Business Division

(i) We established a Quality Assurance Department (Section) directly under the Machinery Business and the Electric Power Business, which previously had no quality assurance department under their direct control (effective on January 1, 2018).

(ii) We established a Quality Assurance Section under the Technology Administration Department of the Iron & Steel Business; and under the Quality Management Department of the Welding Business (effective on January 1, 2018).

[Diagram 5 Company-wide quality governance system]



(3) Enhancing Quality Assurance Management of Business Locations

We will issue guidelines to ensure independence of a quality assurance department from the circumstances of manufacturing and processing in order to approve shipment of products appropriately; and to prevent shipment of defective products. An overview of the guidelines is as follows:

(i) A quality assurance department will be under the direct supervision of the business location and it will be independent from designing (for the machinery business) and manufacturing departments. However, with respect to those business locations where we have constraints for allocating sufficient human resource, we will find another solution for the organization and the system to

ensure independence of the quality assurance function;

(ii) No manager of a quality assurance department will also be the manager of designing (for the machinery business) and manufacturing departments;

(iii) We will ensure independence of a department that issues inspection certificates from design (for the machinery businesses) and manufacturing departments; and

(iv) We will establish a quality management system ("QMS"). A business location will either obtain a third-party certification such as ISO90001 or JIS Mark or establish a quality management system equivalent to ISO90001, and that system will undergo periodic objective evaluations through, among others, auditing by a third party.

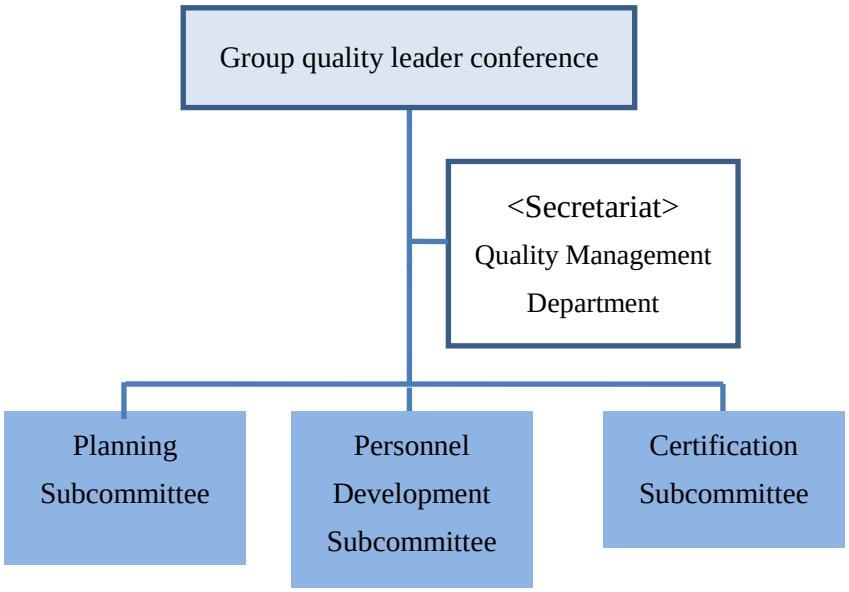
(4) Holding of Meetings Among Group Quality Leaders

The Quality Management Department will schedule and hold meetings among group quality leaders for ensuring quality. In those meetings they will report any decisions made by the External Quality Audit Committee as well as share information regarding action items for quality assurance (e.g., schedules for conducting audits).

Furthermore, we will establish three subcommittees: 1) the Planning Subcommittee; 2) the Personnel Development Subcommittee; and 3) the Certification Subcommittee, and they will for example, evaluate advisory proposals for various measures, review status of implementation of various measures, and share information related to quality control activities.

* Quality Leader: A person who is in charge of a quality assurance department of each business division, a person who has joint responsibilities in a quality assurance department of the business division and the Quality Management Department of the Head Offices, or a person who is in charge of a Group company's quality assurance (management) department.

[Diagram 6 Group Quality Leader Conference]



2. Rotation and Development of Quality Assurance Personnel

We had little mobility of personnel in our organization because we had so much focus on the special skills acquired in each manufacturing location that seldom transferred personnel between different manufacturing locations and it was particularly rare between positions related to manufacturing and quality assurance. As a measure to correct this, quality assurance personnel will be considered company-wide expert personnel and we will rotate and train them across business divisions. In addition, we will use external resources to provide training for personnel for acquiring special skills.

3. In-house Education Programs Regarding Quality

We will offer training to all of the personnel who work for the Group and are assigned for jobs related to quality and encourage them to follow the Quality Charter. We will implement a structural training program including e-Learning programs and improve our in-house education programs. Also, with respect to specific details about each program, the human resource development group and the Human Resource Department will discuss and decide.

4. Support by the Head Offices

(1) Audit by Quality Audit Section

The Quality Audit Section will conduct the following audits.

(i) Review compliance status (on-site audit)

It will review any instructions from the certifying authorities, records of applications to public entities, and physically cross reference documents regarding 1) relevant products and inspection results; and 2) laws and regulations; and customer specifications. Also, it will review whether defective products are treated properly.

(ii) Review quality management systems from the perspective of preventing a fraudulent practice

It will review laws and regulations related to quality and also how customer specifications are maintained and stored. Also, it will review consistency between the instructions given to manufacturing lines and how they are actually carried out.

(iii) Assess compliance awareness

It will conduct brief interviews to assess the level of awareness of the top managers as well as factory workers in order to prevent Misconduct. Also, it will review whether compliance training programs for quality are properly carried out.

(iv) Review status of implementation of remedial measures

With respect to those locations where the Misconduct has been identified, it will review status and effectiveness of the implementation of remedial measures. Also, even with respect to those locations where no Misconduct has been identified, it will review status and effectiveness of measures that are recommended after quality audits.

(2) Support Measures by the Head Offices

The departments of the Head Offices, such as the MONODZUKURI (Production System Innovation) Planning and Promoting Department, the IT Planning Department, and the Technical Development Group, will respond to problems that arise in each location by finding them through the activities carried out by the quality caravan team.

Also, we will use our resources effectively and support each business division and Group company for resolving any issues that arise because of a delay in automating testing and inspection procedures or increasing production capacities.

・ MONODZUKURI (Production System Innovation) Planning and Promoting Department: Head Offices will support in the introduction and implementation of ICT/IoT

・ IT Planning Department: Head Offices will support establishing IT infrastructures such as introducing tools to visualize data, and cloud services.

・ Technical Development Group: Head Offices will offer support to manufacturing locations for applying special skills (such as introducing the MONODZUKURI Center), overcoming challenges to develop new technologies, and utilizing ICT/IoT technologies.

Head Offices will also review successful precedents of other factories and of implementing cutting-edge technologies to introduce new testing, inspection, or measurement skills, to automate processes, using new systems, or applying new skills for manufacturing processes. Head Offices will prepare a summary of findings and share them with the following business divisions and Group companies through the existing network:

・MONODZUKURI Promotion Leader Network

・Production Technology Exchange Forum: the Rolling Technology Subcommittee; the Power Control Subcommittee; the Analysis Technology Subcommittee; the Energy Saving Technology Subcommittee; and the Data Utilization Subcommittee.

III. Process – Strengthening of Quality Control Processes

We learned a lesson from the fact that we could not effectively operate the quality management systems that we had in place in many of our locations and that we offered an opportunity for the Misconduct to take place. To that end, we will review our processes and implement a system to prevent recurrence of Misconduct and operate it properly with the following in mind:

1. Prevent anyone from improperly treat test or inspection results and standardize the conditions for shipment;
2. Understand process capabilities and operate within them (with respect to the materials business);
3. Review the approval process for accepting new purchase orders;
4. Review the approval process for introducing a new manufacturing process; and
5. Promote risk assessment of quality.

We will implement the above not only in those locations where we found improper conduct but also in the entire Group in order to commit ourselves in restoring trust. The following section describes the background and objectives of and the reasons for having to decide to take the above measures.

1. Prevent Anyone from Improperly Treat Test or Inspection Results and Standardize the Conditions for Shipment

(1) Background and Objectives

Most of the business locations where Misconduct was identified had an environment where it was feasible to falsify data in the process of entering data points into a system after manually recording test or inspection results on test sheets. In some cases, manufacturing departments modified data points that were already entered into the system even though they were not authorized to make such modifications. Furthermore, a few business locations adopted an internal standard that was stricter than customer specifications but they were not allowed to ship products unless their products met the internal standard, and as a result, they regularly failed to meet the internal standard, and ended up falsifying data. In light of these, we will avoid creating opportunities for any improper conduct to take place in the course of conducting tests, inspections, approving shipments, and issuing mill test certificates.

(2) Approach Towards Automation of Test and Inspection Procedures and Avoiding Entries of Data by One Person

Each division will automate testing and inspection procedures as much as possible and create an environment where no manual modification will be possible, and if we cannot automate any process we will eliminate a situation where one person enters data alone. If we cannot avoid a situation where one person needs to enter data alone, we will ensure that entries to logs will be subject to review by someone else.

The relevant quality assurance department will conduct audits without giving advance notice and eliminate opportunities for any improper conduct to take place as much as possible, and also cultivate an understanding of testing and inspection procedures, as well as improve their function.

(3) Approach Towards Standardization of Conditions for Shipment

To eliminate opportunities for any improper conduct to take place because we have double standards (i.e., customer specifications and an internal standard), we will apply customer specifications and not internal standards by default for approving shipments, and if any location is not following this rule, we will promptly ask them to correct it and eliminate the motive for engaging in Misconduct to arise.

2. Understand Process Capabilities and Operate within Them (with respect to the materials businesses)

(1) Background and Objectives

Misconduct took place in the process of inspection after manufacturing or in the process after inspection, but we believe that motives for the Misconduct resulted from the inability to understand the Company's process capability to meet customer specifications when we received orders. The materials business aims to utilize statistical methods such as process capability indicators and various management diagrams to demonstrate process capabilities.

(2) Approach of Applying Process Capability Indicators.

We will understand our process capabilities by reviewing how quality properties deviate from the required standards in manufacturing processes for each category, such

as production lines, product types, testing or inspection, and customers.

(3) Concepts for Applying Process Capability Indicators

The degree of variation found in the quality properties of manufacturing processes will be used for deciding whether to accept or reject sales orders. Furthermore, when process capabilities are insufficient for a specification, either the process will be improved, including upgrading facilities to improve the process capabilities, or the specifications will be modified together with the customer by following a predefined procedure.

3. Review the Approval Process for Accepting New Purchase Orders

(1) Background and Objectives

We understand that one of the causes for some of the Misconduct to take place was that we agreed to terms with customers when we reviewed new purchase orders for products without evaluating our process capability and testing or inspection procedures by comparing them to customer specifications.

(2) Approach of Revising the Order Authorization Process

For the purposes of preventing a situation where we produce products that do not satisfy customers' requirements in each business division, going forward, we will decide whether to accept a purchase order after going through an authorization process for reviewing capabilities for development, and mass production, among others (i.e., **DR**[64]). To be more specific, each division should understand whether it has the capability to accept customer specifications and decide to accept a purchase order after reviewing and evaluating the process capacities and capabilities for manufacturing conditions and quality assurance. Each division should also review the process capability and customer satisfaction after shifting to mass production and use the findings to improve process capabilities, customer satisfaction, and DR.

4. Review the Approval Process for Introducing a New Manufacturing Process

In some cases of the Misconduct, motives for data falsification arose from the fact

[64] DR stands for design review.

that a manager was not properly put on notice of the changes in materials and facilities used after they started manufacturing products, and thus, inconsistencies with specifications arose or process capabilities fell short to produce products. Since this is an issue with the authorization process to be followed when making changes to the 4Ms (i.e., manpower, machine, material, and method), which affects product quality, we will review this authorization process.

5. Promote Risk Assessment of Quality in Case of Capital Investment

(1) Background and Objectives

The Company made capital investment decisions related to quality based on the Internal Rate of Return (IRR) and the payback period method. This made it difficult for the Company to consider quality related investment matters that will have low returns (such as introducing new test and inspection devices). As such, we will introduce an investment standard that includes the view to mitigate quality risks, and mitigate quality risks by making appropriate investments.

(2) Approach of Adopting Standards for Quality Spending

When evaluating quality risks quantitatively, we will recommend the levels of sensitivity, occurrence, and detection be taken into account to make investment decisions.

IV. Implementation Plans for Measures in the Aluminum & Copper Business

As we stated in the analysis section of this report, many of the Misconduct that we found in the Aluminum & Copper Business were passed on from one person to another over a long period of time among those who belonged to certain sections of each plant or those employees who held certain managerial positions and that the Misconduct became part of the normal course of their business.

Therefore, the following section outlines remedial measures that we prepared and will implement in the Aluminum & Copper Business, so that we will develop an organizational structure in which we will never see recurrences of a similar problem.

1 Policies for the Management

(1) Establishment of the Quality Assurance Department

We established a Quality Assurance Department under the direct control of the Aluminum & Copper Business in November 2017. This Quality Assurance Department will work with the Quality Management Department of the Head Offices and plan and conduct audits regarding quality. A scope of the work is as follows:

[Scope of work for the Quality Assurance Department]

The Quality Assurance Department will, within it, have a Quality Planning Section and a Quality Audit Section, and will perform the following tasks.

- Scope of work for Quality Planning Section
  - Report to the senior executives about the operations in the division involving quality
  - Formulate and disseminate quality control policy in the division, and check the details of the quality control policy at each business location in accordance with the company-wide quality control policy.
  - Formulate an education plan
  - Study and suggest the deployment of quality assurance personnel
  - Centrally manage public accreditation throughout the division, including group companies
  - Collect information related to quality in all industries and organizations
  - Organize and manage each division’s quality discussions

- Scope of work for Quality Audit Section

- Support internal audits related to quality at business locations
- Support the division's internal audit planning, implementation, and results

The current problems have resulted in penalties, including revocation or suspension of certifications such as JIS and ISO. Accordingly, the Quality Assurance Department will work together with the plants to engage in activities for reaccreditation and to lift the suspension.

(2) Education

As a measure against the rules being reduced to a formality and not observed, the Aluminum & Copper Business Quality Assurance Department will cooperate with the Quality Management Department of the Head Offices to revamp the existing education system and plan as well as implement an education system related to compliance and quality control.

- Implement an education system that will teach employees the importance of quality in supporting trust by making them actually understand the impacts on customers when they fail to observe it with the use of examples of other companies.
- Plan an education system that will allow employees to gain knowledge systematically about the quality process, namely how the company's products are used in the end, the attributes required for that usage, and the inspections required to guarantee those attributes.
- Implement an education system concerning tests and inspections required by certifications, such as JIS and ISO, in order to improve the knowledge about such certifications.

(3) Audit and Support

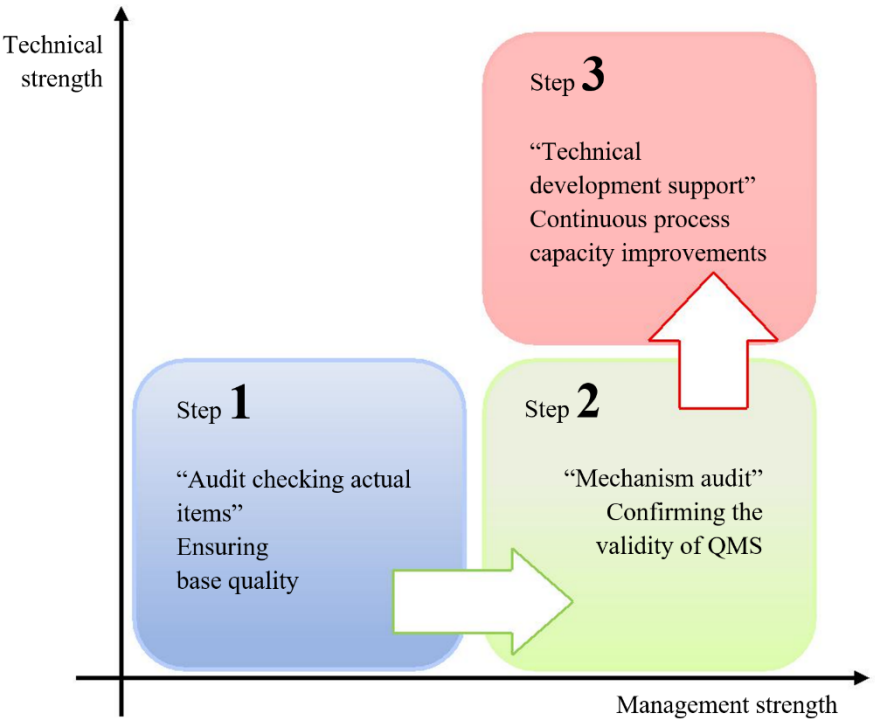
We saw quality issues even though we had obtained ISO9001. This shows that one of the causes for the Misconduct was that we did not effectively conduct internal audits which were required under the ISO.

We will improve our internal audits by taking a few steps. First, for the purposes of ensuring quality, the Quality Assurance Section and the quality assurance department of each business division will start activities to compare documents that are evidence for the quality assured for each of the shipped products (First step illustrated in Diagram 7).

Next, for the purposes of restructuring the quality management system, the Quality Assurance Section will review whether each of the quality assurance department of each division is functioning effectively. We will call this a “mechanism audit” (Second step illustrated in Diagram 7).

Finally, in the future, in order to develop a system where we can constantly improve process capabilities, and to respond to customers’ requests for quality that set a standard that’s even higher, we will require each business division to engage in activities to support improving process capabilities (Third step illustrated in Diagram 7).

[Diagram 7: Method of proceeding with audit/support activities]



In the audit process for reviewing actual evidentiary documents, we will review whether we are ensuring quality of any products that are shipped by 1) cross referencing test or inspection results and mill test certificates; 2) whether manually entered data is subject to review by a second person; 3) whether rights to access data bases are restricted; and 4) cross-referencing customer specifications and production instructions (effective on January 2018).

In the mechanism audit process, we will review the workflow which we will describe later, and confirm whether the newly implemented DR (Design Review) is functioning properly or not. We will prepare to start this process in the second half of

the fiscal year of 2018.

In offering support for technology development, we will categorize the targeted areas into: product technology, production technology, and equipment technology, and aim at creating an organization in which process capability improvements can continuously progress in the normal course of business, including R&D themes and equipment investment projects. Currently, the Technology Department of the Aluminum & Copper Business is managing the R&D road map and managing the progress of capital investment but will be improved to include quality issues and process capability issues and follow up on their progress.

2 Policies in Terms of Process

We understand that the primary cause of many of the Misconduct at the Aluminum & Copper Business was the processes that allowed the staff to easily falsify or fabricate data. As a countermeasure, we have devised an improvement plan for processes. When drawing up this plan we referred to the processes used by the Iron & Steel Business, as well as the "Guidelines for Reinforcing the Quality Assurance System" issued by the Japan Iron and Steel Federation in 2008.

(1) Emergency Measures

An effective way to completely prevent falsification or fabrication is to eliminate human intervention by automating the process. However, it takes time to construct such a system. For this reason, the following emergency measures may be taken to prevent products that will not satisfy customer specifications from being shipped.

(i) Checking of test/inspection data and mill test certificates

Before shipping the products, the office head or an administrator in the Quality Assurance Department will check the content described in the mill test certificates and the test/inspection raw data to confirm that the test/inspection results have not been rewritten.

(ii) Double-checking of the manually entered test/inspection results

An upper-level manager will double-check test/inspection data manually entered by a worker. This is to confirm that the test/inspection results have been accurately recorded in the computer system.

(iii) Restrictions on access rights to the database

Access rights to the database on which the test/inspection results are stored are restricted by the Quality Assurance Department and the System

Administration Department.

- A password is required to edit data.
- Passwords are issued by the Quality Assurance Department only to limited members.
- Edit history (data before editing, editor, edited date and time) is left, and an upper-level manager will confirm the content.

(iv) Adoption of proper shipment standards (operational aspect)

Many business locations have applied internal standards stricter than customer specifications. These standards were put in place based on the idea that the establishment of more stringent internal standards would make it easier to notice in advance any insufficiencies in plants' process capability, and by correcting them, prevent defective products from being delivered to the customer. In some business locations, these internal standards are used as the release criteria, and this has become a motive for falsifying unnecessary data. Moving forward, we will use customer specifications as the release criteria at every business location. As a first step, we will take emergency measures to ensure that customer specifications are used as shipment standards on the existing systems.

(v) Checking customer specifications against production specifications

We checked the latest customer specifications and the production specifications registered in the system (including standard values and inspection methods), to check whether the most recent specifications are registered as the production specifications. In cases where there was a discrepancy, the production specifications were replaced with the latest customer specifications (for some customers, an approval of the customer was obtained to rewrite the customer specifications), so that the content of the latest specifications are reflected in the production specifications.

(vi) Other measures

Other measures are shown in Diagram 8. The implementation of each measure will be audited by the Aluminum & Copper Business Division and Quality Assurance Department (executed in order from January 2018).

[Diagram 8 Other emergency measures]

Moka Plant	▪ Thorough implementation of rules on procedures for handling nonconforming products
Daian Plant	▪ Thorough implementation of rules on procedures for handling nonconforming products
Chofu Works, Aluminum Extrusion & Fabrication Plant	▪ Thorough implementation of rules on procedures for nonconforming products
Chofu Works, Copper Rolled Products Plant	▪ Thorough implementation of rules on procedures for handling nonconforming products
Kobelco & Materials Copper Tube Co., Ltd.	▪ Thorough implementation of rules on procedures for handling nonconforming products
Kobelco & Materials Copper Tube (M) Sdn., Bhd.	▪ Reduction of load on inspectors: increase of inspectors
Kobelco & Materials Copper Tube (Thailand) Co., Ltd.	▪ Reduction of load on inspectors: Introduction of large-scale tensile strength test device
Shinko Aluminum Wire Co., Ltd.	▪ Display of minor component values on mill test certificates
Suzhou Kobe Copper Technology Co., Ltd.	▪ Thorough implementation of rules on procedures for handling non-conforming products
Shinko Metal Products Co., Ltd.	▪ Thorough implementation of rules on procedures for handling non-conforming products

(2) Permanent Measures

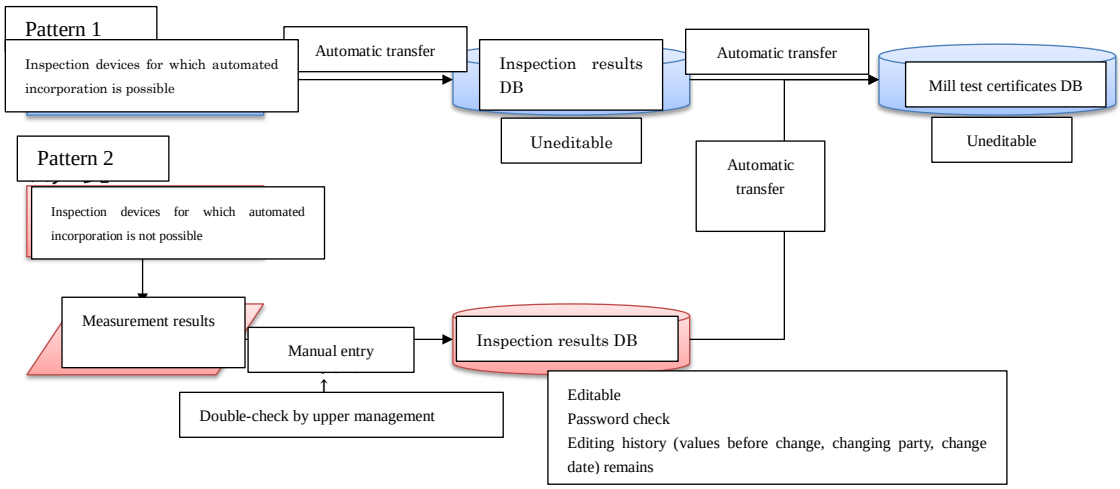
As permanent measures, we will take the following fundamental measures by March 2020.

(i) Excluding opportunities for inappropriate handling of test/inspection data

Promote the automation of data intake to eliminate opportunities for

rewriting of test/inspection data (Diagram 9, pattern 2 → 1). Additionally, we will construct a system in which automatically incorporated data cannot be edited later and that data cannot be falsified. For tests/inspections which are difficult to automate and there needs manual input, the integrity of data is ensured by an upper-level manager performing a double check and by a systemic confirmation of password management and editing history.

[Diagram 9: Flow of test/inspection data]



(ii) Optimization of shipment standards (system support)

As a permanent measure for proper shipment standards for which the emergency measures are being taken, we will improve systems so that customer specifications and internal specifications can be adopted and that customer specifications can be applied as the shipping criteria. Further, a system will be constructed in which non-conforming products that fail tests / inspections are automatically registered in the non-conforming product list and will not move to the next process/be shipped without the approval of the Quality Assurance Department. The system construction will be performed on a common platform to increase the speed of the improvements.

(iii) Fully understanding process capability

As many of the business offices within the Aluminum & Copper Business did not fully understand the process capability, there were cases where orders which exceeded the process capability were accepted. For this reason, we will create a mechanism to fully understand the process capability. In concrete terms,

tools and other measures will be introduced to allow the visualization of trends and disparities (such as histogram or process capability index) for results for each manufactured product type and test / inspection items.

A list of the system-side investment concerning (i) to (iii) above is shown in Diagram 10.

[Diagram 10: System-side investment list]

Office	Executed items	Schedule			
		Current (Feb. 2018)	To March 2018	To March 2019	To March 2019
Moka Plant	Making component analysis data not rewritable	Complete			
	Adoption of proper shipment standard		Due March 2018		
	Automated importation of inspection data			Due Sept. 2018	
	Construction of process capability monitoring system			Due March 2019	
Daian Works	Restrictions on accessing the system	Complete			
	Construction of access log monitoring log for server for mill test certificates			Due Sept.2018	
	Automated importation of inspection data				Due Dec. 2019
Chofu Works, Aluminum Extrusion & Fabrication Plant	Construction of system for visualizing process capability			Due March 2019	
Chofu Works, Copper Rolled Products Plant	Automated importation of inspection data			Due March 2019	
	Adoption of proper shipment standard			Due March 2019	
	Construction of a system for consistent management of process information and quality information			Due March 2019	
Kobelco & Materials Copper Tube Co., Ltd., Hatano Plant	Making component analysis data not rewritable	Complete			
	Automated importation of inspection data			Due April 2018	
	Automated decision-making to release products based on inspection results			Due April 2018	
	Adoption of proper shipment standard			Due Sept. 2018	
Kobelco & Materials Copper Tube (M) Sdn. Bhd.	Automated importation of inspection data		Due March 2018		
Kobelco & Materials Copper Tube (Thailand) Co., Lhd.	Automated importation of inspection data		Due March 2018		
Shinko Aluminum Wire Co., Ltd.	Automated importation of inspection data		Due March 2018		
Suzhou Kobe Copper Technology Co., Ltd.	Restrictions on accessing the system	Complete			
Shinko Metal Products Co., Ltd.	Automated importation of inspection data Restrictions on accessing the system				Due March 2020

(iv) Making Improvements in process capability and testing / inspection capability

For process capability, we started with cases extracted for the stabilization of functional characteristics, such as heat dispersion improvements in heat treatment facilities and distortion control in the machining process. At business locations that lack in testing / inspection capability, we will reinforce testing / inspection devices. Chart 4 lists constructions work aimed at reinforcing process capability and testing / inspection capability.

[Diagram 11: Construction to increase process capability and testing / inspection capability]

Office	Details of work	FY2017	FY2018 - 2019
Moka Plant	Improve levelers of continuous annealing furnaces	Complete	
	Reinforce soaking pits		○
Daian Works	Stabilize temperature distribution of heat treatment furnaces		○
Chofu Works, Aluminum Extrusion & Fabrication Plant	Stabilize temperature of extrusion press		○
Chofu Works, Copper Rolled Products Plant	Stabilize temperature distribution of heat treatment furnaces		○
	Improve temperature of hot		○

	rolling temperature / strain control		
Kobelco & Materials Copper Tube Co., Ltd.	Stabilize temperature distribution of heat treatment furnaces		○
	Improve cooling control of extrusion press		○
Kobelco & Materials Copper Tube (M) Sdn. Bhd.	Improve productivity of tensile strength test devices	Due March 2018	
Kobelco & Materials Copper Tube (Thailand) Co., Ltd.	Introduce large-scale tensile strength test device	Complete	
Shinko Metal Products Co., Ltd.	Improve temperature distribution of heat treatment furnaces		○

(v) Revising the authorization process when receiving new orders

In Misconduct cases in the Aluminum & Copper Business, many cases are seen where, during the process of accepting orders for new products, orders for products exceeding the process capability were accepted. For this reason, we will introduce the DR (Design Review) method, and clarify the items to be confirmed and the person with approval authority at each stage from deal to prototype, to mass production, to official order. Making a proposal and approval will always be carried out by different departments, and this will ensure that order and acceptance process will be reasonable.

(vi) Revising the authorization process when changing the manufacturing process

There are cases when severe quality defects occurred due to a failure to grasp changes to the manufacturing process or the effect they had on quality, and a follow-up is important when making changes to the manufacturing process. Moving forward, we are working to clarify the procedure for the prior authorization process and initial flow stage management, when changing the 4M (man, machine, material, method) in the manufacturing process, to prevent quality defects in mass produced items.

(vii) Promotion of quality risk assessment for capital investment

Promote quality risk assessment to actualize quality improvement investment with low investment benefits.

[Diagram 12: Schedule for implementation of measures at the Aluminum & Copper Business]

	2017					2018		2019	
	Nov	Dec	Jan	Feb	March	First half	Second half	First half	Second half
Management -side policies									
Organization change	○ Establish QA dept.								
Education		contents under consideration		Education			Education		Education
Audit (checking/mechanism)			Checking / mechanism audit				Checking/mechanism audit		Checking/mechanism audit
Technical development support								Technical development support	
Process-side policies									
< Emergency measures >									
Matching of test/inspection data and mill test certificates	Implementing								
Double-check of manually input test/inspection data	Implementing								
Restricting access rights to the database									
Optimizing shipment standards (operation-side)	Implemented								
Matching customer specification and standard values	Implemented								
< Permanent measures >									
Exclusion of inappropriate handling of						Automated importation for each test item in order			

test/inspection data	→	→	→	→	→	→	→	→	→
Optimize shipment standards (system support)	→	→	→	→	→	Start operation (some offices need time for systematization)			→
Grasp process capability	→	To be implemented in an orderly manner	→	→	→	Investigate mechanism for PDCA		→	→
Improve process capability and test/inspection capacity	→	To be implemented in an orderly manner	→	→	→	→	→	→	→
Review authorization process of receiving new orders	→	Details under consideration	→	→	→	Operation / brush up	→	Operation starts on a full scale	
Review authorization process when changing manufacturing process	→	Details under consideration	→	→	→	Operation / brush up	→	Operation starts on a full scale	

Chapter 6: Conclusion

In late August 2017, the Company launched an investigation into the Misconduct. On October 26, 2017, the IIC began its work. In all, the Company spent about four months investigating the facts, working with customers to verify safety, probing the causes, and considering measures to prevent a recurrence.

In the process of investigating the facts, we found that the Misconduct had taken place at a number of locations, although the focal point was the Aluminum & Copper Business; that a lot of people, including officers in some cases, were aware of or involved in the Misconduct; and that the Misconduct continued for a long period of time. When we consider that the Company caused multiple compliance issues in the past we must acknowledge that the Company is facing deep-seated issues concerning its organizational culture and awareness of its officers and employees, as well as its compliance systems.

The investigation into the causes of the Misconduct revealed problems with the various measures we implemented in the past to streamline our management. It goes without saying that problems existed with the Company's management of quality assurance and operational processes. Those previous measures were taken as our choice to resolve the issues the Company was then facing and enable it to continue to survive and develop, but now that we reflect on them, we should have turned our attention also to negative side-effects of each such measure.

We also discovered the need to make reforms aimed at addressing issues more fundamental than issues that involved only quality, including those relating to governance in general. In addition, there still remain issues that require further consideration, such as the desirable state of the Board of Directors, the desirable state of the division system, and the desirable methods of personnel allocation and development and formulation of management strategies.

We will continue to place the highest priority to completing the safety verification. At the same time, we will fulfill our responsibilities for the Misconduct by involving all of the Kobe Steel Group's employees, led by the top management, in diligently and earnestly implementing each measure to prevent a recurrence mentioned in the Report and pursue fundamental reforms of our organizational systems and corporate culture in order to regain trust from all the stakeholders as soon as possible.

The past half year, in one sense, has been an important opportunity for us to broadly and profoundly deliberate the issues that cannot be sidestepped in order for the Company to continue to exist and develop in the future. We will apply as much as possible what we learned during that period to our future operations. In safety verification and other processes, we gained great cooperation from those concerned, especially our customers, and also received very valuable advice and opinions. We would like to express once again our sincere gratitude for such

support.

Since its early times, the Kobe Steel Group has valued trust. Building on the trust of its customers, partners, shareholders, and a number of other stakeholders, the Group has operated for over 112 years since its founding. The loss of such trust is truly regrettable. To fulfill our responsibilities for the recent Misconduct and to be reborn as a company in which people can place their trust, we will go back to our roots (the "Base of *Monodzukuri*"), take to heart again the fact that reliable quality is the core of trust, strive to prevent a recurrence with an unwavering resolution, and commit ourselves to making this moment a true turning point.

END