Business Continuity

For many years NEC has been involved in the construction of social infrastructure through information and communications technologies. Social infrastructures, such as communication networks and core systems for traffic, defense, and financial services, should be restored quickly in the event of an emergency or disaster.

To enable prompt restoration of social infrastructures and core systems in the event of disasters, the NEC Group as a whole has formulated Business Continuity Plans (BCPs) and actively and systematically conducts Business Continuity Management (BCM) to maintain and improve BCPs.

Policies

NEC seriously takes its social responsibility to maintain the information and communication systems it has provided in the event of disasters and emergencies. Thus, we believe that it is necessary to restore information and communication systems serving as social infrastructures, and resume production as early as possible to keep the impact of disasters to a minimum. This also entails fulfilling the responsibility to ensure the safety of employees and maintain supply chains that include complex and technically advanced systems.

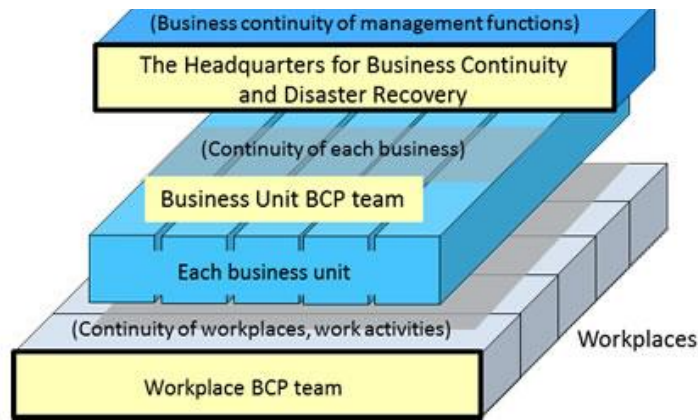NEC has established the following three specific disaster response policies.

1. Ensure the safety of employees and visitors.
2. Fulfill NEC's social responsibilities (Maintenance and recovery of backbone systems for communications, public infrastructure, traffic, defense, finance, etc.).
3. Minimize management damage caused by operation disruption.

Promotion Framework

NEC maintains proactive and flexible business continuity through the following three functions.

(1) Headquarters for Business Continuity and Disaster Recovery
   Administer the BCP for management function to maintain top management decision-making and restore operations
(2) Business Unit BCP team
   Administer the BCP for each business to recover specific businesses, such as collecting information on damage to customers and operations, securing the personnel needed, and securing materials supply and distribution routes
(3) Workplace BCP team
   Administer the BCP for each workplace, secure the safety of workplaces, confirm the safety of employees, and support employees' life and, collaborate with communities

NEC's Framework for Disaster Response and Business Continuity

## Main Activities and Results for Fiscal 2017

Prompt response to frequently occurring disasters

There have been a rash of major disasters in fiscal 2017, beginning with the earthquake in Kumamoto on April 16; earthquake in Hakodate in June; flooding damage from Typhoons 9, 14, 16, and 17 in Tohoku and Hokkaido in September; major blackout in Tokyo and earthquake in Tottori in October; massive road cave-in in Fukuoka, major earthquake in New Zealand, and earthquake and tsunami off-shore Fukushima in November; and cyclone in Chennai, India and earthquake in Northern Ibaraki in December.

Owing to its having dealt with vulnerabilities identified through exercises and trainings and making advanced preparations to enable each and every member to act on their own, the NEC Group was able to take prompt action in the face of actual disasters.

Prompt response to the Kumamoto Earthquake

Within two hours after the main shock of the Kumamoto Earthquake on April 16, confirmation of safety and damage situation in the different NEC locations was completed, and relief procedures from Fukuoka, Hiroshima, Osaka, and Tokyo were decided and implemented. Also, backup personnel and rest areas were secured in consideration of the health and safety of employees, their families, and the local residents in conducting the relief operations.
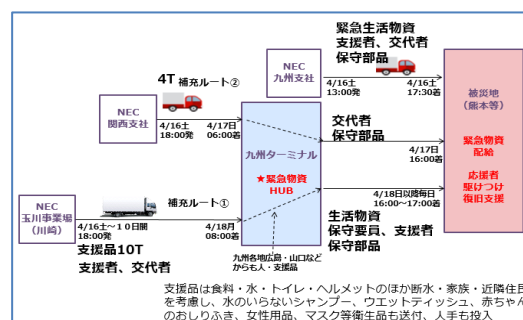
Kumamoto Earthquake Response Meeting   Arrival of relief goods and volunteers by the evening of the earthquake

Contribution to prompt recovery of social infrastructures and delivery systems

Immediately after the occurrence of the earthquake, the NEC Group carried out recovery of social infrastructure-related systems. Recovery of the communication and command system of the Kumamoto City Fire Services Bureau was completed immediately after the main shock, and that of Kosa Town's systems within the morning of the day of the earthquake. Also, the NEC Group constructed an emergency network in response to the establishment by the Kumamoto Prefectural Police of an earthquake response headquarters in Aso Town, lent 182 computers and 105 printers upon request of Kumamoto City, and also provided computers in Mashiki Town. In addition, for Uto City, NEC carried out checks of systems by other companies in their behalf, in response to urgent requests from the city government.

Immediate response to request for PCs by Kumamoto City

Expression of gratitude from Kumamoto City Mayor Onishi and Vice Mayor Uematsu to President Niino
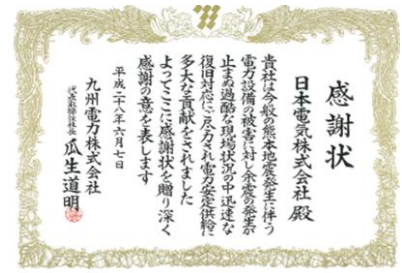
Letter of Appreciation from Kyushu Electric Power Co., Inc.

Training on disaster prevention and business continuity

To enable each and every member to think and act on their own, the NEC Group conducts disaster preparedness and business continuity exercises and trainings in September, November, January, and March every fiscal year.

Group-wide exercise for all members, business continuity plan walk-through (September and January)

Every year, the NEC Group holds business continuity exercises for participation by all members every September and January. One of those sessions is an unannounced exercise designed to confirm behavior patterns, whether employees are able to take the appropriate actions upon receiving disaster information.

The exercise conducted simultaneously throughout the entire Group in September 2016 was participated in by all the approximately 100,000 employees and visitors in their respective locations across 40 domestic affiliates. The exercise was conducted to enable participants to think and act on their own on how to ensure safety and contact their families and workplaces about their situation during a business trip or when outside the company premises. This was the first time that an exercise was conducted to simulate a situation wherein the participant has no one around to depend on, and it provided an opportunity for them to develop independent decision-making skills on what to do during a disaster.

Divisions and affiliated companies that were not able to participate in September participated in the announced exercise held in January, enabling confirmation of individual behavior patterns and means for sharing information with family members during disaster
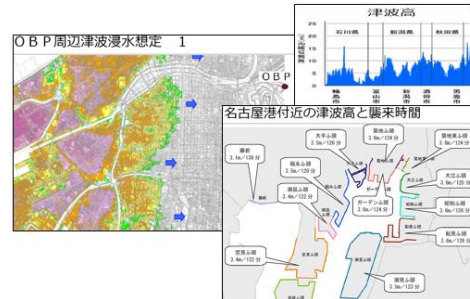
Tsunami Disaster Prevention Training during the World Tsunami Awareness Day (November 5)

Around November 5, 2016, the day designated as the World Tsunami Awareness Day, we held a drill at 10 NEC Group locations considered as tsunami-prone areas, including in Osaka and Nagoya. The drill was aimed at determining measures for confirming expected tsunami damage in the areas, and deciding what preparations and actions should be taken in worst-case scenarios, while incorporating customer and client perspectives. At the same time, a drill was also held on information-sharing with suppliers outside the NEC Group located in the tsunami-prone areas.

Training content and scene

Tsunami flooding map

Business continuity training simulating a pandemic (February 2017 onwards)

NEC conducted an online training on dealing with infectious diseases based on signs of outbreaks of MARS, Ebola fever, and new influenza strains such as H5N1 and H7N9. Also, training was conducted on how to carry out business continuity during occurrence of a highly virulent infectious disease abroad, during the early stages of its occurrence within the country, and during its spread within the country. The training was participated in by approximately 110,000 members from NEC and 45 domestic and 80 overseas affiliates, and discussions and consideration of various countermeasures based on the different regional and business attributes were held.

Going forward, we will create a unified core platform for the NEC Group based on the results of the training and the discussions, and conduct trainings that are one step further ahead, in order to train employees to act independently also during pandemics.
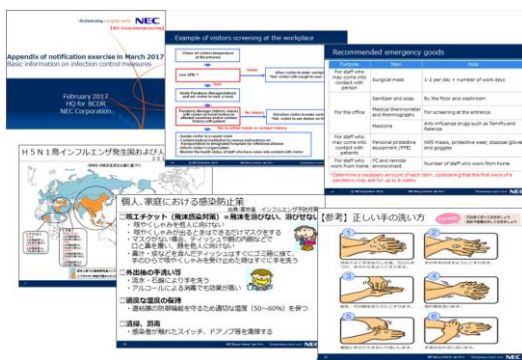
Online training on threats from and responses to infectious diseases and new influenza strains

Explanation of threats from and responses to new influenza strains to corporate officers by an industrial physician

Report of countermeasures discussed at the different divisions within the company


President Niino giving instructions on future response policies

Visualization of level and maturity for disaster preparedness and business continuity

The NEC Group implements initiatives to "visualize" the disaster preparedness and business continuity capability levels of each division and company through objective rankings. In fiscal 2017, under a prototype system, preparedness and capability levels were visualized using indices such as "organizational status," "leadership," "disaster prevention and continuity plans," "support status," "effective operations," and "evaluation and improvement." We will further improve the accuracy of the rankings, and refine the system to enable divisions and companies to incorporate disaster preparedness and business continuity in their organizational cultures and enable members to think and act independently during occurrence of disasters.

For overseas, starting fiscal 2016, we have adopted a system for conducting self-checks on disaster preparedness and business continuity in each company, and "visualized" the effectiveness and levels of business continuity plans prepared by each company. In the second year of its implementation in fiscal 2017, we confirmed the extent of improvements made on the basis of the previous year's results.
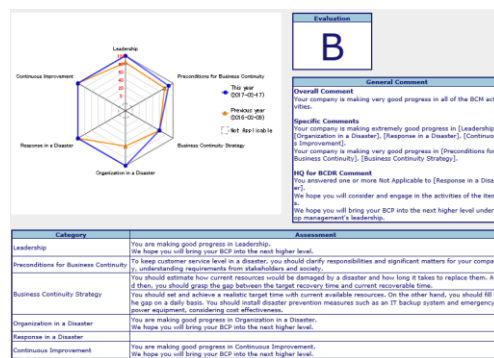
Initiatives Overseas

The NEC group addresses all NEC group companies of the notification rules in a disaster and assigns the persons in charge in each company. We have constructed a system to understand and share information on the damage status of overseas subsidiaries under the five regional headquarters. We have prepared BCPs to cover country and regional risks for main overseas subsidiaries.

Moreover, we have a web system to collect and analyze information during initial-response phases at the Business Continuity and Disaster Recovery Headquarters in Japan. To verify effectiveness, we have conducted escalation exercises for all overseas subsidiaries twice a year since 2012. We are prepared to quickly resume businesses by minimizing the damage in a disaster.

Acquisition of ISO22301 Certification for entire Value Chain

NEC, consistent with its being a provider of social infrastructures, has established Business Continuity Management Systems (BCMS) not only for the entire Group as a whole, but for each unit and for each business area, to enable each unit and company to proactively and organically carry out recovery activities in the event of disasters. To make these systems internationally acceptable and applicable, we acquired ISO22301 certification in 41 business areas, such as telecom carriers, systems, and datacenters — the highest number among companies in Japan.

The business-related fields for which certification has been obtained cover the entire value chain, from design and system construction to manufacturing and maintenance.

ISO 22301 Third-party certification

Objectives and Achievements

Objectives for the Medium Term (From fiscal 2017 to fiscal 2019)

1. To "visualize" business continuity levels within each division.
2. To conduct various exercises and training activities mindful of the largest disaster risks and pandemic risks in each area, in order to further equip employees to enable them to act proactively during disasters.

Fiscal 2017 Objectives, Achievements and Progress, and Degree of Completion

Objective	Achievements and Progress	Degree of completion
1. Prepare action manuals and conduct training for tsunami-prone areas ・Prepare an action manual for tsunami-prone areas other than the Nankai Trough regions.	・This is the second year of the 3-year plan. A training was held on preparing action manuals at 10 NEC Group locations including Osaka and Nagoya. ・In reference to the regional action manual prepared in fiscal 2016, recovery manuals and action manuals based on regional attributes were prepared and promoted among employees.	Achieved
2. Implement "visualization" by applying maturity levels of Information Security Management System (ISMS) to BCMS ・Implement a prototype of the system in each division and promote monitoring and auditing of current status.	・The system was implemented at approximately 400 divisions that prepared their own business continuity plans, enabling "visualization" of the maturity levels of the divisions' disaster preparedness and business continuity capability based on objective criteria. ・Systematizing the internal audit, in which inspections and checks had been conducted separately for each division and Group company, enabled reducing required manpower by 20 to 25%. ・Although we were able to raise awareness on the importance of "protecting the life of workers "in some business and research divisions that previously did not have a high business continuity awareness, there remains a need to further raise awareness and establish the necessary frameworks. ・Certain areas for improvement were found in the prototype system.	Achieved

Fiscal 2018 Objectives

1. Prepare action manuals and conduct training for tsunami-prone areas ・Prepare action manuals mainly for tsunami-prone areas along the Japan Sea coast announced in fiscal 2017	・For fiscal 2018, the third year of the 3-year plan, training will be conducted based on results of analysis of major tsunamis on the Japan Sea coast announced in fiscal 2017 in regions where the training could not be conducted in the first and second years.
2. Implement "visualization" by applying maturity levels of Information Security Management System (ISMS) to BCMS ・Refine the system based on the merits and points for improvement determined during the implementation in fiscal 2017.	・For fiscal 2018, the third year of the 3-year plan, the prototype for fiscal 2017 will be improved based on the merits and points for improvement. ・Refine each division's disaster preparedness and business continuity capability by comparing with and improving from the previous year's levels. ・Other than for earthquakes, floods, and other natural disasters, business continuity capability during pandemics will be enhanced through a similar training conducted in February 2017.