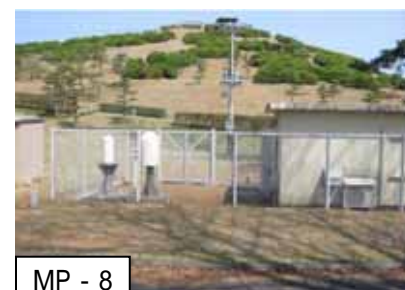


Improvement of Environment around Monitoring Post of Fukushima Daiichi Nuclear Power Station (Result Report)

Due to the influence of radioactive materials that were emitted and accumulated on the site after the accident, the monitoring posts had shown high radiation dose because airborne radiation rose up (100 – 10,000 times after the accident). Thus, it would be difficult to monitor the abnormal emission of radiation depending on the influence of radioactive materials from the nature. In order to detect abnormal emission from the plants promptly, we implemented measures to improve environment around the monitoring posts (MP). (Construction period: February 10 – April 18, 2012)

1. Measures

Countermeasures to improve the environment are implemented according to each MP, because each MP has different environment.



- MP - 3~7 are surrounded by forests and are influenced by nearby woods.
- MP - 3, 8 are influence by the surface (MP-8 is influenced by nearby slope observatory).

(Plan)

Measures are implemented so that each MP shows less than 10 $\mu\text{Sv/h}$.*

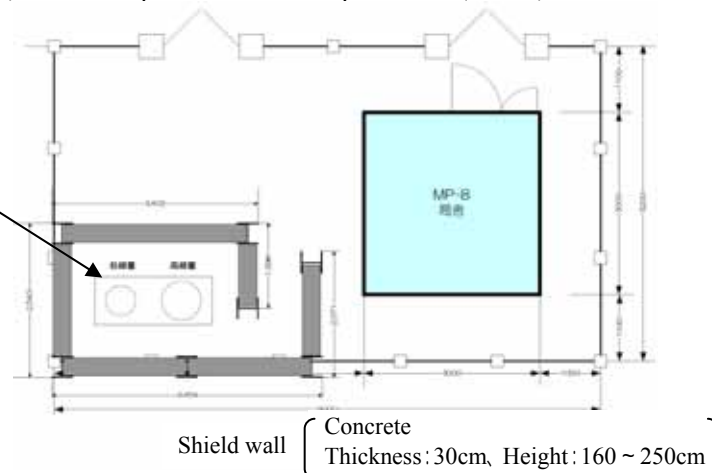
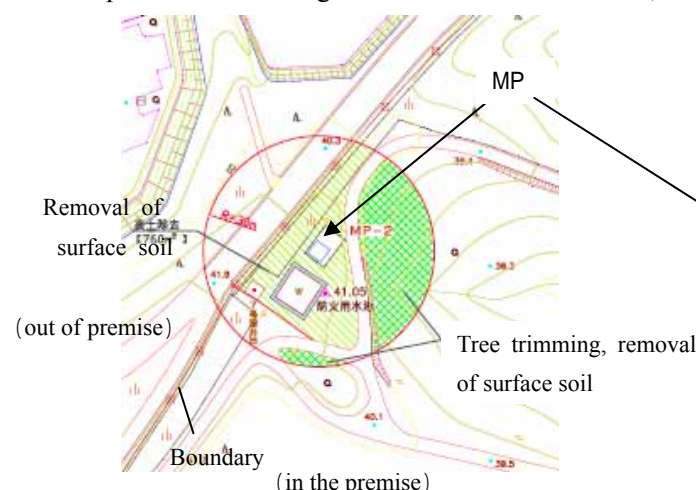
Regarding MP-2 that has relatively high radiation dose, the trees within 30 m radius from the MP are trimmed and surface soils are removed. Regarding MP-3~5 that has relatively low radiation, the trees within 20 m radius from each MP are trimmed and surface soils within its fence are removed. Regarding MP-6~7, the trees within 20 m radius from each MP are trimmed and surface soils within its fence are removed, and shield walls are installed around each detector, because removal of surface soil and tree trimming could be widely implemented. Regarding MP-8, tree trimming is not implemented because there is few nearby forest, and surface soils within its fence are removed, and a shield wall is installed. Regarding MP-1, we decided not to implement any countermeasure because the MP showed 4 $\mu\text{Sv/h}$.

Normal monitoring post value fluctuate around 10 % because radiation from soil can be shielded due to the rain. If the value is 10 $\mu\text{Sv/h}$, abnormal radiation can be detected considering the 1 $\mu\text{Sv/h}$ fluctuation.

(Example of the countermeasures)

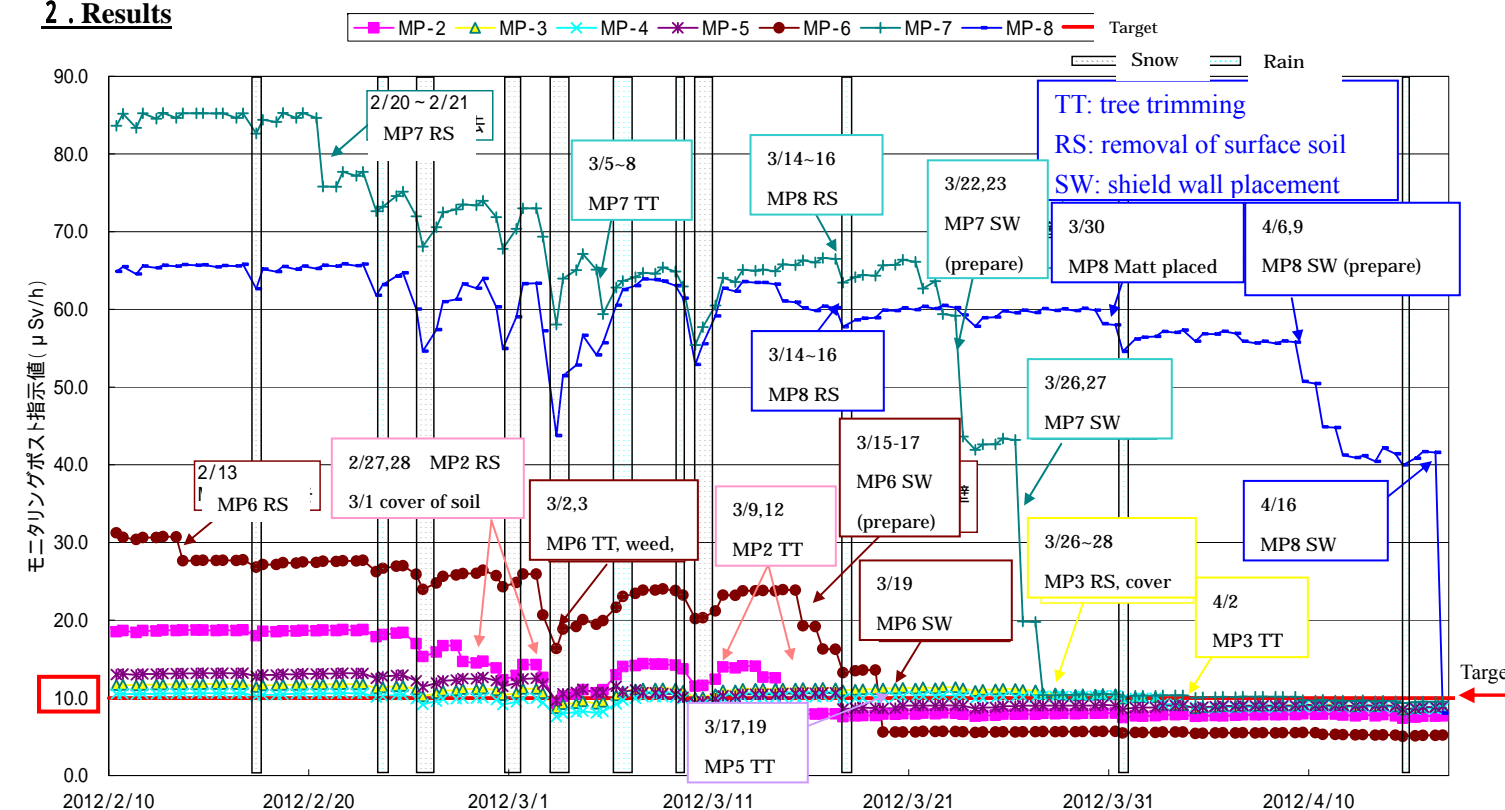
Example of tree trimming and removal of surface soil (MP-2)

Example of shield wall placement (MP-8)



Regarding MP-7, the shielding walls adjacent to the MPs (MP-6, MP-8) was set to be as low as possible in order to enhance the detection capability of the plume passing near to the ground between monitoring posts.

2. Results



(Possibility of fluctuation of MP value due to rain or snow)

MP	MP value [unit: $\mu\text{Sv/h}$]		Countermeasure
	Before (2/10)	After (date)	
MP-2	18.5	7.9 (3/14)	· Deforestation area: around 690m ² (within 30 m radius) · Removal area of surface soil: around 1450m ² (within 30 m radius)
MP-3	11.7	9.1 (4/2)	· Deforestation area: around 580m ² (within 20 m radius) · Removal area of surface soil: around 35m ² (within fence)
MP-4	10.5	8.9 (4/2)	· Removal area of surface soil: around 27m ² (within fence)
MP-5	13.0	9.0 (3/19)	· Deforestation area: around 1020m ² (within 20 m radius) · Removal area of surface soil: around 36m ² (within fence)
MP-6	31.3	5.7 (3/19)	· Deforestation area: around 700m ² (within 20 m radius) · Removal area of surface soil: around 14m ² (within fence) · Shield wall placement: 4 directions 160 cm
MP-7	83.6	9.7 (4/9)	· Deforestation area: around 1160m ² (within 20 m radius) · Removal area of surface soil: around 15m ² (within fence) · Shield wall placement: north-south 250 cm, east-west 160 cm
MP-8	64.9	8.0 (4/16)	· Removal area of surface soil: around 14m ² (within fence) · Shield wall placement: 4 directions 220 cm

Because target value 10 $\mu\text{Sv/h}$ was achieved, the influence of radiation exceeding 1 $\mu\text{Sv/h}$ is considered to be grasped appropriately due to the reactor facilities.

3. Future plan

In future, we will examine target value and methods to reduce radiation for the next step based on the effect of each countermeasure.