May 10, 2011

Japan Atomic Energy Agency

Situation and response of JAEA to the Great East Japan Earthquake
(Outline of activities on March 11-May 9)

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.

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, 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.
- Body contamination measurements and decontamination are made with a body cleaning car and a body surface measurement car at Fukushima Prefectural Medical University.
- Radioactivity measurements with a whole body counter car are conducted to assess internal dose of workers.
- On April 14, environmental radiation measurements were conducted at 52 points in Fukushima prefecture including elementary schools and junior high schools upon request from MEXT. Based on the results, further survey of gamma dose rates were conducted at school yards and other places on April 22. From April 28, gamma dose tares at school yards and other places will be surveyed regularly.

(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 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 400 inquiries per day. The hotlines were reinforced with help of related organizations and will continuously provide services.

- Consultations to residents are made at the information desks installed at Fukushima Jichikaikan and Ibaraki Prefecture Office.

(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 planning to make analyses of the water which accumulated in the turbine buildings of Fukushima No.1 Nuclear Power Station upon request from TEPCO.
- On March 7 and 8, JAEA, upon request from MEXT, implemented tests of interchangeing surface soil and lower layer soil at schoolyards of a junior high school and a kindergarten in Fukushima city. The tests confirmed the interchange of soil has effectively reduced radiation rates.

(Equipment Support)

JAEA has conducted radiation measurements and other activities with dispatching monitoring cars, a whole body counter car, a surface contamination counter car and a body decontamination 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 May 9）

Items		Places or Organizations	May9	Accumulated Man-days from March 11
Environmental Radiation Monitoring				
	Emergency monitoring	Outside of a 20 km radius	24	934
	Environmental radiation measurement	Elementary and junior high schools, etc. in Fukushima Prefecture	-	72
	Body survey, etc	Fukushima Prefectural Medical University	6	668
		Hitachi Health Center	-	28
Environmental Radioactivity Analyses				
	Environmental monitoring	NEAT	-	133
	Body radioactivity measurement	NEAT	-	17
		Fukushima Prefecture	-	90
Consultation to Public				
	Consultation to Public	NEAT	20	1,086
		Fukushima Prefecture Office	4	234
		Ibaraki Prefecture Office	-	12
	Explanation to evacuated residents	Tsukuba-city Douhou Park	-	3
Scientific Advice & Technical Supports				
	Monitoring program planning support	Ibaraki Prefecture Office	-	5
	Assessment and analysis of diffusion	Nuclear Science & Engineering Directorate, JAEA	4	167
		NEAT	-	47
	Support to Nuclear Safety Commission, etc	Cabinet Secretariat, Cabinet Office	-	322
	Support to Special Project Team at Nuclear Emergency Response Headquarters	Nuclear Emergency Response Headquarters (TEPCO Head Office)	17	539
	Support to Off-Site Center	Fukushima Prefecture	2	5

	Data compilation of radiation/radioactivity	MEXT	31	1,361
	International cooperation and other support activities	MEXT	1	42
	Public Information and other support activities	METI	1	33
	Study of radiation rates reduction at schoolyards, etc.	Junior high schools, etc. in Fukushima city	-	37
Others				
	Direction, Report, Coordination	NEAT	54	2,358
	Transportation	Fukushima Prefecture	7	562
Total			171	8,755

2. Supporting equipment from JAEA (As of May 9)

Items	Categories	Numbers
Special Mobile Cars	Whole Body Counter Car	2
	Surface Contamination Counter Car	1
	Body Decontamination Car	1
	Monitoring Cars	3
Measurement Devices	Robot operating vehicle "Team Nippon"	1
	Survey Meters (including 4 Neutron meters)	204
	Personal Dosimeters	13

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.
- By April 4, most of the minimum necessary lifelines such as electricity, water, and internet network were recovered. 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 and the systems of 2/3 of all the facilities are scheduled to start operation by the end of April. Detailed checks of inside of the facilities will be made after the operation of the ventilation systems.
- Although safety of the facilities is ensured, various repairs are required. Recovery program including checking and repairing schedules is being planned.

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.
- By March 28, almost all the necessary provisional electric supply and communication systems were secured. 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. Recovery program including checking and repairing schedules is being planned.

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.
- By March 28, most of the minimum necessary lifelines such as electricity, water, and internet network were recovered. At present, checks are made on facilities and equipment.
- Although safety of the facilities is ensured, various repairs are required. Recovery program including checking and repairing schedules is being planned.

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.
- Commercial electric supply resumed in the northern part of the center on March 13. There was damage to the electric receiving facility for the southern part of the center, therefore, after the provisional repair of the facility, commercial supply to

the southern part was restored on March 19 and electric supply to all the facilities were restored by March 22. Clean water and industrial water supply were restored on March 20.

- 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.
- Recovery program including checking and repairing schedules is being planned.

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.
- By April 8, provisional repairs were made to the parts where immediate responses are required and electric supply and clean water and industrial water supply were restored to all facilities except the experiment preparatory building which was greatly damaged.
- At present checking and repairing are made and also permanent recovery program is being planned.

Other sites

- 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.