Exposure Dose Distribution of the Workers at Fukushima Daiichi Nuclear Power Plant

(Updated on 26 February 2021)

1 Radiation Exposure Dose Distributions

(1) The distribution of external exposure dose of the workers during the last 3 months

(Numbers of workers who entered each area every month)

Effective dose (E)	November 2020			December 2020			January 2021		
mSv	TEPCO	Contractors	Total	TEPCO	Contractors	Total	TEPCO	Contractors	Total
100 <e< td=""><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e<>	0	0	0	0	0	0	0	0	0
75 <e≤100< td=""><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e≤100<>	0	0	0	0	0	0	0	0	0
50 <e≤75< td=""><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e≤75<>	0	0	0	0	0	0	0	0	0
20 <e≤50< td=""><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e≤50<>	0	0	0	0	0	0	0	0	0
10 <e≤20< td=""><td>0</td><td>2</td><td>2</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e≤20<>	0	2	2	0	0	0	0	0	0
5 <e≤10< td=""><td>0</td><td>48</td><td>48</td><td>0</td><td>26</td><td>26</td><td>0</td><td>13</td><td>13</td></e≤10<>	0	48	48	0	26	26	0	13	13
1 <e≤5< td=""><td>25</td><td>579</td><td>604</td><td>36</td><td>485</td><td>521</td><td>20</td><td>544</td><td>564</td></e≤5<>	25	579	604	36	485	521	20	544	564
E≤1	1039	5056	6095	975	5242	6217	885	5226	6111
Total	1064	5685	6749	1011	5753	6764	905	5783	6688
Maximum (mSv)	4.84	11.00	11.00	2.29	9.00	9.00	2.53	6.72	6.72
Average (mSv)	0.12	0.42	0.37	0.13	0.33	0.30	0.11	0.33	0.30

(*) Exposure doses and the number of workers are subject to change due to the replacement of accumulated doses measured using PAD with monthly doses measured using an integrating dosimeter and the reflection of values for workers wearing only an integrating dosimeter (e.g., workers working only within a seismically isolated building).

Effective dose €	April 2016 - December 2020			April 2016 - January 2021			Difference		
mSv	TEPCO	Contractors	Total	TEPCO	Contractors	Total	TEPCO	Contractors	Total
100 <e< td=""><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e<>	0	0	0	0	0	0	0	0	0
75 <e≤100< td=""><td>0</td><td>49</td><td>49</td><td>0</td><td>51</td><td>51</td><td>0</td><td>2</td><td>2</td></e≤100<>	0	49	49	0	51	51	0	2	2
50 <e≤75< td=""><td>2</td><td>314</td><td>316</td><td>2</td><td>321</td><td>323</td><td>0</td><td>7</td><td>7</td></e≤75<>	2	314	316	2	321	323	0	7	7
20 <e≤50< td=""><td>83</td><td>1973</td><td>2056</td><td>86</td><td>1998</td><td>2084</td><td>3</td><td>25</td><td>28</td></e≤50<>	83	1973	2056	86	1998	2084	3	25	28
10 <e≤20< td=""><td>151</td><td>2411</td><td>2562</td><td>151</td><td>2431</td><td>2582</td><td>0</td><td>20</td><td>20</td></e≤20<>	151	2411	2562	151	2431	2582	0	20	20
5 <e≤10< td=""><td>198</td><td>2490</td><td>2688</td><td>197</td><td>2493</td><td>2690</td><td>-1</td><td>3</td><td>2</td></e≤10<>	198	2490	2688	197	2493	2690	-1	3	2
1 <e≤5< td=""><td>610</td><td>4680</td><td>5290</td><td>614</td><td>4711</td><td>5325</td><td>4</td><td>31</td><td>35</td></e≤5<>	610	4680	5290	614	4711	5325	4	31	35
E≤1	1400	10141	11541	1397	10254	11651	-3	113	110
Total	2444	22058	24502	2447	22259	24706	3	201	204
Maximum (mSv)	58.07	87.50	87.50	58.72	87.83	87.83	-	-	-
Average (mSv)	3.14	6.81	6.44	3.18	6.84	6.47	-	-	-

(2) Combined Cumulative Effective Dose from April 2016 (Internal and External)

(*) Exposure doses and the number of workers are subject to change due to the replacement of accumulated doses measured using PAD with monthly doses measured using an integrating dosimeter and the reflection of values for workers wearing only an integrating dosimeter (e.g., workers working only within a seismically isolated building).

Effective dose (E)	April 2020 - December 2020			April 2020 - January 2021			Difference		
mSv	TEPCO	Contractors	Total	TEPCO	Contractors	Total	TEPCO	Contractors	Total
100 <e< td=""><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e<>	0	0	0	0	0	0	0	0	0
75 <e≤100< td=""><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e≤100<>	0	0	0	0	0	0	0	0	0
50 <e≤75< td=""><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e≤75<>	0	0	0	0	0	0	0	0	0
20 <e≤50< td=""><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e≤50<>	0	0	0	0	0	0	0	0	0
10 <e≤20< td=""><td>5</td><td>517</td><td>522</td><td>5</td><td>628</td><td>633</td><td>0</td><td>111</td><td>111</td></e≤20<>	5	517	522	5	628	633	0	111	111
5 <e≤10< td=""><td>32</td><td>854</td><td>886</td><td>43</td><td>858</td><td>901</td><td>11</td><td>4</td><td>15</td></e≤10<>	32	854	886	43	858	901	11	4	15
1 <e≤5< td=""><td>226</td><td>1889</td><td>2115</td><td>225</td><td>2073</td><td>2298</td><td>-1</td><td>184</td><td>183</td></e≤5<>	226	1889	2115	225	2073	2298	-1	184	183
E≤1	1049	4919	5968	1044	4955	5999	-5	36	31
Total	1312	8179	9491	1317	8514	9831	5	335	340
Maximum (mSv)	12.98	19.31	19.07	13.27	19.31	19.31	-	-	-
Average (mSv)	0.71	2.29	1.93	0.78	2.43	2.21	-	-	-

(3) Combined Cumulative Effective Dose from April 2020 (Internal and External)

(*) Exposure doses and the number of workers are subject to change due to the replacement of accumulated doses measured using PAD with monthly doses measured using an integrating dosimeter and the reflection of values for workers wearing only an integrating dosimeter (e.g., workers working only within a seismically isolated building).

(4) Distribution of sum of external exposure dose and internal exposure dose of workers engaged in specified high-dose work

March 2011 - September 2015					
-					
1					
191					
233					
267					
186					
129					
145					
51					
1203					
102.69					
36.49					

(Specified high-dose work has not been performed since October 2015.)

(As specified high-dose work has not been performed since October 2015, the table shows the data up to September 2015.)

(*) Workers engaged in work to which dose limit (100 mSv) during emergency work is applied in line with Article 7 of the Ordinance on Prevention of Ionizing Radiation Hazards.

Specifically, these workers are those who are engaged in work to maintain the functions of a nuclear reactor facility or spent fuel storage pool, or in work to maintain functions to suppress or prevent the possible release of a large amount of radioactive materials due to a failure of or damage to the nuclear reactor facility at a location around the nuclear reactor facility, steam turbine, or accessory facility where hourly dose may exceed 0.1 mSv.

It should be noted that only TEPCO employees have so far been engaged in specified high-dose work.

- (*) The number of workers engaged in specified high-dose work is that of workers who were registered as such at least once during the period between March 2011 and September 2015.
- (*) Exposure doses and the number of workers are subject to change due to the replacement of accumulated doses

measured using PAD with monthly doses measured using an integrating dosimeter and the reflection of values for workers wearing only an integrating dosimeter (e.g., workers working only within a seismically isolated building).

(*) The results of re-evaluating committed doses in March 2011 reveal that maximum cumulative effective doses for the period between March 2011 and September 2015 exceeded 100.