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 for the past three month.

Table 1. External Exposure Dose

Dose Ranges (mSv)	April 2017			May 2017			June 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	0	0	0	4	4
5-10	0	87	87	0	78	78	0	45	45
1-5	26	892	918	12	713	725	26	852	878
1 or less	1027	7164	8191	1023	7247	8270	944	7270	8214
Total	1053	8148	9201	1035	8038	9073	970	8171	9141
Maximum (mSv)	2.74	11.40	11.40	2.40	8.80	8.80	3.25	10.86	10.86
Average (mSv)	0.17	0.47	0.43	0.13	0.39	0.36	0.15	0.39	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. 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 2017. Two different periods of time are shown in the Table 2: from April 1, 2016 to May 31, 2017 and from April 1, 2016 to June 30, 2017, and Table 3: from April 1, 2017 to May 31, 2017 and from April 1, 2017 to June 30, 2017 for comparison.

Table 2. Cumulative Exposure Dose for Five Years

Dose Ranges (mSv)	April 2016 - May 2017			April 2016 - June 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	1	1	0	1	1
20-50	0	354	354	0	421	421	0	67	67
10-20	34	1266	1300	40	1314	1354	6	48	54
5-10	102	1487	1589	107	1539	1646	5	52	57
1-5	428	4467	4895	446	4497	4943	18	30	48
1 or less	1138	7192	8330	1119	7350	8469	-19	158	139
Total	1702	14766	16468	1712	15122	16834	10	356	366
Maximum (mSv)	16.35	47.67	47.67	16.90	50.03	50.03	-	-	-
Average (mSv)	1.43	3.43	3.23	1.51	3.56	3.35	-	-	-

・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 2017

Dose Ranges (mSv)	April 2017 - May 2017			April 2017 - June 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	0	0	0	0	0	0	0	0
10-20	0	43	43	0	122	122	0	79	79
5-10	0	269	269	0	426	426	0	157	157
1-5	81	1217	1298	144	1565	1709	63	348	411
1 or less	1067	7393	8460	1065	7520	8585	-2	127	125
Total	1148	8922	10070	1209	9633	10842	61	711	772
Maximum (mSv)	3.94	17.10	17.10	4.99	19.54	19.54	-	-	-
Average (mSv)	0.27	0.77	0.72	0.37	1.05	0.97	-	-	-

・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)	April 2017			May 2017			June 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	0	0	0	3	3
10-20	0	47	47	0	9	9	0	26	26
5-10	1	203	204	0	133	133	0	129	129
1-5	34	998	1032	19	921	940	27	967	994
1 or less	1018	6892	7910	1016	6975	7991	943	7046	7989
Total	1053	8148	9201	1035	8038	9073	970	8171	9141
Maximum (mSv)	7.30	26.70	26.70	3.30	16.60	16.60	4.34	20.73	20.73
Average (mSv)	0.18	0.70	0.64	0.14	0.52	0.48	0.15	0.55	0.51

・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)	April 2017			May 2017			June 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	6	6	0	0	0	0	3	3
10-20	0	38	38	0	5	5	0	26	26
5-10	0	175	175	0	119	119	0	129	129
1-5	29	968	997	13	859	872	27	967	994
1 or less	1024	6961	7985	1022	7055	8077	943	7046	7989
Total	1053	8148	9201	1035	8038	9073	970	8171	9141
Maximum (mSv)	4.50	25.20	25.20	2.70	12.50	12.50	4.34	20.73	20.73
Average (mSv)	0.17	0.65	0.59	0.13	0.48	0.44	0.15	0.55	0.51

・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, 2017 to May 31, 2017 and from April 1, 2017 to June 30, 2017 for comparison.

Table 7. Equivalent Dose to the Skin

Dose Ranges (mSv)	April 2017 - May 2017			April 2017 - June 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	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	1	1	0	1	1
20-50	0	22	22	0	60	60	0	38	38
10-20	1	152	153	1	253	254	0	101	101
5-10	0	351	351	3	491	494	3	140	143
1-5	86	1417	1503	145	1775	1920	59	358	417
1 or less	1061	6980	8041	1060	7053	8113	-1	73	72
Total	1148	8922	10070	1209	9633	10842	61	711	772
Maximum (mSv)	10.60	43.30	43.30	11.03	52.74	52.74	-	-	-
Average (mSv)	0.29	1.11	1.02	0.40	1.50	1.37	-	-	-

・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 - May 2017			April 2017 - June 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	0	0	0	0	0
50-75	0	0	0	0	0	0	0	0	0
20-50	0	16	16	0	53	53	0	37	37
10-20	0	125	125	0	219	219	0	94	94
5-10	1	333	334	4	480	484	3	147	150
1-5	83	1352	1435	144	1730	1874	61	378	439
1 or less	1064	7096	8160	1061	7151	8212	-3	55	52
Total	1148	8922	10070	1209	9633	10842	61	711	772
Maximum (mSv)	6.60	27.60	27.60	7.03	48.33	48.33	-	-	-
Average (mSv)	0.28	1.02	0.94	0.39	1.41	1.30	-	-	-

・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.