

Update on investigation into improper quality control practices and implementation of reform roadmap (Second Report)

**December 23, 2021
Mitsubishi Electric Corporation**

- Mitsubishi Electric Corporation announced today **the second report tendered by its Investigative Committee** (Chaired by Hiroshi Kimeda, Partner (Attorney-at-law), Nishimura & Asahi, announced on July 2, 2021), regarding improper quality control practices that were carried out by the company.
- The company also issued today an update on **reforms being carried out in three key areas—quality assurance, organizational culture and governance**—including measures designed to prevent any recurrence of the improper quality control practices, as first announced on October 1.
- The Investigative Committee will continue looking into quality-control practices at Mitsubishi Electric’s various manufacturing sites and plants, **aiming to complete this phase of its investigation by around April 2022, after which the committee will turn its attention to group companies.**
- As previously announced, **roughly every three months Mitsubishi Electric intends to issue updates on the committee’s latest findings and the company’s progress in implementing reforms to correct the situation.** The report being disclosed today provides an update on developments that have occurred since the first report was released on October 1.

- **In addition, the company received today a report on the accountability of the company's Executive Officers and Board of Directors from the Governance Review Committee**, which was established on October 20 and is chaired by Toshiaki Yamaguchi, Managing Partner (Attorney-at-Law, Certified Fraud Examiner), Yamaguchi Toshiaki Law Office.
- Mitsubishi Electric, taking this report very seriously, convened a Board of Directors Meeting today to decide disciplinary action concerning the executives involved. The action was announced in a separate press release, also issued today, entitled "Mitsubishi Electric Announces Disciplinary Actions against Directors & Officers in Connection with Improper Quality Control Practices," which is discussed below.
- **Mitsubishi Electric also takes this opportunity to reiterate its sincere apologies to all customers, valued stakeholders and broader society for the impact of these incidents.**
- **The company takes the findings and recommendations of the report very seriously and is committed to regaining trust in its entire group by carrying out necessary reforms, including to prevent any recurrence in the future.**

I . Introduction

II . Status of Investigative Committee's investigation

1 . Status of Investigative Committee's investigation

III . Progress in carrying out three reforms(quality assurance, organizational culture and governance), including measures to prevent any recurrence

1 . Quality assurance reforms

2 . Organization culture reforms

3 . Governance reforms

IV . Executive accountability and disciplinary action

- **The Investigative Committee**, established on July 2, 2021 and chaired by an outside attorney, conducted a questionnaire survey of all employees in Japan. The committee has used objective data and other information to verify the consistency of the responses it received, and it has conducted forensic investigations into Executive Officers and other relevant parties as well as carried out interviews and inquiries with relevant parties at the affected sites.
- By the time the company had announced the committee's findings regarding improper quality control practices at the Kani Factory of Nagoya Works and the Nagasaki Works on October 1, 2021 the committee reported **it had received reports of 2,305 quality control related occurrences (including duplicate events, previously disclosed events, expressions of concern, etc.)**. Therewith, the committee announced that **it would carefully review and confirm every report**.
- **The committee has already investigated around 42% of the reports received via its survey and plans to investigate the remainder going forward.**

■ Status of company-wide investigation (as of December 23, 2021)

Completed investigation	
<u>1 works site</u> Kani Factory of Nagoya Works	
Ongoing investigations	
Covered in most recent report <u>5 works sites</u>	Nagasaki Works, Air-Conditioning & Refrigeration Systems Works, Power Distribution Systems Center, Fukuyama Works, Kamakura Works
To be covered in later reports <u>17 works sites</u>	Kobe Works, Itami Works, Communication Networks Center, Energy Systems Center, Transmission & Distribution Systems Center, Inazawa Works, Communication Systems Center, Nakatsugawa Works, Shizuoka Works, Kyoto Works, Gunma Works, Nagoya Works, Industrial Mechatronics Systems Works, Himeji Works, Sanda Works, Power Device Works, High Frequency & Optical Device Works

■ Overview of newly reported incidents of improper quality control practices (as of December 23, 2021)

① Nagasaki Works

Improper quality control practice	Mitsubishi Electric's response
<p>1. Improper quality control practices for HVAC systems for railcars</p> <p>1) Additionally discovered cases of improper development-performance tests</p> <ul style="list-style-type: none"> • Figures differing from those measured in development-performance tests were recorded in the test reports Scope: 2014–20, 506 units • Results of development-performance tests on different models were reused in inspection records without consulting customers, and false statements were recorded. Scope: 2017–20, 320 units <p>2) JIS-compliant dew tests agreed on with some customers performed improperly Scope: 1991 – Jun. 2021, 18,860 units</p>	<ul style="list-style-type: none"> • Explained situation to affected customers. • For the products which had been delivered, individually consulted with the customers. • Inspections will be performed and products will be shipped in accordance with customer instructions.
<p>3) In commercial tests, improper test results were recorded for voluntary test points Scope: From around 2000 onward</p>	<ul style="list-style-type: none"> • Once discovered, appropriate entries were made in the inspection records and submitted

①Nagasaki Works (Continued)

Improper quality control practice	Mitsubishi Electric's response
<p>2. Emergency power supply equipment (disclosed December 20, 2021)</p> <p>1) Reverse mounting of tantalum capacitors on specific models due to design mistake, and delayed reporting to customers and public Scope: Sep. 2014 – Oct. 2016, 309 units (shipped, including the units with countermeasures implemented)</p> <p>2) Misaligned slip ring, and delayed reporting to customers and public Scope: Oct. 2001 – Sept. 2010, 985 units (shipped, including the units with countermeasures implemented)</p>	<ul style="list-style-type: none"> Decided countermeasures for all affected products. Began implementation of the countermeasures upon informing customers.

② Air-Conditioning & Refrigeration Systems Works

Improper quality control practice	Mitsubishi Electric's response
<p>1. Some inspections not carried out owing to inadequacies with commercial air-conditioning & refrigeration system inspection equipment (disclosed July 30, 2021) Scope: Jun. 2014 – Jul. 2021 Units affected (violation of Act on Product Safety of Electrical Appliances and Materials): 2,427 units (27 models)</p>	<ul style="list-style-type: none"> • Conducting market inspections of all products subject to the Electrical Appliances and Materials Safety Act. • Repaired the inspection equipment, thoroughly making sure of daily checking procedures to prevent recurrence. • Submitted countermeasures to prevent recurrences to Ministry of International Trade and Industry, Japan on December 10, and received a notification dated December 17 to implement the prevention measures thoroughly.

③ Power Distribution Systems Center

Improper quality control practice	Mitsubishi Electric’s response
<p>1. Some tests not conducted on 72/84kV CGIS (cubicle-type gas-insulated switchgear) units (disclosed August 17, 2021)</p> <ul style="list-style-type: none"> • Lightning impulse withstand voltage test not conducted • Some power frequency voltage test not conducted • Partial discharge test conducted improperly <p>Scope: 1996–2021, up to 4,448 units</p>	<ul style="list-style-type: none"> • Once discovered, inspections were conducted in accordance with relevant standards and customer contracts. • The situation was explained to customers to whom products had already been delivered, and inspections and discussions for countermeasures are being conducted upon request.

④ Fukuyama Works

Improper quality control practice	Mitsubishi Electric's response
<p>1.Improper quality control practice discovered with respect to UL489-listed low-voltage circuit breakers when conducting regular factory audits (disclosed September 1, 2021)</p> <ul style="list-style-type: none"> • Parts differing from those in actual mass-produced products were used (sample for FUS) • At time of audit, test was conducted at lower voltage than specified Scope: Around 2004 – Jul. 2021, 25 models <p>Investigation into other possible improper test practices continues.</p>	<ul style="list-style-type: none"> • Shipments of the products were stopped as soon as the incidents were discovered. In accord with UL's instructions, tests were reperformed. • Shipments were resumed with UL's approval once all tests had passed.
<p>2. Did not make sufficient applications under the Radio Act for CO2 laser marker equipment Scope: 1995 – 2018, 20 equipments</p>	<ul style="list-style-type: none"> • Reported to the relevant authority and application procedure is now under way. • Also communicating the matter broadly within the company.

⑤ Kamakura Works

Improper quality control practice	Mitsubishi Electric's response
<p>1. Improper quality control practices for ETC equipment</p> <ul style="list-style-type: none"> Conducted sampling inspections against 100%- inspection contracts, did not conduct some waterproof tests, and conducted tests different from what was agreed on <p>Scope: Jan. 2011 – Aug. 2021, 30 occurrences</p>	<ul style="list-style-type: none"> The product is for specific customers. The company has explained the situation to these customers and is currently discussing next steps.

- A total of 12 improper quality control practices cases are described in the footnotes of the reports by the Investigative Committee.
- No new cases of improper quality control practice have been reported at the Kani Factory of Nagoya Works since the October 1 report.

■ Status of responses to previously reported cases (as of December 23, 2021)

① Kani Factory of Nagoya Works

- Inconsistency of electromagnetic switchgear and manual motor starters with UL certification

1) Investigation by the Investigative Committee was completed

- 2) The Kani Factory Quality Assurance Section (product quality certification) was transferred to the Nagoya Works Quality Assurance Department (August 2021)
- 3) The production control system was modified to prevent the use of uncertified materials (in operation from December 2021)
- 4) Standard conformity checks for items other than materials added to production control system (to be completed by July 2022)

② Nagasaki Works

- Improper quality control practices or inspections not carried out for HVAC systems for railcars
- Reuse of old test data for development-performance tests of air compressors for railcars

1) Investigation by the Investigative Committee on the matters mentioned in the left were completed

- 2) Shifted each Quality Assurance Section belonged to Railcar Air Conditioning Systems Department and Electrical Facility Systems Department, to Quality Assurance Department. Established newly Quality Management Section in Quality Assurance Department. (December 2021)
- 3) Revised product development policy to strengthen management of product specifications and regulated procedures (December 2021)
- 4) Investment on enhancement of technical and commercial test facilities for development of HVAC systems for railcars (in operation from June 2022)
- 5) Working on setting up individual workplace quality meetings to uncover quality issues and improve them. (October 2021)

■ Summary of measures to prevent recurrence in response to the Investigative Committee's suggestions



*Department managers and section managers at front line

III

Three reforms including measures to prevent any recurrence (Summary)



Below is an update on the company's progress in reforming its quality assurance, organizational culture and governance in accordance with the Investigative Committee's recommendations.

	Contents of reform	Status	
(1) Quality assurance reforms	① Creating a new company-wide structure for quality assurance led by head office - Establishing a dedicated Corporate Quality Assurance Reengineering Group	Partially implemented	
	② Company-wide measures for quality assurance reforms	—	
	②-1. Restructure the control functions	1) Create greater independence and separation in the chain of command for quality assurance from the manufacturing sites	Under consideration
		2) Strengthening of quality assurance functions	Partially under trial
	②-2. Addressing technical capabilities and resources issues	1) Strengthen and ensure compliance with laws, regulations and public standards	Under consideration
		2) Enhance quality through IT and digitalization	Under consideration
		3) Strengthen head office support for manufacturing sites	Partially under trial
		4) Training of quality control personnel	Under consideration
	②-3. Re-fostering an awareness of quality compliance	1) Revitalize personnel rotation	Under consideration
		2) Instill awareness of quality compliance among senior managers	Under consideration
3) Quality Control Awareness Training		Partially implemented	
(2) Organizational culture reforms	① "Team Sousei (Creation)" company-wide transformation project	Partially implemented	
	② Renewal of personnel system	1) Overcome inward-looking organizational culture	Under consideration
		2) Change in behavior of senior managers	Partially implemented
		3) Supporting middle management and others at the manufacturing sites	Under consideration
	③ Encouraging mindset and behavioral change	Partially implemented	
(3) Governance reforms	① Strengthen management supervisory functions - Board of Directors reforms	1) Strengthen Board of Directors' functions	Under consideration
		2) Review of the composition of the Board of Directors	Under consideration
		3) Strengthen the Board of Directors Secretariat's functions	Partially implemented
		4) Strengthen the functions of the three statutory committees	Partially implemented
	② Assessment of internal control system - assessment and recommendations by the Governance Review Committee	Partially implemented	
	③ Strengthen risk-management systems	Under consideration	

■ **Progress of quality assurance reforms**

- **The Corporate Quality Assurance Reengineering Group**, which was established on October 1 and reports to the CEO, **is executing the company-wide measures.**
- Its aims are to create a new company-wide structure for quality assurance led by the head office, to share knowledge and to provide flexible support across business divisions.

Task	Progress as of December 2021
<p>① Creating a new company-wide structure for quality assurance (led by head office)</p>	<ul style="list-style-type: none"> • Recruited external experts and set up the quality governance subcommittee under the Corporate Compliance Committee. Kick off held on December 6, 2021. It monitors the activity of Corporate Quality Assurance Reengineering Group. • To ensure compliance with laws, standards and customer specifications, assessing how quality assurance systems/procedures and infrastructures can be strengthened. For the infrastructures, commenced investigations at all sites to find areas to strengthen. Preliminary results will be compiled in December. • Decided to invest 490 million yen out of two-year budget of 30 billion yen. Renovate production-control systems at Kani Factory of Nagoya Works (scheduled to go into operation in April 2022) Enhance testing equipment at Nagasaki Works (scheduled to go into operation in June 2022) .
<p>② – 1 . Restructure the control functions</p>	<p>1) Greater independence and separation of chain of command: Established a broad outline of the new quality-assurance system led by the head office and adapted to each site. Planning the reorganization of quality-assurance departments (April 2022).</p> <p>2) Strengthening of quality assurance functions: The company is currently investigating existing structures and conditions at each manufacturing site. For “ Enhancement of quality audits,” the new revisions emphasize laws, standards, customer specifications and product consistency. Trial audits are now being conducted at some sites. Aiming for a company-wide rollout on April 2022.</p>

Task	Progress as of December 2021
<p>②-2. Addressing technical capabilities and resources issues</p>	<p>1) Strengthen and ensure compliance with laws, regulations and public standards The company is drafting the outline of a system via which the Corporate Quality Assurance Reengineering Group will centrally collect and manage information on laws and regulations common to all sites, aiming to complete the management structure and system concept by March 2022.</p> <p>2) Enhance quality through IT and digitalization</p> <ul style="list-style-type: none"> • The company has completed its site-by-site survey of consistency between customer specifications and shipped products, centralized management of test/inspection data, etc. and is currently considering basic company-wide management-system specifications to be finalized by March 2022. • The company is surveying tools for the digital management of customer specifications and inspection data. Also, information on digitalization tools that have been developed and installed was rolled out company-wide. <p>3) Strengthen head office support for manufacturing sites The quality support team composed of internal experts has started gathering information on problems experienced in specific workplaces and will expand this effort to all sites from April 2022.</p> <p>4) Training of quality-control personnel</p> <ul style="list-style-type: none"> • As a step toward optimizing workforce sizes and human resources development in the quality-assurance departments of manufacturing sites, the company is working to visualize the skills it possesses. • Knowledge of products and inspection processes to acquire, as pointed out in the second report, will be added to the skills, and specific training plan will be formulated by March 2022.

Task	Progress as of December 2021
②—3. Re-fostering an awareness of quality compliance	<p>1) Revitalize personnel rotation Before addressing personnel rotation, the company determined that it has a shortage of personnel in the various quality-assurance departments. In response, the company is now ascertaining and analyzing each department's workload and skills requirements, based on which an optimization plan will be formulated by June 2022.</p> <p>2) Instill awareness of quality compliance among senior managers A compliance seminar for executives is planned in February 2022.</p> <p>3) Quality Compliance Awareness Training</p> <ul style="list-style-type: none"> • Messages from the CEO and head of the Corporate Quality Assurance Reengineering Group were issued.(November). • Improper Conduct Prevention meetings using the Kani Factory as a case study are being held in all workplaces companywide from November 15 to December 29. • The Kani Factory and Nagasaki Plant cases were communicated at the company-wide Compliance Managers meeting in November 2021. • At the companywide meeting for persons responsible for corporate quality assurance planning, roundtable discussion between the CEO and quality-assurance managers took place. • A company-wide e-learning program, entitled “The Basics of Quality,” is being provided to employees from October to December 2021.

■ Progress of organizational culture reforms

- The “Team Sousei (Creation)” company-wide transformation project was launched, the project is led by the CEO.
- Selected employees who demonstrated a strong desire for reform, is currently putting together proposals and an action plan for the creation of a “new” Mitsubishi Electric. The proposals and action plan are to be submitted to the Executive Officers’ Meeting by the end of March 2022, after which they will be deliberated by the Board of Directors and then put into action.
- The company will renew its personnel system to correct an overly inward-looking organizational culture, effect necessary changes in senior managers’ behavior, and support middle management and other at manufacturing sites. The company will enhance personnel education program for manager.

Task	Progress as of December 2021
① “Team Sousei (Creation)” company-wide transformation project	<ul style="list-style-type: none"> • A kickoff meeting was held on October 22 & 23 with the CEO, other steering members and 45 people selected internally from 465 applicants. • In Step 1 of the project was completed on December 11. Key company-wide issues were identified, via departmental interviews on a group-by-group basis, and the underlying causes were determined. • In Step 2 (current, to early February 2022), solutions and reform proposals are being formulated to realize the envisioned company-wide transformation. • In Step 3 (to March 2022) a robust plan for transformation will be drafted.

Task	Progress as of December 2021
② Renewal of the personnel system	<p>1) Overcome inward-looking organizational culture</p> <ul style="list-style-type: none"> • Considering a new rotation system attuned to individual career preferences with a focus on younger employees (to be trialed from October 2022). • Considering measures to increase managerial rotation with the aim of expanding individual's horizons and engendering more company-wide cooperation (to be trialed from April 2022). • Continuing to promote greater recruitment and participation of women and hiring of experienced midcareer. • Considering a scheme to enable overseas employees to work in Japan-based operations, and to promote active personnel exchange with enhanced remote working system (guidelines to be established in April 2022). <p>2) Change in behavior of senior managers</p> <ul style="list-style-type: none"> • Reviewing Executive Officer's compensation system (to be completed by June 2022). • Introduced coaching for all Executive Officers (from November 2021 to May 2022). • In terms of HR management, putting emphasis on manager evaluation and appointment practices (to be trialed from October 2022). <p>3) Supporting middle management and others at manufacturing sites</p> <ul style="list-style-type: none"> • Reviewing workforce size and managerial scope of control for balance workloads of middle management (to be deployed in regular rotations from April 2022). • Investigating systems/schemes for apportioning managerial roles/functions (policies/concepts to be launched in October 2022). • Enhancing personnel training programs to foster consciousness of managerial roles/functions (to be launched in April 2022).

Task	Progress as of December 2021
<p>③ Encouraging mindset and behavioral change</p>	<ul style="list-style-type: none"> • Sending a message for all employees by CEO(August 2021) The company will achieve an organizational culture where “employees feel that they can consult with their superiors,” “failures are tolerated,” and “problems are solved together.” • Conveyed CEO’s thoughts on reforms and continuously arranging opportunities for dialogue between CEO and personnel at company sites to facilitate two-way opinion exchanges (started September 2021 and will complete 40 out of the 42 sites by the end of December 2021). • Holding Executive Officer workshops to deepen mutual understanding and facilitate shared recognition of issues and plans (November 2021 onward).

Dialogue between CEO and personnel



◇ Power Distribution Systems Center
(October 6, 2021)



◇ Sanda Works
(October 27, 2021)

In response to the company’s culture which is not conducive to people speaking up

The company now aims to foster a culture in which managers and those reporting to them can work together more closely and employees can coordinate across divisional boundaries to address issues. The first step will be to change the mindset and behavior of all Executive Officers.

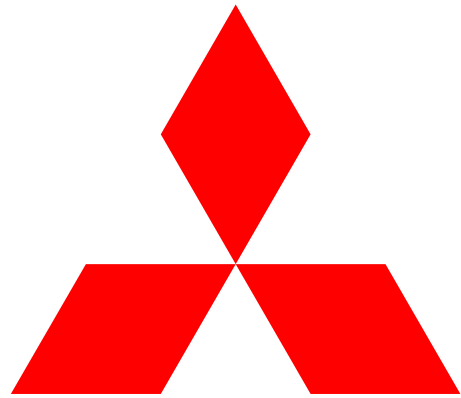
■ Progress of organizational culture reforms

- To strengthen the company's management oversight functions in its corporate value, **Mitsubishi Electric has initiated a reform of its Board of Directors.**
- **On October 20, 2021 it established the Governance Review Committee** comprising third-party lawyers to begin assessing the company's internal-control and governance systems in order to identify problems and provide recommendations for improvement.
- Upon receiving the recommendations in March 2022, the company plans to devise and implement further improvements.
- **To respond swiftly and strengthen cross-divisional responses to various risks, the company will set up a specialist panel** and appoint a new Chief Risk Officer (CRO) in January 2022.

Task	Progress as of December 2021
① Strengthen management supervisory functions (Board of Directors reforms)	<p>1) Strengthen Board of Directors' functions</p> <p>2) Review the composition of the Board of Directors</p> <ul style="list-style-type: none"> • Appointed an independent outside director as chairman of the Board of Directors (October 2021). • Beginning with the general meeting of shareholders in June 2022, planning to institute a board comprised of members capable of fulfilling the board's expanded functions and objectives, including a majority of independent outside directors. <p>3) Strengthen the Board of Directors Secretariat's functions</p> <p>4) Strengthen the functions of the three statutory committees</p> <ul style="list-style-type: none"> • Nomination Committee: Was given the additional role of deliberating proposals for CEO selection/dismissal to be submitted to the Board of Directors and tendering CEO succession plans to the board (November 2021). • Compensation Committee: Reviewing Executive Officer's compensation system, including to improve evaluations of business performance and non-financial matters (to be reviewed in June 2022). • Audit Committee: To be reviewed as necessary based on the results of the Governance Review Committee's assessment (expected March 2022).

Task	Progress as of December 2021
② Assessment of internal-control system (Governance Review Committee)	<p>Established Governance Review Committee on October 20, 2021</p> <ul style="list-style-type: none"> • Chair: Toshiaki Yamaguchi, Managing Partner (Attorney-at-Law, Certified Fraud Examiner), Yamaguchi Toshiaki Law Office • Members: Junya Naito, Partner (Attorney-at-Law), Momo-o, Matsuo & Namba Takashi Kiuchi, Partner (Attorney-at-Law, Certified Public Accountant), Miura & Partners • The company received the committee's report on Executive Officer and Director accountability, and the Board of Directors decided and disclosed disciplinary action for those involved on December 23, 2021 • The committee will continue to assess the company's internal control and governance systems and will submit its conclusions and recommendations by March 2022.
③ Strengthen risk-management systems	<ul style="list-style-type: none"> • To respond swiftly and strengthen cross-divisional responses in times of crisis and address various risks that could affect the execution of group Business • The company will set up a specialist panel and appoint a new Chief Risk Officer (CRO) in January 2022.

- On December 23, the company received the Governance Review committee's report on its investigation into accountability of Executive Officers and Directors regarding improper quality control practices.
- **Mitsubishi Electric, taking this report very seriously, convened meetings of its Board of Directors and Compensation Committee today to decide what disciplinary action to take regarding those accountable.**
- **The committee will continue to assess the accountability of executives regarding matters revealed in the Investigative Committee's second report disclosed today as well as any related matters that come to light hereafter.**



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