

# Raising Quality Levels and Ensuring Product Safety

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## Management System

Based on the management philosophy that its founder espoused—that the Company should strive “to contribute to society through its products and services while always placing the customer first”—Panasonic engages in manufacturing while continuously improving its various systems and mechanisms to raise quality levels and ensure product safety. As a company, it sets unique targets for itself that are even more demanding than the generally accepted standards and regulations. All the while, the Company keeps an eye on changing social trends and acts in line with the growth of its business coverage, including the addition of service businesses.

As a part of its fundamental policy regarding product quality, Panasonic has established a unique set of Basic Rules for Quality Administration under the responsibility of Chief Quality Officer, who holds ultimate responsibility for all Panasonic quality. The creation and use of the Panasonic Quality Management System is part of Panasonic’s continuous engagement in improving the quality of its products, with a perspective that puts the customer first. In October 2016, Panasonic enacted unique standards of duty for its medical equipment manufacturing and sales business to promote a smoother and more appropriate performance of duties involved in the manufacturing and sales of medical equipment.

Panasonic has expressed profound regret for the accidents involving FF-type kerosene heaters and reflects the lessons it has learned when ensuring the safety of its products. The company regards product safety to be its top management priority. Specifically, Panasonic applies unique product safety standards to each phase (from planning and design to service and disposal) for every product to ensure product safety. Furthermore, Panasonic strives to take product safety to the next level in line with changes to its businesses or products by convening its groupwide Corporate Product Safety Committee whenever necessary. The company also uses its website as a means to make announcements and provide up-to-date information regarding the safety of all of its products to customers.

## Policy

Panasonic’s Groupwide Quality Policy is unique in its statement that the company will “truly serve customers by way of providing products and services that continuously meet and satisfy the needs of customers and society.”

The company has also established a basic policy regarding the autonomous code of conduct for product safety. (This basic policy was approved at a meeting of the board of directors—held on June 27, 2007—of what was then called Matsushita Electric Industrial Co., Ltd.) Under this policy, Panasonic actively strives to ensure the safety of its products, keeping to its principles of “the customer comes first” and of maintaining a “super-honest” attitude.

▶ Basic Policy Regarding the Autonomous Code of Conduct for Product Safety (Japanese only)  
<http://www.panasonic.com/jp/corporate/management/code-of-conduct/quality-policy.html>

The Panasonic Code of Conduct also states, in its “Product Safety” section, that the company will strive to ensure the safety of its products.

▶ Panasonic Code of Conduct, Chapter 2: Implementing the Code in Business Operations; II-2. Product Safety  
<http://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-2.html#section2-2>

## Regulations

### Quality Management System

To establish self-sufficient quality assurance processes in each company, Panasonic published its Product Quality Management System (P-QMS) Guidelines in 2004. These Guidelines supplement the requirements of the ISO 9001 standard with Panasonic’s own quality assurance methods and experiences to create a quality management system that aims to deliver the level of quality that the Company demands. It has also revised these Guidelines to comply with ISO 9001-2015.

These Guidelines also serve as the basis for the quality management systems established within each company and workplace that are tailored to their specific business specialties. We also conduct quality assessments and internal audits to verify the progress of these systems at every level (group, company, workplace, etc.), all as part of the Company’s commitment to continuous improvement in quality.

Panasonic strives to evolve in accordance with each of its business sectors, and so it has established standards for each of its business areas—including consumer electronics, automotive, housing, devices, BtoB solutions, and pharmaceuticals—by specifying which portions of the P-QMS apply groupwide and which portions apply to specific businesses, with the aim of moving toward compliance in all its diverse business areas.

## Education

To thoroughly spread Panasonic’s approach to quality among its employees, the company holds training for all quality managers in each company, business division, and overseas subsidiary designed to teach employees about Panasonic quality twice each year (once per half). In November of each year, Panasonic also holds its Quality Control Circles World Conference to improve the quality control skills of on-site employees through the horizontal expansion of Quality Control (QC) activities, by which employees learn methods for solving problems in the workplace. At the 56th conference, held in fiscal 2019, 28 quality control circles were picked from a total of 4,565 groupwide circles to compete in a quality control grand prix.



A scene from the Quality Control Circle World Conference

To establish a culture in the workplace that makes product safety the top priority in manufacturing, Panasonic holds product safety training lectures to train product safety experts. To further ensure that this culture of prioritizing product safety reaches all group employees, Panasonic conducts product safety education, such as by providing employees with self-directed learning opportunities, including the Fundamentals of Product Safety e-learning program, and by holding Product Safety Forums, where employees can consider product safety-related issues through cases seen inside and outside the company.



Product Safety Learning Square

Panasonic has also established a Product Safety Learning Square at the Human Resources Development Company in Hirakata, Osaka, with the aims of conveying lessons based on actual sites and actual items, and of providing instruction on product safety-related skills. The Product Safety Learning Square offers an opportunity to see actual products that were recalled in the past—such as those recalled after the FF-type kerosene heater accidents—as well as the internal recall announcements and other information on the causes of their problems, the steps taken during the recall, and the measures taken to prevent the essentially unsafe phenomena (including tracking or strength degradation).

In fiscal 2019, 6,286 employees—students of the Product Safety Learning Square, ranging from new hires to executive managers—visited the facility. After learning about accidents from the customer’s perspective, they resolved to never allow another accident to happen.

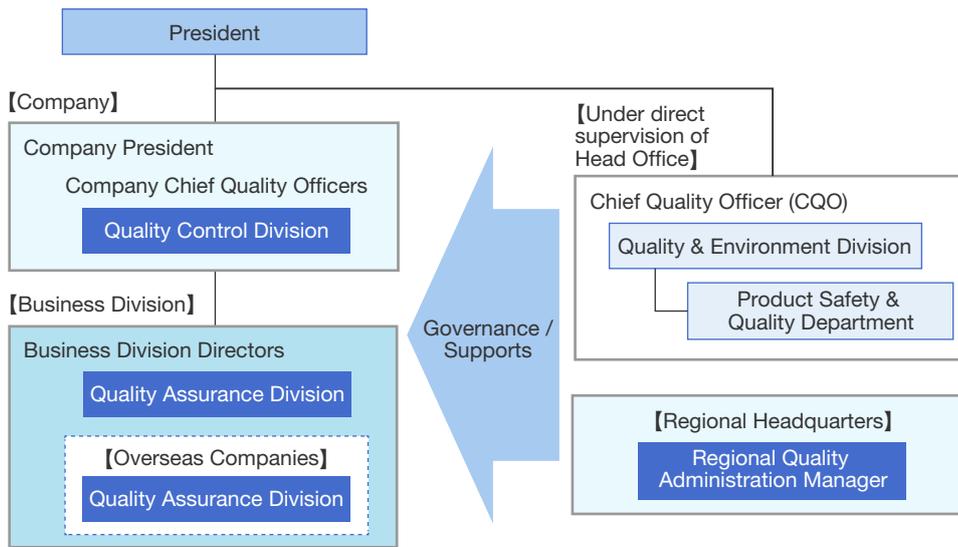
In order to further spread and establish P-QMS among all manufacturing associates in the group, Panasonic also provided e-learning to 3,804 managers, roughly 90% of the managers at all divisions in companies in Japan.

## Responsible Executive and Framework

As of August 2019, the Chief Quality Officer (CQO) is Executive Officer Hirotohi Uehara.

With the support and governance of the Panasonic head office, each company, business division, and overseas subsidiary has implemented systems for undertaking its business with independent responsibility and self-sufficiency.

## Quality Management Structure



Since September 2014, regional quality administration managers have been appointed for six regions: North America; Latin America; Europe and CIS; Southeast Asia and the Pacific; India, South Asia, Middle East; and China and Northeast Asia.

These managers monitor regional quality conditions and promptly share information on product safety-related defects with the various business divisions. They also share information on public safety standards and public safety certifications in their regions, reinforcing the organizational structure of their business divisions.

## Committees and Organizations

### Activities of Quality Managers Meetings

Panasonic investigates and summarizes groupwide quality improvement efforts and the state of product quality within the group at its semiannual CQO Meetings. Group CQOs, CQOs from each company, and stakeholders in relevant job functions all attend these meetings. At the meetings, the attendees discuss how Panasonic should handle quality over the medium and long terms, and they decide on policies and actions meant to further strengthen the foundation of quality for the whole group.

Panasonic also periodically holds Quality Managers' Meetings—attended by the quality managers at each company—as a place for more practical discussions on the quality policies covered during CQO meetings. These meetings both enhance cooperation within the group and promote quality improvement efforts. Since fiscal 2016, Panasonic has also held an annual Global Quality Managers' Meeting for quality managers from around the world. It is an opportunity for these managers to share regional issues and annual plans with companies from other regions, facilitating quality improvement efforts.

### Activities of the Corporate Product Safety Committee

To conduct manufacturing with safety as its top priority, in 2012, Panasonic organized its groupwide Corporate Product Safety Committee made up of key people in product quality assurance at each Company and established a Safety Technology Working Group and a Safety Standards Working Group under its umbrella. Using these working groups, the company began to develop safety technologies and upgrade its product safety standards on a regular basis, in response to the 2005 FF-type kerosene heater accidents.

This Committee holds semiannual roundtable discussions for representatives of each company to investigate approaches to maintain and improve Panasonic quality, including the use of AI to formulate policies for ensuring safety and quality for lithium-ion battery and network connectivity products.

### Activities of the Safety Technology Working Group

The Safety Technology Working Group takes into account the possibility that customers may use products longer than anticipated at the design stage. It develops scientific evaluation methods for testing the durability of materials used in

products—including accelerated deterioration tests—accumulates data and creates testing databases. In fiscal 2019, the working group gathered data on impact safety ratings in preparation for the future expansion of our service robot business.

### **Activities of the Safety Standards Working Group**

To realize a higher level of product safety beyond just complying with public safety standards, Panasonic has established the Panasonic Corporation Safety Standards (PCSS), consisting of internal design rules that are even stricter than public standards that must be followed when developing products.

The Safety Standards Working Group has reflected in the PCSS what it has learned from the activities of the Safety Technology Working Group, and it has strengthened standards relating to major safety issues, such as long-term use, flame-retarding measures, and fall prevention. In fiscal 2019, it prioritized preventing lithium-ion batteries from catching fire by enhancing Panasonic's unique standards that should be followed for products that use such batteries.

The working group is also making efforts to expand the scope of its product safety standards in each of the areas in which the Company does business. For example, the working group revised the Panasonic Personal-Care Robot Safety Standards (PRSS), which cover Panasonic's personal care robots.

### **Global Safety Standard Certifications Obtained**

#### **Personal care robot safety certification ISO 13482<sup>\*1</sup> acquired: January 2017**

In February 2014, Resyone—a robotic device for nursing care that combines the functionality of a bed and a wheelchair—was the first device worldwide to acquire the global safety standard ISO 13482. Resyone PLUS, which improved on Resyone's convenience, safety, and aesthetics, acquired certification based on ISO 13482 in January 2017.

See: <http://sumai.panasonic.jp/agefree/products/resyoneplus/> (Japanese only)

#### **Road vehicle functional safety standard ISO 26262<sup>\*2</sup> acquired: February 2012**

Panasonic acquired process certification in the ISO 26262 road vehicle functional safety<sup>\*3</sup> standard from the German third-party organization TÜV SUD. The body recognized that Panasonic is able to comply with the highest level of safety in the standard, ASIL-D, during the process of developing onboard devices and device software.

See: [https://www.jeita.or.jp/japanese/exhibit/2015/1111/pdf/02\\_Functional.pdf](https://www.jeita.or.jp/japanese/exhibit/2015/1111/pdf/02_Functional.pdf) (Japanese only)

\*1: The international standard relating to the safety of personal care robots, issued by the International Organization for Standardization (ISO). Three types of robots are covered: physical assistant robots, mobile servant robots, and person carrier robots.

\*2: An international standard for road vehicle functional safety that was published on November 15, 2011. The standard sets out four Automotive Safety Integrity Levels (ASILs): ASIL A through ASIL D.

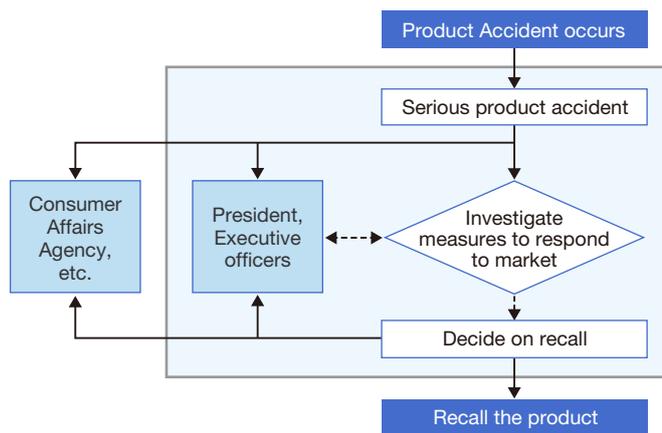
\*3: Safety achieved through the working (functioning) of electric or electronic devices, such as microcomputers. Functions include the detection of malfunctions, safe stop controls, and user warnings.

# Quality and Product Safety: Major Accidents and Responses

## Responding to Product-Related Incidents

In the event that a product-related accident has occurred in the market, Panasonic immediately confirms the facts relating to the incident, and analyzes and verifies its causes. If a product-related incident is deemed to be serious, the group's head office and each of its companies and business sites work together to take appropriate measures to ensure the safety of its customers. Specifically, the company's first response is to notify relevant government bodies such as the Consumer Affairs Agency, as well as the company president and senior management, and then considers how to respond to the market.

### Product Accident Response Flowchart



## Serious Product-Related Accident Information

In Japan, Panasonic publicly reports serious product accidents\*1, accidents suspected of being caused by products\*2, and accidents for which it has been determined that it is unclear whether a product was the cause\*3, based on the Consumer Product Safety Act and Panasonic's basic policies, as laid out in its Autonomous Code of Conduct for Product Safety.

\*1 "Serious product accidents" are the following accidents specified in the Consumer Product Safety Act:

1. Accidents resulting in death;
2. Accidents resulting in serious injury or illness (injury or illness requiring at least 30 days of treatment), or accidents resulting in permanent injury;
3. Carbon monoxide poisoning;
4. Fires (confirmed as such by firefighting authorities).

\*2 "Accidents suspected of being caused by products" are defined as follows:

- Accidents relating to gas devices or kerosene devices (including accidents in which it has yet to be determined whether the product was the cause);
- Accidents relating to products other than gas or kerosene devices for which it is suspected that the product was the cause. Panasonic promptly releases information on these types of accidents.

\*3 "Accidents for which it has been determined that it is unclear whether a product was the cause"

Panasonic publicly releases information on accidents for which the Product Safety Group of the Consumer Affairs Council of the Ministry of Economy, Trade and Industry has determined that it remains unclear whether a product was the cause.

List of Information Concerning Serious Product-Related Accidents

<https://www.panasonic.com/jp/corporate/info/psc.html>

## Quality and Product Safety: List of Awards

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### Recipient of the METI Minister's Award and the Director-General for Technology Policy Coordination and Industrial and Product Safety's Award at the 12th Best Contributors to Product Safety Awards\*

(For more details, see: [https://www.meti.go.jp/product\\_safety/ps-award/3-consumer/h30\\_award.html#anc-1-1](https://www.meti.go.jp/product_safety/ps-award/3-consumer/h30_award.html#anc-1-1) (Japanese only))

- METI Minister's Award, Large Manufacturer and Importer Category: Laundry and Cleaner Division, Appliance Company, Panasonic Group  
The company was awarded this prize due to its high ratings in the following three criteria:
  - 1) Creating systems for reliably executing product safety
  - 2) Ensuring improved quality and traceability in key safety components
  - 3) Promoting innovative projects in the product development process
- Director-General for Technology Policy Coordination and Industrial and Product Safety's Award, Large Retailer Category: Panasonic Homes  
The company was awarded this prize for the following three criteria:
  - 1) Conducting initiatives to ensure safety when replenishing procured stock
  - 2) Defining the position and authority of product safety managers per quality standards and product safety management standards
  - 3) Creating initiatives to prevent the recurrence of product flaws by sharing cause analysis and occurrence mechanisms as quality troubleshooting knowledge

\* This awards program was launched by the Ministry of Economy, Trade and Industry (METI) in 2007 with the aim of encouraging private enterprises to make a greater commitment to improving product safety, as well as to firmly establish the value of product safety in society as a whole.

### Recipient of 2018 IAUD Gold and Silver Awards

Panasonic won two gold awards for the Walking Training Robot and the Smile Bathtub at the 2018 IAUD International Design Awards, sponsored by the International Association for Universal Design (IAUD). This is the seventh consecutive year that the company has received a gold award.

It also won a silver for the Power Multi Light. With these awards, Panasonic won the most awards of all this year's competitors. (For more details, see: <https://www.iaud.net/award/10936/> (Japanese only))

Reference: Panasonic's UD communications

URL: <https://www.panasonic.com/jp/corporate/technology-design/ud.html> (Japanese only)

\* Panasonic won the Grand Prize at the 2017 IAUD Awards (since renamed the IAUD International Design Awards)