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

(Updated on 24 April 2019)

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)	January 2019			February 2019			March 2019			
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>0</td><td>0</td><td>0</td><td>2</td><td>2</td><td>0</td><td>3</td><td>3</td></e≦20<>	0	0	0	0	2	2	0	3	3	
5 <e≦10< td=""><td>0</td><td>37</td><td>37</td><td>1</td><td>58</td><td>59</td><td>1</td><td>28</td><td>29</td></e≦10<>	0	37	37	1	58	59	1	28	29	
1 <e≦5< td=""><td>16</td><td>511</td><td>527</td><td>28</td><td>676</td><td>704</td><td>34</td><td>600</td><td>634</td></e≦5<>	16	511	527	28	676	704	34	600	634	
E≤1	944	5,569	6,513	974	5,575	6,549	919	5,539	6,458	
Total	960	6,117	7,077	1,003	6,311	7,314	954	6,170	7,124	
Maximum (mSv)	2.32	7.81	7.81	5.38	12.60	12.60	5.70	11.81	11.81	
Average (mSv)	0.10	0.36	0.32	0.15	0.44	0.40	0.17	0.37	0.34	

(*) 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).

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

Effective dose (E)	April 2016 - February 2019			April 2016 - March 2019			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>6</td><td>6</td><td>0</td><td>6</td><td>6</td><td>0</td><td>0</td><td>0</td></e≤100<>	0	6	6	0	6	6	0	0	0
50 <e≤75< td=""><td>0</td><td>70</td><td>70</td><td>0</td><td>80</td><td>80</td><td>0</td><td>10</td><td>10</td></e≤75<>	0	70	70	0	80	80	0	10	10
20 <e≤50< td=""><td>33</td><td>1,348</td><td>1,381</td><td>35</td><td>1,377</td><td>1,412</td><td>2</td><td>29</td><td>31</td></e≤50<>	33	1,348	1,381	35	1,377	1,412	2	29	31
10 <e≤20< td=""><td>124</td><td>2,041</td><td>2,165</td><td>129</td><td>2,069</td><td>2,198</td><td>5</td><td>28</td><td>33</td></e≤20<>	124	2,041	2,165	129	2,069	2,198	5	28	33
5 <e≤10< td=""><td>172</td><td>2,157</td><td>2,329</td><td>172</td><td>2,179</td><td>2,351</td><td>0</td><td>22</td><td>22</td></e≤10<>	172	2,157	2,329	172	2,179	2,351	0	22	22
1 <e≤5< td=""><td>530</td><td>4,443</td><td>4,973</td><td>539</td><td>4,454</td><td>4,993</td><td>9</td><td>11</td><td>20</td></e≤5<>	530	4,443	4,973	539	4,454	4,993	9	11	20
E≤1	1,247	8,491	9,738	1,233	8,510	9,743	-14	19	5
Total	2,106	18,556	20,662	2,108	18,675	20,783	2	119	121
Maximum (mSv)	34.21	79.90	79.90	35.20	79.90	79.90	-	-	-
Average (mSv)	2.48	5.57	5.25	2.56	5.65	5.34	-	-	-

(*) 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 2018 - February 2019			April 2018 - March 2019			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>13</td><td>752</td><td>765</td><td>21</td><td>855</td><td>876</td><td>8</td><td>103</td><td>111</td></e≤20<>	13	752	765	21	855	876	8	103	111
5 <e≤10< td=""><td>64</td><td>822</td><td>886</td><td>70</td><td>869</td><td>939</td><td>6</td><td>47</td><td>53</td></e≤10<>	64	822	886	70	869	939	6	47	53
1 <e≦5< td=""><td>245</td><td>2,763</td><td>3,008</td><td>252</td><td>2,824</td><td>3,076</td><td>7</td><td>61</td><td>68</td></e≦5<>	245	2,763	3,008	252	2,824	3,076	7	61	68
E≤1	1,117	5,334	6,451	1,100	5,315	6,415	-17	-19	-36
Total	1,439	9,671	11,110	1,443	9,863	11,306	4	192	196
Maximum (mSv)	13.41	19.90	19.90	15.52	19.90	19.90	-	-	-
Average (mSv)	0.93	2.45	2.26	1.04	2.64	2.43	-	-	-

(3) Combined Cumulative Effective Dose from April 2018 (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*

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

Effective dose (E) mSv	March 2011- September 2015					
100 <e< td=""><td>1</td></e<>	1					
75 <e≤100< td=""><td>191</td></e≤100<>	191					
50 <e≤75< td=""><td>233</td></e≤75<>	233					
20 <e≤50< td=""><td colspan="6">267</td></e≤50<>	267					
10 <e≤20< td=""><td colspan="6">186</td></e≤20<>	186					
5 <e≤10< td=""><td colspan="5">129</td></e≤10<>	129					
1 <e≤5< td=""><td>145</td></e≤5<>	145					
E≤1	51					
Total	1,203					
Maximum (mSv)	102.69					
Average (mSv)	36.49					

(*) 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.

(*) Workers engaged in specified high-dose work in each month is the number of workers registered as workers engaged in specified high-dose work in that month.

However, the total of March 2011 to September 2015 includes workers released from specified high-dose work.

- (*) 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.