

## Exposure Dose Distribution

### 1. External Exposure Dose of Workers at the Fukushima Daiichi Nuclear Power Station (Effective Dose)

Table 1 shows what levels of external radiation exposure the workers who were involved in radiation work at the Fukushima Daiichi Nuclear Power Station from February 2016 to April 2016 received.

**Table 1. External exposure dose**

Dose Ranges (mSv)	February 2016			March 2016			April 2016		
	TEPCO's Employees	Contractors	Total	TEPCO's Employees	Contractors	Total	TEPCO's Employees	Contractors	Total
Above 100	0	0	0	0	0	0	0	0	0
75-100	0	0	0	0	0	0	0	0	0
50-75	0	0	0	0	0	0	0	0	0
20-50	0	0	0	0	0	0	0	0	0
10-20	0	12	12	0	19	19	0	0	0
5-10	0	78	78	0	93	93	0	43	43
1-5	49	1461	1510	44	1291	1335	15	839	854
1 or less	1128	7896	9024	1125	8051	9176	972	7725	8697
Total	1177	9447	10624	1169	9454	10623	987	8607	9594
Maximum (mSv)	4.70	12.36	12.36	2.71	13.82	13.82	1.81	9.46	9.46
Average (mSv)	0.22	0.59	0.55	0.20	0.59	0.55	0.14	0.38	0.36

• The values of the exposure dose and the number of the workers in the table above are subject to change, because there are times when APD data are replaced with monthly dose data measured by integral dosimeters. Or dose data of workers who wore only an integral dosimeter (ex., workers who entered only the Main Anti-earthquake Building) need to be updated in the table after the publication of the data.

### 2. External and Internal Exposure Doses of Radiation Workers at the Fukushima Daiichi Nuclear Power Station (Effective Dose)

Table 2 shows what levels of both external and internal radiation exposure the workers who were involved in radiation work at the Fukushima Daiichi Nuclear Power Station received during five years from April 1, 2016 and table 3 shows data on the radiation exposure dose of the workers who were engaged in radiation work at the power station during the fiscal year 2016.

**Table 2. Cumulative exposure dose for five years from April 1, 2016**

Dose Ranges (mSv)	April 2016		
	TEPCO's Employees	Contractors	Total
Above 100	0	0	0
75-100	0	0	0
50-75	0	0	0
20-50	0	0	0
10-20	0	0	0
5-10	0	43	43
1-5	15	839	854
1 or less	972	7725	8697
Total	987	8607	9594
Maximum (mSv)	1.81	9.46	9.46
Average (mSv)	0.14	0.38	0.36

• The values of the exposure dose and the number of the workers in the table above are subject to change, because there are times when APD data are replaced with monthly dose data measured by integral dosimeters. Or dose data of workers who wore only an integral dosimeter (ex., workers who entered only the Main Anti-earthquake Building) need to be updated in the table after the publication of the data.

• No significant internal radiation exposure dose has been reported since October 2011.

**Table 3. Cumulative exposure dose for FY2016**

Dose Ranges (mSv)	April 2016		
	TEPCO's Employees	Contractors	Total
Above 100	0	0	0
75-100	0	0	0
50-75	0	0	0
20-50	0	0	0
10-20	0	0	0
5-10	0	43	43
1-5	15	839	854
1 or less	972	7725	8697
Total	987	8607	9594
Maximum (mSv)	1.81	9.46	9.46
Average (mSv)	0.14	0.38	0.36

• The values of the exposure dose and the number of the workers in the table above are subject to change, because there are times when APD data are replaced with monthly dose data measured by integral dosimeters. Or dose data of workers who wore only an integral dosimeter (ex., workers who entered only the Main Anti-earthquake Building) need to be updated in the table after the publication of the data.

### 3. External and Internal Exposure Doses of “Workers Exposed to Especially High Radiation” (Effective Dose)

Table 4 shows what levels of both external and internal radiation exposure “workers exposed to especially high radiation”<sup>\*1</sup> received.<sup>\*2</sup>

**Table 4. Cumulative exposure dose for “workers exposed to especially high radiation”**

Dose Ranges (mSv)	March 2011 - September 2015
Above 100	1
75-100	191
50-75	233
20-50	267
10-20	186
5-10	129
1-5	145
1 or less	51
Total	1203
Maximum (mSv)	102.69
Average (mSv)	36.49

(Since October 2015, TEPCO has opted not to report to the Labour Standards Inspection Office on “workers exposed to especially high radiation.”)

1. “Workers exposed to especially high radiation” means workers who are involved in operations in which they could be exposed to the emergency exposure dose limit (100mSv), which is stipulated in “Ordinance on Prevention of Ionizing Radiation Hazards, Chapter 7.” In more detail, they are workers engaged in the work to maintain the function of the cooling facility to cool down the reactor facility or the spent fuel tank in the reactor facility, the steam turbine and its related facilities or the surrounding area where the radiation doses exceed 0.1mSv/h. Or they are workers who would engage in keeping running the function to control or prevent the release of a large number of radioactive materials should it be likely to occur due to malfunction or damage of the reactor facility.

So far workers who have worked as “workers exposed to especially high radiation” are all TEPCO employees.

2. The number of “workers exposed to especially high radiation” is the number of the workers who have been reported to work as “workers exposed to especially high radiation” at least once during the period from March 2011 to September 2015.

3. The values of the exposure dose and the number of the workers in the table above are subject to change, because there are times when APD

data are replaced with monthly dose data measured by integral dosimeters. Or the dose data of workers who wore only an integral dosimeter (ex., workers who entered only the Main Anti-earthquake Building) need to be updated in the table after the publication of the data.

4. The figure shown in the dose range, "Above 100mSv," in the cumulative data during the period from March 2011 to September 2015 is the figure when the March 2011 data of the internal exposure dose were reevaluated in July 2013.

#### 4. Equivalent Dose

Table 5 and Table 6 show equivalent doses to the skin and the lens of the eye of the workers, respectively, who were involved in radiation work at the Fukushima Daiichi Nuclear Power Station from February 2016 to April 2016.

**Table 5. Equivalent dose to the skin**

Dose Ranges (mSv)	February 2016			March 2016			April 2016		
	TEPCO's Employees	Contractors	Total	TEPCO's Employees	Contractors	Total	TEPCO's Employees	Contractors	Total
Above 500	0	0	0	0	0	0	0	0	0
300-500	0	0	0	0	0	0	0	0	0
250-300	0	0	0	0	0	0	0	0	0
200-250	0	0	0	0	0	0	0	0	0
150-200	0	0	0	0	0	0	0	0	0
100-150	0	0	0	0	0	0	0	0	0
75-100	0	0	0	0	1	1	0	0	0
50-75	0	0	0	0	2	2	0	0	0
20-50	0	20	20	0	36	36	0	1	1
10-20	0	77	77	0	83	83	0	23	23
5-10	2	249	251	0	312	312	0	118	118
1-5	56	1769	1825	56	1524	1580	17	994	1011
1 or less	1119	7332	8451	1113	7496	8609	970	7471	8441
Total	1177	9447	10624	1169	9454	10623	987	8607	9594
Maximum (mSv)	5.40	44.80	44.80	4.80	80.10	80.10	1.91	20.36	20.36
Average (mSv)	0.25	0.97	0.89	0.22	1.07	0.97	0.15	0.52	0.49

• The values of the exposure dose and the number of the workers in the table above are subject to change, because there are times when APD data are replaced with monthly dose data measured by integral dosimeters. Or the dose data of workers who wore only an integral dosimeter (ex., workers who entered only the Main Anti-earthquake Building) need to be updated in the table after the publication of the data.

• Equivalent dose is a measure of the radiation dose to organs and tissues, and the equivalent dose limit to the skin is 500mSv/year (the emergency exposure dose limit is 1Sv).

• Equivalent dose to the skin is measured at a depth of 70 micrometers from the skin surface. When the equivalent dose is measured with a dosimeter other than the one put on around the chest and the abdomen, for example, a finger dosimeter, the maximum measurement value is counted as the equivalent dose.

**Table 6. Equivalent dose to the lens of the eye**

Dose Ranges (mSv)	February 2016			March 2016			April 2016		
	TEPCO's Employees	Contractors	Total	TEPCO's Employees	Contractors	Total	TEPCO's Employees	Contractors	Total
Above 150	0	0	0	0	0	0	0	0	0
100-150	0	0	0	0	0	0	0	0	0
75-100	0	0	0	0	0	0	0	0	0
50-75	0	0	0	0	0	0	0	0	0
20-50	0	0	0	0	2	2	0	1	1
10-20	0	22	22	0	40	40	0	23	23
5-10	0	159	159	0	196	196	0	118	118
1-5	53	1679	1732	50	1446	1496	17	994	1011
1 or less	1124	7587	8711	1119	7770	8889	970	7471	8441
Total	1177	9447	10624	1169	9454	10623	987	8607	9594
Maximum (mSv)	4.70	13.00	13.00	2.71	23.40	23.40	1.91	20.36	20.36
Average (mSv)	0.23	0.72	0.67	0.20	0.74	0.68	0.15	0.52	0.49

• The values of the exposure dose and the number of the workers in the table above are subject to change, because there are times when APD data are replaced with monthly dose data measured by integral dosimeters. Or the dose data of workers who wore only an integral dosimeter (ex., workers who entered only the Main Anti-earthquake Building) need to be updated in the table after the publication of the data.

• Equivalent dose is a measure of the radiation dose to organs and tissues, and the equivalent dose limit to the lens of the eye is 150mSv/year (the emergency exposure dose limit is 300mSv).

• The equivalent dose to the lens of the eye is measured at a depth of 70 micrometers from the skin surface using a dosimeter put on around the chest or the abdomen, and thus the shielding effect face masks have does not affect the measurement results.

## 5. Cumulative Data of Equivalent Dose

Table 7 and Table 8 show the cumulative data of equivalent doses to the skin and the lens of the eyes of the workers as of the end of April 2016, respectively, who were engaged in radiation work at the Fukushima Daiichi Nuclear Power Station.

**Table 7. Equivalent dose to the skin**

Dose Ranges (mSv)	April 2016		
	TEPCO's Employees	Contractors	Total
Above 500	0	0	0
300-500	0	0	0
250-300	0	0	0
200-250	0	0	0
150-200	0	0	0
100-150	0	0	0
75-100	0	0	0
50-75	0	0	0
20-50	0	1	1
10-20	0	23	23
5-10	0	118	118
1-5	17	994	1011
1 or less	970	7471	8441
Total	987	8607	9594
Maximum (mSv)	1.91	20.36	20.36
Average (mSv)	0.15	0.52	0.49

• The values of the exposure dose and the number of the workers in the table above are subject to change, because there are times when APD data are replaced with monthly dose data measured by integral dosimeters. Or the dose data of workers who wore only an integral dosimeter (ex., workers who entered only the Main Anti-earthquake Building) need to be updated in the table after the publication of the data.

**Table 8 (Equivalent dose to the lens of the eye)**

Dose Ranges (mSv)	April 2016		
	TEPCO's Employees	Contractors	Total
Above 150	0	0	0
100-150	0	0	0
75-100	0	0	0
50-75	0	0	0
20-50	0	1	1
10-20	0	23	23
5-10	0	118	118
1-5	17	994	1011
1 or less	970	7471	8441
Total	987	8607	9594
Maximum (mSv)	1.91	20.36	20.36
Average (mSv)	0.15	0.52	0.49

• The values of the exposure dose and the number of the workers in the table above are subject to change, because there are times when APD data are replaced with monthly dose data measured by integral dosimeters. Or the dose data of workers who wore only an integral dosimeter (ex., workers who entered only the Main Anti-earthquake Building) need to be updated in the table after the publication of the data.