

Impact evaluation of operating ambient air filtration system
at reactor building of Unit 1

We started to operate the ambient air filtration system from 4:35 pm, May 5, to improve the environment so that workers can enter the reactor building and conduct the work. We re-evaluated the impact of releasing radioactive substances to the air by opening the airlock of the reactor building, based on the radioactive density data taken at 3:15 pm, May 7, after 45 hours operation of the system.

We changed the evaluation conditions of ventilation volume and ventilation time, from the initial evaluation, due to a change of gradual release by decreasing ventilation speed.

Except the revised conditions of radioactive density and release volume, the conditions such as weather conditions and others are the same as the ones assumed in the report, which responded to the instruction (hereinafter referred to as May3 Report). we simulated radiation density and dose on the ground, compared them with the density limit of air outside the monitoring area and annual exposure dose limit of the general public, re-evaluated the impact on the figures of the monitoring posts, and made the comparison with the evaluated results of May3 Report.

1. Conditions for Estimation

Conditions except the radiation density inside the reactor building and release volume (ventilation volume and time) are the same as those of May3 Report. (see the attachment)

- (1) Weather conditions in releasing
- (2) Height of release
- (3) Volume of release
- (4) Radioactive density inside the reactor building of Unit 1
- (5) Estimation model

2. Estimated Results of Radiation Density

Maximum densities on the site boundary were calculated and compared with those of the air outside of the monitoring area. The results are shown in the attachment and it is confirmed that it is below the air density limit of outside the monitoring area described in the notification

3. Estimated Results of Radiation Dose

Distribution and maximum values of radiation dose were calculated. The results are shown in the attachment and it is confirmed that it is below 1 mSv, an annual exposure dose limit of the general public.

4. Comparison with the Figures at Monitoring Posts

The impact on the monitoring posts figures were evaluated based on the calculated radiation dose. The results are shown in the attachment and it is confirmed that it would not affect the currently monitored level of several tens of μ Sv, at the monitoring posts.

<Attachment>

5. Comparison with the Evaluation of May3 Report

In comparison with the results of May3 Report, we evaluated that the radiation dose decreased proportionately according to the radiation density inside the reactor building and radiation density decreased proportionately according to the release rate (release volume and release time).

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