



## Causal Analysis

①

Management style that overemphasized profitability and inadequate corporate governance

②

Imbalanced operation of plants that resulted in the reduced awareness of quality compliance among employees

③

Insufficient quality control procedures that allowed the Misconduct to take place

## I . Governance – Building a Quality Governance System

1. Penetration of the Corporate Philosophy

2. Desirable State of the Board of Directors

3. Restructuring of the Risk Management System

4. Reformation of the Organization

5. Restructuring of the Group Companies

6. Rotation of Personnel Among Divisions

7. Understanding of Issues Occurring at Worksites

8. Establishment of the Quality Charter

9. Restructuring of the Quality Assurance System

10. Restructuring of Our Management Indicators

## II . Management – Ensuring Quality Control

1. Measures for Quality Management

2. Rotation and Development of Quality Assurance Personnel

3. In-house Education Programs Regarding Quality

4. Support by the Head Office

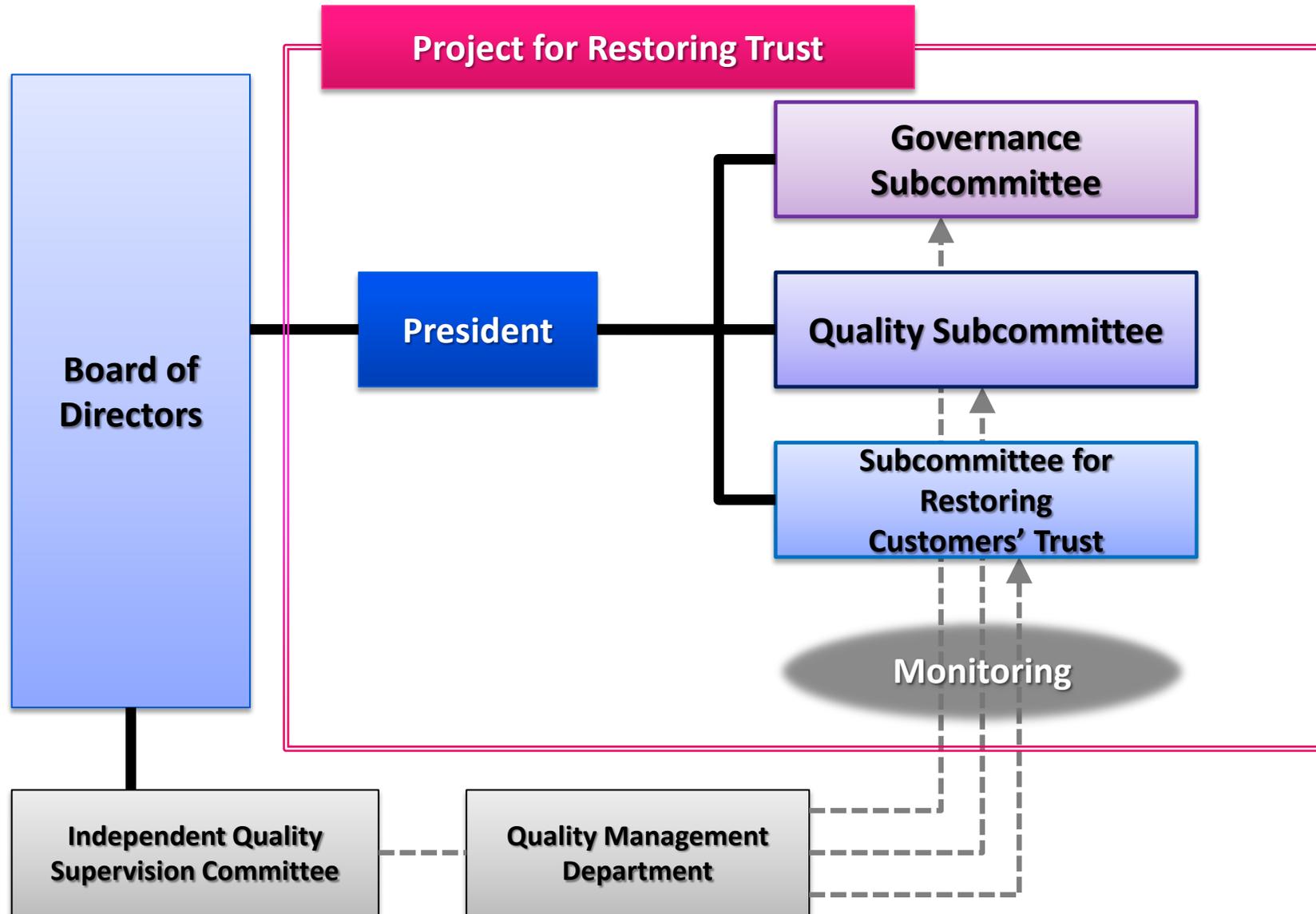
## III . Process – Strengthening of Quality Control Processes

1. Elimination of Opportunities for the Improper Handling of Test and Inspection Data and Unification of Shipping Standards

2. Understanding of Process Capabilities and Their Utilization (with respect to the materials businesses)

3. Review of the Approval Process (a) for Accepting New Purchase Orders, and (b) when Changing the Manufacturing Process

4. Promotion of Quality Risk Assessment in Capital Investments



# Preventive Measures – Status Overview ①

Measures to Prevent Recurrence of the Misconduct	Status
<b>I . Governance – Building a Quality Governance System</b>	
1 Penetration of the Corporate Philosophy	In Progress
2 Desirable State of the Board of Directors	Completed
3 Restructuring of the Risk Management System	In Progress
4 Reformation of the Organization	Under Consideration
5 Restructuring of the Group Companies	Under Consideration
6 Rotation of Personnel Among Divisions	Under Consideration 【New System to be implemented in April 2019】
7 Understanding of Issues Occurring at Worksites	In Progress
8 Establishment of the Quality Charter	Complete
9 Restructuring of the Quality Assurance System	Almost Completed
10 Restructuring of Our Management Indicators	Under Consideration 【To be introduced from April 2019】

# Preventive Measures – Status Overview ②

Measures to Prevent Recurrence of the Misconduct		Status	
<b>II . Management – Ensuring Quality Control</b>			
1	Measures for Quality Management	Almost Completed	
2	Rotation and Development of Quality Assurance Personnel	Partially Implemented	
3	In-house Education Programs Regarding Quality	Under Consideration 【To begin from August 2018】	
4	Support by the Head Offices	In Progress	
<b>III . Process – Strengthening of Quality Control Processes</b>			
1	Elimination of Opportunities for the Improper Handling of Test and Inspection Data and Unification of Shipping Standards	“KOBELCO Quality Guidelines” already enacted	Corrections and improvements will be checked by quality audit.
2	Understanding of Process Capabilities and Their Utilization (with respect to the materials businesses)		
3	Review of the Approval Process (a) for Accepting New Purchase Orders, and (b) when Changing the Manufacturing Process		
4	Promotion of Quality Risk Assessment in Capital Investments		



# I-1. Penetration of the Corporate Philosophy

## Further Promotion of the “Next 100 Project”

- The President has started dialogue with employees [from April 2018]: 24 dialogue sessions with heads of departments/sections at 20 business locations and sites have been completed as of the end of July 2018.
- An awareness survey among all employees was made in July 2018. The result will be used as a reference at the “Dialogue Platform” mentioned below.
- We began to create a “video program for employees” aiming at remembering the quality misconduct and recovering their self-confidence and pride.
- Measures Under Consideration: Additional measures for remembering the lessons learned from the misconduct (such as erecting a remembrance stone).



## Establishment of “Core Values of KOBELCO Month”

- We have designated every October as the “Core Values of KOBELCO Month”.
- During the “Core Values of KOBELCO Month,” every department will promote a “Dialogue Platform.” At the platform, heads of departments/sections will select a topic from quality, compliance, safety, environment, work style reform, etc. and promote free and vigorous discussions between superiors and subordinates beyond the corporate hierarchy.
- Each department will set up the platform to foster a work environment with taboo-free discussions by requesting superiors to listen to honest opinions from their subordinates and subordinates to understand their superiors’ passion and will.

## Revision of the “Six Pledges of KOBELCO Men and Women”

- The “Six Pledges” have been revised taking the Quality Charter into consideration.

Before Revision	After Revision
<p><b>2. Providing Superior Products and Services</b> We provide a safe, sound and innovative products and services to our customers, and thereby contribute to the well-being and advancement of the society.</p>	<p><b>2. <u>Contribution to the Society by Providing Superior Products and Services</u></b> <u>Guided by our "Quality Charter"</u>, we provide safe, sound, and innovative products and services to our customers, and thereby <u>ensure customer satisfaction and</u> contribute to the advancement of the society.</p>

## I-2. Desirable State of the Board of Directors

➤ The following restructuring measures have been approved and implemented at the annual shareholders meeting on June 21, 2018.

### Increased Ratio of the Independent Outside Directors

Independent Outside Directors account for 1/3 or more of the board

### Restructured an Advisory Body of the Board of Directors

Established a Nomination and Compensation Committee

### Abolished Chairman Position and Introduced a New Election Scheme for Chairman of the Board

Abolished the Chairman Position and decided to appoint a Chairman of the Board from the independent outside directors

### Ceased the Practice of Appointing Each Division Head as Director

Appointed one director for each of the materials, machinery and electric power businesses

### Appointed a Director in Charge of Risk Management

Appointed a director who oversees and is in charge of risk management including compliance

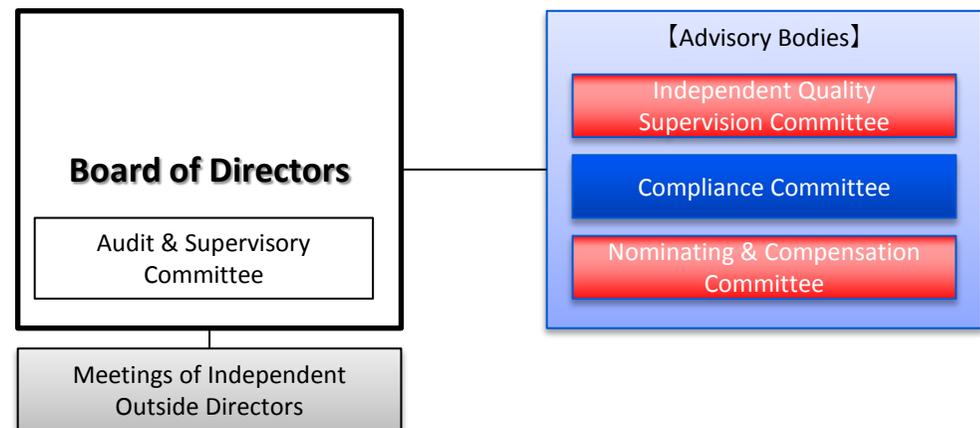
### Appointed a Director in Charge of Quality Assurance

Appointed a director who oversees and is in charge of quality assurance of the Company

### Appointed an Independent Quality Supervision Committee

Established an Independent Quality Supervision Committee, comprised of external experts, to focus on the company's quality assurance matters

### [Corporate Governance System]



## Conduct a Compliance Awareness Survey on a Regular Basis

Following the last round in the previous fiscal year, a **Compliance Awareness Survey**, intended for all employees, was conducted concurrently with an Employee Awareness Survey in **July 2018**.

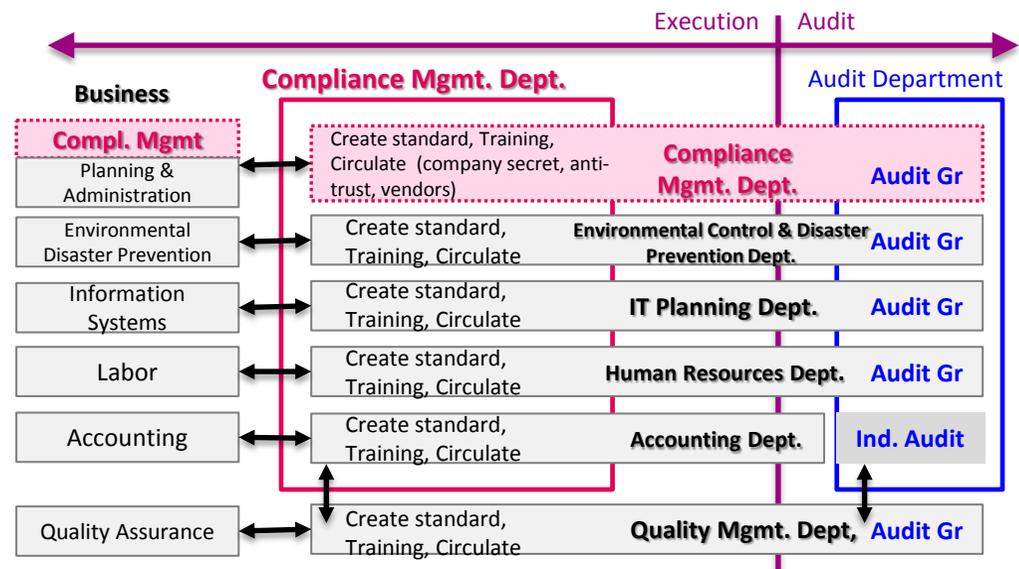
## Strengthen the Risk Management of the Kobe Steel Group

- Create ground rules to be complied by the Kobe Steel Group under the **“Standard Practices for the Group.”**
- In an effort to implement the Standard Practices for the Group at each Group Company, the Planning & Administration Department of each business division (in overseas operations, regional headquarters) played a central role to support the implementation.
- Created the **“KOBELCO Quality Guidelines,”** which were implemented effective May 1, 2018 (English and Chinese versions available).

## Establish Compliance Management Department

- Established Compliance Management Department on April 1, 2018, in order to strengthen risk management and compliance across the Kobe Steel Group, as well as to improve their effectiveness.
- Engaging in activities to increase awareness for managing risks across business divisions all while implementing and promoting risk management by consolidating risk-management duties of relevant audit functions. ※1

※1: Safety, environment, IT departments. Quality-related departments will be overseen by the Quality Management Department, which will be described later.



## I-4. Restructuring of Business Divisions

### Correct the Insular Nature of Each Unit in the Aluminum & Copper Business

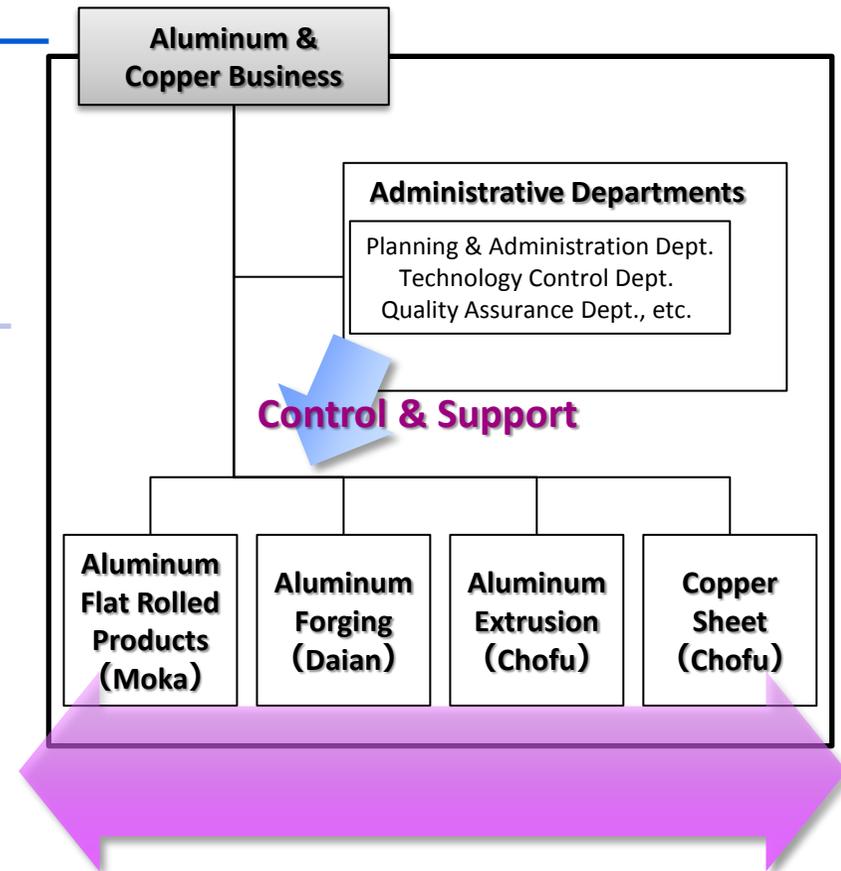
Personnel rotations among units (within the business division) and among business locations including the Head Office and the Headquarters has commenced.

### Reform the Level of Quality Control and the Divisional Culture of the Aluminum & Copper Business

- Continue efforts to improve the overall quality management with support and quality audit from Quality Management Department.
- Assign personnel from the Iron & Steel Business to some Aluminum & Copper Business departments to enhance the quality control function.

### Restructure the Materials Businesses From a Strategic Perspective for Critical Market Segments

- Commenced a study for restructuring the organization to strengthen our materials businesses.



## I-5. Restructuring of Group Companies

- Review and assess each Group Company's risk management capability as part of efforts to strengthen governance of Kobe Steel Group.
- Initiated substantial discussions on detailed enhancement measures for some Group Companies.

## I-6. Rotating Personnel Among Business Divisions

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### Organizational System with High Mobility of Human Resources among Different Business Divisions

- Consider a new rotation system from perspectives of ① development of employees with a broad and flexible mindset; ② vitalization of the organization through personnel mobility; and ③ enhancement of inter-divisional cooperation to achieve business strategies.
  - Will set up new rules to encourage personnel rotation.
  - The new policy is slated to be drafted in November 2018 and implemented in April 2019.
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## I-7. Understanding Issues Occurring at Worksites

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### Dialogue between Management and Employees

- Concurrently through promoting activities of the “Next 100 Project,” we have been continuing dialogues not only by the President, but also by other members of management and the heads of each business division.
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### Employee Awareness Survey

- Concurrently conducted in July 2018 along with the aforementioned Compliance Awareness Survey.
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### The Quality Caravan Team

- The team is comprised of Head Office departments such as the MONODZUKURI (Production System Innovation) Planning and Promoting Department, the IT Planning Department, and the Technical Development Group, and tasked to provide consultation to business divisions on their issues.
  - The team has visited a total of 26 out of 132 locations by the end of July 2018.
  - By utilizing the Kobe Steel Group’s resources, the team supports business divisions with technical issues that arise while resolving delays in the automation of test/inspection processes and insufficient process capability.
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# I-8,9,10. Quality Charter, Quality Assurance System, Restructuring of Management Indicators

## I-8. Establishment of the Quality Charter

- Established on February 6, 2018

## I-9. Revision of the Quality Assurance Structure

### Introduction of Multi-Level Quality Assurance System

- Implemented the following layered structure for quality assurance. (The Quality Management Department is also assisting Group Companies with the implementation.)
  - ✓ 1<sup>st</sup> level: Manufacturing sites and plants: Separation of the quality control function and the quality assurance function (independent quality assurance function)
  - ✓ 2<sup>nd</sup> level: Business Divisions: Placement of quality assurance bodies under direct supervision of each business division
  - ✓ 3<sup>rd</sup> level: Headquarters: Establishment of Quality Management Department

### Appointment of Executive Officer in Charge of Quality Management Department

- Appointed on April 1, 2018.

## I-10. Restructuring of Management Indicators

### Management Indicators

- We are restructuring current management indicators from the standpoint of economics, customer satisfaction, employee awareness, safety, sustainable quality, environmental friendliness, and legal and contractual compliance.
- We will set forth both performance indicators (quantitative progress against a goal) and management indicators (indicators that can evaluate the process itself), and create a system where PDCA cycle functions properly. (To be implemented in April 2019).



### II . Management – Ensuring Quality Control

1. Measures for Quality Management
2. Rotation and Development of Quality Assurance Personnel
3. In-house Education Programs Regarding Quality
4. Support by the Head Office

## II-1. Measures for Quality Management ①

### Establishment of Quality Management Department (January 1, 2018)

- Conduct quality-related audits while being in charge of overseeing quality assurance departments of each business division.
- Gather information and understand issues concerning quality assurance in each business division (e.g., quality management indicators, complaints, etc.), report these issues to the management on a regular basis, and create company-wide measures to improve the overall quality assurance practice.

### Establishment of Quality Assurance Departments under Direct Supervision of Business Divisions (~ January 1, 2018)

- Established quality assurance departments under the direct supervision of each business division.

### Enhancement of Quality Assurance Management at Manufacturing Sites

- Guidelines enacted in order for quality assurance departments to secure independence from manufacturing and processing departments and to maintain unwavering independence from manufacturing or processing environments in making proper judgments on products and preventing nonconforming products from being shipped.

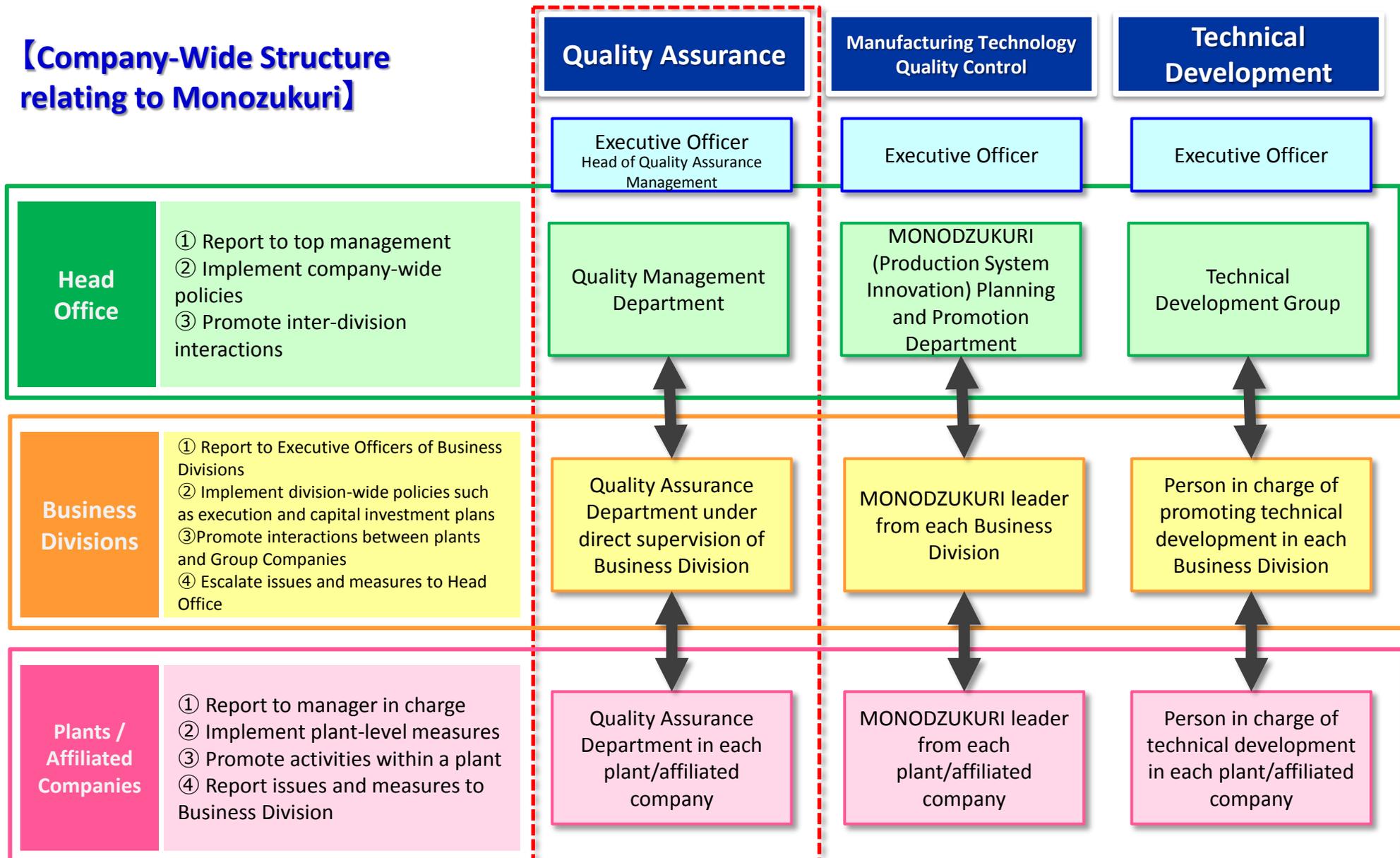
<b>i</b>	Place Quality Assurance Department directly under the head of the business division and maintain independence from design (for machinery businesses) and manufacturing departments	<b>iii</b>	Separate the issuer of inspection certificates from design (for the machinery businesses) and manufacturing departments
<b>ii</b>	The Head of the Quality Assurance Department will not co-serve as the Head of the design (for the machinery businesses) and manufacturing departments	<b>iv</b>	Establish a quality management system

### Group Quality Leader Conferences (scheduled for September, October and November 2018)

- Quality assurance leaders from Kobe Steel and Group Companies will be invited to evaluate recommendations/proposals and review implementation status of various measures, and share information related to quality control activities.
- The conferences are planned to be held in Japan, U.S., China and Southeast Asia.

# II-1. Measures for Quality Management ②

## 【Company-Wide Structure relating to Monozukuri】



## 【Roles of Quality Management Department】

Quality Assurance  
Management as a Head  
Office Department

- ① Office for the Independent Quality Supervision Committee
- ② Report to the management on the operational status regarding company-level quality control
- ③ Centrally manage public certifications across the company
- ④ Head Office contact point for certification bodies and governments
- ⑤ Report the results of audits to the Independent Quality Supervision Committee 【Quality Audit Section】

Head Office
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**【Roles of Quality Management Department】**

- Conduct quality-related audits while being in charge of overseeing quality assurance departments of each business division
- Gather information and understand issues concerning quality assurance in each business division (e.g., quality management indicators, complaints, etc.), report these issues to the management on a regular basis, and create company-level measures to improve the overall quality assurance practice

Function to Manage Laterally between  
Business Divisions

- ⑥ Create an annual plan for quality assurance, and announce quality compliance policy
- ⑦ Gather information and understand issues related to quality from each business division
- ⑧ Create an education and training plan
- ⑨ Consider and propose personnel assignments
- ⑩ Gather and provide information related to quality (e.g., revision of JIS and ISO)
- ⑪ Gather and provide information related to quality from industry organizations
- ⑫ Conduct relevant quality-related audits 【Quality Audit Section】
- ⑬ Follow up on audit results 【Quality Audit Section】

Iron & Steel	Welding	Aluminum & Copper	Machinery	...
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## II-2,3. Rotation and Development of Quality Assurance Personnel/In-house Education Programs Regarding Quality

### II-2. Rotation and Development of Quality Assurance Personnel

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#### Rotation of Quality Assurance Personnel

- A quality assurance personnel diagram of Kobe Steel and Group Companies will be created, and we will carry out job rotations between the Head office, business division/plants, and Group Companies.
- As a first step, Quality Audit Section of the Quality Management Department at the Head Office will hire experienced individuals, educate and train them, and dispatch them to business divisions and Group Companies as well as build a rotation structure. (Currently in progress)

#### Development of Quality Assurance Personnel

- We will systematize quality-related education (including obtaining qualifications), and reflect it to the Group's FY2019 training program. (~ October 2018)

### II-3. In-house Education Programs Regarding Quality

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- Sharing and penetration of the Quality Charter will be promoted not only to quality assurance departments, but also to all employees of Kobe Steel Group.
- Specifically, we will begin with the training for compliance leaders as part of our quality and compliance education, so that the leaders will build empathy for the Quality Charter with their subordinates. (August 2018 ~ March 2019)
- Training will be offered to all employees through e-learning/Intranet. (September 2018 ~)

## II-4. Support by the Head Offices

### Audit by Quality Audit Section of Quality Management Department

Audit Item		Schedule
<b>i ) Review of compliance status (on-site audit)</b> <ul style="list-style-type: none"> <li>• Cross-reference inspection results of subject products are audited on-site against legal specifications and customer specifications.</li> <li>• Disposal of reserved and nonconforming products are also audited.</li> </ul>		<p>Started in May 2018</p> <p>Conducted in 27 out of 118 locations by the end of July 2018</p>
<b>ii ) Review of quality management systems from the anti-fraud perspective</b> <ul style="list-style-type: none"> <li>• Review laws and regulations related to quality, review the means of determining customer specifications, and confirm the administrative department in charge.</li> <li>• Assess consistency between the instructions given to manufacturing lines and how they are actually carried out.</li> </ul>		
<b>iii ) Assessment of compliance awareness</b> <ul style="list-style-type: none"> <li>• Assess the level of awareness of the top management as well as factory workers through interviews in order to prevent misconducts.</li> <li>• Check whether training on quality compliance is properly provided.</li> </ul>		
<b>iv ) Review of the implementation status of the preventive measures</b>		
<ul style="list-style-type: none"> <li>• Plants where misconducts were identified:</li> </ul>	<p>Review status and effectiveness of the implementation of the preventive measures.</p>	
<ul style="list-style-type: none"> <li>• Plants where there was no misconduct:</li> </ul>	<p>Review the implementation status and effectiveness of measures that were recommended after quality audits.</p>	

### III. Process – Strengthening of Quality Control Processes

1. Elimination of Opportunities for the Improper Handling of Test and Inspection Data and Unification of Shipping Standards
2. Understanding of Process Capabilities and Their Utilization (with respect to the materials businesses)
3. Review of the Approval Process (a) for Accepting New Purchase Orders, and (b) when Changing the Manufacturing Process
4. Promotion of Quality Risk Assessment in Capital Investments

#### 【Notes】

- In order to promote the points above, we established the “KOBELCO Quality Guidelines” of the Kobe Steel Group. The Guidelines went into effect on May 1, 2018 and we are disseminating and enforcing the Guidelines among the Group Companies.
- We will monitor the actual enforcement and progress of the above through quality audits.

### III-1. Eliminating Improper Handling Opportunities in Tests/Inspections and Unifying Shipment Standards

#### Automation of Tests/Inspections Recording and Elimination of Manual Data Entry by One Person

- We are promoting automation of data entry in the test/inspection processes in each business division. Where automation is not feasible, we are eliminating a process in which a person enters data alone. In the case where data entry must be done by one person, we will require an additional process such as review of an entry log or double-check of data entry by a third person.

#### Adjustment of Shipping Standards

- We are in the process of eliminating opportunities for any improper conduct caused by the existence of double standards (customer specifications and internal standards).
  - ⇒ Under the new rule, customer specifications are used as a default standard for shipment approval instead of Kobe Steel's internal standards.

### III-2. Understanding and Utilizing Process Capabilities (in Materials Business)

#### Application and Utilization of Process Capability Index

- Understanding Process Capability Index: Understand how quality properties deviate from the required standards in manufacturing processes for each category (i.e., production lines, product types, tests/inspections, and customers).
- Utilizing Process Capability Index: The degree of deviation found in the quality properties of manufacturing processes will be used for deciding whether to accept or reject orders. If the process capability is deemed insufficient in light of a specification, either of the following options shall be considered:
  - ✓ Improve the process capabilities, including upgrading facilities; or
  - ✓ Work with a customer to relax a customer specification pursuant to the predetermined procedures.

### Assessment

#### III-3. Reviewing the Approval Process for New Orders and Changes in the Manufacturing Process

##### Re-Evaluation of the Approval Process for New Orders

- Enforcing DR [Design Review]: In order to prevent our products from deviating from customers' requirements, each business division will go through a proper authorization process such as Design Review ("DR") covering each manufacturing step from product development to mass production before determining whether an order can be accepted.
- Specifically, each business division shall confirm its compatibility with the customer specifications, while evaluating manufacturing conditions, quality assurance methods, and process and manufacturing capabilities, before deciding whether to accept a purchase order. Furthermore, business divisions shall assess the process capability and customer satisfaction in the post-mass production phase to improve these indicators and DR.

##### Reviewing the Approval Process for Changes in the Manufacturing Process

- We will prevent potential defects by assessing beforehand the effect on quality when the 4Ms (men, machine, material, method) are changed and conformity with customer specifications.
- Specifically, we will assess risks and clarify the authorization process when changing the 4Ms in the manufacturing process.

#### III-4. Promoting Quality Risk Assessment in Capital Investments

##### Introduction of Investment Standard in Consideration of Mitigating Quality Risks

- Previously, Kobe Steel had utilized the Internal Rate of Return (IRR) and the Payback Period Method to make decisions regarding capital investments.
  - Quality-related investments with low returns (e.g., installment of new test/inspection devices) were less likely to become a point of discussion.
- ⇒ We will attempt to mitigate quality risks through appropriate investments by incorporating the quality risk factor into a new investment standard.

## II . Management - Ensuring Quality Control

1. Establishment of the Quality Assurance Department in the Aluminum & Copper Business
2. Education
3. Audit and Support

## III . Process - Strengthening of Quality Control Processes

1. Emergency Measures
2. Permanent Measures

## Implementation Schedule for Preventive Measures

## II - 1 . Quality Assurance Department in the Aluminum & Copper Business

- Established Quality Assurance Department directly under the Aluminum & Copper Business in November 2017
- Cooperates with the Head Office’s Quality Management Department in quality-related planning and audits

## II - 2 . Education

- The Quality Assurance Department will reform the existing education program, and plan and provide education on quality compliance and quality control.
  - [On Awareness]
    - Implement an education system that will teach employees the importance of quality in supporting trust by making them understand the impact on customers when they fail to maintain quality, with the use of examples of other companies
  - [On Knowledge]
    - Plan an education system that will encourage 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

## II - 3 . Audit and Support

- Quality Assurance Department and Quality Assurance Section at each plant shall together improve the internal quality audit as follows:

### Step 1 Comparison Audit

・・・Started in January 2018

### Step 2 Audit on Quality Management Scheme

・・・To be started in the second half of 2018

### Step 3 Technical Development Support

・・・ To be conducted in the future



### Emergency Measures

#### i ) Compare Test/Inspection Data and Mill Sheets (In Progress)

- The head of a plant or a manager in the Quality Assurance Department is verifying the content described in the mill test certificates against the test/inspection raw data to confirm that the test/inspection results have not been modified. **(To be continued until permanent measures have been completed)**

#### ii ) Review Manually-Entered Test/Inspection Results (In Progress)

- Test/inspection data that are manually entered by a staff member are reviewed by his/her superior. **(To be continued until permanent measures have been completed)**

#### iii ) Restrict of Access to Databases (In Progress)

- Access rights to the databases that host test/inspection results are limited to the quality assurance departments and the system administration departments. Data is maintained in a strict manner such as passwords and checks of editing history.

#### iv ) Adjust Shipment Standards [operational] (In Progress)

- Customer specifications are set as a default shipping standard across all plants. As a first step, we are ensuring that customer specifications are used as shipment standards in the existing systems.

#### v ) Compare Customer Specifications and Manufacturing Standards (Completed)

- We checked whether the most recent customer specifications are applied in the product specifications in our system.

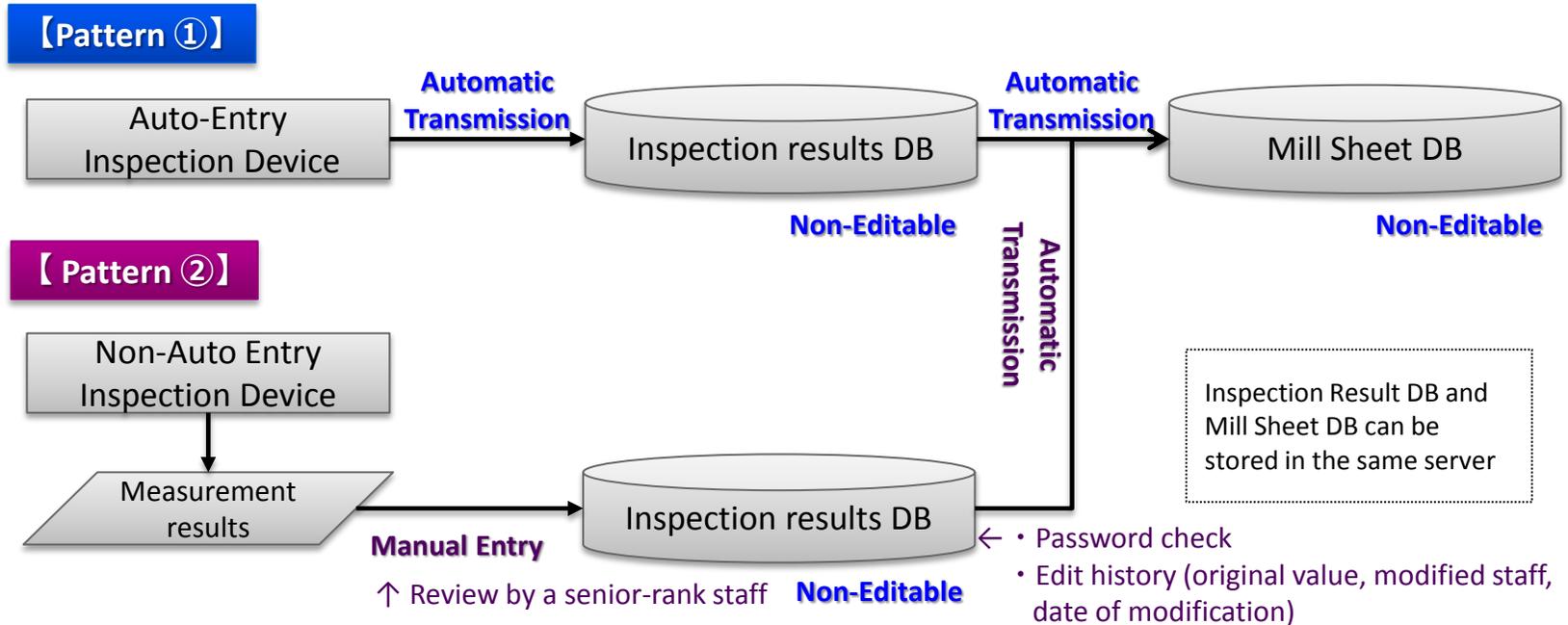
#### vi ) Other

- Each plant and Group Company exercised strict compliance with rules for handling nonconforming products.
  - ⇒ The Quality Assurance Department of the Aluminum & Copper Business is conducting audits (started sequentially from January 2018).

## Permanent Measures

### ① Eliminate opportunities for mishandling the test/inspection data

- Create a system environment where data falsification is impossible.
  - ⇒ Push for automation of test/inspection data entry (so data cannot be edited).
  - In cases where automation is difficult, use double checks with a review by a superior, use password locks, or monitor modification history.



### ② Adjust shipment standards [system implementation]

- Improvement of the system: change the system settings so that the customer specification is applied as the shipping standard.

### Permanent Measures

#### ③ Understanding Process Capabilities

- Create a mechanism to fully understand the process capability.
  - ⇒ We adopted a tool to visualize trends and inconsistency (such as histogram or process capability index) for results by product type and test/inspection item.

#### ④ Improve Process and Test/Inspection Capabilities

- We have started with cases that were extracted for the purpose of the stabilization of functional characteristics such as heat dispersion improvements in heat treatment facilities and distortion control in the manufacturing process. In business locations that lack testing / inspection capability, we will reinforce testing / inspection devices.

#### ⑤ Re-Evaluate Approval Process for New Orders

- Implement a DR (Design Review) method, and clarify the items to be confirmed and approver at each stage from inquiry to trial production, mass production and official order.
- Introduce a system for proper sales activities by ensuring separation between ordering and approving departments.

# Implementation Schedule for Preventive Measures in the Aluminum & Copper Business

Aluminum & Copper Business	FY2017					FY2018		FY2019	
	Nov.	Dec.	Jan.	Feb.	Mar.	First Half	Second Half	First Half	Second Half
<b>Management</b>									
Organizational Restructure	○ Establish Quality Assurance Department								
Education	Discuss contents		Education			Education		Education	
Audit (comparison, mechanism)			Comparison & audit scheme			Comparison & audit scheme		Comparison & audit scheme	
Technical Development Support							Technical Development Support		
<b>Process</b>									
<b>【Emergency Measures】</b>									
Compare test/inspection data and mill sheet	WIP								
Review manually-entered test/inspection results	WIP								
Restrict access to databases	→								
Adjust shipment standards (operational)	WIP								
Compare customer specifications and standard values	WIP								
<b>【Permanent Measures】</b>									
Eliminate opportunities for mishandling the test/inspection data	→		→			Automation by test items on a sequential basis			
Adjust shipment standards (system)	→		→			Launch operation (some plants may require additional time to set up the system)			
Understand process capabilities	→		Execute Sequentially			Consider PDCA scheme			
Improve process and test/inspection capabilities	→		Execute Sequentially			→			
Re-evaluate approval process for new orders	→		Execute Sequentially			Test-Operation / Brush-Up		Launch Full Operation	
Re-evaluate approval process for changes in manufacturing process	→		Execute Sequentially			Test-Operation / Brush-Up		Launch Full Operation	