Radiation dose levels at the Fukushima Daiichi Nuclear Power Station

2018/10/25

TEPCO

Tokyo Electric Power Company Holdings, Inc.

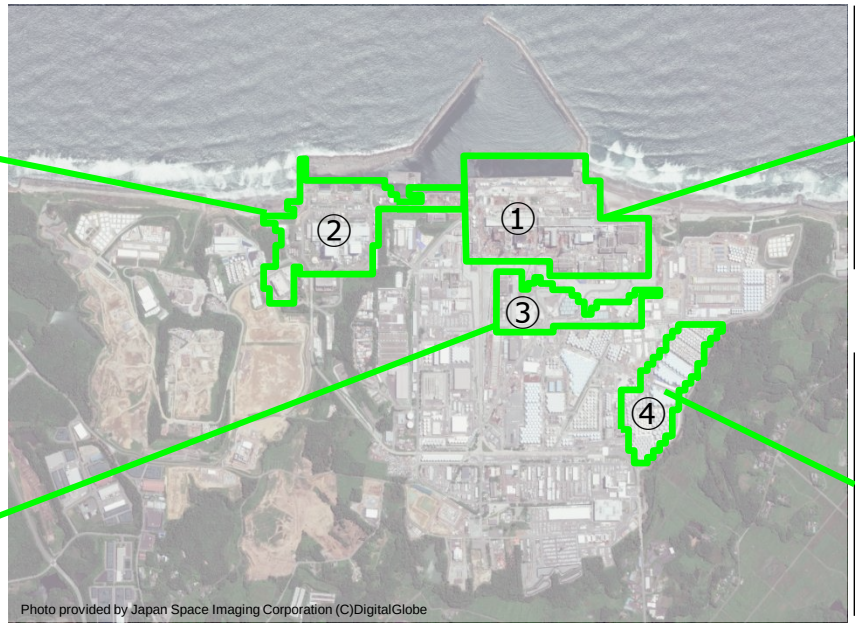
1. Outline

Dose reduction measures, such as topsoil removal, deep plowing and shielding, etc., have been sequentially implemented in areas of heavy activity in order to improve the work environment at the Fukushima Daiichi Nuclear Power Station. Radiation doses are also periodically checked in such areas after dose reduction measures have been completed.

Dose measurements were taken in the following areas during the first half of FY2018:

Dose measurement location②
Around Units 5-6 and around the shallow draft quay
(measured in Apr. 2018)
※Last time measured in Aug. 2016

Dose measurement location ③
Groundwater bypass area
(measured in Jul. 2018)
※Last time measured in Oct. 2016



Dose measurement location ①
Around Units 1-4
(measured in Sept. 2018)
※Last time measured in Feb. 2018

Dose measurement location ④
Tank area J
(measured in Jun. 2018)
※Last time measured in Sept. 2016

2. Dose reductions and dose rate distribution around Units 1-4 [measurement location ①]

Average dose rates around Units 1-4 have been decreasing every year at both the 2.5m and 8.5m foundations as a result of the measures noted in the following tables.

■Average dose rates

＜ 8.5m foundation ＞

Unit : [μSv/h]

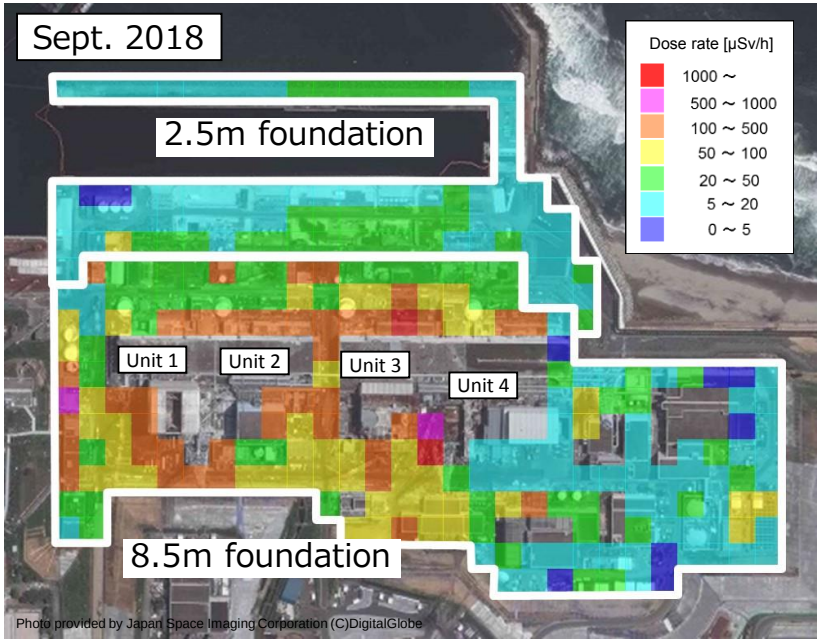
	Chest height	At ground level (Collimated)	Main work which contributed to the dose reduction
FY2015 (2015.12)	283	160	・Decontamination of the land-side slope of Units 1-4, paving ・Rubble removed in conjunction with yard maintenance for the construction of the land-side impermeable wall, etc. ・Shielding of the operating floor in the Unit 3 reactor building, installation of the fuel handling machine ・Demolition of the Unit 3-4 service building
FY2016 (2017.3)	205	97	
FY2017 (2018.2)	140	61	
FY2018 (2018.9)	**127**	**51**	

＜ 2.5m foundation ＞

Unit : [μSv/h]

	Chest height	At ground level (Collimated)	Main work which contributed to the dose reduction
FY2015 (2015.12)	62	16	・Paving work ・Rubble removal around circulated water pump ・Shielding of the operating floor in the Unit 3 reactor building, installation of the fuel handling machine
FY2016 (2017.2)	27	6.9	
FY 2017 (2018.2)	20	4.5	
FY 2018 (2018.9)	**19**	**4.0**	

■Dose rate distribution（30m mesh, chest height）

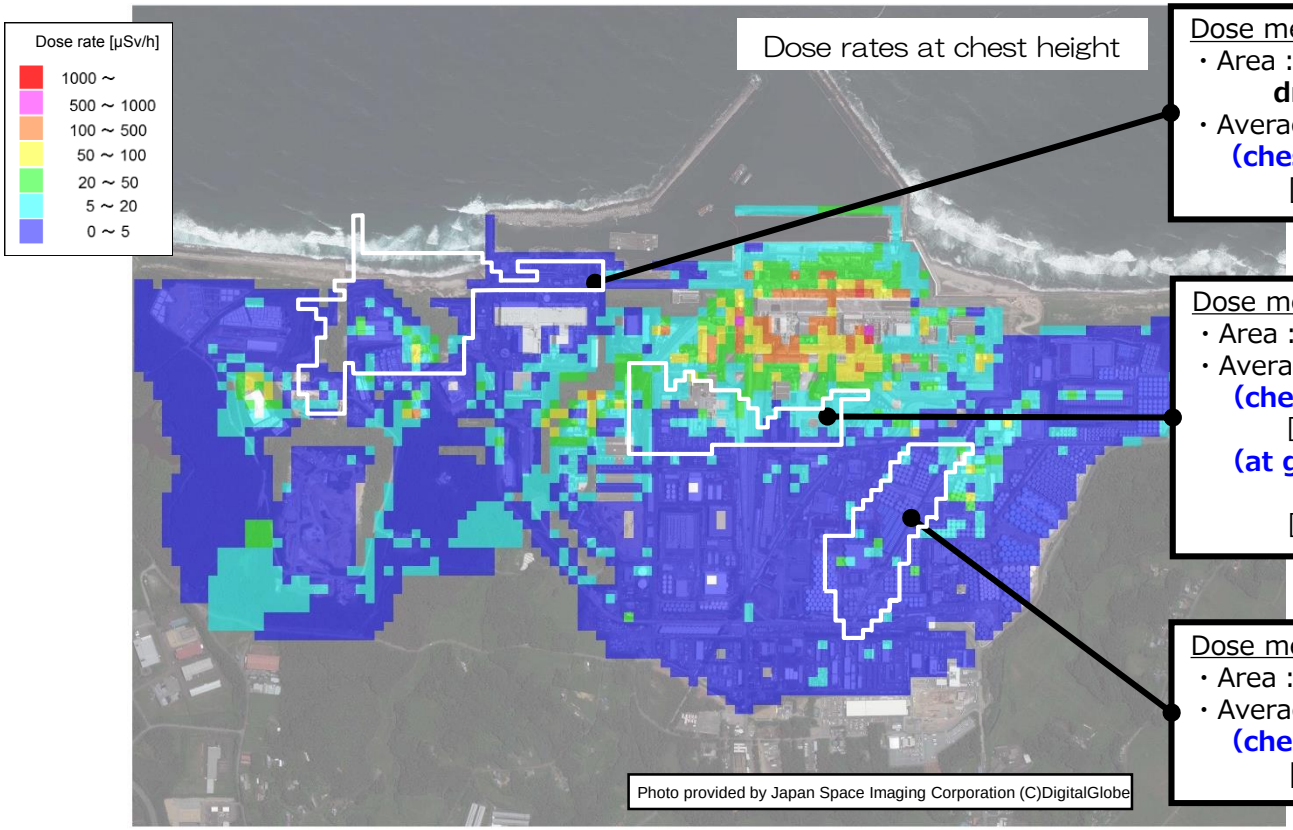


※1 Chest height : 1.5m height above ground level

※2 At ground level (Collimated) : Dose rates were collimated and measured at ground level (around 1cm above the ground level) in order to check dose reductions in locations that are affected by scattered rays from the plant.

2. Dose reductions in areas other than around Units 1-4 [measurement locations ② ③④] and dose distribution for the whole site

- Dose rates around Units 5-6 and the shallow draft quay (measurement location ②) decreased due to the removal of Unit 1 reactor building roof panels, which were temporarily placed near the quay. (4.0→2.9μSv/h at chest height)
- Dose rates in the groundwater bypass area (measurement location ③) decreased due to the installation of the Unit 3 reactor building fuel handling machine. (14→11μSv/h at chest height)
- Dose rates in tank area J (measurement location ④) have remained low since the last time measurements were taken.



Dose measurement location ②
- Area : **Around Units 5-6 and the shallow draft quay**
- Average dose rate :
  (chest height) 2.9μSv/h (Apr. 2018)
  [Last time : 4.0μSv/h (Jul. 2016)]

Dose measurement location ③
- Area : **Groundwater bypass area**
- Average dose rate :
  (chest height) 11μSv/h (Jul. 2018)
  [Last time : 14μSv/h (Oct. 2016)]
  (at ground level) 1.7μSv/h (Jul. 2018)
  [Last time : 1.8μSv/h (Oct. 2016)]

Dose measurement location ④
- Area : **J tank area**
- Average dose rate :
  (chest height) 0.7μSv/h (Jun. 2018)
  [Last time : 0.9μSv/h (Sept. 2016)]

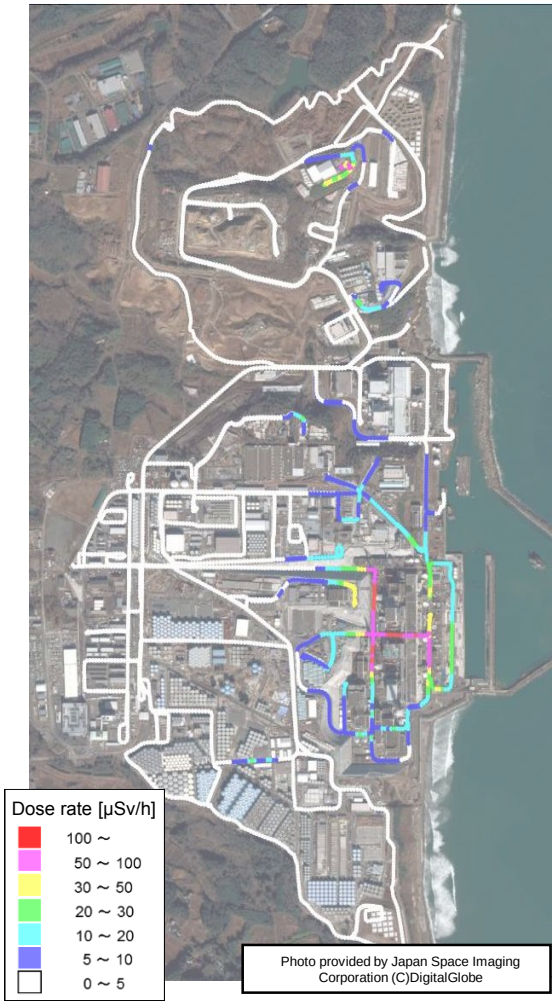
4. Radiation dose levels on the main roads of the site – results from running surveys -

Dose levels on the main roads on site have been decreasing year by year.

<2nd Quarter of FY2016> (measured in Aug. 2016)

<2nd Quarter of FY2017> (measured in Sept. 2017)

<2nd Quarter of FY2018> (measured in Aug. 2018)



Reference: Dose distribution for the whole site (at ground level [collimated], Sept. 2018)

TEPCO

Dose rates in general are below 5μSv/h except in areas around Units 1-4. The impact of fallout contamination is minimal.