Results of Air Dose Rate Monitoring at Schools and the like in Fukushima Prefecture (Part 2) and Trends of the Measurement Results

Attachment 1 shows a list of results of measurements of air dose rates of schools and the like, in Fukushima Prefecture, executed on May 6 and 7. At two schools which exceeded 3.8 μSv/h until now, this measurements confirmed that they were below 3.8 μSv/h, but one other school once again exceeded 3.8 μSv/h. For these schools, the administrator of the school will consider an end to restrictions on outdoor activities, and the like. Also, one Children’s Hall was newly added to the surveys this time and in the future, by request of the Ministry of Health, Labour and Welfare.

From April 14 to May 6, the Ministry of Education, Culture, Sports, Science and Technology obtained the cooperation of the Japan Atomic Energy Agency, and conducted measurements at schools, and the like, in Fukushima Prefecture. Results for each school are shown as graphs in Attachment 2. The graphs show actual measurements at each school, and a theoretical decay curve based on soil analysis results as of April 14.

Also, the schools, and the like. (excluding Children’s Halls), places subject to measurement are marked on a map shown in Attachment 3.

Analysis of measurement results indicates the following.

 Decay basically according to a decay curve is seen for dose rates at the out of the schools (such as schoolyard), even though such countermeasures as surface soil removal have not been taken. There were higher measurements of dose rates at some schools, so we have to continue to monitor results carefully.

 Rainfall was confirmed three times in Fukushima City during the measurement period. There were large amounts of rainfall on April 19 and 23, but large changes in measurements in schoolyards were not seen soon after rainfall. The effects of the light rain on the 28th are unclear.

 There were large variations in values of laid concrete, which is being measured for reference values. The measurement points are fixed locations in principle, so it is conjectured that this is possibly due to comparatively more radioactive surface soil dust from the schoolyard and the like settling on the concrete.

 For the schools and the like, where the surface soil of the schoolyard, etc. was removed, large decreasing was seen in air dose rates.

 By continued monitoring, we are working to understand trends.
<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Name of Schools Surveyed</th>
<th>Monitoring Time</th>
<th>Air Dose Rates (μSv/h)</th>
<th>Weather</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1m</td>
<td>50cm</td>
</tr>
<tr>
<td>1</td>
<td>Koriyama city</td>
<td>Koriyama Second Junior High School</td>
<td>9:52</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>2</td>
<td>Koriyama city</td>
<td>Saint-Paul's Kindergarten</td>
<td>10:36</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>3</td>
<td>Koriyama city</td>
<td>Kaoru Elementary School</td>
<td>11:20</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>4</td>
<td>Koriyama city</td>
<td>Koriyama First Junior High School</td>
<td>12:01</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>5</td>
<td>Koriyama city</td>
<td>Koriyama Third Junior High School</td>
<td>12:40</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>6</td>
<td>Motomiya city</td>
<td>Gohyakugawa Elementary School</td>
<td>12:50</td>
<td>2.9</td>
<td>3.0</td>
</tr>
<tr>
<td>7</td>
<td>Motomiya city</td>
<td>Motomiya 4th day-care center</td>
<td>12:30</td>
<td>2.8</td>
<td>3.1</td>
</tr>
<tr>
<td>8</td>
<td>Motomiya city</td>
<td>Wada Kindergarten</td>
<td>12:03</td>
<td>2.9</td>
<td>3.1</td>
</tr>
<tr>
<td>9</td>
<td>Motomiya city</td>
<td>Wada Elementary School</td>
<td>11:43</td>
<td>2.9</td>
<td>3.2</td>
</tr>
<tr>
<td>10</td>
<td>Nihonmatsu city</td>
<td>Ishii Kindergarten</td>
<td>13:13</td>
<td>2.8</td>
<td>2.9</td>
</tr>
<tr>
<td>11</td>
<td>Nihonmatsu city</td>
<td>Ishii Elementary School</td>
<td>12:58</td>
<td>2.9</td>
<td>3.0</td>
</tr>
<tr>
<td>12</td>
<td>Nihonmatsu city</td>
<td>Takeshita Elementary School</td>
<td>10:55</td>
<td>2.8</td>
<td>2.9</td>
</tr>
<tr>
<td>13</td>
<td>Nihonmatsu city</td>
<td>Matsugakoka day-care center</td>
<td>11:18</td>
<td>2.6</td>
<td>2.9</td>
</tr>
<tr>
<td>14</td>
<td>Nihonmatsu city</td>
<td>Sugita Elementary School</td>
<td>10:20</td>
<td>2.2</td>
<td>2.3</td>
</tr>
<tr>
<td>15</td>
<td>Nihonmatsu city</td>
<td>Sugita Kindergarten</td>
<td>10:05</td>
<td>2.8</td>
<td>3.1</td>
</tr>
<tr>
<td>16</td>
<td>Nihonmatsu city</td>
<td>Nihonmatsu Second Junior High School</td>
<td>11:48</td>
<td>1.5</td>
<td>1.4</td>
</tr>
<tr>
<td>17</td>
<td>Nihonmatsu city</td>
<td>Ohama Junior High School</td>
<td>12:20</td>
<td>2.9</td>
<td>3.0</td>
</tr>
<tr>
<td>18</td>
<td>Fukushima city</td>
<td>Shimogawasaki Elementary School</td>
<td>11:30</td>
<td>2.9</td>
<td>3.1</td>
</tr>
<tr>
<td>19</td>
<td>Fukushima city</td>
<td>Okubo Elementary School</td>
<td>11:05</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>20</td>
<td>Fukushima city</td>
<td>Nankoudai Elementary School</td>
<td>10:25</td>
<td>2.7</td>
<td>2.8</td>
</tr>
<tr>
<td>21</td>
<td>Fukushima city</td>
<td>Onami Elementary School, Fukushima</td>
<td>10:43</td>
<td>3.1</td>
<td>3.4</td>
</tr>
<tr>
<td>22</td>
<td>Date city</td>
<td>Oguni Elementary School</td>
<td>11:15</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>23</td>
<td>Soma city</td>
<td>Tamano Kindergarten</td>
<td>12:02</td>
<td>2.9</td>
<td>3.1</td>
</tr>
<tr>
<td>24</td>
<td>Soma city</td>
<td>Tamano Junior High School</td>
<td>12:26</td>
<td>3.0</td>
<td>3.2</td>
</tr>
<tr>
<td>25</td>
<td>Soma city</td>
<td>Tamano Elementary School</td>
<td>12:02</td>
<td>2.9</td>
<td>3.1</td>
</tr>
<tr>
<td>26</td>
<td>Fukushima city</td>
<td>Okayama Elementary School</td>
<td>10:42</td>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>27</td>
<td>Fukushima city</td>
<td>Seishin Saniku day-care center</td>
<td>11:01</td>
<td>1.7</td>
<td>1.8</td>
</tr>
<tr>
<td>28</td>
<td>Fukushima city</td>
<td>Saniku Kindergarten</td>
<td>11:23</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>No.</td>
<td>Location</td>
<td>Name of Schools Surveyed</td>
<td>Monitoring Time</td>
<td>Air Dose Rates (μSv/h)</td>
<td>Weather</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>---------------------------------------</td>
<td>-----------------</td>
<td>-------------------------</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td>Date city</td>
<td>Tominari Elementary School</td>
<td>12:38</td>
<td>0.7 0.7 1.8 1.7</td>
<td>Fair</td>
</tr>
<tr>
<td>30</td>
<td>Fukushima city</td>
<td>Fukushima Yogo Gakko</td>
<td>10:45</td>
<td>2.4 2.7 1.2 1.4</td>
<td>Fair</td>
</tr>
<tr>
<td>31</td>
<td>Fukushima city</td>
<td>Oyama day-care center</td>
<td>11:05</td>
<td>2.2 2.6 1.0 1.3</td>
<td>Fair</td>
</tr>
<tr>
<td>32</td>
<td>Fukushima city</td>
<td>Oyama Elementary School</td>
<td>11:33</td>
<td>3.0 3.3 1.7 1.9</td>
<td>Fair</td>
</tr>
<tr>
<td>33</td>
<td>Fukushima city</td>
<td>Shinryo Junior High School</td>
<td>11:55</td>
<td>2.2 2.4 0.9 0.9</td>
<td>Fair</td>
</tr>
<tr>
<td>34</td>
<td>Fukushima city</td>
<td>Hirano Junior High School</td>
<td>12:30</td>
<td>2.3 2.6 1.0 1.2</td>
<td>Fair</td>
</tr>
<tr>
<td>35</td>
<td>Fukushima city</td>
<td>Fukushima Second Junior High School</td>
<td>11:30</td>
<td>3.2 3.5 1.3 1.4</td>
<td>Fair</td>
</tr>
<tr>
<td>36</td>
<td>Fukushima city</td>
<td>Fukushima University attached Kindergarten</td>
<td>8:24</td>
<td>2.8 3.1 1.3 1.4</td>
<td>Cloudy</td>
</tr>
<tr>
<td>37</td>
<td>Fukushima city</td>
<td>Fukushima University attached Junior High School</td>
<td>8:48</td>
<td>2.8 3.2 1.4 1.5</td>
<td>Cloudy</td>
</tr>
<tr>
<td>38</td>
<td>Fukushima city</td>
<td>Fukushima Seikei Junior High School</td>
<td>12:06</td>
<td>3.0 3.2 1.7 2.0</td>
<td>Fair</td>
</tr>
<tr>
<td>39</td>
<td>Fukushima city</td>
<td>Gakuyo Junior High School</td>
<td>9:11</td>
<td>2.3 2.5 1.2 1.3</td>
<td>Fair</td>
</tr>
<tr>
<td>40</td>
<td>Fukushima city</td>
<td>Fukushima First Junior High School</td>
<td>8:22</td>
<td>2.8 3.1 1.7 1.7</td>
<td>Fair</td>
</tr>
<tr>
<td>41</td>
<td>Fukushima city</td>
<td>Fukushima Third Elementary School</td>
<td>11:00</td>
<td>3.1 3.3 1.7 1.6</td>
<td>Fair</td>
</tr>
<tr>
<td>42</td>
<td>Fukushima city</td>
<td>Fukushima Second Elementary School</td>
<td>9:16</td>
<td>2.7 3.0 1.4 1.4</td>
<td>Fair</td>
</tr>
<tr>
<td>43</td>
<td>Fukushima city</td>
<td>Sakura no Seibo Gakuin Kindergarten</td>
<td>9:42</td>
<td>2.4 2.9 1.8 2.1</td>
<td>Fair</td>
</tr>
<tr>
<td>44</td>
<td>Fukushima city</td>
<td>Sakura no Seibo Gakuin Elementary School</td>
<td>9:53</td>
<td>2.6 3.1 1.5 1.8</td>
<td>Fair</td>
</tr>
<tr>
<td>45</td>
<td>Fukushima city</td>
<td>Fukushima University attached Elementary School</td>
<td>10:32</td>
<td>2.6 3.0 1.8 2.1</td>
<td>Fair</td>
</tr>
<tr>
<td>46</td>
<td>Fukushima city</td>
<td>Fukushima Prefectural School for the Blind</td>
<td>9:49</td>
<td>2.3 2.6 0.9 1.0</td>
<td>Fair</td>
</tr>
<tr>
<td>47</td>
<td>Fukushima city</td>
<td>Watari day-care center</td>
<td>10:30</td>
<td>3.0 3.5 2.0 2.0</td>
<td>Fair</td>
</tr>
<tr>
<td>48</td>
<td>Fukushima city</td>
<td>Kodomo no le Soramame</td>
<td>10:55</td>
<td>2.5 3.0 1.9 2.0</td>
<td>Fair</td>
</tr>
<tr>
<td>49</td>
<td>Fukushima city</td>
<td>Watari Junior High School</td>
<td>11:20</td>
<td>3.0 4.3 1.6 1.6</td>
<td>Fair</td>
</tr>
<tr>
<td>50</td>
<td>Fukushima city</td>
<td>Watari Kindergarten</td>
<td>12:15</td>
<td>3.3 3.7 2.2 2.1</td>
<td>Fair</td>
</tr>
<tr>
<td>51</td>
<td>Fukushima city</td>
<td>Sakura day-care center</td>
<td>12:40</td>
<td>2.7 3.0 1.2 1.7</td>
<td>Fair</td>
</tr>
<tr>
<td>52</td>
<td>Fukushima city</td>
<td>Watari Elementary School</td>
<td>13:05</td>
<td>3.2 3.6 2.0 2.3</td>
<td>Fair</td>
</tr>
<tr>
<td>53</td>
<td>Fukushima city</td>
<td>Toryo High School</td>
<td>10:28</td>
<td>2.9 3.0 1.4 1.3</td>
<td>Fair</td>
</tr>
<tr>
<td>54</td>
<td>Fukushima city</td>
<td>Seikei High School</td>
<td>12:06</td>
<td>3.0 3.2 1.9 2.2</td>
<td>Fair</td>
</tr>
<tr>
<td>55</td>
<td>Fukushima city</td>
<td>Tachibana High School</td>
<td>11:07</td>
<td>2.7 3.1 1.5 1.7</td>
<td>Fair</td>
</tr>
<tr>
<td>56</td>
<td>Date city</td>
<td>Ryozen Kodomonomura Children's Center</td>
<td>12:55</td>
<td>3.5 3.7 2.8 3.0</td>
<td>Fair</td>
</tr>
</tbody>
</table>

The air dose at 50 cm above ground was monitored outdoors in schools at nurseries, kindergartens and elementary schools, in consideration of short height.
The air dose at 1 m above ground was monitored at junior high schools.
Encircled figures show that measurements this time exceeded 3.8 μSv/h. Underlined school names show where measurements this time confirmed that they were below 3.8 μSv/h.
### List of Readings of Measurements of Air Dose Rates at Schools, etc. in Fukushima Prefecture

**Monitoring Date:** May 7, 2011

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Name of Schools Surveyed</th>
<th>Monitoring Time</th>
<th>Air Dose Rates (μSv/h)</th>
<th>Weather</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average Values Outdoors in School</td>
<td>Values of Laid Concrete</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1m</td>
<td>50 cm</td>
</tr>
<tr>
<td>22</td>
<td>Date city</td>
<td>Oguni Elementary School</td>
<td>9:29</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td>29</td>
<td>Date city</td>
<td>Tominari Elementary School</td>
<td>8:56</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>56</td>
<td>Date city</td>
<td>Ryozen Kodomonomura Children's Center</td>
<td>10:33</td>
<td>3.2</td>
<td>3.5</td>
</tr>
</tbody>
</table>

The air dose at 50 cm above ground was monitored outdoors in schools at nurseries, kindergartens and elementary schools, in consideration of short height.

The air dose at 1 m above ground was monitored at junior high schools.
Koriyama Second Junior High School

Date
Air Dose Rate

μSv/h

Rainfall
Surface Soil Removed
Saint-Paul's Kindergarten

<table>
<thead>
<tr>
<th>Date</th>
<th>Air Dose Rate (Outside of School)</th>
<th>Actual Measurement Values Outside of School</th>
<th>Values of Laid Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \mu \text{Sv/h} )</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Rainfall**: Surface Soil Removed
- **Decay Rate**: (Outside of School)
Date

Air Dose Rate

Kaoru Elementary School

(μSv/h)

Rainfall
Surface Soil Removed
Koriyama First Junior High School

Air Dose Rate

- Surface Soil Removed
- Rainfall

μSv/h
Gohyakugawa Elementary School

Date

Air Dose Rate

(μSv/h )

Rainfall

μSv/h

Date
Wada Kindergarten

Air Dose Rate

μSv/h

Rainfall
Wada Elementary School

Date

Air Dose Rate

μSv/h

Rainfall

: Rainfall
Matsugaoka Preschool

- Date
- Air Dose Rate

μSv/h

Rainfall

Graph showing air dose rate over time, with a marker indicating rainfall.
Sugita Elementary School

Air Dose Rate

Date

(μSv/h)

Rainfall
Air Dose Rate

Date

Sugita Kindergarten

μSv/h

Rainfall
Nihonmatsu Second Junior High School

Date

Air Dose Rate

(μSv/h)

Rainfall

Date
Fukushima yogo gakko

Date
Air Dose Rate

(μSv/h)

Rainfall

Date
Fukushima University attached Kindergarten

Air Dose Rate vs Date

μSv/h (μSv/h)

Date

Rainfall

Graph showing the air dose rate over time at the Fukushima University attached Kindergarten, with rainfall highlighted.

The graph indicates a decrease in air dose rate over time, with rainfall periods marked by dotted lines.
Fukushima University attached junior high school

Air Dose Rate (μSv/h)

Date

Rainfall

Date

μSv/h: Rainfall
Fukushima First Junior High School

Date

Air Dose Rate

μSv/h

Rainfall

(μSv/h )

Date
Date

Air Dose Rate

μSv/h

Watari Preschool

Rainfall

(μSv/h)
Air Dose Rate (μSv/h) vs. Time

Watari Elementary School

Rainfall

Graph indicates the variation of air dose rate at Watari Elementary School over time, with rainfall marked as a shaded area.
Date

Air Dose Rate

μSv/h

Ryouzen Kodomonomura Children's Center

Rainfall

[Graph showing air dose rate over time with selected dates annotated]
Air Dose Rates at Elementary Schools, Junior High Schools, High Schools, Kindergartens, Nurseries, etc. in Fukushima Prefecture (as of May 6)