

Exposure Dose Distribution

1. Effective Dose from External Exposure

Table 1 shows the distribution of external exposure dose of workers who were involved in radiation work at the Fukushima Daiichi Nuclear Power Station for the past three month.

Table 1. External Exposure Dose

Dose Ranges (mSv)	February 2017			March 2017			April 2017		
	TEPCO Employees	Contractors	Total	TEPCO Employees	Contractors	Total	TEPCO 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	6	6	0	26	26	0	1	1
5-10	0	121	121	0	162	162	0	68	68
1-5	49	1111	1160	38	1130	1168	25	830	855
1 or less	1127	7659	8786	1132	7525	8657	944	7144	8088
Total	1176	8897	10073	1170	8843	10013	969	8043	9012
Maximum (mSv)	3.40	13.70	13.70	3.70	16.30	16.30	2.74	10.09	10.09
Average (mSv)	0.17	0.53	0.48	0.18	0.61	0.56	0.16	0.40	0.38

• 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. Sum of External and Internal Exposure Dose (Effective Dose)

Table 2 shows the distribution of cumulative exposure dose of workers who are involved in radiation work at Fukushima Daiichi for five years, starting on April 1, 2016. Table 3 shows the distribution of cumulative exposure dose in the fiscal year of 2016. Two different periods of time are shown in the Table 2 and Table 3: from April 1, 2016 to March 31, 2017 and from April 1, 2016 to April 30, 2017 for comparison.

Table 2. Cumulative Exposure Dose for Five Years

Dose Ranges (mSv)	April 2016 - March 2017			April 2016 - April 2017			Difference		
	TEPCO Employees	Contractors	Total	TEPCO Employees	Contractors	Total	TEPCO 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	216	216	0	280	280	0	64	64
10-20	22	1139	1161	26	1210	1236	4	71	75
5-10	90	1393	1483	102	1433	1535	12	40	52
1-5	404	4370	4774	412	4376	4788	8	6	14
1 or less	1162	7059	8221	1152	7229	8381	-10	170	160
Total	1678	14177	15855	1692	14528	16220	14	351	365
Maximum (mSv)	14.75	38.83	38.83	15.74	41.58	41.58	-	-	-
Average (mSv)	1.27	3.09	2.90	1.35	3.24	3.04	-	-	-

• 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 exposure has been reported since October 2011.

Table 3. Cumulative Exposure Dose in the Fiscal Year of 2016

Dose Ranges (mSv)	April 2017		
	TEPCO 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	1	1
5-10	0	68	68
1-5	25	830	855
1 or less	944	7144	8088
Total	969	8043	9012
Maximum (mSv)	2.74	10.09	10.09
Average (mSv)	0.16	0.40	0.38

• 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. Sum of External and Internal Exposure Dose of Workers Exposed to Especially High Radiation (Effective Dose)

Table 4 shows the distribution of cumulative exposure dose of workers exposed to especially high radiation.*¹

Table 4. Cumulative Exposure Dose (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 Holdings has opted not to report to the Labour Standards Inspection Office about 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" each month is the number of the workers who reported working as such workers in a given month and were engaged in that work. The figures in the cumulative data during the period from March 2011 to September 2015 in Table 4 above include the numbers of workers who have been reported to work as "workers exposed to especially high radiation" at

least once.

*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 dose to the skin and the lens of the eyes of the workers, respectively, who were involved in radiation work at the Fukushima Daiichi Nuclear Power Station for the past three months.

Table 5. Equivalent Dose to the Skin

Dose Ranges (mSv)	February 2017			March 2017			April 2017		
	TEPCO Employees	Contractors	Total	TEPCO Employees	Contractors	Total	TEPCO 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	0	0	0	0	0
50-75	0	0	0	0	0	0	0	0	0
20-50	0	8	8	0	5	5	0	6	6
10-20	0	58	58	0	50	50	0	32	32
5-10	0	251	251	0	291	291	0	130	130
1-5	54	1312	1366	49	1344	1393	29	934	963
1 or less	1122	7268	8390	1121	7153	8274	940	6941	7881
Total	1176	8897	10073	1170	8843	10013	969	8043	9012
Maximum (mSv)	4.20	32.10	32.10	3.90	28.60	28.60	3.64	24.93	24.93
Average (mSv)	0.19	0.79	0.72	0.19	0.83	0.75	0.16	0.56	0.52

• 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 Eyes

Dose Ranges (mSv)	February 2017			March 2017			April 2017		
	TEPCO Employees	Contractors	Total	TEPCO Employees	Contractors	Total	TEPCO 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	0	0	0	6	6
10-20	0	8	8	0	31	31	0	32	32
5-10	0	200	200	0	244	244	0	130	130
1-5	51	1250	1301	43	1240	1283	29	934	963
1 or less	1125	7439	8564	1127	7328	8455	940	6941	7881
Total	1176	8897	10073	1170	8843	10013	969	8043	9012
Maximum (mSv)	3.40	13.70	13.70	3.90	16.30	16.30	3.64	24.93	24.93
Average (mSv)	0.18	0.63	0.58	0.18	0.71	0.65	0.16	0.56	0.52

• 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 eyes 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 of face masks is not taken into consideration.

5. Cumulative Equivalent Dose

Table 7 and Table 8 show the distribution of cumulative equivalent dose to the skins and the lens of the eyes of the workers, respectively, who were involved in radiation work at the Fukushima Daiichi Nuclear Power Station, from April 1, 2017 to April 30, 2017 for comparison.

Table 7. Equivalent Dose to the Skin

Dose Ranges (mSv)	April 2017		
	TEPCO 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	6	6
10-20	0	32	32
5-10	0	130	130
1-5	29	934	963
1 or less	940	6941	7881
Total	969	8043	9012
Maximum (mSv)	3.64	24.93	24.93
Average (mSv)	0.16	0.56	0.52

• 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 Eyes

Dose Ranges (mSv)	April 2017		
	TEPCO 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	6	6
10-20	0	32	32
5-10	0	130	130
1-5	29	934	963
1 or less	940	6941	7881
Total	969	8043	9012
Maximum (mSv)	3.64	24.93	24.93
Average (mSv)	0.16	0.56	0.52

• 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.