Ensuring Quality and Safety

Policy

When it was founded in 1899, NEC promised its customers to provide "Better Products, Better Services," meaning world-class products and responsible after-sales services. This was the founding spirit of NEC at a time when it had yet to earn society's trust. We were committed to gaining the trust of customers by having our employees understand and practice "Better Products, Better Services," in order to build a strong foundation for the Company within society.

To realize this aspiration, NEC Corporation introduced quality control in 1946, and has made Companywide efforts to increase quality, such as the ZD*2 (Zero Defects) activities in 1965, the quality operation strategy to increase the 7 Qs*1 in 1972, and SWQC*3 in 1981.

Today, our founding spirit of "Better Products, Better Services" has been carried on as one of the Principles in our NEC Way. We hope that all our employees will be confident in NEC's quality policy by continuing to raise the quality of their own work, the products they create, and the services they provide. Also we hope to see quality of their own work, the products they create, and be confident in our initiatives.

In line with this thinking, we have defined our "Quality and Safety Philosophy" and "Action Guidelines" as follows to enforce our initiatives.

Action Guidelines

1. Quality management
   1) Think and act from the standpoint of new value for customers and society.
   2) Maintain and enhance the NEC brand.
   3) Ensure that each member of NEC recognizes the importance of quality and strives to deliver better quality.
   4) Strive to ensure product and service quality, and comply with related laws and regulations.
   5) Make sincere efforts to address product and service quality problems.

2. Safety management
   1) Ensure that each member of NEC recognizes the importance of product and service safety.
   2) Strive to ensure product and service safety, and comply with related laws and regulations.
   3) Make sincere efforts to address product and service safety problems.

Quality Management System

Today as society's focus shifts from manufacturing physical products to creating intangible services, quality controls are also changing. At NEC, we have created quality management systems that we implement to realize high-quality products and services that satisfy customers' demands and expectations. In line with our basic stance that "quality is built in through processes," we aim to make continuous improvements to make our processes even better.

Promotion Framework

Quality and Safety Promotion Framework and Quality and Safety Risk Management Framework

One of the most important management issues is how to ensure quality and safety and deal with related risks in products, systems and services. NEC is working to clarify a range of actions for this system by defining Companywide rules and standards, and to improve quality and safety. This effort is headed by the Environment and Total Quality Management Division and the Environmental Management Division, the Environment and Total Quality Management Divisions set up in business units ("BUs") and consolidated subsidiaries, and the quality/safety management officers appointed in each of the business divisions and consolidated subsidiaries under the BUs. Specifically, we have set up the "Quality and Safety Action Policy," and we are conducting activities such as complying with quality and safety laws and regulations, improving safe, reliable technologies, standardizing key components, sharing expertise, and taking steps to prevent defects and recurrences.

In regard to risk management related to quality and safety, we have built a Companywide framework and ensure that it is implemented completely. If a customer's system or critical social system were to experience serious trouble, or a major product incident or infringement of technology laws and regulations were to occur, the matter would be rapidly escalated to management and an emergency troubleshooting meeting would be held.

The business division in charge and the specialist staff division confer and reach a quick decision on how customers are to be treated, the response of those in authority and whatever other publicity measures might be appropriate. The consultations are rapid and decisions are made concerning the most appropriate overall policy.

NEC Group Quality Promotion Meeting

"NEC Group Quality Promotion Meeting" is held twice a year with the quality and safety management staff and quality officers of NEC Corporation to have cross-company discussions throughout the NEC Group regarding its product quality and safety, and its systems and compliance frameworks with laws and regulations relating to it.

The meeting's purpose is to share policies and information among the parties concerned and deepen understanding within the organization through explanations of quality policy and cases and group discussions. In fiscal 2020, the meeting was held in June and November. NEC has frequent active discussions based on the concepts of "Customer Oriented," "Full Participation" and "Continuous Improvement."
Occupational Health and Safety Management in Construction and Installation work

NEC is bringing together the capabilities of the entire NEC Group, from design to construction, operation, and maintenance to provide total services comprising bundled products and systems to customers.

When providing customers with complete systems, it is important to implement appropriate risk management and safety management for risks involved in construction work, such as falling from height, equipment collapsing, falling of heavy load, electric shocks, and vehicle operation. For this reason, in our efforts related to construction safety as the prime contractor we make efforts to improve awareness of health and safety management in construction work under the principle of "prioritizing health and safety, including health management, in all operations," and we established an organization for promotion and oversight in the Environment and Total Quality Management Division, in April 2019.

We are working to strengthen industrial accident prevention in our construction work from the following perspectives.

1. Clarify the process for safe construction management in accordance with the OH&S management system.
2. Implement a PDCA cycle through the initiatives in the safe construction management process.
3. Inculcate the attitude/habit of following safety rules and accident prevention measures in all workers (safety convention, meetings of persons in charge, training, broadcasting safety related information through various channels, etc.)
4. Promote the building of a safety culture.

Strategies and Main Activities and Results for Fiscal 2020

Compliance with Relevant Acts and Regulations

To visualize the technical laws and regulations with which NEC products must comply, NEC developed a "map of technology laws and regulations" to make it easier to identify what kind of laws and regulations are applied to which divisions' products. By using this map, we strive to comply with those technical laws and regulations by precisely conforming with various countries’ domestic laws and regulations, including Japan's Electrical Appliance and Material Safety Act, Radio Act and Telecommunications Business Act, and the laws and regulations of other countries.

NEC is enforcing compliance with relevant acts and internal rules for indications and labels for quality and safety of products and services. If violations are found or suspected, NEC will properly address the problem by following the direction of the relevant ministries and agencies.

In fiscal 2020, there were no regulatory violations subject to fines or punishments with regard to the quality and safety of our products and services.

 Ensuring Product Safety

NEC provides safe, secure products to customers by ensuring that its designs for ICT and multimedia equipment comply with the international standards IEC-60950-1 (JIS C 6950-1) / IEC62368-1 (JIS C 62368-1), as a matter of course. In addition, we have established our own “Group safety standard” to reinforce these standards and we also perform risk assessments to ensure product safety.

If product safety issues arise, we provide information on the NEC website and notify customers quickly.

Guidelines to Quality Assurance for Machine Learning-based Artificial Intelligence

The past few years have seen the spread of systems and services that use AI. However, the specifications of AI engines and the processes that produce their analysis results can be difficult for humans to interpret, and traditional software quality assurance guidelines alone may not be sufficient.

Accordingly, in April 2019, NEC addressed this issue by formulating Guidelines to Quality Assurance for Machine Learning-based Artificial Intelligence, which are designed to ensure the quality of AI systems that cannot be covered by traditional software quality assurances alone.

NEC Formulates “Guidelines to Quality Assurance for Machine Learning-based Artificial Intelligence” for Construction and Development of AI Systems

NEC Ethical Review Committee for the Life Sciences

NEC Corporation is carrying out R&D for commercialization in the life science field. When acquiring people or information and data related to people for trial experiments and research, we follow the guidelines set out by the Ministry of Education, Culture, Sports, Science and Technology, and hold deliberations in the NEC Ethical Review Committee for the Life Sciences, made up of external experts, regarding considerations such as the objective of the research, the human rights of its subjects, and respect for these.

Training to Develop Human Resources for Safety and Peace of Mind

Improving product safety and quality requires a focus on improvements in employee training and skills. NEC Corporation offers classes that focus on job roles and field of specialization to improve practical skills in design and construction and provide basic and more specialist knowledge related to quality and safety management standards and technical standards. For example, in our specialist product safety course, “Safety Review Workshops,” we are training a large number of safety technology specialists through hands-on learning of safety design using actual equipment.

Project Management Award

NEC holds an annual presentation of outstanding cases and presents a project management award to the organization or group that demonstrated the best project support, or project team that tackled a difficult project and achieved a particularly outstanding result.

The intent of this award is to raise awareness of the importance of project management among all NEC Group employees and to demonstrate the significance of accomplishment and recovery in those projects that have a high level of risk. NEC also recognizes that the increasing awareness of award-winning cases throughout the Group helps to prevent risks from materializing in new projects through the horizontal spread of risk management practices.