

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)	January 2017			February 2017			March 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	5	5	0	6	6	0	28	28
5-10	0	69	69	0	121	121	0	142	142
1-5	24	785	809	49	1111	1160	34	1140	1174
1 or less	1105	7729	8834	1127	7659	8786	1014	7404	8418
Total	1129	8588	9717	1176	8897	10073	1048	8714	9762
Maximum (mSv)	2.40	11.00	11.00	3.40	13.70	13.70	3.51	18.92	18.92
Average (mSv)	0.15	0.42	0.38	0.17	0.53	0.48	0.17	0.58	0.54

• 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 February 28, 2017 and from April 1, 2016 to March 31, 2017 for comparison.

Table 2. Cumulative Exposure Dose for Five Years

Dose Ranges (mSv)	April 2016 - February 2017			April 2016 - March 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	154	154	0	210	210	0	56	56
10-20	14	941	955	20	1140	1160	6	199	205
5-10	74	1288	1362	89	1386	1475	15	98	113
1-5	395	4397	4792	401	4361	4762	6	-36	-30
1 or less	1188	7052	8240	1168	7077	8245	-20	25	5
Total	1671	13832	15503	1678	14174	15852	7	342	349
Maximum (mSv)	12.83	38.83	38.83	14.75	38.83	38.83	-	-	-
Average (mSv)	1.15	2.78	2.60	1.25	3.07	2.87	-	-	-

• 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 2016 - February 2017			April 2016 - March 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	154	154	0	210	210	0	56	56
10-20	14	941	955	20	1140	1160	6	199	205
5-10	74	1288	1362	89	1386	1475	15	98	113
1-5	395	4397	4792	401	4361	4762	6	-36	-30
1 or less	1188	7052	8240	1168	7077	8245	-20	25	5
Total	1671	13832	15503	1678	14174	15852	7	342	349
Maximum (mSv)	12.83	38.83	38.83	14.75	38.83	38.83	-	-	-
Average (mSv)	1.15	2.78	2.60	1.25	3.07	2.87	-	-	-

• 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)	January 2017			February 2017			March 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	15	15	0	8	8	0	0	0
10-20	0	55	55	0	58	58	0	33	33
5-10	0	142	142	0	251	251	0	186	186
1-5	32	981	1013	54	1312	1366	36	1300	1336
1 or less	1097	7395	8492	1122	7268	8390	1012	7195	8207
Total	1129	8588	9717	1176	8897	10073	1048	8714	9762
Maximum (mSv)	2.40	42.20	42.20	4.20	32.10	32.10	3.71	18.92	18.92
Average (mSv)	0.16	0.66	0.60	0.19	0.79	0.72	0.17	0.66	0.61

• 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)	January 2017			February 2017			March 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	0	0
10-20	0	8	8	0	8	8	0	33	33
5-10	0	103	103	0	200	200	0	186	186
1-5	26	912	938	51	1250	1301	36	1300	1336
1 or less	1103	7565	8668	1125	7439	8564	1012	7195	8207
Total	1129	8588	9717	1176	8897	10073	1048	8714	9762
Maximum (mSv)	2.40	12.10	12.10	3.40	13.70	13.70	3.71	18.92	18.92
Average (mSv)	0.15	0.49	0.45	0.18	0.63	0.58	0.17	0.66	0.61

• 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 during two different periods of time, from April 1, 2016 to February 28, 2017 and from April 1, 2016 to March 31, 2017 for comparison.

Table 7. Equivalent Dose to the Skin

Dose Ranges (mSv)	April 2016 - February 2017			April 2016 - March 2017			Difference		
	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	6	6	0	6	6	0	0	0
75-100	0	9	9	0	11	11	0	2	2
50-75	0	38	38	0	48	48	0	10	10
20-50	2	625	627	2	702	704	0	77	77
10-20	20	1138	1158	30	1295	1325	10	157	167
5-10	80	1296	1376	91	1379	1470	11	83	94
1-5	397	3964	4361	402	3929	4331	5	-35	-30
1 or less	1172	6756	7928	1153	6804	7957	-19	48	29
Total	1671	13832	15503	1678	14174	15852	7	342	349
Maximum (mSv)	21.50	126.50	126.50	21.55	129.81	129.81	-	-	-
Average (mSv)	1.26	4.21	3.89	1.36	4.51	4.18	-	-	-

• 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 2016 - February 2017			April 2016 - March 2017			Difference		
	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	1	1	0	1	1
50-75	0	13	13	0	18	18	0	5	5
20-50	0	303	303	0	372	372	0	69	69
10-20	15	1111	1126	24	1308	1332	9	197	206
5-10	77	1364	1441	89	1468	1557	12	104	116
1-5	400	4135	4535	405	4070	4475	5	-65	-60
1 or less	1179	6906	8085	1160	6937	8097	-19	31	12
Total	1671	13832	15503	1678	14174	15852	7	342	349
Maximum (mSv)	16.00	67.70	67.70	16.21	75.20	75.20	-	-	-
Average (mSv)	1.18	3.34	3.11	1.28	3.67	3.42	-	-	-

• 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.