Nuclides Analysis Results of the Radioactive Materials in the Air at the Opening of Buildings at Fukushima Daiichi NPS<1/4>

Reference

(Data summarized on November 21)

| Place of Sampling                | 3rd Floor of Auxiliary Operation<br>Shared Facility (Around the Machine<br>Hatch) |                          | 3rd Floor of Auxiliary Operation<br>Shared Facility (In Front of South<br>Stairs) |                          | 3rd Floor of Auxiliary Operation<br>Shared Facility (In Front of North<br>Stairs) |                          | ② Density Limit Specified by the Reactor Regulation  |
|----------------------------------|---|--------------------------|---|--------------------------|---|--------------------------|--|
| Time of Sampling                 | Oct 5,2014<br>8:07 AM   | Oct 6,2014<br>9:07 AM    | Oct 5,2014<br>8:09 AM   | Oct 6,2014<br>9:04 AM    | Oct 5,2014<br>8:04 AM   | Oct 6,2014<br>9:02 AM    | (Bq/cm^3) (Density limit in the<br>air which radiation workers<br>breathe in is specified in |
| Detected Nuclides<br>(Half-life) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(1)/2) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(1)/2) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(1)/②) | section 4 of Appendix 2)   |
| I-131<br>(Approx. 8 days)        | ND  | -                        | ND  | -                        | ND  | -                        | 1E-03  |
| Cs-134<br>(Approx. 2 years)      | ND  | -                        | ND  | -                        | ND  | -                        | 2E-03  |
| Cs-137<br>(Approx. 30 years)     | ND  | -                        | ND  | -                        | ND  | -                        | 3E-03  |

\* This is nuclide analysis result of the radioactive materials in the air of the fuel handling.

\* The radioactivity density is the sum of the volatile nuclides density and the particulate nuclides density.

 $\rm O.OE-O$  is the same as  $\rm O.O~x~10\text{-}O$ 

Data of other nuclides is under examination.

\* In the case of 2 nuclides or more, the sum of scaling factors to density limits is compared to 1.

\* "ND" indicates that the measurement result is below the detection limit.

The detection limits are as follows. Volatile: I-131: Approx. 2E-8Bq/cm^3, Cs-134: Approx.3E-8Bq/cm^3, Cs-137: Approx.3E-8Bq/cm^3 Particulate: I-131: Approx. 2E-8Bq/cm^3, Cs-134: Approx.4E-8Bq/cm^3, Cs-137: Approx.6E-8Bq/cm^3 As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.

Reference

(Data summarized on November 21)

| Place of Sampling                | 3rd Floor of Auxiliary Operation<br>Shared Facility (Around the Machine<br>Hatch) |                         | 3rd Floor of Auxiliary Operation<br>Shared Facility (In Front of South<br>Stairs) |                         | 3rd Floor of Auxiliary Operation<br>Shared Facility (In Front of North<br>Stairs) |                          | ② Density Limit Specified by the Reactor Regulation  |
|----------------------------------|---|-------------------------|---|-------------------------|---|--------------------------|--|
| Time of Sampling                 | Oct 11,2014<br>8:13 AM  | Oct 12,2014<br>9:16 AM  | Oct 11,2014<br>8:15 AM  | Oct 12,2014<br>9:17 AM  | Oct 11,2014<br>8:18 AM  | Oct 12,2014<br>9:13 AM   | (Bq/cm <sup>3</sup> ) (Density limit in the<br>air which radiation workers<br>breathe in is specified in<br>section 4 of Appendix 2) |
| Detected Nuclides<br>(Half-life) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(①/②) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(①/②) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(1)/2) |  |
| I-131 (Approx. 8 days)           | ND  | -                       | ND  | -                       | ND  | -                        | 1E-03  |
| Cs-134 (Approx. 2<br>years)      | ND  | -                       | ND  | -                       | ND  | -                        | 2E-03  |
| Cs-137 (Approx. 30<br>years)     | ND  | -                       | ND  | -                       | ND  | -                        | 3E-03  |

\* This is nuclide analysis result of the radioactive materials in the air of the fuel handling.

\* The radioactivity density is the sum of the volatile nuclides density and the particulate nuclides density.

 $\rm O.OE\!-\!O$  is the same as  $\rm O.O~x~10\text{-}O$ 

Data of other nuclides is under examination.

\* In the case of 2 nuclides or more, the sum of scaling factors to density limits is compared to 1.

\* "ND" indicates that the measurement result is below the detection limit.

The detection limits are as follows. Volatile: I-131: Approx. 4E-8Bq/cm<sup>3</sup>, Cs-134: Approx.6E-8Bq/cm<sup>3</sup>, Cs-137: Approx.9E-8Bq/cm<sup>3</sup> Particulate: I-131: Approx. 2E-8Bq/cm<sup>3</sup>, Cs-134: Approx.4E-8Bq/cm<sup>3</sup>, Cs-137: Approx.5E-8Bq/cm<sup>3</sup> As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.

Reference

(Data summarized on November 21)

| Place of Sampling                | 3rd Floor of Auxiliary Operation<br>Shared Facility (Around the Machine<br>Hatch) |                         | 3rd Floor of Auxiliary Operation<br>Shared Facility (In Front of South<br>Stairs) |                         | 3rd Floor of Auxiliary Operation<br>Shared Facility (In Front of North<br>Stairs) |                         | ② Density Limit Specified by the Reactor Regulation  |
|----------------------------------|---|-------------------------|---|-------------------------|---|-------------------------|--|
| Time of Sampling                 | Oct 14,2014<br>8:04 AM  | Oct 15,2014<br>9:03 AM  | Oct 14,2014<br>8:07 AM  | Oct 15,2014<br>9:05 AM  | Oct 14,2014<br>8:00 AM  | Oct 15,2014<br>9:01 AM  | (Bq/cm <sup>3</sup> ) (Density limit in the<br>air which radiation workers<br>breathe in is specified in<br>section 4 of Appendix 2) |
| Detected Nuclides<br>(Half-life) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(①/②) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(①/②) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(①/②) |  |
| I-131 (Approx. 8 days)           | ND  | -                       | ND  | -                       | ND  | -                       | 1E-03  |
| Cs-134 (Approx. 2<br>years)      | ND  | -                       | ND  | -                       | ND  | -                       | 2E-03  |
| Cs-137 (Approx. 30<br>years)     | ND  | -                       | ND  | -                       | ND  | -                       | 3E-03  |

\* This is nuclide analysis result of the radioactive materials in the air of the fuel handling.

\* The radioactivity density is the sum of the volatile nuclides density and the particulate nuclides density.

 $\rm O.OE\!-\!O$  is the same as  $\rm O.O~x~10\text{-}O$ 

Data of other nuclides is under examination.

\* In the case of 2 nuclides or more, the sum of scaling factors to density limits is compared to 1.

\* "ND" indicates that the measurement result is below the detection limit.

The detection limits are as follows. Volatile: I-131: Approx. 4E-8Bq/cm/3, Cs-134: Approx.6E-8Bq/cm/3, Cs-137: Approx.1E-7Bq/cm/3 Particulate: I-131: Approx. 2E-8Bq/cm/3, Cs-134: Approx.4E-8Bq/cm/3, Cs-137: Approx.1E-7Bq/cm/3 Particulate: I-131: Approx. 2E-8Bq/cm/3, Cs-134: Approx.4E-8Bq/cm/3, Cs-137: Approx.4E-8Bq/cm/3 Particulate: I-131: Approx. 2E-8Bq/cm/3, Cs-134: Approx.4E-8Bq/cm/3, Cs-137: Approx.4E-8Bq/cm/3 Particulate: I-131: Approx.4E-8Bq/

Reference

## (Data summarized on November 21)

| Place of Sampling                | 3rd Floor of Auxiliary Operation<br>Shared Facility (Around the Machine<br>Hatch) |                          | 3rd Floor of Auxiliary Operation<br>Shared Facility (In Front of South<br>Stairs) |                          | 3rd Floor of Auxiliary Operation<br>Shared Facility (In Front of North<br>Stairs) |                          | ② Density Limit Specified by the Reactor Regulation  |
|----------------------------------|---|--------------------------|---|--------------------------|---|--------------------------|--|
| Time of Sampling                 | Oct 17,2014<br>8:20 AM  | Oct 18,2014<br>9:06 AM   | Oct 17,2014<br>8:21 AM  | Oct 18,2014<br>9:04 AM   | Oct 17,2014<br>8:18 AM  | Oct 18,2014<br>9:01 AM   | (Bq/cm^3) (Density limit in the<br>air which radiation workers<br>breathe in is specified in |
| Detected Nuclides<br>(Half-life) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(1)/2) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(1)/2) | ①Density of Sample<br>(Bq/cm^3)   | Scaling Factor<br>(1)/2) | section 4 of Appendix 2)   |
| I-131 (Approx. 8 days)           | ND  | -                        | ND  | -                        | ND  | -                        | 1E-03  |
| Cs-134 (Approx. 2<br>years)      | ND  | -                        | ND  | -                        | ND  | -                        | 2E-03  |
| Cs-137 (Approx. 30<br>years)     | ND  | -                        | ND  | -                        | ND  | -                        | 3E-03  |

\* This is nuclide analysis result of the radioactive materials in the air of the fuel handling.

\* The radioactivity density is the sum of the volatile nuclides density and the particulate nuclides density.

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The detection limits are as follows. Volatile: I-131: Approx. 4E-8Bq/cm/3, Cs-134: Approx.6E-8Bq/cm/3, Cs-137: Approx.1E-7Bq/cm/3 Particulate: I-131: Approx. 2E-8Bq/cm/3, Cs-134: Approx.4E-8Bq/cm/3, Cs-137: Approx.4E-8Bq/cm/3 Particulate: I-131: Approx.4E-8Bq/cm/3, Cs-137: Approx.4E-8Bq/cm/3, Cs-137: Approx.4E-8Bq/cm/3 Particulate: I-131: Approx.4E-8Bq/cm/3, Cs-134: Approx.4E-8Bq/cm/3 Particulate: I-131: Approx.4E-8Bq/cm/3, Cs-134: Approx.4E-8Bq/cm/3, Cs-134: Approx.4E-8Bq/cm/3, Cs-137: Approx.4E-8Bq/cm/2