

## Site Workers' Exposure Doses during Emergency Work at Fukushima Daiichi Nuclear Power Station

### 1. External exposure doses

External exposure doses are calculated by adding up the indicated values of the alarm personal dosimeter (APD) distributed to each worker on each work day. Currently, APDs have been provided to workers at J Village, a base approaching Fukushima Daiichi Nuclear Power Station, or at the Main Anti-Earthquake Building at the site. This time, we calculate the external exposure doses by adding up both of them.

In this calculation, external exposure doses during the stays inside the Main Anti-Earthquake Building and the travels to Fukushima Daiichi New Clear Power Station have not been counted (partially counted), thus we are planning to execute evaluations in consideration of those afterwards.

### 2. Internal exposure doses (Primary evaluation)

Radioactive materials absorbed by the human body are subject to decay over time (half-life), and simultaneously are expelled per the body's metabolism. The internal exposure doses are evaluated in accordance with: the results of the measurements with the whole-body counter (WBC); and the estimated amount of radioactive materials bodily absorbed based on when they were taken in and the amount of radioactive materials remaining inside bodies. The purpose of the hearing investigation is to specifically determine at what point in time the radiation substances were bodily absorbed. Internal exposure doses are computed by adding up effects arising from the radioactive materials remaining inside the bodies over the next 50 years.

In the phase of the primary evaluation, if we cannot conduct hearing investigations, an evaluation is conducted assuming that each worker absorbed all amounts of radioactive materials only on the date he started work at the site (March 12, if engaged initially). The results of the primary evaluation will show the maximum values.

Subsequently, as for workers whose results of the primary evaluation indicate significant values, we'll carry out a reevaluation based on the exact dates when they took in radioactive materials, which will be determined at the hearing investigation. Moreover, workers whose results indicate relatively high values will be subjected to a more detailed WBC administered by the Japan Atomic

Energy Agency.

In this instance, we have reported the results of the primary evaluation of workers who worked at the site in March and underwent a WBC before the end of June 18.

### 3 . Combined values of external and internal exposure doses (Primary evaluation)

We've reported the combined values of external and internal exposure doses (primary evaluation) of workers who engaged in emergency work at the site in March and the completed evaluation of internal exposure.

In case that the evaluated values of workers exceed 200mSv, the workers shall be ordered to leave Fukushima Daiichi Nuclear Power Station. Moreover, if the values from the primary evaluation before the detailed measurement exceed 200mSv, the workers will also be ordered to leave the site until the detailed evaluation.

### 4. Scope of radiation dose control and counting

Since Fukushima Daiichi Nuclear Power Station collects and controls radioactive doses of each radiation worker inside or near its premise, the same coverage is applied to the collection and evaluation of both external radiation doses and internal radiation doses.

Workers (related to transmission line etc) within 20 km radius from the power station put on dosimeters when they go out from J village since they might be exposed to radiation and we keep records of individual radiation dose, but measurement and evaluation of internal exposure is on voluntary basis.

- Attachment : Distribution of external and internal exposure doses ( Primary evaluation )

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