March 8, 2012

Japan Atomic Energy Agency

# Situation and response of JAEA to the Great East Japan Earthquake
## (Outline of activities on March 11- March 7)


Summary

The Japan Atomic Energy Agency (JAEA) established emergency response headquarters lead by the president immediately after the earthquake in northeastern Japan (the great east Japan earthquake). The headquarters are continuously collecting detailed information of the equipment and facilities from all the sites of JAEA as well as giving directions to the sites towards recovery. JAEA as a designated public institution is also, with its full scale effort, supporting activities of other organizations. On 30 June, it opened the Fukushima Office and JAEA staff is stationed so as to make it the base of the operation in Fukushima Prefecture of the Headquarters of Fukushima Partnership Operations, which was set up on 6 May. JAEA is conducting environmental monitoring, demonstration of decontamination technology and other related activities such as cooperation with other organizations in Fukushima Prefecture. JAEA renamed Fukushima Office 'the Office of Fukushima Partnership Operations for Environmental Remediation' on August 31 and reinforced the workforce and activities in Fukushima.

On November 21, the office of Fukushima Partnership Operations for Environmental Remediation changed to 'the Fukushima Environmental Safety Center' due to reorganization.


Assistance to the Accident of Fukushima No.1 Nuclear Power Station

- JAEA, with its full scale effort, is assisting activities concerning the accident of the Fukushima No.1 Nuclear Power Station including environmental radiation monitoring, environmental radioactivity analyses, resident public consulting. JAEA's Nuclear Emergency Assistance & Training Center (NEAT), with close cooperation with each site of JAEA, is acting as a center of these supporting activities of JAEA.
- Experts of JAEA are providing scientific advice and technical supports to the Nuclear Safety Commission of Japan and the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

Situation of each site

- In the sites in Ibaraki Prefecture, although main buildings of reactors and nuclear

facilities were not affected, some related equipment and facilities as well as some buildings were greatly damaged by the earthquake. On the other hand, no safety problems have occurred. There were no release of radioactive material to the environment, no fire accident and no injured person. Although safety of the facilities is ensured, various repairs are required. Recovery program including checking and repairing schedules is being planned.

- In the sites of Aomori area, Takasaki area and all the other areas, there havs been no damage by the earthquake and the safety is secured.

Assistance to the Accident of Fukushima No.1 Power Station

JAEA is also, centered on with its full scale effort, conducting the following activities concerning the accident of the Fukushima No.1 Nuclear Power Station. JAEA's Nuclear Emergency Assistance & Training Center (NEAT), with close cooperation with each site of JAEA and its retired personnel, is acting as a center of these supporting activities.

(Environmental Radiation Monitoring)

- Environmental radiation monitoring outside of a 20 km radius of Fukushima No.1 Nuclear Power Station using monitoring cars and screening survey of body contamination are conducted.
- Radioactivity measurements with a whole body counter car are conducted to assess internal dose of workers.
- Gamma dose rates are being surveyed regularly at 56 locations including junior and high schools upon request from MEXT.

(Environmental Radioactivity Analyses)

- Continuous environmental radiation monitoring and radioactivity measurements with periodical sampling of dust in the air are made mainly at the sites in Ibaraki Prefecture.
- Radioactivity measurements are conducted with the sea water samples, marine soil samples, and dust samples in the offshore of Fukushima Prefecture collected by Japan Agency for Marine-Earth Science and Technology (JAMSTEC).
- Radioactivity measurements are conducted with soil samples from Fukushima No.1 Nuclear Power Station upon request from Tokyo Electric Power Company (TEPCO) through MEXT and the Nuclear and Industrial Safety Agency (NISA).

(Resident Public Consulting)

- Resident health consultation hotlines have been installed at NEAT and have been responding about inquiries with experts

(Scientific Advice and Technical Supports)

- Experts of JAEA are dispatched to the Nuclear Safety Commission of Japan and other organizations. These experts are cooperating on technical study of the diffusion assessment and analyses and radiation management. Departments of JAEA are providing to the experts with appropriate scientific data to assist their judgement.
- JAEA is assisting the Emergency Operation Center (EOC) of MEXT for the data compilation of environmental radiation/radioactivity monitoring on a 24-hours-a-day basis.
- JAEA is cooperating on the international activities of EOC.
- JAEA is assisting the Ministry of Economy, Trade and Industry (METI) to provide information to the public.
- An expert of monitoring survey is dispatched to Ibaraki Prefectural Government for planning of environmental sampling to establish the monitoring program of the prefecture.
- JAEA is making analyses of the water which accumulated in the turbine buildings of Fukushima No.1 Nuclear Power Station upon request from TEPCO. Experts have been dispatched to TEPCO to provide technical guidance and advice to analyses of nuclides of environmental monitoring samples conducted by TEPCO.
- JAEA dispatched instructors for seminar on radioactive measurement in Fukushima Prefecture.
- As a safety manager, a JAEA's staff accompanies evacuated residents making brief visits to their homes by bus.
- JAEA is cooperating with Fukushima Prefecture on a pilot project to reduce radiation levels at schools and school commuting roads.
- On July 11, JAEA started cooperation for inspection of internal exposure of residents in Fukushima prefecture as part of health management survey upon request from the Fukushima prefecture.
- On July 8, JAEA started holding "Meetings for answering questions about radiation" in Fukushima prefecture.
- On August 6, JAEA started holding training courses of radiation measurement in Fukushima prefecture.

- On October 4, JAEA started cooperating to give a lecture of decontamination work course and practice organized by Fukushima prefecture.
- On October 23, JAEA cooperated to measure radiation level of hotspots in Kashiwa City, Chiba Prefecture requested by MEXT.

(Equipment Support)

JAEA has conducted radiation measurements and other activities with dispatching monitoring cars, a whole body counter car. JAEA is also providing a robot operating vehicle (pet named "Team Nippon"), survey meters and individual dose meters to local governments and TEPCO, which contributes to the enhancement of radiation measurements.

Tables of JAEA's Assistance regarding the Accident of Fukushima No.1 and No. 2 Nuclear Power Stations

1. Supporting activities of JAEA（as of March 7）

| Items | | Places or Organizations | March 7 | Accumulated Man-days from March 11 |
|---|---|---|---|---|
| Environmental Radiation Monitoring | | | | |
| | Emergency monitoring | Outside of a 20 km radius | - | 5,506 |
| | Environmental radiation measurement | Elementary and junior high schools, etc. in Fukushima Prefecture | - | 343 |
| | Body survey, etc | Fukushima Prefectural Medical University | - | 831 |
| | | Hitachi Health Center | - | 28 |
| Environmental Radioactivity Analyses | | | | |
| | Environmental monitoring | NEAT | - | 133 |
| | Body radioactivity measurement | NEAT | - | 18 |
| | | Fukushima Prefecture | - | 90 |
| Consultation to Public | | | | |
| | Consultation to Public | NEAT | 10 | 4,799 |
| | | Fukushima Prefecture Office | - | 504 |
| | | Ibaraki Prefecture Office | - | 12 |
| | Explanation to evacuated residents | Tsukuba-city Douhou Park | - | 3 |

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|---|---|---|---|---|
| Scientific Advice & Technical Supports | | | | |
| | Monitoring program planning support | Ibaraki Prefecture Office | - | 5 |
| | Assessment and analysis of diffusion | Nuclear Science & Engineering Directorate, JAEA | - | 180 |
| | | NEAT | - | 54 |
| | Support to Nuclear Safety Commission, etc | Cabinet Secretariat, Cabinet Office | - | 412 |
| | Support to Special Project Team at Office of Nuclear Emergency Response | Office of Nuclear Emergency Response (TEPCO Head Office) | - | 3,320 |
| | Support to Off-Site Center | Fukushima Prefecture | 1 | 895 |
| | Seminar on radioactive measurement (Instructors) | Fukushima Prefecture | - | 103 |
| | Dispatch of a safety manager (Support for the evacuees' brief visit home project) | Fukushima Prefecture | - | 4,050 |
| | Data compilation of radiation/radioactivity | MEXT | 11 | 8,193 |
| | International cooperation and other support activities | MEXT | 3 | 414 |
| | Public Information and other support activities | METI | - | 208 |
| | Study of radiation rates reduction at schoolyards, etc. | Junior high schools, etc. in Fukushima city | - | 137 |
| | Guidance and advice for nuclides analyses | TEPCO | - | 70 |
| | Meetings for answering questions about radiation | Fukushima prefecture | - | 573 |
| | Training courses of radiation measurement | Fukushima prefecture | - | 143 |
| Others | | | | |
| | Direction, Report, Coordination | NEAT | 37 | 11,586 |
| | Transportation | Fukushima Prefecture | - | 1,510 |
| Total | | | 62 | 44,120 |

2. Supporting equipment from JAEA (As of March 7)

| Items | Categories | Numbers |
|---|---|---|
| Special Mobile Cars | Whole Body Counter Car | 2 |
| | Monitoring Cars | 1 |
| Measurement Devices | Robot operating vehicle, etc. | 2 |
| | Robot | 1 |
| | Survey Meters (including 4 Neutron meters) | 172 |
| | Personal Dosimeters | 0 |

Situation of each Site

Nuclear Science Research Institute

- There were no release of radioactive material to the environment, no fire accident and no injured person and there was no safety problem in the Institute, although there were great damages to facilities by the earthquake.
- At present, checks are made on ventilation systems of controlled areas, which were stopped after the earthquake, including checks of ducts and emission air systems and catching performance measurements of filters.
- From April 15, ventilation systems of some facilities started operation. As of May 31, and the ventilation systems of 30 facilities of 34 facilities are in operation after the checks of the systems. The remaining ventilation systems are in the process of checking.
- Although safety of the facilities is ensured, various repairs are required. The facilities are in the process of recovery based on the repairing schedule.

J-PARC

- There were no effect to the environment, no fire accident and no injured person and there was no safety problem in J-PARC, although there were great damages to facilities by the earthquake.
- At present, damages of main accelerator and experimental apparatus of each facility are being checked.
- Although safety of the facilities is ensured, various repairs are required. The facilities are in the process of recovery based on the repairing schedule.

Nuclear Fuel Cycling Engineering Laboratories

- There were no release of radioactive material to the environment, no fire accident and no injured person and there was no safety problem in the Laboratories, although there were great damages to facilities by the earthquake.
- The facilities are, depending on each situation of the facility, in the process of recovery based on the checking and repairing schedule.

O-arai Research and Development Center

- There were no release of radioactive material to the environment, no fire accident and no injured person and there was no safety problem in the Laboratories, although there were great damages to facilities by the earthquake.
- Safety of all the reactors was confirmed by the checks after the earthquake. In other facilities, there were no release of radioactive material to the environment, no fire accident and no injured person and there was no safety problem in the Center, although there were damages to facilities by the earthquake.
- The facilities are in the process of recovery based on the repairing schedule.

Naka Fusion Institute

- There were no release of radioactive material to the environment, no fire accident and no injured person and there was no safety problem in the Institute, although there were damages to facilities by the earthquake.
- At present, checking and repairing are made and permanent recovery program is being implemented.

Other sites

- In the sites of Aomori area, Takasaki area and all the other areas, there have been no damage by the earthquake and the safety is secured.