

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

(Updated on 25 December 2015)

## 1 Number of Workers (Later than 11 March 2011)

	Persons	Increase	Emergency Workers(*)	Updated on
Total Workers	45,891	312	19,675	As of 30 November 2015 (Obtained on 25 December)
TEPCO	4,663	14	3,636	
Contractors	41,228	298	16,039	

(\*) As of November 2014; Including workers to whom emergency dose limits apply

## 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)

Effective dose (E) mSv	September 2015			October 2015			November 2015		
	TEPCO	Contractors	Total	TEPCO	Contractors	Total	TEPCO	Contractors	Total
100<E	0	0	0	0	0	0	0	0	0
75<E<=100	0	0	0	0	0	0	0	0	0
50<E<=75	0	0	0	0	0	0	0	0	0
20<E<=50	0	0	0	0	0	0	0	0	0
10<E<=20	0	16	16	0	9	9	0	7	7
5<E<=10	1	140	141	0	145	145	0	76	76
1<E<=5	51	1,590	1,641	52	1,699	1,751	44	1,399	1,443
E<= 1	1,144	8,034	9,178	1,130	7,864	8,994	998	7,852	8,850
<b>Total</b>	<b>1,196</b>	<b>9,780</b>	<b>10,976</b>	<b>1,182</b>	<b>9,717</b>	<b>10,899</b>	<b>1,042</b>	<b>9,334</b>	<b>10,376</b>
Maximum (mSv)	5.60	15.30	15.30	3.20	14.42	14.42	4.96	13.88	13.88
Average (mSv)	0.24	0.67	0.63	0.22	0.70	0.64	0.20	0.55	0.52

(\*) 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) mSv	March 2011- October 2015			March 2011- November 2015			Difference		
	TEPCO	Contractors	Total	TEPCO	Contractors	Total	TEPCO	Contractors	Total
250<E	6	0	6	6	0	6	0	0	0
200<E<=250	1	2	3	1	2	3	0	0	0
150<E<=200	26	2	28	26	2	28	0	0	0
100<E<=150	117	20	137	117	20	137	0	0	0
75<E<=100	308	246	554	311	259	570	3	13	16
50<E<=75	331	1,659	1,990	330	1,690	2,020	-1	31	30
20<E<=50	632	6,247	6,879	631	6,301	6,932	-1	54	53
10<E<=20	616	5,594	6,210	620	5,628	6,248	4	34	38
5<E<=10	495	5,300	5,795	495	5,327	5,822	0	27	27
1<E<=5	860	9,461	10,321	871	9,518	10,389	11	57	68
E<= 1	1,257	12,399	13,656	1,255	12,481	13,736	-2	82	80
<b>Total</b>	<b>4,649</b>	<b>40,930</b>	<b>45,579</b>	<b>4,663</b>	<b>41,228</b>	<b>45,891</b>	<b>14</b>	<b>298</b>	<b>312</b>
Maximum (mSv)	678.80	238.42	678.80	678.80	238.42	678.80	-	-	-
Average (mSv)	22.48	11.48	12.60	22.45	11.52	12.63	-	-	-

(\*) Number of new comers in November 2015 was 312.

(\*) 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).

**(3) Combined Cumulative Effective Dose from April 2015 (Internal and External)**

Effective dose (E) mSv	April 2015 - October 2015			April 2015 - November 2015			Difference		
	TEPCO	Contractors	Total	TEPCO	Contractors	Total	TEPCO	Contractors	Total
100<E	0	0	0	0	0	0	0	0	0
75<E<=100	0	0	0	0	0	0	0	0	0
50<E<=75	0	0	0	0	0	0	0	0	0
20<E<=50	0	259	259	1	328	329	1	69	70
10<E<=20	16	1,068	1,084	24	1,261	1,285	8	193	201
5<E<=10	75	1,698	1,773	83	1,796	1,879	8	98	106
1<E<=5	359	4,908	5,267	389	5,030	5,419	30	122	152
E<= 1	1,136	6,631	7,767	1,114	6,579	7,693	-22	-52	-74
<b>Total</b>	<b>1,586</b>	<b>14,564</b>	<b>16,150</b>	<b>1,611</b>	<b>14,994</b>	<b>16,605</b>	<b>25</b>	<b>430</b>	<b>455</b>
Maximum(mSv)	18.63	37.68	37.68	20.09	37.68	37.68	-	-	-
Average(mSv)	1.22	3.26	3.01	1.33	3.51	3.30	-	-	-

(\*) 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).

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

Effective dose (E) mSv	Sep. 2015	Oct. 2015	Nov. 2015	March 2011- November 2015
100<E	0	0	0	1
75<E<=100	0	0	0	191
50<E<=75	0	0	0	233
20<E<=50	0	0	0	267
10<E<=20	0	0	0	186
5<E<=10	1	0	0	129
1<E<=5	43	0	0	145
E<= 1	523	0	0	51
<b>Total</b>	<b>567</b>	<b>0</b>	<b>0</b>	<b>1,203</b>
Maximum (mSv)	5.60	-	-	102.69
Average (mSv)	0.35	-	-	36.50

(\*) 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 November 2015 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 November 2015 exceeded 100.