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

Updated on 29 August 2014)

		Persons	Increase	Emergency workers(*)	Updated on	
Total Workers		37,015	834	19,346	As of 31 July, 2014	
	TEPCO	4,283	56	3,391	(Obtained on 29	
	Contractors	32,732	778	15,955	August)	

1 Number of Workers (Later than 11 March 2011)

(*) As of the end of December 2011; Targeted workers are now being identified by closely examining the database.

2 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)

(rumbers of workers who entered each area every month)										
Effective dose (E)	E) May 2014			June 2014				July 2014		
mSv	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>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></e<=50<>	0	1	1	0	0	0	0	0	0	
10 <e<=20< td=""><td>0</td><td>47</td><td>47</td><td>0</td><td>26</td><td>26</td><td>0</td><td>37</td><td>37</td></e<=20<>	0	47	47	0	26	26	0	37	37	
5 <e<=10< td=""><td>1</td><td>209</td><td>210</td><td>1</td><td>329</td><td>330</td><td>0</td><td>226</td><td>226</td></e<=10<>	1	209	210	1	329	330	0	226	226	
1 <e<=5< td=""><td>65</td><td>1,794</td><td>1,859</td><td>66</td><td>1,790</td><td>1,856</td><td>35</td><td>1,565</td><td>1,600</td></e<=5<>	65	1,794	1,859	66	1,790	1,856	35	1,565	1,600	
E<= 1	1,053	5,974	7,027	1,056	6,768	7,824	952	6,941	7,893	
Total	1,119	8,025	9,144	1,123	8,913	10,036	987	8,769	9,756	
Maximum (mSv)	5.60	20.70	20.70	6.80	16.89	16.89	4.65	16.43	16.43	
Average (mSv)	0.31	0.95	0.87	0.32	0.95	0.88	0.23	0.83	0.77	

(*) 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 March 2011 (Internal and External)

Effective dose (E)) March 2011-June 2014			March 2011-July 2014			Difference		
mSv	TEPCO	Contractors	Total	TEPCO	Contractors	Total	TEPCO	Contractors	Total
250 <e< td=""><td>6</td><td>0</td><td>6</td><td>6</td><td>0</td><td>6</td><td>0</td><td>0</td><td>0</td></e<>	6	0	6	6	0	6	0	0	0
200 <e<=250< td=""><td>1</td><td>2</td><td>3</td><td>1</td><td>2</td><td>3</td><td>0</td><td>0</td><td>0</td></e<=250<>	1	2	3	1	2	3	0	0	0
150 <e<=200< td=""><td>25</td><td>2</td><td>27</td><td>25</td><td>2</td><td>27</td><td>0</td><td>0</td><td>0</td></e<=200<>	25	2	27	25	2	27	0	0	0
100 <e<=150< td=""><td>118</td><td>20</td><td>138</td><td>118</td><td>20</td><td>138</td><td>0</td><td>0</td><td>0</td></e<=150<>	118	20	138	118	20	138	0	0	0
75 <e<=100< td=""><td>277</td><td>145</td><td>422</td><td>278</td><td>153</td><td>431</td><td>1</td><td>8</td><td>9</td></e<=100<>	277	145	422	278	153	431	1	8	9
50 <e<=75< td=""><td>322</td><td>1,052</td><td>1,374</td><td>321</td><td>1,075</td><td>1,396</td><td>-1</td><td>23</td><td>22</td></e<=75<>	322	1,052	1,374	321	1,075	1,396	-1	23	22
20 <e<=50< td=""><td>613</td><td>4,752</td><td>5,365</td><td>615</td><td>4,834</td><td>5,449</td><td>2</td><td>82</td><td>84</td></e<=50<>	613	4,752	5,365	615	4,834	5,449	2	82	84
10 <e<=20< td=""><td>563</td><td>4,340</td><td>4,903</td><td>567</td><td>4,465</td><td>5,032</td><td>4</td><td>125</td><td>129</td></e<=20<>	563	4,340	4,903	567	4,465	5,032	4	125	129
5 <e<=10< td=""><td>463</td><td>4,235</td><td>4,698</td><td>463</td><td>4,295</td><td>4,758</td><td>0</td><td>60</td><td>60</td></e<=10<>	463	4,235	4,698	463	4,295	4,758	0	60	60
1 <e<=5< td=""><td>740</td><td>7,928</td><td>8,668</td><td>749</td><td>8,074</td><td>8,823</td><td>9</td><td>146</td><td>155</td></e<=5<>	740	7,928	8,668	749	8,074	8,823	9	146	155
E<= 1	1,099	9,478	10,577	1,140	9,812	10,952	41	334	375
Total	4,227	31,954	36,181	4,283	32,732	37,015	56	778	834
Maximum (mSv)	678.80	238.42	678.80	678.80	238.42	678.80	-	-	-
Average (mSv)	23.43	10.80	12.27	23.18	10.76	12.20	-	-	-

(*) The number of new comers in July 2014 was 834.

(*) There has been no significant internal exposure reported since October 2011.

(*) 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)	ective dose (E) April 2014-June 2014			April 2014-July 2014			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>29</td><td>29</td><td>0</td><td>89</td><td>89</td><td>0</td><td>60</td><td>60</td></e<=50<>	0	29	29	0	89	89	0	60	60
10 <e<=20< td=""><td>3</td><td>421</td><td>424</td><td>4</td><td>632</td><td>636</td><td>1</td><td>211</td><td>212</td></e<=20<>	3	421	424	4	632	636	1	211	212
5 <e<=10< td=""><td>15</td><td>942</td><td>957</td><td>25</td><td>1,153</td><td>1,178</td><td>10</td><td>211</td><td>221</td></e<=10<>	15	942	957	25	1,153	1,178	10	211	221
1 <e<=5< td=""><td>316</td><td>3,558</td><td>3,874</td><td>372</td><td>4,048</td><td>4,420</td><td>56</td><td>490</td><td>546</td></e<=5<>	316	3,558	3,874	372	4,048	4,420	56	490	546
E<= 1	953	5,692	6,645	991	5,928	6,919	38	236	274
Total	1,287	10,642	11,929	1,392	11,850	13,242	105	1,208	1,313
Maximum (mSv)	12.40	39.82	39.82	15.24	39.82	39.82	-	-	-
Average (mSv)	0.87	2.20	2.06	0.97	2.59	2.42	-	_	-

(*) 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) Combined Cumulative Effective Dose of Workers to Whom Emergency Dose Limits Apply*

Effective dose (E) mSv	May 2014	June 2014	July 2014	March 2011-July 2014
100 <e< td=""><td>0</td><td>0</td><td>0</td><td>1</td></e<>	0	0	0	1
75 <e<=100< td=""><td>0</td><td>0</td><td>0</td><td>167</td></e<=100<>	0	0	0	167
50 <e<=75< td=""><td>0</td><td>0</td><td>0</td><td>215</td></e<=75<>	0	0	0	215
20 <e<=50< td=""><td>0</td><td>0</td><td>0</td><td>251</td></e<=50<>	0	0	0	251
10 <e<=20< td=""><td>0</td><td>0</td><td>0</td><td>151</td></e<=20<>	0	0	0	151
5 <e<=10< td=""><td>1</td><td>1</td><td>0</td><td>119</td></e<=10<>	1	1	0	119
1 <e<=5< td=""><td>57</td><td>62</td><td>34</td><td>133</td></e<=5<>	57	62	34	133
E<= 1	560	558	544	54
Total	618	621	578	1,091
Maximum (mSv)	5.60	6.80	4.65	102.69
Average (mSv)	0.42	0.45	0.29	36.43

(*) Workers under the application of the emergency dose limit (100mSv) shown in Article 7 of the Ordinance on Prevention of Ionizing Radiation Hazards

Specifically, they are workers engaged in work to maintain the function of cooling reactors or spent fuel tanks or to maintain the function to control or prevent the release of a huge amount of radioactive material due to trouble or a breakdown at a reactor facility, in an area where radiation dose rates exceed 0.1 mSv/h, around any reactor facilities, steam turbines and related facilities, and the vicinity thereof in the NPP. Until now, all designated workers have been TEPCO employees.

- (*) The monthly number of workers to whom emergency dose limits apply is the number of workers who have filed applications as such. However, the cumulative number for the period between March 2011 and July 2014 includes those whose designation was removed.
- (*) 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 July 2014 exceeded 100.