

Fukushima: Professor Kosako's Tears

Thursday 26 May 2011, by [LEGLU Dominique](#) (Date first published: 2 May 2011).

"In tears," a senior nuclear advisor to the Japanese Prime Minister submitted his resignation at a press conference. We were intrigued by the AFP dispatch of Friday, 29 April that described the scene. According to this same dispatch Prof. Toshiso Kosako, of the prestigious Tokyo University, resigned "owing to disagreements as to management of the disabled Fukushima nuclear reactor." He also specified that, to his mind, "the government has not been rigorous in applying laws and regulations." A trusted university source responded to our request for an explanation of this unusual scene of a Japanese scholar in tears. He explained that the resignation took place essentially because the Japanese government envisioned raising the limit on permissible levels of radioactivity exposure in the schools and on the playgrounds. Whereas "the limit up to now has been 1 mSv/year (perhaps 2.4 mSv/year)," according to this scholar, the government intends to increase it by twenty, i.e. to "20 mSv/year". We note that this annual exposure limit of 20 mSv/an is that accepted for nuclear industry professionals in France; further, 1 mSv is the average exposure to radiation that the French population annually undergoes during medical examinations.

Our source continued: "appearing before a Diet [Japanese Parliament] committee, the Prime Minister explained that the experts presented various arguments in opposition [to those of Prof. Kosako]; these were based on figures given by the International Commission on Radiological Protection [1] - a limit varying between 1 and 20 mSv/year." Clearly Prof. Kosako, as an expert, did not consider it imaginable to raise the permissible limits, and thought the proposed measures were mere interim solutions.

De facto, the figures cited in connection with these limits necessarily give rise to all kinds of approximated calculations to determine a real level of exposure. Therefore an NHK (Japanese public television station) news item cited JAIF (Japan Atomic Industrial Forum) figures to note "radiation levels in certain schools greater than the limits decreed by the central government." The limit in question was put at "3.8 microsieverts per hour" [2].

Simple multiplication shows that the annual exposure ($3.8 \times 10^{-6} \times 24 \times 365$) comes to about 33 millisieverts. In other words, above the 20 millisieverts that had left Prof. Kosako so overcome. It could be reasoned that the children will be on the playground only a few hours a day and not continually; in addition, radioactivity could be estimated to be 40% lower inside the school than it is outside. It still remains that we certainly would not get as low as a total exposure on the order of the 1 mSv, or even the 2.4 mSv mentioned above...

As if this weren't enough, a somewhat obscure comment on Kyodo News [3] caught our eye: **"Sources revealed that the Japanese system responsible for collecting nuclear accident data on the volume of radioactive materials did not function on 11 March, following the earthquake and tsunami, owing to an electrical outage."** The question is therefore what radioactivity actually could have been measured in the field, in the first hours or even first days of the disaster. If not by mobile units, then with cars with portable measuring systems.

Today, two and a half months after the start of the disaster, the situation of the Fukushima nuclear reactors remains, in the words of the IAEA, "very serious" [4]. "White smoke continues to be emitted from Units 2 and 3." In other words, vapor certainly containing radioactivity. We should remember,

as the IAEA says, that the vessels containing the cores of these two reactors are at atmospheric pressure - that means the inside is in balance with the outside, certainly because of cracks or open valves or pipes. For the moment no one can be allowed to approach them. On the other hand, regarding Unit 1, "installation of a pipe (surely with a filter) to improve the work environment in the reactor building" has begun, according to plant operator TEPCO. "An unmanned crawler dump spread an 'anti-scattering agent' on 2 May" around Unit 4, where the building was ravaged by a hydrogen explosion in the spent fuel pool. A fixative gel to protect from radiation by blanketing and sealing it in? It was not specified.

One thing seems sure: right now the Japanese Prime Minister is in a very bad position regarding his handling of the Japanese crisis following the earthquake, the tsunami and the Fukushima nuclear disaster. A telephone survey conducted this weekend indicated that "76% of the 1010 people interviewed by Kyodo News considered he was not exercising sufficient leadership in handling the country's...triple crisis." As for the Japanese parliament, Monday it voted an "emergency" budget of \$49 billion to rebuild the devastated areas.

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Footnotes

[1] ICRP www.icrp.org

[2] In these schools the floors are being cleaned to be later covered by tarps to reduce room radioactivity. Consult http://www.jaif.or.jp/english/news_images/pdf/ENGNEWS01_1303901476P.pdf

[3] <http://english.kyodonews.jp/news/2011/05/89061.html>

[4] <http://www.iaea.org/newscenter/news/tsunamiupdate01.html>