

Enhancing controls of internal exposures at Fukushima Daiichi Nuclear Power Station

1. Distribution of exposure dose

The internal exposure dose of workers who newly engaged in the emergency works in the power station in August 2011 is shown in Attachment 1.

2. Investigation of workers whose contact information unknown for exposure dose control

Countermeasure for the workers whose contact information unknown and who engaged in the emergency works is shown in Attachment 2.

Distribution of Exposure Dose

【Scope of Coverage】

Number of Emergency Workers	External Exposure	Internal Exposure			External + Internal Exposure	
		WBC before Sep.22	3,737(March) 3,594(April) 3,026(May) 2,081(June) 2,069(July)	1,027(August) ⇒ Table 2	3,737(March) 3,594(April) 3,026(May) 2,081(June) 2,069(July)	1,027(August) ⇒ Table 3
Since March:3,762	3,742(March)	To be evaluated	5(March)	115(August)	5(March)	115(August)
Since April:3,614	3,614(April)		20(April)		20(April)	
Since May:3,040	3,040(May)		14(May)		14(May)	
Since June:2,152	2,152(June)		71(June)		71(June)	
Since July:2,122	2,122(July)		53(July)		53(July)	
Since August:1,142	1,142(August)					

(*) The results do not include those who worked outside Fukushima Daiichi Nuclear Power Station.

1. External Exposure Dose

Table 1 shows the distribution of external exposure dose (*1) until the end of August (March: from March 11 to 31, April: from April 1 to 30, May: from May 1 to 31, June: from June 1 to 30, July: from July to 31, August: from August 1 to 31) of those who engaged in emergency works.

*1 The results in April to August do not include the external exposure dose during the stay inside Main Anti-Earthquake Building and the move to Fukushima Daiichi Nuclear Power Station. However, such data as glass badges may be included.

Table 1

m S v	March			April			May			June			July			August		
	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total
Over 250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 200 - 250 or less	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 150- 200 or less	6	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 100- 150 or less	20	8	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 50 - 100 or less	108	55	163	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Over 20- 50 or less	269	146	415	6	50	56	2	19	21	0	17	17	0	6	6	0	0	0
Over 10- 20 or less	562	322	884	22	250	272	9	122	131	1	95	96	0	69	69	0	21	21
10 or less	689	1,554	2,243	592	2,692	3,284	271	2,617	2,888	184	1,855	2,039	215	1,832	2,047	131	990	1,121
Total	1,654	2,088	3,742	620	2,994	3,614	282	2,758	3,040	185	1,967	2,152	215	1,907	2,122	131	1,011	1,142
Max. (m S v)	182.33	199.42	199.42	42.73	65.92	65.92	24.61	41.59	41.59	11.94	39.62	39.62	3.89	31.22	31.22	1.98	18.27	18.27
Ave. (m S v)	19.30	9.20	13.60	2.10	3.40	3.20	2.44	2.79	2.75	1.04	2.30	2.19	0.46	2.00	1.84	0.22	1.58	1.42

2. Internal exposure dose

Table 2 shows the distribution of internal exposure dose (^{*2}) for workers who had WBC measurement by September 22, out of those who have once experienced emergency works.

*2 The evaluation result may be reviewed depend on the evaluation progress by investigation regarding irradiated date and/or detailed evaluation by JAEA.

Table 2

m S v	March			April			May			June			July			August		
	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total
over 250	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 200-250 or less	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 150-200 or less	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 100-150 or less	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 50-100 or less	36	42	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 20-50 or less	181	78	259	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Over 10-20 or less	402	262	664	1	20	21	0	1	1	0	0	0	0	0	0	0	0	0
10 or less	1,023	1,701	2,724	619	2,953	3,572	282	2,743	3,025	185	1,896	2,081	215	1,854	2,069	131	896	1,027
Total	1,654	2,083	3,737	620	2,974	3,594	282	2,744	3,026	185	1,896	2,081	215	1,854	2,069	131	896	1,027
Max. (m S v)	590.00	98.53	590.00	18.81	41.80	41.80	0.24	10.12	10.12	0.09	0.86	0.86	0.24	1.90	1.90	1.13	0.20	1.13
Ave. (m S v)	12.10	6.40	8.90	0.30	0.70	0.60	0.02	0.12	0.11	0.01	0.02	0.02	0.01	0.02	0.02	0.02	0.00	0.01

3. Total dose of internal and external exposure

The total dose of internal and external exposure for workers who had evaluation of internal exposure dose is shown in Table 3.

Table 3.

m S v	March			April			May			June			July			August		
	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total
over 250	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 to 250	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 to 200	12	2	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 to 150	62	15	77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 to 100	196	112	308	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0
20 to 50	527	331	858	9	72	81	2	20	22	0	17	17	0	6	6	0	0	0
10 to 20	536	503	1,039	20	289	309	9	135	144	1	95	96	0	69	69	0	21	21
0 to 10	315	1,118	1,433	591	2,610	3,201	271	2,589	2,860	184	1,784	1,968	215	1,779	1,994	131	875	1,006
Total	1,654	2,083	3,737	620	2,974	3,594	282	2,744	3,026	185	1,896	2,081	215	1,854	2,069	131	896	1,027
Max. (m S v)	670.36	238.42	670.36	45.55	69.28	69.28	24.77	41.61	41.61	11.94	39.62	39.62	3.91	31.24	31.24	1.99	18.27	18.27
Ave. (m S v)	31.40	15.60	22.60	2.50	4.10	3.80	2.45	2.91	2.87	1.05	2.38	2.26	0.47	2.05	1.89	0.24	1.72	1.53

4. Total dose of internal and external exposure (the total dose of each month)

Table 4 shows the distribution of the total dose of internal and external exposure dose until the end of August (March: from March 11 to August 31, April: April 1 to August 31, May: from May 1 to August 31, July: from July 1 to August 31, August: from August to 31) of those who engaged in emergency works.

Table 4.

m S v	March			April			May			June			July			August		
	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total	TEPCO	Contractor	Total
over 250	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 200-250 or less	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 150-200 or less	13	2	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 100-150 or less	90	23	113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Over 50-100 or less	257	244	501	5	33	38	0	2	2	0	0	0	0	0	0	0	0	0
Over 20-50 or less	535	612	1147	38	460	498	10	198	208	3	93	96	0	56	56	0	0	0
Over 10-20 or less	475	483	958	53	562	615	20	478	498	5	188	193	0	186	186	0	21	21
10 or less	277	722	999	524	1939	2463	252	2080	2332	177	1686	1863	215	1665	1880	131	875	1006
Total	1654	2088	3742	620	2994	3614	282	2758	3040	185	1967	2152	215	1907	2122	131	896	1027
Max. (m S v)	672.27	238.42	672.27	96.53	86.93	96.53	47.81	50.72	47.81	25.89	40.62	40.62	9.19	39.38	39.38	1.99	18.27	18.27
Ave. (m S v)	36.18	23.92	29.34	5.15	9.96	9.14	4.19	6.86	6.61	1.77	4.79	4.53	0.76	4.00	3.67	0.24	1.72	1.53

END

Investigation of workers whose contact information unknown for exposure dose control

1. Result of investigation

The number of workers whose contact information was unknown and who were newly engaged in works in the Nuclear Power Station from March to June was 65 persons in the previous report. However, the number has been reduced to 20 persons in this report.

The 20 persons consist of 9 persons who are not applicable as the result of investigation of the prime contractors, 4 persons who are not available to contact and 7 persons who are under investigation by the prime contractors.

There was no worker, whose contact information was unknown, and who was newly engaged in the emergency works from July to August.

2. Current status of investigation

We have conducted interview with prime contractors regarding several of missing workers whose contact information was unknown from March to June (8 companies). As for 2 companies in the 8 companies, we conducted interview with the branch on site.

(1) Investigation system

The total number of one team is 6 workers, which is mainly composed of the members from the general affairs department.

(2) General information for investigation

- Confirmation of specific measures for investigation
- Confirmation of the list and database for workers

As the result, we evaluated that the investigation for 7 companies was exact and appropriate. An additional investigation to the one company was requested.

3. Future effort

In corporate with each company, we will continue the investigation until the end of October in order to reduce the number of workers whose contact information.

END