Evaluation of the exposure dose of workers engaged in radiation work at the Fukushima Daiichi Nuclear Power Station

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TEPCO has been evaluating the exposure dose of workers who engaged in radiation work at the Fukushima Daiichi Nuclear Power Station under two types, internal and external exposure to radiation, and has submitted the evaluation results to the Ministry of Health, Labour and Welfare regularly.

TEPCO today submitted to the Ministry of Health, Labour and Welfare a report on the exposure dose evaluation the data of which are those we collected until the end of November 2025. Here is part of the report: the maximum value of the external exposure dose among the workers who engaged in the work at the power station in November was 8.45 mSv, and regarding the internal exposure dose, no significant value was measured.

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 months.

Table 1. External Exposure Dose

Dose Ranges (mSv)	September 2025			October 2025			November 2025		
	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	0	0	0	1	1	0	0	0
5-10	0	46	46	0	52	52	0	31	31
1-5	8	353	361	16	501	517	9	388	397
1 or less	1009	6443	7452	999	6594	7593	997	6737	7734
Total	1017	6842	7859	1015	7148	8163	1006	7156	8162
Maximum (mSv)	1.6	9.9	9.9	4.4	10.2	10.2	1.68	8.45	8.45
Average (mSv)	0.06	0.25	0.22	0.08	0.30	0.28	0.07	0.24	0.22

・The values of the exposure dose and the number of the workers in the table above are subject to change, because there are cases that 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 Seismic Isolation 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, 2021. Table 3 shows the distribution of cumulative exposure dose in the fiscal year of 2025. Two different periods of time are shown in the Table 2: from April 1, 2021 to October 31, 2025 and from April 1, 2021 to November 30, 2025, and in the Table 3: from April 1, 2025 to October 31, 2025 and from April 1, 2025 to November 30 2025, for comparison.

Table 2. Cumulative Exposure Dose for Five Years

Dose Ranges (mSv)	April 2021 - October 2025			April 2021 - November 2025			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	1	1	0	1	1	0	0	0
50-75	0	177	177	0	185	185	0	8	8
20-50	39	1548	1587	41	1563	1604	2	15	17
10-20	82	2026	2108	85	2055	2140	3	29	32
5-10	151	1849	2000	149	1867	2016	-2	18	16
1-5	381	3000	3381	389	3020	3409	8	20	28
1 or less	1420	9795	11215	1413	9870	11283	-7	75	68
Total	2073	18396	20469	2077	18561	20638	4	165	169
Maximum (mSv)	41.12	75.82	75.82	41.67	75.91	75.91	-	-	-
Average (mSv)	2.15	5.90	5.52	2.18	5.94	5.56	-	-	-

・The values of the exposure dose and the number of the workers in the table above are subject to change, because there are cases that 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 Seismic Isolation 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 2025

Dose Ranges (mSv)	April 2025 - October 2025			April 2025 - November 2025			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	254	254	0	323	323	0	69	69
5-10	5	532	537	13	607	620	8	75	83
1-5	107	1555	1662	118	1715	1833	11	160	171
1 or less	1263	6767	8030	1256	6770	8026	-7	3	-4
Total	1375	9108	10483	1387	9415	10802	12	307	319
Maximum (mSv)	7.9	19.8	19.8	8.32	19.8	19.8	-	-	-
Average (mSv)	0.28	1.30	1.17	0.33	1.44	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 cases that 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 Seismic Isolation 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 (100 mSv), 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 0.1 mSv/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 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 cases that 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 Seismic Isolation 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 eye 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)	September 2025			October 2025			November 2025		
	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	0	0	0	0	0	0	0	0
10-20	0	6	6	0	4	4	0	0	0
5-10	0	59	59	0	73	73	0	31	31
1-5	13	425	438	17	579	596	8	445	453
1 or less	1004	6352	7356	998	6492	7490	998	6680	7678
Total	1017	6842	7859	1015	7148	8163	1006	7156	8162
Maximum (mSv)	4.3	16.2	16.2	4.4	14.2	14.2	1.68	8.45	8.45
Average (mSv)	0.07	0.30	0.27	0.08	0.36	0.33	0.07	0.26	0.23

・The values of the exposure dose and the number of the workers in the table above are subject to change, because there are cases that 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 Seismic Isolation 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 500 mSv/year (the emergency exposure dose limit is 1 Sv).

・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)	September 2025			October 2025			November 2025		
	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	2	2	0	3	3	0	0	0
5-10	0	51	51	0	66	66	0	31	31
1-5	8	366	374	17	513	530	8	445	453
1 or less	1009	6423	7432	998	6566	7564	998	6680	7678
Total	1017	6842	7859	1015	7148	8163	1006	7156	8162
Maximum (mSv)	1.6	10.7	10.7	4.4	11.1	11.1	1.68	8.45	8.45
Average (mSv)	0.06	0.26	0.24	0.08	0.33	0.30	0.07	0.26	0.23

・The values of the exposure dose and the number of the workers in the table above are subject to change, because there are cases that 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 Seismic Isolation 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 50 mSv/year and 100 mSv/5 years (the emergency exposure dose limit is 300 mSv). The equivalent dose limit to the lens of the eye before April 1, 2021 was 150mSv/year (the emergency exposure dose limit was 300 mSv).

・The equivalent dose to the lens of the eye is measured at a depth of 1 centimeter for neutron ray, 3 millimeters for X-ray, gamma ray and beta ray from the skin surface. However, as for X-ray, gamma ray and beta ray, it is measured at a depth of 1 centimeter or 70 micrometer when deemed appropriate with consideration for radiation type and energy type (since April, 2021).

5. Cumulative Equivalent Dose

Table 7 and Table 8 show the distribution of cumulative equivalent dose 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 during two different periods of time, from April 1, 2025 to October 31, 2025 and from April 1, 2025 to November 30, 2025 for comparison.

Table 9 shows the distribution of cumulative exposure dose for five years, starting on April 1, 2021: from April 1, 2021 to October 31, 2025 and from April 1, 2021 to November 30, 2025 for comparison.

Table 7. Equivalent Dose to the Skin

Dose Ranges (mSv)	April 2025 - October 2025			April 2025 - November 2025			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	1	1	0	1	1
50-75	0	4	4	0	3	3	0	-1	-1
20-50	0	19	19	0	21	21	0	2	2
10-20	0	345	345	0	419	419	0	74	74
5-10	8	590	598	15	667	682	7	77	84
1-5	107	1555	1662	118	1689	1807	11	134	145
1 or less	1260	6595	7855	1254	6615	7869	-6	20	14
Total	1375	9108	10483	1387	9415	10802	12	307	319
Maximum (mSv)	7.9	74.0	74.0	8.80	76.33	76.33	-	-	-
Average (mSv)	0.30	1.58	1.41	0.34	1.72	1.54	-	-	-

・The values of the exposure dose and the number of the workers in the table above are subject to change, because there are cases that 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 Seismic Isolation 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 500 mSv/year (the emergency exposure dose limit is 1 Sv).

・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 8. Equivalent Dose to the Lens of the Eye

Dose Ranges (mSv)	April 2025 - October 2025			April 2025 - November 2025			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	0	0	0	0	0	0	0	0
10-20	0	303	303	0	364	364	0	61	61
5-10	5	530	535	13	626	639	8	96	104
1-5	107	1549	1656	118	1716	1834	11	167	178
1 or less	1263	6726	7989	1256	6709	7965	-7	-17	-24
Total	1375	9108	10483	1387	9415	10802	12	307	319
Maximum (mSv)	7.9	16.9	16.9	8.80	16.9	16.9	-	-	-
Average (mSv)	0.28	1.40	1.25	0.33	1.54	1.39	-	-	-

・The values of the exposure dose and the number of the workers in the table above are subject to change, because there are cases that 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 Seismic Isolation 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 50 mSv/year and 100 mSv/5 years (the emergency exposure dose limit is 300 mSv).

・The equivalent dose to the lens of the eye is measured at a depth of 1 centimeter for neutron ray, 3 millimeters for X-ray, gamma ray and beta ray from the skin surface. However, as for X-ray, gamma ray and beta ray, it is measured at a depth of 1 centimeter or 70 micrometer when deemed appropriate with consideration for radiation type and energy type.

Table 9. Equivalent Dose to the Lens of the Eye: Cumulative Exposure Dose for Five Years

Dose Ranges (mSv)	April 2021 - October 2025			April 2021 - November 2025			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	4	4	0	6	6	0	2	2
50-75	0	225	225	0	236	236	0	11	11
20-50	42	1625	1667	44	1643	1687	2	18	20
10-20	81	2043	2124	82	2064	2146	1	21	22
5-10	152	1770	1922	153	1790	1943	1	20	21
1-5	385	2976	3361	392	2992	3384	7	16	23
1 or less	1413	9753	11166	1406	9830	11236	-7	77	70
Total	2073	18396	20469	2077	18561	20638	4	165	169
Maximum (mSv)	41.12	77.70	77.70	41.76	78.29	78.29	-	-	-
Average (mSv)	2.18	6.21	5.80	2.21	6.25	5.85	-	-	-

・The values of the exposure dose and the number of the workers in the table above are subject to change, because there are cases that 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 Seismic Isolation 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 50 mSv/year and 100 mSv/5 years (the emergency exposure dose limit is 300 mSv).

・The equivalent dose to the lens of the eye is measured at a depth of 1 centimeter for neutron ray, 3 millimeters for X-ray, gamma ray and beta ray from the skin surface. However, as for X-ray, gamma ray and beta ray, it is measured at a depth of 1 centimeter or 70 micrometer when deemed appropriate with consideration for radiation type and energy type.