

III. Emergency Responses Required and Taken by Governments and Other Bodies

1. Emergency responses mandated in the Nuclear Emergency Preparedness Act, the Basic Plan for Emergency Preparedness, etc.

(1) General discussion

In 1999, a nuclear criticality accident occurred at the JCO nuclear fuel fabrication facilities. To protect the lives, personal safety and property of the nation through enhanced measures against a nuclear disaster, the Act on Special Measures Concerning Nuclear Emergency Preparedness (hereinafter referred to as “the Nuclear Emergency Preparedness Act”) was established that year. The Act sets out the obligations of a nuclear operator to prevent a nuclear disaster, and provides for the declaration of a nuclear emergency situation, the establishment of a Nuclear Emergency Response Headquarters (“NERHQ”), the implementation of emergency response measures, and other countermeasures.

The Basic Plan for Emergency Preparedness, which was compiled by the Central Disaster Management Council in accordance with Article 34 of the Disaster Countermeasures Basic Law, sets out matters to be prioritized by general, long-term disaster prevention plans, in emergency action plans, and in regional disaster prevention plans. The Nuclear Emergency Response section in the Basic Plan for Emergency Preparedness forms the basis for nuclear emergency response in Japan, stipulating measures to prevent the occurrence and progression (expansion) of a nuclear disaster and to restore the situation after a nuclear emergency.

In addition, the Council for Nuclear Crisis Management by the relevant ministries and agencies, which was established by the Government, sets out in detail matters specified in the Nuclear Emergency Preparedness Act and the Nuclear Emergency Response section of the Basic Plan for Emergency Preparedness, and compiled the Nuclear Emergency Response Manual, which provides guidelines for disaster prevention actions in need to be carried out through the joint efforts of the relevant ministries and agencies.

Article 4 of the Nuclear Emergency Preparedness Act stipulates that the national government shall, in conformity with provisions in legislation, establish a nuclear emergency response headquarters, give necessary instructions to local government bodies, and take other measures required to implement emergency response measures. In addition, the Nuclear Emergency Response Manual stipulates, with regard to an accident at nuclear facilities, that responsibility for safety and security regulations shall lie

with the Nuclear and Industrial Safety Agency (“NISA,” a special body of the Agency for Natural Resources and Energy, which is a government agency under the Ministry of Economy, Trade and Industry (METI)), if the accident is in a commercial nuclear power station, a nuclear fuel storage facility, a nuclear fuel fabrication facility, a nuclear fuel reprocessing facility or a nuclear waste management facility, while it shall lie with the Ministry of Education, Culture, Sports, Science and Technology (MEXT) if the accident is in a test or research reactor or a facility for using nuclear fuel material or nuclear fuel source material.

Article 6 of the Nuclear Emergency Preparedness Act states that local public bodies are obliged to establish procedures for the implementation of measures to prevent a nuclear emergency, and of urgent measures to deal with an emergency situation. In addition, Article 40 of the Disaster Countermeasures Basic Law states that the Prefectural Disaster Management Council shall, in accordance with the Basic Plan for Emergency Preparedness, prepare prefectural disaster prevention plans for regions within their respective prefectures.

In response to these various legal stipulations and regulations, the Fukushima Prefecture Disaster Preparedness Council compiled the Fukushima Prefecture Disaster Prevention Plan, which includes nuclear emergency response measures. That Plan sets out measures to be taken in the event of a nuclear emergency. In addition, the municipal governments of Hirono-town, Naraha-town, Tomioka-town, Okuma-town, Futaba-town and Namie-town, which are located near the Fukushima Dai-ichi Nuclear Power Station (“Fukushima Dai-ichi NPS”) or the Fukushima Dai-ni NPS of Tokyo Electric Power Company (“TEPCO”), prepared their own regional disaster prevention plans. They include measures to respond to a nuclear emergency, considering measures for their respective Emergency Planning Zones (“EPZ,” zones where disaster preparedness measures are to be given full priority, and which lie generally within a radius of 8 to 10 km from an NPS) as established in the Regulatory Guide: Emergency Preparedness for Nuclear Facilities by the Nuclear Safety Commission (“NSC”) of Japan.

Article 3 of the Nuclear Emergency Preparedness Act stipulates that a nuclear operator is responsible for taking comprehensive measures to prevent the occurrence of a nuclear disaster and for taking, in good faith, necessary measures to prevent the expansion of a nuclear disaster (including its risks). In addition, Article 7 (1) of the same Act stipulates that a nuclear operator shall prepare a nuclear operator emergency action plan for each of its nuclear sites. Conforming to this stipulation, TEPCO did indeed prepare such action plans for each of its nuclear power generating sites.

(2) Actions to be taken after Article 10 Notification under the Nuclear Emergency Preparedness Act

Article 8 (1) and Article 9 (1) of the Nuclear Emergency Preparedness Act require that a nuclear operator establish an organization for nuclear emergency preparedness for each of its nuclear sites, and take steps to prevent the occurrence or progression (expansion) of a nuclear disaster. The articles also require that a nuclear operator appoint a nuclear emergency preparedness manager to manage each relevant organization. If a circumstance relating to an event specified in Article 10 (1) of the same Act occurs, the nuclear emergency preparedness manager is obliged to notify the competent minister, relevant local public bodies and other relevant entities (Hereinafter, this is referred to as “Article 10 Notification”) of its occurrence.

If the accident occurs in a commercial NPS, after receipt of an Article 10 Notification government bodies are to conduct the following main responses.

(i) After receipt of an Article 10 Notification from a nuclear emergency preparedness manager, NISA is to immediately determine whether the notified event falls under one of the types of nuclear emergencies specified in Article 15 (1) of the Nuclear Emergency Preparedness Act, and is to contact the Cabinet Secretariat, the Cabinet Office of the Government of Japan, the NSC, local public bodies and other relevant entities, providing information on the accident, especially information on the event’s key factors. NISA is also to oversee accident response measures in the Nuclear Emergency Preparedness Headquarters of METI, which is to be established within the said Ministry, with the Minister acting as the director-general of the headquarters. (These obligations are set out in the Basic Plan for Emergency Preparedness, and in the Nuclear Emergency Response Manual compiled by NISA.)

The Nuclear Emergency Preparedness Headquarters is to dispatch to the accident site the Senior Vice-Minister of METI, who is serving as director-general of the Local Nuclear Emergency Preparedness Headquarters of the Ministry (“On-site Preparedness HQ”), as well as required personnel and previously designated specialists. In addition, other relevant ministries, agencies and government bodies are to dispatch personnel to the Emergency Response Center (“the Off-site Center”), in conformity with stipulations in the Nuclear Emergency Response Manual.

(ii) The Cabinet Secretariat, after being contacted by NISA, is to establish an Emergency Response Office in the Crisis Management Center located belowground in the Prime Minister’s Office. This

Emergency Response Office is to gather information, send reports to the Prime Minister, and coordinate the government response in an integrated fashion. In addition, when circumstances warrant, the Cabinet Secretariat is to assemble Directors General and other officials of relevant government ministries and agencies (who form a group called the Emergency Operations Team) in the Center, in order to compile information for the government's initial actions. (These measures are set out in the Basic Plan for Emergency Preparedness.)

(iii) The NSC, after being contacted by NISA, is to immediately establish an Emergency Technical Advisory Body, and dispatch pre-designated Commissioners and Advisors for Emergency Response to the accident site, for them to provide technical advice required there. (These measures are set out in the Basic Plan for Emergency Preparedness.)

(iv) If an Article 10 Notification has been sent by the nuclear emergency preparedness manager, personnel stationed at the Nuclear Safety Inspectors' Office at the site are to immediately assemble at the Off-site Center and establish a Local Nuclear Emergency Preparedness Headquarters ("On-site Preparedness HQ"). As a general rule, two nuclear safety inspectors are to be posted at the accident site to ascertain conditions there. (These measures are set out in the Nuclear Emergency Response Manual.)¹

(3) Actions to be taken in response to an Article 15 Emergency Situation

If NISA determines that a situation pursuant to Article 15 (1) of the Nuclear Emergency Preparedness Act has occurred in a commercial NPS (in other words, a nuclear emergency), entities within the Government are to take the following steps.

(i) NISA shall prepare a draft public notice stating that a nuclear emergency situation has occurred, giving information on the area where emergency response measures need to be implemented and summarizing the nuclear emergency situation (Article 15 (2) of the Nuclear Emergency Preparedness Act). It shall prepare draft instructions to the heads of local public bodies regarding evacuation (Article 15 (3)), and shall report to the Minister of Economy, Trade and Industry (Article 15 (1)). NISA shall also respond to the accident at the Nuclear Emergency Response Headquarters

¹The Basic Plan for Emergency Preparedness states that personnel attached to government ministries and agencies who are responsible for safety rules and regulations and who are stationed at an accident site as Nuclear Safety Inspectors or the like shall ascertain the situation at the site and communicate on a regular basis with their respective ministries and agencies.

(“NERHQ”) established within the offices of METI. (These measures are set out in the Nuclear Emergency Response Manual.)²

- (ii) The Deputy Chief Cabinet Secretary for Crisis Management, the Director-General of NISA, and the Director-General of the Cabinet Office for Disaster Preparedness shall promptly discuss and come to a decision on the draft public notice and draft instructions prepared by NISA, and the METI Minister shall then report to the Prime Minister and ask for a decision regarding the determined course of action. (These measures are set out in the Nuclear Emergency Response Manual.)
- (iii) Once the course of action has been determined, the Prime Minister shall, if deemed necessary, issue a nuclear emergency situation declaration during a press conference (this is set out in the Nuclear Emergency Response Manual), and shall establish an NERHQ within the Cabinet Office, with him/herself as director-general of the headquarters and the METI Minister as vice director-general (these latter measures are set out in Article 16 (1) and Article 17 (1) of the Nuclear Emergency Preparedness Act).³

The NERHQ Secretariat, headed by the NISA Director-General, shall be established in the Emergency Response Center (“ERC”) of METI on the third floor of the Ministry’s Annex, and shall be composed of six squads, each with a specific function (a General Affairs Squad, Radiation Squad, Plant Squad, Medical Squad, Resident Safety Squad, and Public Relations Squad).

- (iv) The Emergency Response Office in the Prime Minister’s Office shall continue for some time to fulfill the tasks mentioned in (2) (ii) above, and if another serious event occurs at the same time as the nuclear emergency, and if this requires general coordination by the Cabinet, recommendations shall be submitted regarding the holding of a meeting of relevant Cabinet ministers, taking into account deliberations made with the NERHQ. (These measures are set out in the Nuclear Emergency Response Manual.)
- (v) At the accident site, the Government’s Local NERHQ shall be established in the Off-site Center, with the Senior Vice-Minister of METI serving as director-general of the headquarters. (These measures are set out in Article 17 (8) and (10) of the Nuclear Emergency Preparedness Act.)

²The Ministry of Economy, Trade and Industry’s emergency action plan, which was prepared by the Ministry itself, states that if an Emergency Preparedness Headquarters has already been established, its duties shall be taken over by the NERHQ of the Ministry.

³The government’s disaster preparedness manual states that the NERHQ is to be located in the Prime Minister’s Office.

(4) Establishment and Maintenance of the Off-site Center

Article 12 (1) of the Nuclear Emergency Preparedness Act obliges the Government to establish an off-site center. The center will serve as a facility to gather information on the nuclear emergency by, for example, measuring radiation doses during the emergency. In addition, Article 23 of the same Act stipulates that the Government's Local NERHQ shall be established in the off-site center as specified in section (3) above, and a Joint Council for Nuclear Emergency Response shall be organized in order for the Government, local public bodies, the nuclear power operator and other relevant entities to share information and collaborate with one another as required regarding the emergency response measures. Furthermore, Article 16 (1) of the enforcement regulations of the same Act stipulates that the off-site center shall be established within 20 km from the NPS.

In accordance with these stipulations, the Fukushima Prefecture Regional Disaster Prevention Plan states that if a specific event (an occurrence requiring notification pursuant to the first part of Article 10 (1) of the Nuclear Emergency Preparedness Act) occurs, the prefectural government shall, as a general rule, establish a prefectural NERHQ in the off-site center.

Furthermore, the Basic Plan for Emergency Preparedness stipulates that, when an emergency situation occurs, relevant government ministries and agencies, local public bodies and the nuclear operator shall dispatch pre-designated personnel to the off-site center to support activities there.

The Basic Plan for Emergency Preparedness also stipulates the general rule that, in order to prevent confusion among information-gathering channels, the Joint Council for Nuclear Emergency Response shall be the sole local compiler of information after the outbreak of a nuclear emergency situation, and that the government and local public bodies shall always keep installed and maintain emergency telecommunication devices and systems for the Government and local public bodies, such as dedicated circuitry, emergency telephones, fax machines, and videoconferencing systems.

In conformity with these stipulations, an Off-site Center to be used for both the Fukushima Dai-ichi NPS and the Fukushima Dai-ni NPS was established in Okuma-town in Futaba County, Fukushima Prefecture (at about 5 km from Fukushima Dai-ichi NPS and about 12 km from Fukushima Dai-ni NPS). And, if the Off-site Center cannot be used for some reason, the Fukushima Prefecture-Minamisoma Complex in Minamisoma City, Fukushima Prefecture is designated as the replacement facility under Article 16 (12) of the enforcement regulations of the Nuclear Emergency Preparedness Act.

To support the off-site center's role as a base for compiling information, the Off-site Center in Fukushima Prefecture is equipped with, besides ordinary telephone lines, dedicated circuitry connecting a videoconferencing system to government bodies, and a satellite connection.⁴

(5) Arrangements made by TEPCO for an Emergency

As explained in (2) above, the Nuclear Emergency Preparedness Act obliges nuclear operators to establish an organization for nuclear emergency preparedness at each of its NPS to prevent the occurrence and progression (expansion) of a nuclear disaster, and also obliges them to appoint nuclear emergency preparedness managers to conduct overall management controls. (These measures are set out in Article 8 (1) and Article 9 (1) of the said Act). In addition, Article 7 (1) of the same Act obligates the preparation of an emergency action plan for each of the nuclear operator's nuclear sites. These preparations are specifically to include the establishment and management of an organization for nuclear emergency preparedness.

In conformity with the Disaster Countermeasures Basic Law and other legislation, TEPCO established an emergency action plan to prevent a disaster at its electric power stations and to promptly restore the situation from any damage that occurred. This plan designates three levels of States of Emergency, from Level 1 (light) to Level 3, the designation depending on the extent of the disaster and the length of time forecasted to be required for restoration. Whatever the level is, if a state of emergency occurs, an emergency response center is to be established at its head office, and in its branch offices and business offices as required.

Furthermore, in conformity with Article 7 (1) of the Nuclear Emergency Preparedness Act, TEPCO prepared emergency action plans for each of its NPS. For the Fukushima Dai-ichi NPS it established the Fukushima Dai-ichi Nuclear Power Station Nuclear Emergency Prevention Action Plan ("Fukushima Dai-ichi NPS Nuclear Emergency Prevention Action Plan"). This plan defines responses to a nuclear emergency according to the situation level: a Level 1 state of emergency for a nuclear disaster is designated in the event of an Article 10 Notification, , and a Level 2 state of emergency for a nuclear disaster is designated in the event of a report needed stating the occurrence of a nuclear emergency situation as stipulated in Article 15 (1) of the Act, or if the situation deteriorates to the point

⁴ In addition, the Fukushima prefectural government and TEPCO have both installed telecommunications circuits in the Off-site Center in Fukushima Prefecture.

where a declaration of a nuclear emergency situation is to be issued under Article 15 (2) of the Act. Whatever the level is, the site superintendent of the Fukushima Dai-ichi NPS, who serves as the nuclear emergency preparedness manager, is to declare an emergency situation and give orders to eliminate the cause of the accident and to promptly and smoothly perform other actions required to prevent the progression (expansion) of the nuclear disaster.

Moreover, after the NPS site superintendent (the nuclear emergency preparedness manager) is notified of the specific event defined in Article 10 (1) of the Act, or discovers it him/herself, he/she shall, within a targeted time frame of 15 minutes, simultaneously notify all relevant entities by fax (Article 10 (1) of the Act specifies that the nuclear emergency preparedness manager is responsible for issuing this notification), and shall report to media organizations that he/she has issued an Article 10 Notification.

The plan obligates TEPCO to establish an emergency response centers at its head office and at the Fukushima Dai-ichi NPS if the specific event specified in Article 10 (1) of the Act occurs at that NPS and if the NPS site superintendent, who serves as the nuclear emergency preparedness manager, declares a Level 1 State of Emergency for a nuclear disaster. In such an event, the emergency response center at the head office, with the company president as its chief, is to organize nine teams, each with a specific function (a Government Office Liaison Team, Information Team, Public Relations Team, Electric Power Supply Team, Health Physics Team, Engineering and Recovery Team, Public Infrastructure Team, General Affairs Team, and Procurement Team). Furthermore, the emergency response center at the Fukushima Dai-ichi NPS, with the NPS site superintendent as its nuclear emergency preparedness manager, is to organize 12 teams, each with a specific function (a Communication Team, Intelligence Team, Public Relations Team, Health Physics Team, Engineering Team, Recovery Team, Operation Team, Public Welfare Team, Medical Team, General Affairs Team, Guard and Guidance Team, and Procurement Team),⁵ and a disaster response system is to be established to deal with the nuclear emergency.

The Fukushima Dai-ichi NPS Nuclear Emergency Prevention Action Plan also stipulates that if the situation deteriorates to the extent that a declaration of a nuclear emergency situation is issued under Article 15 (2) of the Nuclear Emergency Preparedness Act, and the NPS site superintendent, who serves as the nuclear emergency preparedness manager, declares a Level 2 State of Emergency for a nuclear disaster, there will be no particular change in the organizational structure at the company's head

⁵ An additional group, a Fire Fighting Team (an in-house fire brigade), is to be established under the Recovery Team.

office or power stations.

According to the Report on Development for Accident Management at Fukushima Dai-ichi Nuclear Power Station (“Report on Fukushima Dai-ichi NPS Accident Management Development”), if a situation occurs exceeding the scope assumed in the design (beyond design basis), a support group is to be formed in the NPS to function as the organization implementing accident management, consisting of the Headquarters and the Intelligence Team, Health Physics Team, Engineering Team, Recovery Team, and Operation Team. If, as was the case in the accident being reviewed in this report, a situation exceeding the scope assumed in the design occurs, and if an Article 10 Notification is issued for a specific event described in Article 10 (1) of the Nuclear Emergency Preparedness Act, the above-mentioned pre-established teams for accident management shall form a support group of the same names to be established in the emergency response center at the NPS.

According to the Fukushima Dai-ichi NPS Nuclear Emergency Prevention Action Plan, if an emergency response center is established in the Fukushima Dai-ichi NPS, the site superintendent of the Fukushima Dai-ichi NPS, who serves as the nuclear emergency preparedness manager, shall exercise his/her occupational authority by implementing nuclear emergency response activities and, even with regard to matters outside his/her authority, shall take expedient steps when the emergency so warrants.

Even so, according to the Report on Fukushima Dai-ichi NPS Accident Management Development, the entities to perform accident management at that NPS are the Main Control Room operators and the NPS’s support group: plant operations are to be performed by the operators in the Main Control Room, while decisions required during those operations are, as a general rule, to be made by the shift supervisor in the Main Control Room.

However, if dealing with a more complex situation where a technical assessment is vital to properly understand the accident circumstances and select the most appropriate accident management measures, and where a wide range of information is required, the support group is to perform those technical assessments and support the shift supervisor’s decision-making process. Furthermore, if the crew is performing operations that require coordination with another unit(s), or if their operations have a great impact on plant functioning, the shift supervisor is to ask the support group for advice and instructions.

The Fukushima Dai-ichi NPS Nuclear Emergency Prevention Action Plan stipulates that the role of the emergency response center at the headquarters, with the company president as its chief, is to support responses to the nuclear emergency at the NPS. The said Action Plan also states that the emergency

response centers at the NPS and at the head office shall maintain close contact with one another.

In addition, nuclear emergency preparedness managers at other NPS are to follow requests from the head office in cooperating with environmental radiation monitoring, conducting contamination inspections and decontamination in the surrounding area, dispatching nuclear emergency response personnel, lending nuclear emergency-fighting supplies and equipment, and taking other steps to ensure that emergency response measures and post-nuclear emergency measures are conducted properly and smoothly.

Thus, TEPCO's action plan stipulates that if a nuclear emergency arises at the Fukushima Dai-ichi NPS, decisions regarding individual and specific responses are entrusted to that NPS's site superintendent in his/her capacity as nuclear emergency preparedness manager. The emergency response center at the head office is, when required, to provide guidance and advice to the NPS, receives and acts upon requests from the NPS, works with other NPS in procuring materials and equipment, and provides other required support.

2. Government response after the Accident

(1) General description of the response of the national government

Right after the earthquake struck at 14:46 on March 11, 2011, METI established an Emergency Response Headquarters for the disaster, and began gathering information on the state of the reactors at nuclear power stations in the stricken areas. At the Prime Minister's Office, at 14:50 the same day, Tetsuro Ito, the Deputy Chief Cabinet Secretary for Crisis Management ("Crisis Management Deputy Chief Ito"), established an Emergency Response Office in the Prime Minister's Office for the earthquake, and summoned members of the Emergency Operations Team, which was made up of bureau chiefs of relevant ministries, to the Prime Minister's Office Crisis Management Center located below ground inside the Prime Minister's Office.⁶

At 15:42 the same day, Masao Yoshida, the site superintendent of the Fukushima Dai-ichi NPS ("Fukushima Dai-ichi NPS Site Superintendent Yoshida"), sent an Article 10 Notification via TEPCO

⁶ At 15:14 on March 11, in conformity with Article 28 (2) of the Disaster Countermeasures Basic Law, the Government established the Emergency Disaster Response Headquarters in the Prime Minister's Office with PM Naoto Kan as HQ director-general, and established the Headquarters' secretariat in the Cabinet Office. Then at 15:37 the same day, the first Emergency Disaster Response Headquarters meeting was held. On the following day, March 12, the Government established a Local Emergency Response Headquarters in Miyagi Prefecture.

head office to NISA and other competent bodies, having judged that, because the facility's entire AC power supply had failed after the tsunami waves struck, this constituted a specific event requiring notification pursuant to Article 10 (1) of the Nuclear Emergency Preparedness Act (Article 9 (1) (a) (vi) of the enforcement regulations of the same Act gives as an example of a specific event an interruption in the supply of electric power from all AC power sources during reactor operations, with the interruption lasting at least 5 consecutive minutes)⁷.

After receiving the Article 10 Notification, NISA communicated its content to the Prime Minister's Office and other competent bodies, and METI established a Nuclear Emergency Preparedness Headquarters in its Emergency Response Center (ERC) and a Local Nuclear Emergency Preparedness Headquarters in the Off-site Center (See (2) below for the response of NISA).

At the Prime Minister's Office, where the above-mentioned Article 10 Notification had been received from NISA, Crisis Management Deputy Chief Ito established an Emergency Response Office for the nuclear accident at 16:36 the same day. The Emergency Operations Team, which had already been called up for earthquake response, was expanded to also handle the nuclear emergency, and continued its deliberations (See (3) below for the response of the Emergency Operations Team).

Meanwhile, at 15:59 the same day, the Nuclear Safety Commission ("NSC") of Japan received from NISA a message stating it had received the Article 10 Notification from TEPCO. At 16:00 the same day, the Commission held an extraordinary meeting and formed an Emergency Technical Advisory Body⁸ (See (5) below for the response of the Nuclear Safety Commission of Japan).

At around 17:00 the same day, several TEPCO executives, including TEPCO Fellow Ichiro Takekuro ("TEPCO Fellow Takekuro"), were summoned to the Prime Minister's Office. They, together with Nobuaki Terasaka, the Director-General of the Nuclear and Industrial Safety Agency ("NISA Director-General Terasaka") and other personnel on the Emergency Operations Team who had been already at the Prime Minister's Office, answered Prime Minister Kan's request for information by explaining the situation at the Fukushima Dai-ichi NPS reactors. The TEPCO executives subsequently left the Prime Minister's Office, but were called back to it again at around 19:00 the same day, so they

⁷ TEPCO initially issued a notice stating that Reactor Units 1 to 5 at Fukushima Dai-ichi NPS had lost all of their AC power supply, but in actual fact the operation of Reactor Units 4 and 5 had previously been halted for inspection purposes. The notice was corrected on April 24, to state that only Reactor Units 1, 2 and 3 had lost power.

⁸ After receiving the Article 10 Notification, at 16:46 the Ministry of Education, Culture, Sports, Science and Technology formed its Nuclear Emergency Response Support Headquarters within the Ministry's Emergency Operations Center (EOC).

assembled there again.

TEPCO considered that it might become impossible to inject water into Fukushima Dai-ichi NPS Reactor Units 1 and 2 using the emergency core cooling system. It took a cautionary decision at 16:36 the same day to place priority on safety, and at 16:45 the same day the company reported to NISA that a specific event specified in Article 15 (1) of the Nuclear Emergency Preparedness Act had occurred (Article 21 (1) (ii) of the enforcement regulations of the same Act gives as an example of a specific event the case involving an operating boiling water reactor completely losing its supply of water, making it impossible to keep injecting water into the reactor using any of the emergency core cooling systems).

After receiving this report, NISA conducted technical verifications and then decided that the incident was an “Article 15 Situation” (a nuclear emergency situation as defined in Article 15 (1) of the Nuclear Emergency Preparedness Act). At around 17:35 the same day, Eiji Hiraoka, Vice Director-General of NISA (“NISA Vice Director-General Hiraoka”), obtained the consent of Banri Kaieda, the Minister of Economy, Trade and Industry (“METI Minister Kaieda”), that a nuclear emergency situation should be declared, in conformity with Article 15 (2) of the same Act.

At around 17:42 the same day, METI Minister Kaieda went to the Prime Minister’s Office and, together with NISA Director-General Terasaka (who as explained above was already there), gave a report to Prime Minister Kan regarding the Article 15 Situation and asked him to agree to declare a nuclear emergency situation.

However, the Prime Minister was scheduled to attend a meeting of leaders of the government and opposition parties at around 18:12 the same day, so the report proceedings were suspended for a while. After the leaders’ meeting finished, METI Minister Kaieda continued giving his report to the Prime Minister, and obtained the latter’s agreement regarding issuing the emergency situation declaration.

As a result, at 19:03 the same day, the Government issued a declaration of a nuclear emergency situation as set out in Article 15 (2) of the Nuclear Emergency Preparedness Act,⁹ and established an NERHQ at the Prime Minister’s Office with the Prime Minister as Director-General, a Local Emergency Response Headquarters at the Off-site Center with the METI Senior Vice Minister as

⁹ Beginning at 5:22 on March 12, a nuclear emergency situation occurred at the Fukushima Dai-ni NPS when several reactor units lost their pressure control functions. This prompted the Prime Minister to issue a nuclear emergency situation declaration for that NPS at 7:45 the same day, in conformity with Article 15 (2) of the Nuclear Emergency Preparedness Act.

Director-General, and the NERHQ secretariat in the Emergency Response Center (ERC). And, at the same time, the first NERHQ meeting was held in the Prime Minister's Office, from 19:03 to 19:22 the same day.¹⁰

Later the same day, at a press conference around 19:45, Chief Cabinet Secretary Yukio Edano announced that a nuclear emergency situation had been declared and an NERHQ established.

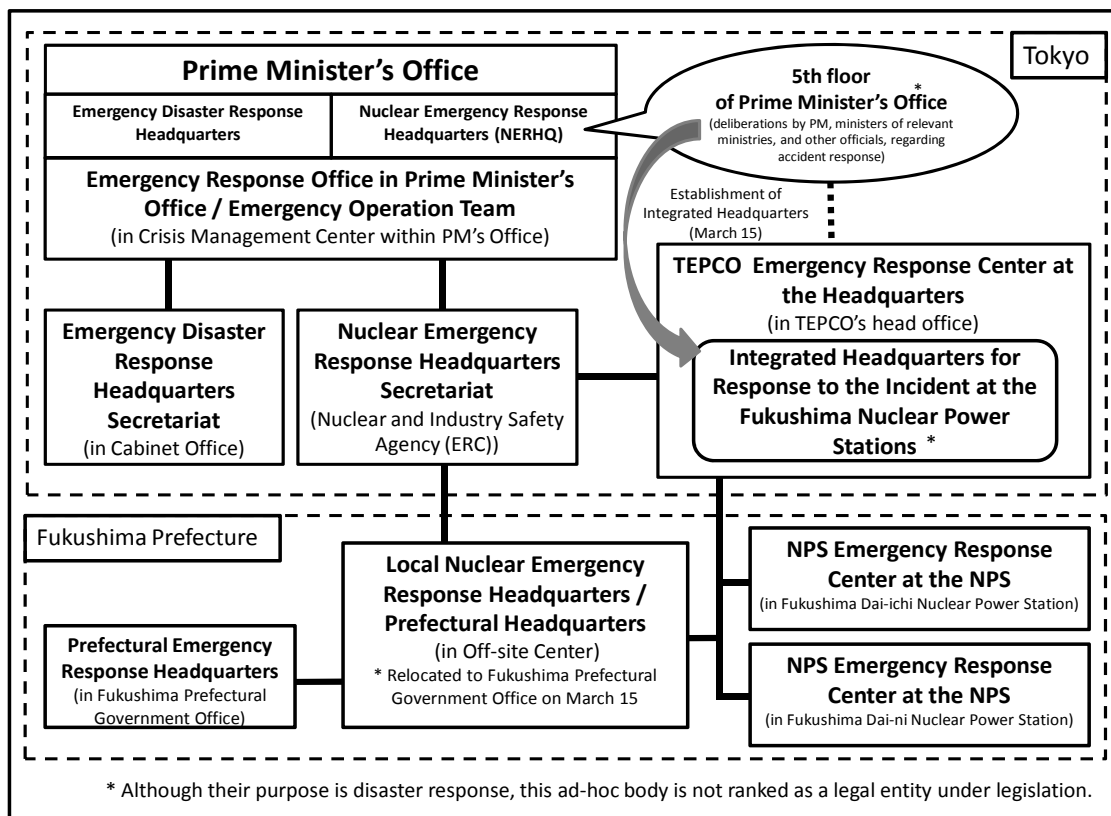
After Chief Cabinet Secretary Edano's press conference, the Prime Minister and cabinet ministers of relevant ministries met in the Prime Minister's executive office on the 5th floor of the Prime Minister's Office, separate from the Emergency Operations Team in the belowground office. There they were joined by Haruki Madarame, Chair of the Nuclear Safety Commission ("NSC Chair Madarame"), NISA Vice Director-General Hiraoka, and TEPCO executives. These officials began deliberating on the next steps in accident responses, including evacuation measures. Executive officers of the plant manufacturer joined the deliberations by around March 13.

Subsequently, also, officials who gathered on the 5th floor of the Prime Minister's Office made decisions regarding evacuation measures, measures to be taken regarding the NPS, and multiple measures concerning the Fukushima NPS accidents. When decisions were being made, TEPCO executives on the 5th floor of the Prime Minister's Office received much essential information regarding the plants directly by their cellphones.

At 6:15 on March 12, Prime Minister Kan flew by helicopter with NSC Chair Madarame and others to view the Fukushima Dai-ichi NPS. At around 7:11 the same day they met with Fukushima Dai-ichi NPS Site Superintendent Yoshida in the seismic isolation building on the NPS grounds (See Chapter IV, 3 (4) (c) below).

¹⁰ In the Prime Minister's Office following the first NERHQ meeting, an Emergency Disaster Response Headquarters meeting was held until 19:38, to discuss response to the earthquake.

Fig. III-1 Organizational chain of command for accident response at Fukushima Dai-ichi and Dai-ni Nuclear Power Stations (until March 15, 2011)



(2) Response of the Nuclear and Industrial Safety Agency

After the earthquake occurred at 14:46 on March 11, NISA called up essential ERC personnel and formed six squads, each with a specific function (a General Affairs Squad, Radiation Squad, Plant Squad, Medical Squad, Resident Safety Squad, and Public Relations Squad). It also made preparations to gather information and respond as necessary, and, at the same time when the NERHQ was established in the Prime Minister's Office, established its secretariat in the ERC.

Right after the earthquake, officials at the director-general level from relevant ministries and agencies began assembling at the Crisis Management Center located below-ground in the Prime Minister's Office. There, they formed the Emergency Operations Team and performed liaison and coordination tasks required for disaster responses (See (3) below for the response of the Emergency Operations Team). For its part, right after the earthquake, NISA dispatched NISA Director-General Terasaka and a

fair number of liaison personnel to the Crisis Management Center at the Prime Minister's Office.¹¹ Later, for Terasaka, NISA Vice Director-General Hiraoka or other executives also joined the Emergency Operations Team, alternating periodically with each other.

Since very soon after the March 11 earthquake, members in the ERC received information about the NPS via several TEPCO personnel who were dispatched from TEPCO head office, but they were not satisfied with the slow and delayed delivery of the NPS information and communications concerning the situation surrounding the accident.

For example, on March 12, personnel in the ERC asked the above-mentioned TEPCO personnel stationed there on numerous occasions to telephone TEPCO head office for information on progress in preparations to pressure venting at the Fukushima Dai-ichi NPS's Reactor Unit 1. At the time, however, even Fukushima Dai-ichi NPS Site Superintendent Yoshida, who was in the seismic isolation building on the Fukushima Dai-ichi NPS grounds, needed time before he could obtain work-site information. Therefore, the above-mentioned TEPCO personnel stationed in the ERC were not able to give accurate, prompt responses to ERC members.

At TEPCO head office, updated information on the Fukushima Dai-ichi NPS was received via an in-house videoconferencing system, beginning immediately after the accident. Arrangements were made for the system to be used before dawn on March 12 by NISA personnel dispatched to the Local Nuclear Emergency Response Headquarters (Off-site Center), after which NPS information was shared there.

Even so, almost none of the ERC members realized that the TEPCO head office and the Off-site Center were obtaining real-time information regarding the Fukushima Dai-ichi NPS via an in-house videoconferencing system, and nobody in the ERC thought of taking TEPCO's videoconferencing devices to the ERC for their information gathering purposes. NISA did not even send its staff to TEPCO head office to obtain information quickly.¹²

An example of information gathering techniques at the ERC was the use of cellphones, with NISA

¹¹ NISA's Director-General was not a member of the Emergency Operations Team for earthquake response, although in August 2007 it had been decided by NISA and personnel working for the Assistant Chief Cabinet Secretary (responsible for security and crisis management) that if an earthquake with a seismic intensity of above 6 weak were to occur in a prefecture where a nuclear power station is located, NISA's Director-General is to muster at the Crisis Management Center at the Prime Minister's Office as a member of the Emergency Operations Team for earthquake response.

¹² After receiving instructions from NISA staff stationed in the Local NERHQ, NISA installed terminals for TEPCO's videoconferencing system on March 31, enabling it to communicate that way with TEPCO, the Fukushima Dai-ichi NPS, and elsewhere.

staff of the Plant Squad in the NERHQ Secretariat communicating verbally over the telephone with TEPCO head office via TEPCO personnel stationed in their ERC, in order to obtain parameter information and to ask for reports.

NISA's instructions and requests to TEPCO were almost constantly repeating, "Send us accurate information, and send it quickly!" Sometimes, as the competent government authorities they would provide guidance and advice on a specific action to take, but because they had not received updated information their guidance and advice would be no longer valid or, all too often, would not take into account the actual situation at the Fukushima Dai-ichi NPS or its environs. In many other cases, NISA instructions were for measures that had already been carried out, or were about to be carried out, so their instructions had practically no influence on specific measures or the decision-making process at the accident site. (For example, see Chapter IV 3 (4) (c) below regarding pressure venting orders for Reactor Unit 1 at Fukushima Dai-ichi NPS on the morning of March 12, and Chapter IV 4 (1) (b) regarding the order to inject seawater into the same reactor in the evening of the same day.)

(3) Response of the Emergency Operations Team at the Crisis Management Center in the Prime Minister's Office

Very soon after the earthquake at 14:46 on March 11, personnel at the director-general level at NISA and other relevant ministries assembled in the Crisis Management Center in the basement of the Prime Minister's Office as members of the Emergency Operations Team. There, they gathered information on the situations in disaster-stricken areas, considered measures required for evacuation, the procurement of supplies, material and equipment, discussed other ways to assist the victims, and issued instructions and requests to staff in relevant government departments.

One problem encountered was that cellphones could not ordinarily be used in the Prime Minister's Office's basement, due to information security concerns. This made it very difficult to gather information on the accident rapidly and freely using a cellphone. Furthermore, after the earthquake, communication lines were in gridlock because information was being sought, and other communications were being needed at the same time, regarding not only the nuclear accident but also the earthquake and tsunami. This made it very difficult to use fax machines, too, to gather information on the Fukushima NPS accident from the relevant ministries and agencies.

As will be described in (4) below, after the earthquake and tsunami Prime Minister Kan and other

members of the Crisis Management Center were on the fifth floor of the Prime Minister's Office. There, in the Prime Minister's executive office and the rooms next to it and nearby, members examined and made decisions regarding the establishment of evacuation areas, taking into account the current situation and future trends at facilities in Fukushima Dai-ichi NPS. However, the members of the Emergency Operations Team were not fully aware of this process and its development.

It was in this environment, in the evening of March 11, that some government ministry and agency staff in the Crisis Management Center in the basement developed a system for sharing documents online, without the use of fax machines, by using server services that had been working among ministries, agencies and the Prime Minister's Office before the earthquake. Then, on March 13, members of the Emergency Operations Team in the Prime Minister's Office basement began obtaining information from TEPCO head office, and by communicating with TEPCO head office via the several TEPCO personnel who had been dispatched to the Crisis Management Center in the Prime Minister's Office basement. Then beginning around March 20, senior TEPCO executives joined the main table of the Emergency Operations Team.

(4) The Fifth Floor of the Prime Minister's Office

As explained in (2) above, very soon after the earthquake struck at 14:46 on March 11, NISA Director-General Terasaka joined the Crisis Management Center in the basement of the Prime Minister's Office as a member of the Emergency Operations Team. After a while, Prime Minister Kan asked, through a Cabinet Secretariat staff member, that he come to the 5th floor of the Prime Minister's Office, to explain what was happening at the Fukushima Dai-ichi NPS.

At that office, the Prime Minister asked him for that explanation, and also asked TEPCO to send him people who could also explain the situation. TEPCO responded by dispatching four people to the Prime Minister's Office to provide an explanation: TEPCO Fellow Takekuro, the competent TEPCO department head, one engineer, and one office staff member.

However, TEPCO Fellow Takekuro and other TEPCO executives had not received any detailed information, either, on the situation of the Fukushima Dai-ichi NPS. All they could do was give a general explanation as follows: (i) if the situation worsened, water levels would drop and in a relatively short period of time the fuel would get damaged; (ii) the battery life for the isolation condensers (IC) and the reactor core isolation cooling system (RCIC), which made up the core cooling systems for

Reactor Units 1, 2 and 3, was about eight hours; and (iii) during that period, it would be necessary to ensure a supply of electricity and inject water continually into the reactor. Further explanations were basically limited to a simple statement that the company's response at the moment was arranging for power-supply vehicles.

Later the same day, between 20:00 and 21:00, NSC Chair Madarame, NISA Vice Director-General Hiraoka¹³ and TEPCO Fellow Takekuro assembled on the 5th floor of the Prime Minister's Office and, together with cabinet members of relevant ministries and others, discussed matters and, as explained in Chapter V 3 (1) below, decided to establish an evacuation area with a radius of 3 km from the Fukushima Dai-ichi NPS, and an in-house sheltering area with a radius of from 3 to 10 km from the NPS. Later, too, all or some of the above-mentioned members conferred on the 5th floor of the Prime Minister's Office, discussing changes to the evacuation areas, concrete measures for inside the Fukushima Dai-ichi NPS (water injections into the reactors, pressure venting, etc.), and logistic support for the procurement of supplies and equipment required for those measures.

By around March 13, Yutaka Kukita, Deputy Chair of the Nuclear Safety Commission of Japan ("NSC Deputy Chair Kukita"), Hisanori Nei, NISA Deputy Director-General ("NISA Deputy Director-General Nei," in charge of NPS safety and fuel cycles), engineers representing the plant manufacturers, and personnel from Japan Nuclear Energy Safety Organization (JNES, an independent administrative corporation) joined the deliberations from time to time.

The deliberations were also joined in the afternoon of March 13 by Masaya Yasui, who had urgently been appointed to NISA from his former position as a manager in the Agency for Natural Resources and Energy of METI. His presence alternated with that of NISA officials Vice Director-General Hiraoka and Deputy Director-General Nei.

Prime Minister Kan did not join often in these deliberations, although at certain times, such as when major changes were seen in the NPS situation, he would receive reports from METI Minister Kaieda, NSC Chair Madarame and others with regard to the ongoing situation and the results of brainstorming sessions.

Information gathered at the Crisis Management Center in the basement of the Prime Minister's

¹³ After the first NERHQ meeting ended (at 19:22), NISA Vice Director-General Hiraoka took over from NISA Director-General Terasaka, responding to the accident as part of the Emergency Operations Team in the basement of the Prime Minister's Office.

Office, regarding the Fukushima Dai-ichi NPS, was transmitted to the 5th floor, and in addition, the same type of information was obtained from direct sources when necessary, with TEPCO Fellow Takekuro and others from the company telephoning to TEPCO head office, Fukushima Dai-ichi NPS Site Superintendent Yoshida and others, and with Goshi Hosono, Special Advisor to the Prime Minister (“Special Advisor Hosono”), telephoning directly to Yoshida. The Prime Minister, Chief Cabinet Secretary Yukio Edano and others also telephoned Yoshida directly to learn more about the NPS situation and ascertain his views.

During these deliberations on the 5th floor of the Prime Minister’s Office, efforts were being made to do more than simply gathering information on the NPS situation — the deliberations also used the information that had been received to consider various directions the situation could take, and the types of responses that would have to be taken, depending on those possible directions. The results of these deliberations were conveyed to TEPCO head office and Fukushima Dai-ichi NPS Site Superintendent Yoshida by telephone, mainly by TEPCO Fellow Takekuro or a TEPCO department head, sometimes with advice setting out what was thought to be the best way to proceed (for example, regarding such issues as whether to inject seawater into the reactor units, and which reactor units should be given priority for water injections).

In almost every instance, Yoshida had already come to a decision regarding the issue for which he was receiving advice, and was already taking concrete steps based on his decision, or was about to do so. So the advice had little influence on decisions regarding specific measures being taken at the accident site. There were, however, a number of instances when measures, which TEPCO head office and Yoshida thought necessary, conflicted with the advice they were receiving, but in those cases they went along with the advice nevertheless, taking it seriously as instructions from the Prime Minister’s Office. So in those cases, the advice did influence decisions regarding specific measures for the accident site (See Chapter IV 4 (1) (c) below regarding the injection of seawater into Reactor Unit 1, Chapter IV 5 (1) (d) regarding depressurization and water injections at Reactor Unit 2, and Chapter IV 4 (2) (d) regarding the injection of fresh water into Reactor Unit 3).

Because of their purpose, the 5th floor deliberations needed information on the situation at the Fukushima Dai-ichi NPS and the work conditions there. TEPCO Fellow Takekuro and other company executives participating in the meetings felt it was expected of them to obtain this type of information and be able to understand it, but in actual fact, the company had not expected to report directly to the

Prime Minister's Office or dispatch liaison personnel there, although it had assumed that their relationship with the Government would involve reporting to NISA while responding to the nuclear emergency. And, although TEPCO sent Takekuro to the Residence, after receiving the request from there subsequent to the earthquake and tsunami, it assumed at the time that he would go only for a short while to explain the Fukushima Dai-ichi NPS situation. The company had not thought he would remain there, continually serving as a liaison officer for the Prime Minister's Office.

Thus, the arrangement for communicating information between the Prime Minister's Office and TEPCO head office did not develop through genuine mutual understanding of the roles of the two parties. This led to TEPCO Fellow Takekuro and other company executives taking on a liaison role on the 5th floor and depending for a while only on the cellphones they had brought with them, to obtain essential information on the Fukushima Dai-ichi NPS.

As a result, the information they did obtain was limited. During the initial stage of the accident, members participating in the deliberations on the 5th floor felt they were not getting enough information on the Fukushima Dai-ichi NPS situation. For example, Takekuro and other TEPCO executives first learned about the hydrogen explosion in the reactor building of Unit 1 at 15:36 on March 12 from a television report, and they continued to experience difficulty obtaining information.

When TEPCO Fellow Takekuro returned to his company's head office that night, he pointed out the need to improve ways to transmit information between TEPCO head office and the Prime Minister's Office. To answer this need, the next morning (the 13th) the head office sent three of its personnel as liaison staff to the Prime Minister's Office with fax machines and computers. These being installed, the transfer of information between the two locations was improved.

When not participating in deliberations on the 5th floor, NISA and TEPCO executives stayed standby in a waiting room on the same floor for the deliberation sessions — held generally at intervals of every one or two hours. In the morning of the 14th, they moved to a different room on the 2nd floor, where telephones and fax machines of TEPCO were installed. From then, this room functioned as a liaison information point between TEPCO and the Prime Minister's Office.¹⁴

(5) Response of the Nuclear Safety Commission of Japan

After the earthquake at 14:46 on March 11, the NSC sent group emails to the members of the

¹⁴The Investigation Committee continues examining the response taken on the 5th floor of the Prime Minister's Office.

Emergency Technical Advisory Body, asking them to remain on stand-by, and dispatched one member of the NSC Secretariat to the ERC to serve as a liaison staff member. Later, at 15:59 the same day, the NSC learned from that member that an Article 10 Notification had been issued. The NSC therefore held an extraordinary meeting at 16:00 the same day, where it established the Emergency Technical Advisory Body.¹⁵ Thereafter, the NSC held Emergency Technical Advisory Body meetings on a regular basis, and established arrangements enabling it to respond to unexpected situations.¹⁶

The NSC also began preparing to send one NSC commissioner and one Secretariat staff member together with NISA personnel to the Off-site Center, in accordance with provisions in the Basic Plan for Emergency Preparedness (see 5 (1) (a) below). However, because of the limited capacity of people for transportation, only the Secretariat staff member could travel.

At around 18:00 on March 11, NSC Chair Madarame and Akihiko Iwahashi, the Secretary General of the NSC Secretariat (“NSC Secretary General Iwahashi”), attended the first NERHQ meeting at the Prime Minister’s Office, upon request. After the meeting, upon return to the NSC Secretariat, they were called back once again to the Prime Minister’s Office. After that, Madarame joined deliberations on the 5th floor of the Prime Minister’s Office (as explained in (4) above), and accompanied the Prime Minister to visit the Fukushima Dai-ichi NPS.¹⁷ Also as explained in (4) above, NSC Deputy Chair Kukita also participated in some deliberations on the 5th floor of the Prime Minister’s Office.

At his Office, Prime Minister Kan asked NSC Chair Madarame and NSC Deputy Chair Kukita for advice on a wide range of issues, especially response at the NPS.¹⁸ It was only after giving advice pertaining to matters specified in Article 20 (6) of the Nuclear Emergency Preparedness Act that the advisors received the approval of the NSC to do so.

¹⁵ The Basic Plan for Emergency Preparedness states that if the NSC receives from a government ministry or agency responsible for security a report containing notification of the occurrence of a specific event, it should immediately convoke the Emergency Technical Advisory Body and dispatch pre-designated NSC commissioners and advisors to the site for emergency responses.

¹⁶ The NSC Secretariat asked for the cooperation of 25 advisors for emergency responses, but because of the poor traffic situation after the earthquake, only four of them assembled in the NSC on March 11.

¹⁷ NSC Secretary General Iwahashi was initially not authorized to join deliberations on the 5th floor. He stayed standby in a separate room in the basement. Later, he attended some deliberations. Beginning on March 15, he stayed in the Crisis Management Center in the basement as a member of the Emergency Operations Team participating in accident responses.

¹⁸ According to the Act for Establishment of the Atomic Energy Commission and the Nuclear Safety Commission, and the Nuclear Emergency Preparedness Act, the NSC is designated as an entity whose role is to provide advice and recommendations. For example, if a nuclear emergency occurs and the Prime Minister, as NERHQ Director-General, requests, the NSC is expected to offer its advice and recommendations to him/her (See Article 20 (6) of the Nuclear Emergency Preparedness Act, and Article 24 of the Act for Establishment of the Atomic Energy Commission and the Nuclear Safety Commission).

As explained above, until around March 15, NSC Chair Madarame and NSC Deputy Chair Kukita spent much time stationed at the Prime Minister's Office. When the NSC received requests for advice from other bodies, another three NSC commissioners¹⁹ and members of the Emergency Technical Advisory Body dealt with them.

(6) Response of Other Government Bodies, etc.

On March 16, Prime Minister Kan appointed Professor Toshiso Kosako of the University of Tokyo to the position of Special Advisor to the Cabinet ("Special Cabinet Advisor Kosako"). Kosako joined with Seiki Soramoto, a House of Representatives member ("House of Representatives member Soramoto", a member of the Democratic Party of Japan) and others to form a private-initiative Advisory Team. The team launched its efforts using mainly the offices in the Secretariat of the Atomic Energy Commission ("AEC") as their base.

This Advisory Team obtained documentation (primarily NPS information and monitoring data) mainly from the NERHQ via the AEC, and, using it, examined the responses to challenges both inside and outside the NPS, which it believed had not been covered by the government ministries, and compiled a number of recommendations.

The Advisory Team submitted its recommendations directly to competent bodies, both via Deputy Chief Cabinet Secretary Tetsuro Fukuyama and his official secretary. However, there was some confusion as to how those authorities should treat the recommendations, because no clear, legal relationship between Special Cabinet Advisor Kosako and the competent authorities had been established for nuclear emergency response.

The Advisory Team submitted about 60 recommendations to the competent authorities between March 16 and April 2. When the recommendations regarded as needed were made, the frequency of the Advisory Team meetings dropped gradually after the first week or so of April, and on April 29 Kosako resigned.²⁰

On March 28, with a view to enhance the function of the NSC Secretariat, the Government

¹⁹ One of the three NSC commissioners, Shizuyo Kusumi, was out of the country on official business. She returned in the late evening of March 12.

²⁰ From early April until his resignation on April 29, Special Cabinet Advisor Kosako spent most of his time for inspecting the situation in Fukushima Prefecture, and for compiling a report describing the activities of the Advisory Team. He submitted the report to the Government when he resigned.

appointed Professor Kenkichi Hirose of the International Student Education Center of Tokai University to the position of Cabinet Office Councilor (“Cabinet Office Councilor Hirose”). Using the NSC Secretariat as his base, he worked primarily in establishing the designated evacuation areas (see Chapter V 3 (2) (d) below) and the Environmental Monitoring Enhancement Plan (see the footnote for Chapter V 1 (2) (a)), and in estimating total emissions of radioactive substances (See Chapter V 7 (2) (c) below).

On March 29, the Government established the Nuclear Sufferers Life Support Team, headed by METI Minister Kaieda, and on April 11 it established the Headquarters for Measures Against the Economic Impact Caused by the Nuclear Power Station Incident, headed by the same minister. Then on April 15 Special Advisor Hosono assumed the role of Special Advisor to the Prime Minister responsible for response activities and public relations regarding the overall NPS accident situation.²¹

Almost two months after the earthquake, the need of reconstruction efforts was getting recognized within the Government — in addition to continuing efforts to respond to the disasters. A complicated organizational system and unclear lines of authority were also its concern, with many bodies going by the name “Headquarters,” for example. On May 9 there was a restructuring of the organizational system for earthquake and NPS accident response.²²

(7) Actions of Nuclear Safety Inspectors Responsible for Inspections at Fukushima Dai-ichi NPS

When the earthquake occurred at 14:46 on March 11, NISA personnel — all seven nuclear safety resident inspectors attached to the Fukushima Dai-ichi Nuclear Safety Inspectors’ Office and one NISA staff member — were on the grounds of the Fukushima Dai-ichi NPS to conduct a periodic reactor check. Three of the safety inspectors went back to the Off-site Center to establish a Local Nuclear Emergency Preparedness Headquarters, while the other five personnel remained on the NPS grounds, and stayed in the seismic isolation building, where they gathered information and reported to NISA.

From that time until before dawn of March 12, radiation dose readings rose on the NPS grounds,

²¹ On June 27, Hosono was appointed as State Minister in charge of Nuclear Accident Settlement and Prevention.

²² As a result of this restructuring, only three bodies retained the name “Headquarters”: the Emergency Disaster Response Headquarters for earthquake response, the NERHQ for response to the nuclear emergency situation, and the Organized Response Headquarters for Reconstruction. With regard to other bodies responding to the nuclear emergency, the Integrated Headquarters for Responses to the Incidents at the Fukushima Nuclear Power Stations (see 4 (2) below) was renamed as the Government – TEPCO Integrated Response Office, and the Headquarters for Measures against the Economic Impact caused by the Nuclear Power Station Incident was renamed as the Support Team to Counter the Economic Impact Caused by the Nuclear Power Station Incident, and these two bodies were placed under the jurisdiction of the NERHQ, together with the Nuclear Sufferers Life Support Team.

leading to further restrictions in access to the seismic isolation building. For communicating with NISA, the personnel had been using the satellite telephone in the security vehicle belonging to the Fukushima Dai-ichi Nuclear Safety Inspectors' Office, which was parked outside the building, but as radiation dose readings rose, the access to the vehicle became difficult, making communications impossible with that phone. Therefore, at around 5:00 on March 12, the above-mentioned five personnel decided to evacuate from the NPS to the Off-site Center, upon consent of the Director of the Nuclear Emergency Preparedness Division of NISA, who was at the ERC at that time.

Before dawn of March 13, METI Minister Kaieda instructed NISA personnel to be dispatched to the accident site and supervise the injection of water into the nuclear reactors. The NERHQ Secretariat in the ERC conveyed this instruction to the Local NERHQ.

In the Local NERHQ, there was some concern that no nuclear safety inspectors had been at the Fukushima Dai-ichi NPS since the previous day. The decision was therefore made to send the four inspectors who had been on the NPS grounds by March 12 back there. The four of them took up their posts within the grounds again at about 7:40 on the 13th, and took turns in shifts, gathering information and reporting to the Off-site Center.

The four inspectors who had been sent back to the NPS were stationed in the seismic isolation building in a room next to the Emergency Action Room. There, they received plant situation check sheets from TEPCO personnel, and sent the information therein to the Plant Squad of the Local NERHQ in the Off-site Center, using in-house personal handy-phone system (PHS) phones, on loan from TEPCO. However, they never left the seismic isolation building to verify the situation at the water injection site.

Local NERHQ Plant Squad personnel compiled the information reported from the four nuclear safety inspectors at intervals of about once an hour, and transmitted it to the Local NERHQ General Affairs Squad and the NERHQ Secretariat's Plant Squad.

At around 11:00 of March 14, there was an explosion in the reactor building of Unit 3, followed by a worsening situation in Unit 2. Under such development, the four inspectors got concerned in the afternoon that they could be in danger if they continued to stay on the NPS grounds, so they asked the Local NERHQ for instructions regarding evacuating to the Off-site Center. Not receiving a definite answer, at around 17:00 they decided to evacuate, communicated this decision to the Local NERHQ,

and evacuated to the Center.²³

On the next day, the 15th, all nuclear safety inspectors responsible for inspections at Fukushima Dai-ichi NPS, including the above-mentioned four, were transferred along with other Off-site Center personnel to offices at the Fukushima Prefecture government building (See Chapter 5 (3) below regarding the Off-site Center relocation to the prefectural government building)²⁴.

3. Response Taken by Fukushima Prefectural Government after the Accident

The Fukushima Prefectural Government building became unusable due to the earthquake at 14:46 on March 11. Essential equipment and supplies were moved to the 3rd floor of the adjacent Fukushima Prefecture Jichi Kaikan (“Local Government Hall”), where the Fukushima Prefectural Emergency Response Headquarters (“Prefectural Emergency Response HQ”) was established with the Fukushima Prefecture Governor as director-general. The Prefectural Emergency Response HQ began efforts to ascertain the safety of personnel, while gathering information on Fukushima Dai-ichi and Dai-ni NPS, with the staff in the Nuclear Power Safety Division at its core.

Later, at around 15:40 the same day, personnel from TEPCO Fukushima office visited the Local Government Hall (the two places are four or five minutes away from each other on foot), and reported that the Fukushima Dai-ichi NPS had lost all AC power. The competent prefectural government personnel then explained the situation to Yuhei Sato, the prefecture’s governor (“Fukushima Prefecture Governor Sato”) and other officials, and continued to obtain further information through TEPCO Fukushima office. They made preparations for their nuclear emergency response by retrieving materials such as nuclear emergency response manuals, as well as supplies and equipment, including satellite telephones from the damaged prefectural government building.

During that response, the Prefectural Emergency Response HQ obtained information regarding the two NPS mainly through TEPCO Fukushima office. Contact between these two locations was maintained primarily through use of the above-mentioned satellite phones and by TEPCO personnel

²³ Later, beginning on March 22, nuclear safety inspectors at Fukushima Dai-ichi NPS took a shift system while being stationed at the NPS and J-Village. They send reports on a regular basis regarding the accident site situation to the Off-site Center and ERC.

²⁴ At the Fukushima Dai-ni NPS, in the meantime, two nuclear safety inspectors attached to the Fukushima Dai-ni NPS Nuclear Safety Inspectors’ Office took up their post in the Emergency Action Room in the facility’s seismic isolation building, immediately after the March 11 earthquake. Even after the Local NERHQ was relocated to the Fukushima Prefecture government building on March 15, they continued accident response in the Emergency Action Room of the Fukushima Dai-ni NPS.

carrying copies of documents, many of them related to the NPS, on foot to the Local Government Hall.

At around 16:40 that same day, the Prefectural Emergency Response HQ received a report from the Fukushima Dai-ichi NPS stating that an Article 15 emergency situation had occurred at 16:36 the same day. The HQ continued to gather information, especially concerning the Fukushima Dai-ichi NPS.

Chief Cabinet Secretary Edano announced, during his press conference at around 19:46 the same day that the Government had issued a declaration of the nuclear emergency situation at 19:03 the same day. Upon declaration, Fukushima Prefecture government officials began examining the need to issue an evacuation directive to residents near the Fukushima Dai-ichi NPS. At 20:50 the same day, Fukushima Prefecture Governor Sato directed residents of Okuma-town and Futaba-town to evacuate the area within a 2-km radius of the Fukushima Dai-ichi NPS. In addition, prefectural government officials held their first press conference after the accident and announced that this directive had been issued (See Chapter V 3 (1) (a) below).

After the evacuation directive was issued, Masao Uchibori, the Vice-Governor of Fukushima Prefecture (“Fukushima Prefecture Vice-Governor Uchibori”) left the Local Government Hall for the Off-site Center to assume responsibility for accident response measures there, in accordance with provisions in the Fukushima Prefecture Local Disaster Response Plan. He arrived there at around 23:00 the same day.

4. TEPCO’s Response after the Accident

(1) Initial Response of TEPCO’s Head Office and Fukushima Dai-ichi NPS

The earthquake at 14:46 on March 11 caused seismic activity of a seismic intensity of 6.0 weak in Fukushima and broad areas of TEPCO’s service network. TEPCO head office, and its branches and power generating stations in the affected area automatically entered a Level 3 state of emergency, as stipulated in the company’s emergency action plan (See 1 (5) above, regarding the TEPCO’s emergency preparedness system during a disaster).

Once the seismic vibrations had ceased at the Fukushima Dai-ichi NPS, personnel there evacuated to the parking lot in front of the main office building, which had been designated as an evacuation spot. There, Emergency Planning & Industrial Safety Department personnel ascertained the safety of station

personnel.²⁵

By around 15:00 on March 11, about 400 of TEPCO employees, including emergency measures personnel of the Fukushima Dai-ichi NPS, gathered in the emergency action room on the 2nd floor of the seismic isolation building besides the main office building. The Emergency Response Center was established there, and earthquake response measures were begun.

This Emergency Response Center at the Fukushima Dai-ichi NPS contacted the main control room for Units 1 and 2 and the main control room for Units 3 and 4, to verify with the staff on duty there whether Units 1, 2 and 3 had shut down automatically (scrammed). They then ordered verifications to determine whether the power supply system or other equipment had sustained damage.

At the TEPCO head office, loudspeaker announcements throughout the building and the automatic call-up system were used to muster emergency response personnel. At 15:06 on March 11, about 200 personnel assembled in the emergency action room on the 2nd floor of TEPCO head office. There, an emergency response center was established, and efforts began to learn about possible earthquake damage to all TEPCO offices and to restore power to places experiencing a blackout.

Beginning almost immediately after the earthquake, TEPCO head office dispatched its staff to the Government Office Liaison Team at the ERC and established mechanisms for reporting to, and communicating with, NISA. With the exception of notifications from Fukushima Dai-ichi NPS Site Superintendent Yoshida to the Government mandated by the Nuclear Emergency Preparedness Act, the only reports that TEPCO had scheduled to do were to the one to NISA (the ERC), the government agency responsible for safety issues. However, after TEPCO Fellow Takekuro and other company executives were called to the Prime Minister's Office in the evening of March 11, as explained in 2 (4) above, it was arranged that the Office would receive information directly from TEPCO, without having it pass through NISA (the ERC). This led to the dispatch of several new government office liaison personnel from TEPCO, beginning on March 13, and a strengthening of liaison mechanisms at the Prime Minister's Office.

Also, as soon as the Emergency Response Centers were established in TEPCO head office and the Fukushima Dai-ichi NPS, arrangements were made to enable information sharing and transmission via the company's in-house videoconferencing system. Before the dawn of March 12, the system made it

²⁵ Personnel at the Fukushima Dai-ichi NPS had conducted an evacuation drill about one week before the earthquake, so they had a good understanding of evacuation routes and no major confusion was experienced.

possible to transmit information to and from the Off-site Center as well, although there was no connection with the ERC (See 2 (2) above).

At 15:42 on March 11, Fukushima Dai-ichi NPS Site Superintendent Yoshida deemed that a specific event as defined in Article 10 (1) of the Nuclear Emergency Preparedness Act had occurred (a total loss of AC power), and notified the TEPCO head office, relevant government offices and local governing bodies (“government offices, etc.”) of this fact. Upon receiving this report, the TEPCO head office and the Fukushima Dai-ichi NPS each established their own emergency response centers for nuclear disasters (at the head office and at the station), as set out in their emergency action plan. These were integrated with the pre-established Emergency Response Centers (Headquarters). (The headquarters at the head office became the “Emergency Response Center at the head office,” while that at the Fukushima Dai-ichi NPS became the “Emergency Response Center at the Station.”)

At 16:36 the same day, when personnel at Fukushima Dai-ichi NPS were unable to verify water levels in Reactor Units 1 and 2, Fukushima Dai-ichi NPS Site Superintendent Yoshida deemed that a specific event as defined in Article 15 (1) of the Nuclear Emergency Preparedness Act had occurred (an inability to inject water using an emergency core cooling system), and from around 16:40 until around 16:45 the same day he reported this fact to government offices, etc. As a result, the Emergency Response Centers at the head office and at the NPS changed the situation designation to a Level 2 State of Emergency for a nuclear disaster, as called for in the emergency action plan.

The Emergency Response Center at the head office used its in-house videoconferencing system and shared the reports from on-site workers at the Fukushima Dai-ichi NPS and its environs almost as soon as the reports reached the NPS Emergency Response Center in the seismic isolation building. And almost at the same time, it was able to use the system to obtain the same information and confer with Fukushima Dai-ichi NPS Site Superintendent Yoshida and his staff, with regard to response methods and other issues. Even so, final decisions regarding on-site response methods were basically left up to Yoshida, the person most immediately responsible for the NPS (See 2 (4) above for the possible influence that advice from the Prime Minister’s Office might have had on Yoshida’s decision-making process).

(2) Establishment of the Integrated Headquarters for Response to the Incidents at the Fukushima Nuclear Power Stations

a. Developments leading up to establishment of the Integrated Headquarters

During the night of March 14, Fukushima Dai-ichi NPS Site Superintendent Yoshida came to believe that the damage to the pressure vessel and primary containment vessel (“PCV”) of Unit 2 had deteriorated to the point where there were strong fears that harm could come to many of TEPCO employees and contract company’s workers, and therefore that, except for minimum staff required for each unit control at the Fukushima Dai-ichi NPS, other workers on the grounds should evacuate away from the NPS. He consulted with the Emergency Response Center at the head office and shared his opinion on the matter.

During that same night on March 14, Masataka Shimizu, TEPCO President (“TEPCO President Shimizu”), was informed by Sakae Muto, the company’s vice-president (“TEPCO Vice-President Muto”), that Yoshida was proceeding with on-site responses while considering the possibility of evacuation, as mentioned above, if the circumstances so warranted, leaving only essential personnel behind for plant control. Shimizu telephoned NISA Director-General Terasaka before dawn on March 15, and reported that the situation at Unit 2 was grave, and that if it became progressively worse he was considering the possibility of evacuation.

During this conversation, Shimizu was under the presumption that he would of course leave personnel required to control the plant there,²⁶ although he did not go as far as to clearly state this.

Cabinet ministers of relevant ministries, fearing that TEPCO would evacuate all personnel from the Fukushima Dai-ichi NPS, assembled NSC Chair Madarame, Crisis Management Deputy Chief Ito, and NISA’s Yasui on the 5th floor of the Prime Minister’s Office before dawn on March 15.

There, it was explained that TEPCO President Shimizu had telephoned and said that he wished to abandon efforts to control the plants at the Fukushima Dai-ichi NPS and to have all personnel evacuate. The question was then asked, if all personnel were to evacuate, what type of situation would arise at the NPS? Everyone assembled there was of the same mind — the evacuation of all personnel could not be accepted.

²⁶ Around 20:20 on March 14, TEPCO President Shimizu used the company’s videoconferencing system to tell Fukushima Dai-ichi NPS Site Superintendent Yoshida that the question of whether to evacuate or not was still at the discussion stage, and that no final decision had been made. His intention was for them to achieve unanimity of mind regarding the issue.

Upon hearing the report, Prime Minister Kan summoned TEPCO President Shimizu to the 5th floor of his Prime Minister's Office at around 4:00 the same day and, in the presence of Cabinet ministers of relevant ministries, NSC Chair Madarame, Crisis Management Deputy Chief Ito and NISA's Yasui, asked Shimizu whether TEPCO intended to evacuate the Fukushima Dai-ichi NPS. When Shimizu heard the word "evacuate," he interpreted the Prime Minister's question to be whether he (Shimizu) would have all personnel leave the NPS entirely and abandon plant controls. He was not thinking of evacuation in that sense, so clearly stated, "That's not what we're thinking." Upon hearing this, the Prime Minister proposed that the Government and TEPCO establish an integrated response headquarters to ensure rapid sharing of information between the two parties, and to promote measures targeting an end to the Fukushima Dai-ichi NPS accident. Shimizu agreed with the Prime Minister's proposal, realizing that it was essential to develop effective communication channels with the Prime Minister's Office.

At around 5:30 the same day, the Prime Minister and other officials visited the Emergency Response Center at the TEPCO Headquarters on the 2nd floor of its head office and announced to people assembled there — TEPCO Chairman Tsunehisa Katsumata, TEPCO President Shimizu, TEPCO Vice President Muto, other TEPCO executives, and company employees — the establishment of the Integrated Headquarters for Response to the Incidents at the Fukushima Nuclear Power Stations ("Integrated Headquarters"), with himself as Director-General of the Headquarters and METI Minister Kaieda and TEPCO President Shimizu as Deputy Directors-General.

This Investigation Committee intends to continue examining the process leading up to the establishment of that integrated Headquarters. The examination will include learning more from those involved.

b. Activities of the Integrated Headquarters for Response to the Incidents at the Fukushima Nuclear Power Stations

Noticing, upon his arrival, many TEPCO personnel being assembled at the Emergency Response Center at the head office (soon to become the Integrated Headquarters), Prime Minister Kan asked that a small meeting room be prepared for a few people. In a room across the corridor from the Integrated Headquarters (TEPCO head office Emergency Response Center), TEPCO Vice-President Muto and other TEPCO executives explained the situation at each unit at the Fukushima

Dai-ichi NPS to the Prime Minister.

After that, a headquarters meeting was held in the Integrated Headquarters. Representing the Government were METI Minister Kaieda, Special Advisor Hosono, several Diet members from the governing party, and personnel from the Ministry of Foreign Affairs, NISA, the Self-Defense Forces and the Tokyo Fire Department. They were joined by personnel from the Ministry of Economy, Trade and Industry. Using TEPCO's in-house videoconferencing system, information was shared with the TEPCO head office, the Fukushima Dai-ichi NPS and the Off-site Center, regarding the plant situation and the progress of efforts being taken there.

In addition to holding meetings, the Integrated Headquarters set up a number of Special Project Teams beginning around the latter part of March. And, beginning on April 1, representatives from the Government and TEPCO joined those teams, with Special Advisor Hosono serving as Executive Leader. A number of Diet members from the governing party also participated in the teams. Each team examined issues on a regular basis, and joined together to hold plenary meetings to review their results.²⁷ NISA personnel also joined the various teams to ensure an ongoing authorization process promoting the smooth implementation of efforts the various teams had decided upon.

On April 25, the Government and TEPCO began harmonizing the information they provided, and the Integrated Headquarters began organizing press conferences, to promote accuracy and transparency.

Some people, who had participated in deliberations on the 5th floor of the Prime Minister's Office, and some members of the Emergency Response Center at the TEPCO head office, have stated that Government-TEPCO communications became smoother after the establishment of the Integrated Headquarters.

²⁷ On March 27, the following four teams were set up: the RHR Alternative Function and Recovery Team (to examine alternative functions for residual heat removal); the Turbine Building Wastewater Collection and Decontamination Team; the Radioactive Substance Atmospheric Emissions Reduction Team; and the Safety Assessment Team. Then, beginning on April 1, in line with Integrated Headquarters restructuring, those four teams were reorganized into six teams: the Radiation Shielding and Radioactive Substance Emissions Reduction Team; the Radioactive Fuel Removal and Transport Team; the Remote Control Team; the Long-term Cooling Development Team; the Radioactive Retained Water Collection and Disposal Team; and the Environmental Impact Assessment Team. Then on April 18, one of these six teams, the Radiation Shielding and Radioactive Substance Emissions Reduction Team, was reorganized as the Mid- to Long-term Countermeasures Team. And on July 25, three teams out of six, namely, the Mid- to Long-term Countermeasures Team, Radioactive Fuel Removal and Transport Team, and Remote Control Team were integrated into a new Mid- to Long-term Countermeasures Team, and a new Radiation Control and Health Management Team was established.

5. Response of the Off-site Center After the Accident

(1) Situation at the Off-site Center After the Accident

a. Assembly of personnel at the Off-site Center

As explained in 2 (7) above, when the earthquake occurred at 14:46 on March 11, NISA personnel — all seven resident nuclear safety inspectors attached to the Fukushima Dai-ichi Nuclear Safety Inspectors' Office and one NISA staff member — were on the grounds of the Fukushima Dai-ichi NPS. After the earthquake, three of the inspectors, including the office chief, returned to the Fukushima Dai-ichi Nuclear Inspectors' Office, and upon learning about the Article 10 Notification that was issued at 15:42, they established the Local Nuclear Emergency Preparedness Headquarters in the Off-site Center, located in the same building housing the Fukushima Dai-ichi Nuclear Inspectors' Office.

A power failure was experienced at the Off-site Center due to the earthquake, and this jump-started the emergency generators. However, the pump for getting fuel from the emergency power supply system's fuel tank was broken due to the seismic impact, and as soon as the fuel from the reserve tank run out the Center lost again electricity. As a result, personnel who had assembled at the Center relocated to the Environmental Radioactivity Monitoring Center of Fukushima ("Radioactivity Monitoring Center") next to the Off-site Center building, with the exception of a few people.

Meanwhile, when METI learned of the Article 10 Notification issued at 15:42 on March 11, it decided at around 16:00 the same day to dispatch to the Off-site Center Motohisa Ikeda, Senior Vice Minister of METI ("METI Senior Vice-Minister Ikeda,"), who was to serve as the Ministry's local emergency preparedness headquarters director-general, in conformity with METI's emergency action plan.

Ikeda left for there by motor vehicle at around 17:00, together with accompanying six government personnel, but traffic congestion caused by the earthquake and other factors made it impossible for them to leave the metropolitan area. They therefore decided to travel by a Self-Defense Forces helicopter, and took off on an SDF helicopter from the Ministry of Defense at 21:03 the same day, arriving at the Off-site Center at around midnight of the 12th.

During the night of March 11 and into the 12th, personnel from the Self-Defense Forces, the Japan Atomic Energy Agency (JAEA), the National Institute of Radiological Sciences, the Nuclear

Safety Technology Center, and the Japan Chemical Analysis Center, along with Fukushima prefectural government personnel including Vice-Governor Uchibori, assembled at the Off-site Center.

In addition, very soon after the earthquake, TEPCO decided to send four of its own personnel, including Vice President Muto, to the Off-site Center. After completing an inspection of Fukushima Dai-ichi and Dai-ni NPS, and a briefing to local municipal bodies, these four arrived at the Off-site Center before dawn on the 12th.

At around 1:00 the same day, the power supply for the Off-site Center was restored. A while after 3:00 the same day Center personnel moved back to the Off-site Center building from the Radioactivity Monitoring Center, and began their accident response activities there.

The Government's Nuclear Emergency Response Manual and other directives specify that ministries and agencies responsible for accident response are to dispatch their personnel to the Off-site Center, but during the accident under review no ministry or agency initially sent any of their personnel, except for NISA, MEXT, the NSC, and the Ministry of Defense (Self-Defense Forces). As a case in point, the Manual specifies that the Ministry of Health, Labour and Welfare is to dispatch to an Off-site Center its competent personnel who is to serve as the chief of the Medical Squad of the local NERHQ, but the Ministry did not do so until March 21.²⁸

Also, six nearby municipalities (Hirono-town, Naraha-town, Tomioka-town, Okuma-town, Futaba-town and Namie-town) had been due to have personnel assemble at the Off-site Center, as called for in their local emergency response plans, but of these only Okuma-town did so. The other five municipalities were not in a position to send their personnel to the Center because of the damage they sustained due to the March 11 earthquake and tsunami, and because they were directing evacuation away from the area within the 3-km radius of the Fukushima Dai-ichi NPS, as called for by instructions issued at 21:23 that day.

b. Condition of communications equipment at the Off-site Center

As described in 1 (4) above, when the earthquake occurred on March 11, the Off-site Center was

²⁸ When asked about this, the Ministry replied that although it was aware that the Government's Nuclear Emergency Response Manual stipulated the dispatch of personnel to an Off-site Center, and of the need to do so, it was hard-pressed to do so because of other tasks, and sending personnel took time because of poor transportation conditions caused by the earthquake.

equipped with the Government-managed communications circuitry, which consisted of an ordinary telephone circuit, dedicated circuitry connecting the Center primarily to the Prime Minister's Office and the ERC,²⁹ and a satellite circuit. The satellite circuit provided connections with six satellite telephones (one fixed, three portable, and two vehicle-mounted).³⁰

From the time the earthquake occurred on March 11 by around noon the next day, all telecommunications circuits were inoperable³¹ except the satellite connection. As a result, Off-site Center personnel were unable to use the Government's videoconferencing system, the Emergency Response Support System (ERSS), the System for Prediction of Environmental Emergency Dose Information (SPEEDI), emails, the internet, or ordinary telephone/fax lines. Thus, telecommunication connections between the Off-site Center, the ERC and elsewhere depended only on the satellite connection.

As mentioned above, six satellite phones had been fixed at the Off-site Center, but one portable satellite phone had a poor connection, and the two vehicle-mounted satellite phones were in security vehicles parked outdoors at the Fukushima Dai-ichi Nuclear Safety Inspectors' Office. As radiation dosage rates rose in the vicinity of the Off-site Center, it became impossible to use them.

Therefore, to communicate with the ERC and elsewhere, Government personnel stationed in the Off-site Center used the one fixed satellite phone and two portable satellite phones. These satellite phones gave the Center four different communications channels: the fixed satellite phone had a mounted video screen to permit video calls, and the phone also permitted voice-only calls, fax transmission, and fax receiving. However, the satellite phones were originally meant only as a backup channel — the amount of data they could transmit was limited and transmission speed was slow, compared with what a regular or dedicated circuit would ordinarily provide.

Around March 13, satellite phones belonging to the Radioactivity Monitoring Center were taken to the nearby Off-site Center, and were then used by personnel from both the Fukushima prefectural

²⁹ This dedicated circuitry is used to transmit data for the Government's videoconferencing system (an in-government system connected primarily to the Off-site Center, the Prime Minister's Office, the ERC, and Fukushima prefectural government offices), for the Emergency Response Support System (ERSS), for the System for Prediction of Environmental Emergency Dose Information (SPEEDI), and for internet connections.

³⁰ The Government possessed one more portable satellite telephone. It had been placed in the Off-site Center, but before the earthquake occurred it was temporarily moved to the Fukushima Prefecture Government Office.

³¹ The Government's dedicated circuitry could not be used to transmit data after 16:43 on March 11, when the impact of the earthquake made circuit use impossible. The use of ordinary circuits was possible right after the earthquake, although they could not be used after the emergency batteries at the telephone company's base station in Okuma-town died at noon on March 12. Even before the batteries died, ordinary circuits were congested, making connections difficult.

government and the national government.

(2) Off-site Center activities

Personnel from the national and Fukushima prefectural governments joined forces at the Off-site Center to organize seven squads, each with a specific function (a General Affairs Squad, Radiation Squad, Plant Squad, Medical Squad, Resident Safety Squad, Public Relations Squad, and Administrative Support Squad). These squads' activities included obtaining information on the evacuation situation, public relations efforts for local residents, preparing for the distribution of a stable iodine agent, emergency monitoring, and corporal decontamination.³²

However, the impact of the Earthquake restricted communications channels as described above, and it led to other problems as well. For example, the Off-site Center had maps only for areas within the 10-km radius of the Fukushima Dai-ichi and Dai-ni NPS. When the prescribed evacuation area was expanded to the radius of 20 km from the Fukushima Dai-ichi NPS, the Resident Safety Squad was unable to designate the parameters of the mandated evacuation zone. And even when receiving questions from the relevant local municipal bodies it was unable to provide definitive answers. The Medical Squad had to look after the invalids and others who had been delayed in evacuating and who were transported temporarily for a short stay at the Off-site Center. These incidents demonstrated how the situation had expanded beyond expectations.

The Government's Nuclear Emergency Response Manual states that the Plant Squad at local NERHQs is to gather information from power generation plants and to consult with the NERHQ Secretariat in the ERC when making decisions regarding response at the plants. However, during the response to the accident under review, the Plant Squad was unable to obtain ERSS data (see Chapter V 2 (1) below), and could not obtain enough information on the plants. In addition, as explained in (1) (b) above, communication channels linking the Off-site Center with the ERC were limited to slow satellite connections, making it impossible to rapidly transmit even the information that had been collected.

Furthermore, the location of the Off-site Center was included within the evacuation area in the early morning of March 12, so it did not have direct interaction with the media.

³² Plenary meetings of representatives from each of these squads were held on a regular basis at the Off-site Center, to share information and to review and coordinate emergency response measures.

(3) Relocation of the Off-site Center (Local NERHQ) to Fukushima prefectural government office

As described above, some mustered personnel at the Off-site Center did implement accident response measures, but when the evacuation area was expanded the distribution of supplies stopped and, beginning around March 13, there were increasing shortages in food, water, fuel and other essentials at the Off-site Center in the evacuation area.

In addition, as the situation at the Fukushima Dai-ichi NPS regressed, radiation dosage began increasing in the vicinity of the Off-site Center and inside it as well. Immediately after the explosion at the reactor building of Unit 1, radiation dosage increased temporarily in the vicinity of the Off-site Center, and after the explosion at the Unit 3 building at 11:01 on March 14, radiation dosage rates rose also within the Center building, where air cleaning filters capable of shielding against radioactive substances had not been installed.³³

With radiation dose rates rising, the local NERHQ began discussing matters with the NERHQ Secretariat located in the ERC, examining whether it should relocate the Off-site Center (the local NERHQ). Then at around 22:00 on March 14, it sent an advance group to the Fukushima prefectural government office to prepare for relocation there.³⁴

Later, at around 10:00 on March 15, the decision was made to relocate, and around 11:00 the same

³³ In specific terms, hearings interviewing some of those involved elicited the following statements: after the Unit 3 building explosion at 11:01 on March 14, the outdoor dose rate rose to 800 $\mu\text{Sv/h}$, while the indoor rate rose to between several dozen and 100 $\mu\text{Sv/h}$. The next day, March 15, at around 9:00 the outdoor dose rate had risen to 2,000 $\mu\text{Sv/h}$ and above, and the indoor rate to between 100 and 200 $\mu\text{Sv/h}$.

Regarding the lack of air cleaning filters at the Off-site Center, in February 2009 the Ministry of Internal Affairs and Communications indicated in its “Recommendations based on the results of administrative evaluation and inspection of nuclear disaster prevention programs (Second Issue)” that a number of Off-site Centers, including the one in Fukushima Prefecture, had not established radiation exposure prevention measures by, for example, installing high-performance air filters. In response, after NISA received this recommendation, it developed a policy aimed at establishing ways to maintain air tightness at Off-site Centers and to control personnel access thereto, but no concrete steps — such as installing air cleaning filters — were taken. The NISA official responsible at the time stated, during hearings conducted by this Investigation Committee, that filters had not been installed because NISA had been of the opinion that (i) the ministry’s recommendation did not directly call for the installation of air filters; (ii) the Fukushima Prefecture Off-site Center’s concrete structure shielded it from radioactive substances, creating the expectation that it would reduce them sufficiently; (iii) not all radioactive substances can be removed with ordinary filters; and (iv) it was assumed at the time that if an accident were to occur at an NPS, the resulting radioactive plume would pass by in a short period of time, and if the period was short, then simply stopping the ventilation system would be the logical thing to do.

³⁴ As explained in 1 (4) above, a replacement facility for the Off-site Center in Fukushima Prefecture was planned, in conformity with Article 16 (12) of the enforcement regulations of the Nuclear Emergency Preparedness Act, and was expected to be at the Fukushima Prefecture-Minamisoma Complex. However, the complex was already being used to respond to the disaster situation caused by the earthquake and tsunami, and was therefore deemed to be unable to provide enough space for the Off-site Center activities. Some local NERHQ personnel were of the opinion that the Off-site Center should still relocate to the complex, but because radiation dosage levels were rising in Minamisoma too, in the end they abandoned the idea of moving to the complex.

day Off-site Center personnel, including METI Senior Vice Minister Ikeda, began the move, and relocation of the local NERHQ was completed that day. After the move to the Fukushima prefectural government office premises, communications became smoother.³⁵

(4) Delegation of some authority from NERHQ director-general to local NERHQ director-general

Article 20 (8) of the Nuclear Emergency Preparedness Act stipulates that the director-general of the NERHQ may delegate part of his/her authority to the director-general of a local NERHQ. This provision is in place for cases when the delegation of authority is found necessary for implementing emergency response measures accurately and promptly. For its part, the Government's Nuclear Emergency Response Manual states that ministries and agencies responsible for nuclear safety (NISA, in the case of an accident at a commercial NPS) obtain a decision regarding delegation of the NERHQ director-general's authority, and issue a notice that the authority has been delegated. Incidentally, during the nuclear emergency comprehensive drills organized by the Government each year, one scenario set down in writing is the transfer of part of the NERHQ director-general's authority to the local NERHQ director-general.

If authority is not delegated, according to the Nuclear Emergency Preparedness Act (Article 17 (12)), what the local NERHQ director-general is authorized to do is limited to taking charge of the general affairs of that local NERHQ. Of particular note is the fact that he/she cannot, under the said Act, issue instructions or the like to local public bodies or other entities.

On March 11, after the occurrence of a nuclear emergency situation at Fukushima Dai-ichi NPS as defined by Article 15 of the said Act, NISA prepared a draft public notice declaring the existence of an emergency situation, and at the same time compiled a draft announcement regarding the delegation of some of the authority of the NERHQ director-general to the local NERHQ director-general. NISA emailed these drafts to the information compilation center at the Prime Minister's Office, wanting the Cabinet Secretariat and the Cabinet Office to consent to them.

Later, when the first NERHQ meeting was held after 19:00 on March 11, no mention was made regarding procedures of delegating authority, and subsequently no announcement regarding the delegation of authority was issued, after all.

³⁵ After relocation of the local NERHQ on March 15, METI Senior Vice-Minister Tadahiro Matsushita took over the role of HQ Director-General from METI Senior Vice-Minister Ikeda.

The legitimacy of the decision-making authority of the local NERHQ at the Off-site Center, and the legitimacy of the measures it took, in its relations with local public bodies, depended on whether it had been delegated to that authority or not. It therefore inquired the ERC on a number of occasions of how the authority-delegation process was unfolding within the Government, but was unable to receive a clear answer. Therefore, after conferring on this matter with the NERHQ Secretariat at the ERC, the local NERHQ took the position that delegation of authority formalities had been completed, so that it could implement all necessary measures rapidly and completely. In this situation, it made various decisions, including decisions regarding the implementation of evacuation measures, and put them into action.³⁶

³⁶ The Investigation Committee intends to continue investigating this matter.