

Investigative results on exposure dose during the initial stages of the accident involving Fukushima Daiichi Nuclear Power Station

Under the guidance of the Ministry of Health, Labour and Welfare, TEPCO investigated the exposure dose and work categories of its employees during the initial stages of the accident at the Fukushima Daiichi Nuclear Power Station and reports on a review of the exposure dose based on the results.

1 Contents of the investigation

(1) Investigations on internal exposure dose since May 2011

Regarding the internal exposure dose in March and April 2011, TEPCO's employees were re-evaluated following the guidance of the Ministry of Health, Labour and Welfare. At the same time, regarding the internal exposure dose since May 2011, investigations were conducted to determine whether or not any calculation methods had deviated from standard methods and whether or not any calculation errors had occurred.

While the exposure dose of partner companies' workers was evaluated by each prime contractor, TEPCO also calculated the internal exposure dose of these workers and provided the results to their prime contractors. Therefore, as TEPCO did for its employees, investigations were conducted to determine whether or not any calculation methods used had deviated from the standard method and whether or not any calculation error had occurred for partner companies' workers for whom TEPCO calculated the internal exposure dose, as well.

(2) Investigation into specified emergency works

An investigation was conducted to determine the actual engagement status in the emergency works specified by the Minister of Health, Labour and Welfare (specified emergency works) at the Fukushima Daiichi Nuclear Power Station.

(3) Investigation on transfer and stay doses

TEPCO evaluated the transfer and stay doses through calculation for cases where workers transferred to the Main Anti-Earthquake Building of the Fukushima Daiichi Nuclear Power Station without wearing individual dosimeters or workers remained onsite, for example in the Main Anti-Earthquake Building, of the Fukushima Daiichi Nuclear Power Station without wearing individual dosimeters, during the period before starting evaluation of the

individual exposure dose of workers using accumulation-type individual dosimeters. In addition, another investigation was conducted to determine whether or not there was any worker for whom no exposure dose had been evaluated through calculation.

2 Investigative results

(1) Results of the investigation on internal exposure dose since May 2011

There was no worker for whom the evaluated internal exposure dose had to be modified.

(2) Results of the investigation on specified emergency works

i) Persons newly registered as specified emergency workers: 75

1) Emergency exposure (effective) dose: average 2.73mSv (0.01 - 44.22mSv)

2) An additional two women workers were engaged for specified emergency works (from 19 to 21 workers)

a. Emergency exposure (effective) dose: 1.63 / 2.28mSv

b. One woman was engaged in this work for only one day after March 23, 2011, from which time the further engagement of woman workers was prohibited.

ii) Persons subject to change of registration from specified emergency worker to external work staff member: 82

iii) Persons newly registered as external work staff members: 1

(3) Results of the investigation on transfer and stay doses

i) Reviewed workers: 398

ii) Fluctuation range of emergency exposure dose: Average 1.64mSv (0.04 – 12.23mSv)

iii) Emergency exposure (effective exposure) dose: 0.12 - 353.12mSv

1) Reviewed exposure dose exceeding 250mSv: 1 worker

a. Emergency exposure (effective exposure) dose:
353.12mSv (before the review: 352.08mSv)

2) Change in band of the exposure dose distribution table with exposure dose exceeding 100mSv: 1 worker

a. Change from band of 100 – 150mSv to that of 150 – 200mSv

b. Emergency exposure (effective exposure) dose:
150.26mSv (before the review: 148.68mSv)

3) Increase in workers subject to emergency exposure dose of 50 – 100mSv: 1 worker

a. Fluctuation range of emergency exposure dose: 7.98mSv

b. Emergency exposure (effective exposure) dose: 52.50mSv

Emergency exposure dose:

Total exposure dose during the period from the accident to the end of November 2011 and

the exposure dose of operations exposed to particularly high radiation

Operations exposed to particularly high radiation:

Operations in which workers could be exposed to the emergency dose limit (100mSv), which is stipulated in "Ordinance on Prevention of Ionizing Radiation Hazards, chapter 7."

In more detail, work to maintain the function of the reactor facility or cooling facility to cool the spent fuel tank in the reactor facility, the steam turbine and its related facilities or the surrounding area where radiation doses exceed 0.1mSv/h. Alternatively, operations to maintain the function to control or prevent the release of numerous radioactive materials should it be likely to occur due to malfunction or damage of the reactor facility.