Dust sampling above the reactor at Unit 3 reactor building in Fukushima Daiichi NPS

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1. Aiming for optimization of dust sampling at Unit 3

- Measurement results for a regular dust sampling above the reactor at Unit 3 suffered from a large fluctuation.

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- Cause for the large fluctuation in dust density above the reactor at Unit 3 should be reduced.
  - Existing dust should be reduced.
    - **Decontamination** on the operating floor and **reduction of debris generated from debris**
  - Cause for a fluctuation dependent on measuring methods should be reduced.
    - Existing debris forces us to use a small sampler, but after debris removal, we will **improve the sampling device**, and try to improve its accuracy.
- Other measures
  - Optimization of sampling points
    - It is **necessary to search again for an emission point** after removing debris above the reactor, because we adopted a point with the highest dust density (after measuring several points before debris removal) as a representative sampling point directly above the operating floor.

We will change the sampling method and aim for sampling-point optimization, in response to the large debris removal above the reactor at Unit 3 reactor building.

2-1. Measure against fluctuation [Change of dust sampler]

- Dust sampler with a timer [At present]
  - Flow rate: 5l./min.
  - Sampling time: 0.5 hour
  - Sampling flow rate: 150 lit.

- High-flow dust sampler with a timer [In Future]
  - Flow rate: 50 lit./min
  - Sampling time: 0.5 hour
  - Sampling flow rate: 1500 lit.

2-2. Measure against fluctuation [change of dust sampling device]

- Manufacturing a tent-form dust sampler
  - Adopting the high-flow dust sampler with a timer on the page 2
  - Covering a sampling point with a tent when sampling dust
    - Eliminating the influence by window

[At present]

[In future]

3. Plan for searching for a emission point after debris removal [Searching point]

Searching point

- We will sample dust to search for a new emission point on the following points.
- The search is scheduled on November 12 and 13.
- As for the spent fuel pool, the sampling will be scheduled separately because there is a large debris on the north of SFP.

SP: Points where dust is sampled

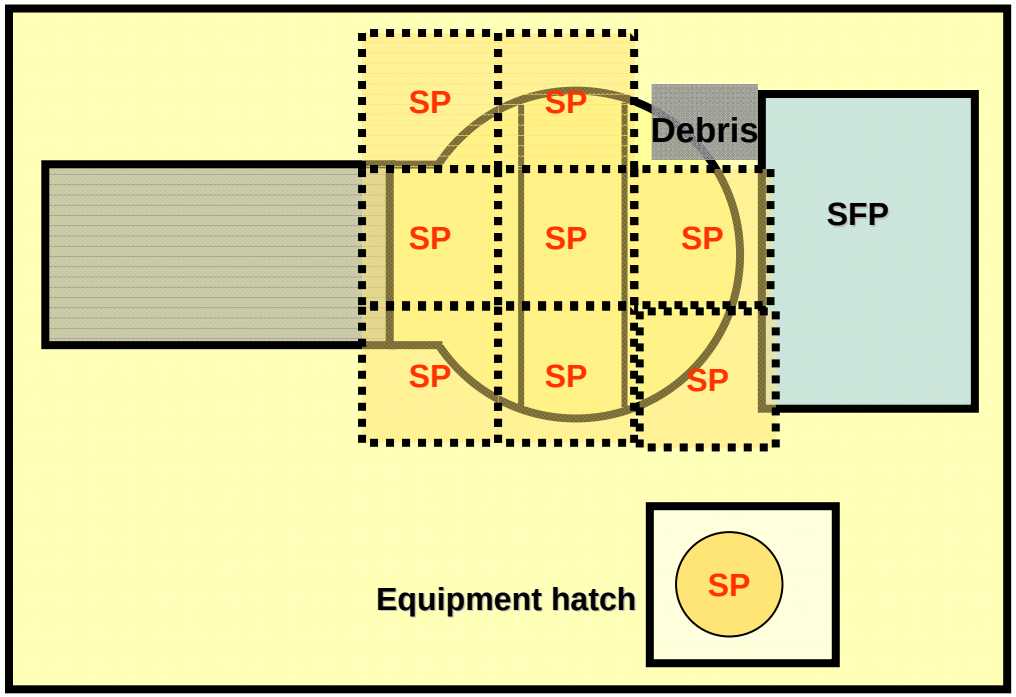
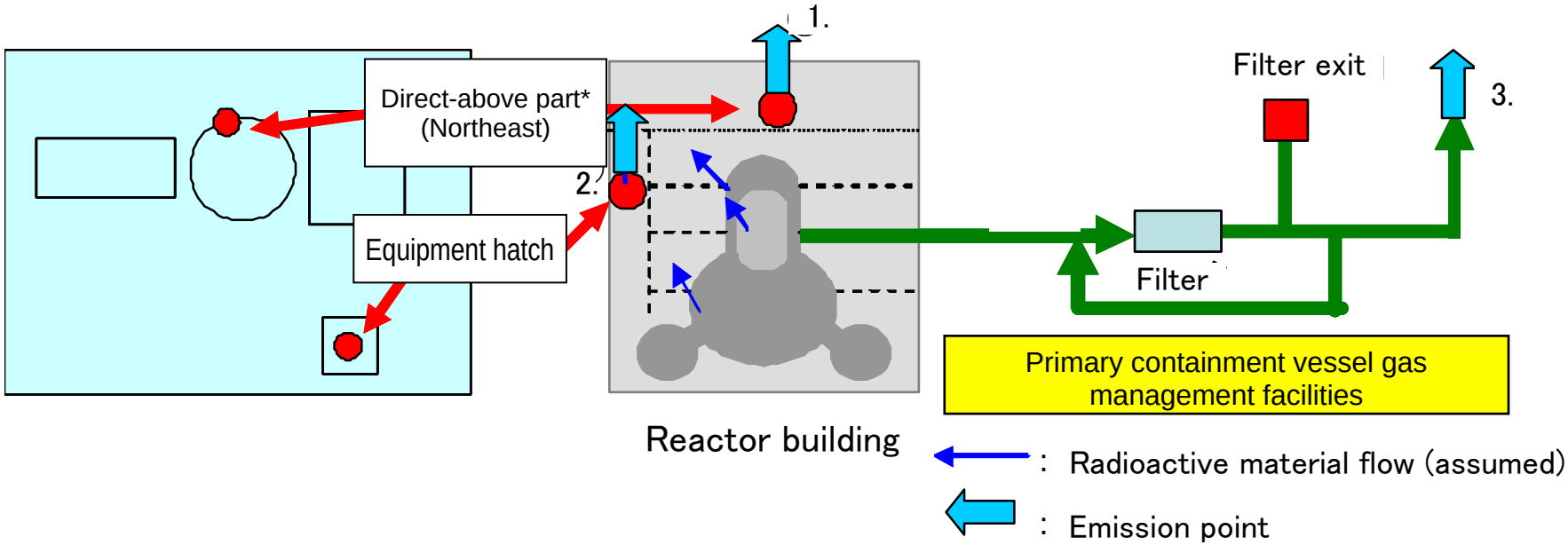


Image: Searching points

[Reference]　Emission evaluation method for Unit 3 at present

1. Emission from above the reactor building
   Calculating emission from above the reactor building by multiplying dust density above the reactor building and the amount of vapor
2. Emission from the equipment hatch part
   Calculating emission from the equipment hatch by multiplying dust density from the equipment hatch and the amount of wind
3. Emission from the primary containment vessel gas management facilities



* Depending on situation, we conduct the sampling at several points on the operating floor, and adopt a point with the highest dust density as the representative point of the directly above the operating floor part.