Attachment

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 in the past three months.

Table 1. External Exposure Dose

Dose Ranges (mSv)	May 2016			June 2016			July 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	0	0	0	6	6	0	2	2
5-10	0	19	19	0	56	56	0	70	70
1-5	9	651	660	26	833	859	11	735	746
1 or less	1128	7748	8876	1166	7928	9094	1020	7749	8769
Total	1137	8418	9555	1192	8823	10015	1031	8556	9587
Maximum (mSv)	2.50	9.70	9.70	2.00	13.81	13.81	1.92	10.42	10.42
Average (mSv)	0.14	0.32	0.30	0.16	0.41	0.38	0.10	0.37	0.34

・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 were involved in radiation work at Fukushima Daiichi in the five years, starting from April 1, 2016. Table 3 shows the distribution of cumulative exposure dose in the fiscal year of 2016. The tables show the data in two different periods of time, from April 1, 2016 to June 30, 2016 and from April 1, 2016 to July 31, 2016 for comparison.

Table 2. Cumulative Exposure Dose in the Five Years

Dose Ranges (mSv)	April 2016 - June 2016			April 2016 - July 2016			Difference		
	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	6	6	0	11	11	0	5	5
10-20	0	61	61	0	145	145	0	84	84
5-10	0	328	328	4	467	471	4	139	143
1-5	142	2014	2156	180	2448	2628	38	434	472
1 or less	1164	7901	9065	1238	7766	9004	74	-135	-61
Total	1306	10310	11616	1422	10837	12259	116	527	643
Maximum (mSv)	4.90	32.46	32.46	6.22	33.23	33.23	-	-	-
Average (mSv)	0.40	0.97	0.91	0.44	1.22	1.13	-	-	-

・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 - June 2016			April 2016 - July 2016			Difference		
	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	6	6	0	11	11	0	5	5
10-20	0	61	61	0	145	145	0	84	84
5-10	0	328	328	4	467	471	4	139	143
1-5	142	2014	2156	180	2448	2628	38	434	472
1 or less	1164	7901	9065	1238	7766	9004	74	-135	-61
Total	1306	10310	11616	1422	10837	12259	116	527	643
Maximum (mSv)	4.90	32.46	32.46	6.22	33.23	33.23	-	-	-
Average (mSv)	0.40	0.97	0.91	0.44	1.22	1.13	-	-	-

・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

(From 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 in the past three months.

Table 5. Equivalent Dose to the Skin

Dose Ranges (mSv)	May 2016			June 2016			July 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	0	0	0	0	0
50-75	0	0	0	0	0	0	0	0	0
20-50	0	7	7	0	5	5	0	0	0
10-20	0	9	9	0	23	23	0	17	17
5-10	4	79	83	0	166	166	0	115	115
1-5	10	996	1006	37	1158	1195	11	871	882
1 or less	1123	7327	8450	1155	7471	8626	1020	7553	8573
Total	1137	8418	9555	1192	8823	10015	1031	8556	9587
Maximum (mSv)	5.70	33.00	33.00	4.50	40.70	40.70	1.92	16.38	16.38
Average (mSv)	0.16	0.51	0.47	0.18	0.64	0.58	0.10	0.47	0.43

・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)	May 2016			June 2016			July 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	0	0	0	0	0
10-20	0	1	1	0	15	15	0	17	17
5-10	0	42	42	0	115	115	0	115	115
1-5	9	819	828	28	996	1024	11	871	882
1 or less	1128	7556	8684	1164	7697	8861	1020	7553	8573
Total	1137	8418	9555	1192	8823	10015	1031	8556	9587
Maximum (mSv)	2.50	11.90	11.90	2.00	13.81	13.81	1.92	16.38	16.38
Average (mSv)	0.14	0.40	0.37	0.16	0.51	0.47	0.10	0.47	0.43

・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 June 30, 2016 and from April 1, 2016 to July 31, 2016 for comparison.

Table 7. Equivalent Dose to the Skin

Dose Ranges (mSv)	April 2016 - June 2016			April 2016 - July 2016			Difference		
	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	2	2	0	2	2	0	0	0
75-100	0	3	3	0	4	4	0	1	1
50-75	0	2	2	0	2	2	0	0	0
20-50	0	48	48	0	99	99	0	51	51
10-20	0	247	247	1	333	334	1	86	87
5-10	8	585	593	10	688	698	2	103	105
1-5	145	2175	2320	182	2497	2679	37	322	359
1 or less	1153	7248	8401	1229	7212	8441	76	-36	40
Total	1306	10310	11616	1422	10837	12259	116	527	643
Maximum (mSv)	9.70	104.70	104.70	11.62	105.47	105.47	-	-	-
Average (mSv)	0.45	1.58	1.45	0.48	1.88	1.72	-	-	-

・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 - June 2016			April 2016 - July 2016			Difference		
	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	23	23	0	60	60	0	37	37
10-20	0	147	147	0	245	245	0	98	98
5-10	1	446	447	4	584	588	3	138	141
1-5	146	2106	2252	182	2462	2644	36	356	392
1 or less	1159	7588	8747	1236	7486	8722	77	-102	-25
Total	1306	10310	11616	1422	10837	12259	116	527	643
Maximum (mSv)	5.30	36.50	36.50	6.22	44.68	44.68	-	-	-
Average (mSv)	0.41	1.23	1.14	0.45	1.54	1.42	-	-	-

・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.

End