

The Accident in Fukushima Nuclear Power Plant

For accurate understanding

Facts

- Nuclear power reactor itself has been deactivated. This means the nuclear reaction has not occurred.
- A part of the fuel in the reactor core has melt down. They have been trying to bring the temperature down by flooding the reactor core with standby liquid and sea water.
- Hydrogen explosion may still occur.

The explosion

- What has occurred is hydrogen explosion. The fuel was not cooled down properly and the temperature elevated. Due to the high temperature, the metal piping had oxidation reaction, which generated hydrogen. Hydrogen flooded into the building and created an explosion.

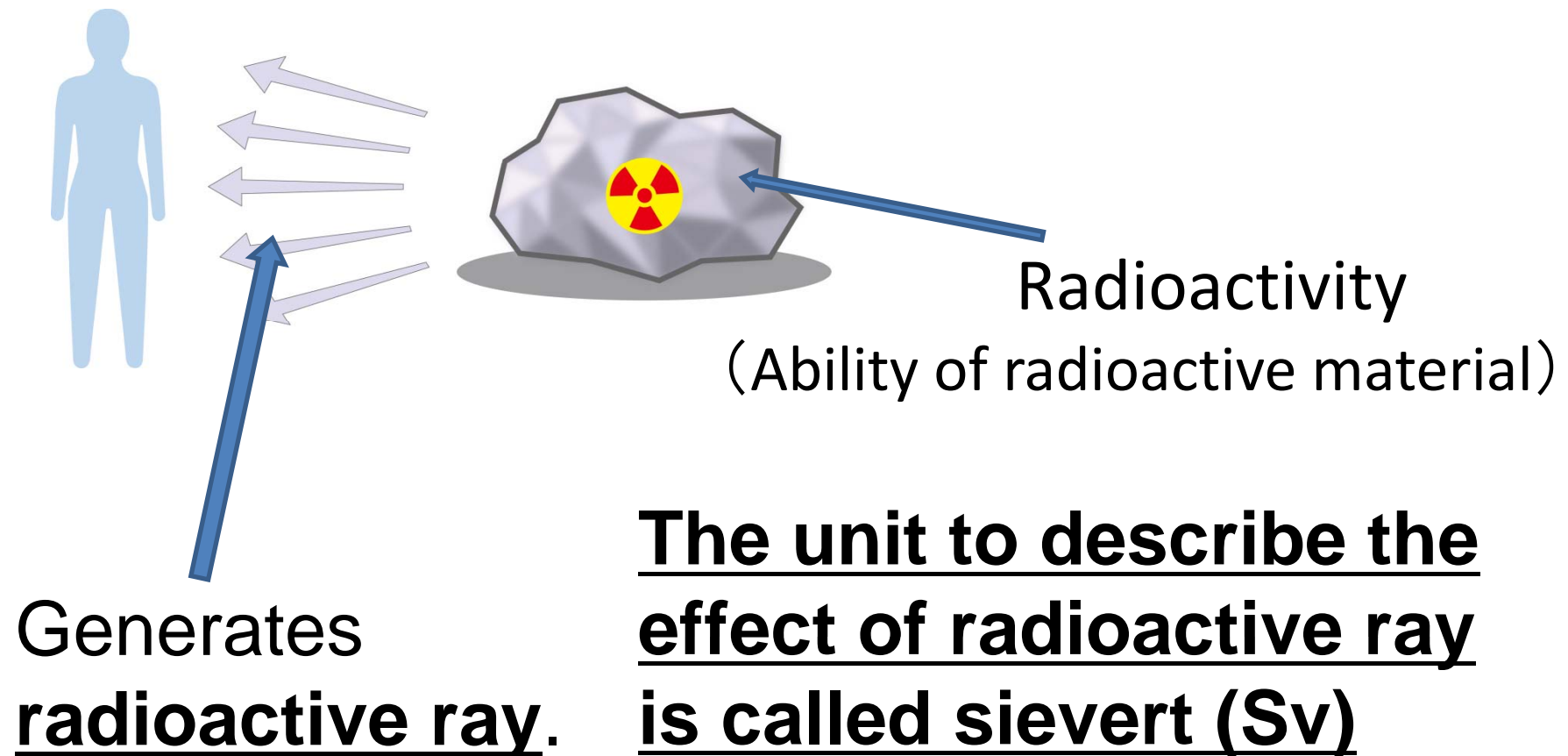
IT IS NOT A NUCLEAR EXPLOSION!!

Please keep this in mind.

The Result of Hydrogen Explosion

- As the result of releasing the containment pressure (vent), hydrogen explosion occurred and radioactivity has been diffused.
- The diffusion of radioactivity is temporary, but this could happen every time they release the containment pressure.
- We cannot be exposed to radiation from this.

What is Radioactivity?



Radioactive Ray

- Radioactive ray can be classified in two categories: natural radiation and man-made radiation.



The impact on human body is the same.



- Most of us have experienced it in everyday life, for example, when having an X-ray for stomach examination or dental treatment.

What is Exposure to Radiation?

- It is the amount (sievert) of radioactive ray received when having small particles containing radioactivity on the body.
- It can be washed down with water (decontamination). I have experienced it many times.
- It is sort of similar to hay fever prevention.

More about Exposure to Radiation

- Even if it is a tiny amount of radioactive material attached to our clothes, we call it “exposure to radiation”.

- It is not very good if the radioactive material is inhaled from the mouth, as it can remain in the body. (internal exposure)



- Under the current situation, we can well prevent internal exposure by wearing a mask we all use for cold or hay fever.

So how much exposure is it?

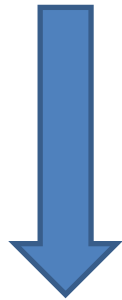
- The amount of radioactive ray this time is more or less equivalent to being exposed to radiation for 1 year within 1 hour by Japanese standard.
- But this has not continued for hours nor days, so it is not a problem.



- The amount is also equivalent to having stomach X-ray twice, but we never have X-rays for hours continuously. X-ray for dental treatment is ten times more than this amount.

Amount of Radiation

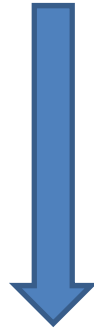
- How much cosmic radiation are we exposed to when flying round-trip from Tokyo to New York?



- A round trip between Tokyo-NY can have you exposed to 200 micro sievert of radiation.

What is the worst situation?

- Hydrogen explosion may happen again.



- If the diffusion of radioactivity is detected, the government may enforce the 20km no-go zone around the nuclear power reactor No. 3.

Conclusion

- We are safe unless we go near the nuclear power plant.
- Even if we are near the nuclear power plant, there is no problem if we wear mask and long-sleeved shirt, and wash our hands and shirt when coming home from outside.
- We can conclude that it has no effect on Tokyo.
- We can trust the information announced by the Japanese government.