“High Alarm” from Plastic Scintillation Fiber monitor (PSF monitor) monitoring the wharf drainage channel at the Fukushima Daiichi Nuclear Power Station (Continued report)

<Reference Document>
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【Overview】

○ We continue to investigate the cause of the “High Alarm” from the Plastic Scintillation Fiber monitor (hereinafter referred to as, "PSF monitor") monitoring the wharf drainage channel that occurred on March 2, 2021. Analysis conducted on March 22 of the rain water flowing into the drainage ditch (sampled on March 21) near temporary storage area W2, which is upstream from the aforementioned drainage channel, found spots where gross beta ray values are high (maximum: 13mSv/hour), and on March 24 it was found that the maximum dose from clumps of a gel-like substance (soil mixed with gel-like substance) found on the surface of temporary storage area W2 (soil and asphalt, etc.) was 13mSv.

○ The lids of containers on which corrosion was found were opened on March 25 and the contents at the top of the containers were examined. Waste generated during work immediately following the disaster (fabric and paper) were found to be wrapped in plastic along with other waste such as covering tarps and PVC piping, etc., and a dose of 10mSv/h was found for the equivalent dose rate of 70μm (gamma + beta).

<Already announced>

○ Between January 25~March 2, approximately 270 containers in the W2 area were relocated to the solid waste storage warehouse, and before the containers were moved they were checked for any abnormalities, such as holes. However, since significant corrosion was found on some containers, since April 1 the contents of one of the containers stored in area W2 has been under examination. This examination is still underway, but at current time the following has been found.

- In the aforementioned container, adsorbents, fabric and paper waste, rubber mats, covering tarps, and PVC piping, etc., has been sorted and is being stored separately in plastic bags, and adsorbents contain moisture. Furthermore, at current time no damage, such as holes, etc., has been found to the plastic bags.
- Maximum doses of 15mSv/h were found for the equivalent dose rate of 70μm (gamma + beta), and a maximum dose of 0.2mSv/h was found for equivalent dose rate at 1cm (gamma).

【Overview】

・Examination of the inside of containers found damp conditions and some rust on the bottom surface.
・Examination of corrosion on the outside of the containers at the bottom found that sealant had been applied to the containers to prevent leaks, and a sealant-like material was found on the inside of the containers as well.

○ From these results it is assumed that water inside the containers leaked through the corroded parts of the bottoms of the containers leading to contamination of area W2, but we will continue our investigation in conjunction with the investigation into the cause of the “High Alarm” the PSF monitor monitoring the wharf drainage channel.

○ Furthermore, a visual inspection of 38 containers stored near the areas where relatively high doses were found in the W2 area will be conducted during April and if any abnormalities are found, detailed investigations will be implemented, such as inspections of the contents of the containers.

○ Visual inspections of containers stored on site are conducted as necessary during regular patrols, but in light of this incident we will quickly create an inspection plan and implement it as soon as preparations have been completed.

(Reference) Examining the contents of containers

Figure 1. Corrosion repair

Figure 2. Opening the lids

Figure 3. Container contents (adsorbents containing moisture)

Figure 4. Inside of the container

Containers on the east side of the old training building

【Overview】

○ On March 31, an inquiry from Fukushima Prefecture was received in regards to the contents of four containers located on the east side of the old training building, and plans for these containers.

○ In response to this inquiry, TEPCO examined the aforementioned containers and found the following.

- The surface dose rate of the aforementioned containers was found to be a maximum of 1.5mSv/hour for both 70μm equivalent dose (gamma + beta) and 1cm equivalent dose rate, and the air dose rate 1m away from the aforementioned locations was found to be a maximum of 0.25mSv/h for both 70μm equivalent dose (gamma + beta) and 1cm equivalent dose rate
- Although corrosion was found on the outside of the aforementioned containers at the bottom, at current time no abnormalities, such as leaks, etc., have been found.
- We will quickly inspect the contents of these containers and how they came to be stored in the aforementioned area.

○ As a provisional countermeasure, sandbags will be placed around the aforementioned four containers and inspection of the contents of these containers will be quickly conducted after which they will be relocated indoors upon the completion of preparations.

○ We will also quickly create an inspection plan for unnecessary items that have been stored for long periods on site in addition to the aforementioned containers, and implement this plan as soon as preparations have been completed.

【Reference】 Four containers located on the east side of the old training building

地表面線量率（μSv/h）

地点	1cm線量当量率	70μ線量当量率	地表面
①	25	40	鉄板
②	20	120	コンクリ＋土
③	20	30	コンクリ＋土
④	15	100	コンクリ＋土
⑤	20	50	コンクリ＋土
⑥	40	150	草
⑦	10	70	木
⑧	10	35	コンクリ
⑨	10	350	コンクリ＋土
⑩	10	250	コンクリ＋土
⑪	10	1,500	コンクリ＋土
⑫	10	30	コンクリ
⑬	10	60	コンクリ
⑭	10	45	草
⑮	17	13,000	コンクリ＋土
⑯	10	1,500	コンクリ＋土
⑰	15	20	コンクリ
⑱	60	70	シート際
⑲	60	400	マンホール蓋
⑳	18	4,500	コンクリ＋土
㉑	12	850	コンクリ＋土
㉒	17	3,000	コンクリ＋土
㉓	20	1,200	コンクリ＋土
㉔	25	200	コンクリ
㉕	15	240	コンクリ

地点	1cm線量当量率	70μ線量当量率	地表面
㉖	－	300	細い側溝内
㉗	－	100	側溝内
㉘	－	120	側溝内
㉙	－	100	側溝内
㉚	－	200	側溝内
㉛	－	120	側溝内
㉜	－	1,000	側溝内
㉝	－	250	側溝内
㉞	－	300	コンテナ際
㉟	－	700	側溝内
㊱	－	2,000	コンテナ際
㊲	－	85	側溝内
㊳	－	180	側溝内
㊴	－	250	側溝内
㊵	－	200	黒い囲いの下
㊶	10	15	コンクリ
㊷	8	170	コンクリ＋砂
㊸	7	55	コンクリ
㊹	10	25	コンクリ
㊺	13	40	コンクリ＋砂
㊻	15	20	コンクリ
㊼	140	1,100	側溝内
㊽	20	110	側溝内
㊾	－	90	側溝内
㊿	－	300	側溝内
(51)	－	2,300	側溝内
(52)	25	9,000	コンクリ＋土

土（汚染源）の除去前後比較

地点	70μ線量当量率[μSv/h]	
	除去前	除去後
⑮	13,000	6,500
⑳	4,500	900
㉒	3,000	800
(52)	9,000	1,000

Surface dose rate in this area was found to be a maximum of 1.5 mSv/hour for both 70μm equivalent dose (gamma + beta) and 1cm equivalent dose rate
Air dose rate 1m away from the aforementioned locations was found to be a maximum of 0.25mSv/h for both 70μm equivalent dose (gamma + beta) and 1cm equivalent dose rate

Containers located on the east side of the old training building