

Interactive comment on “30 years of European Commission Radioactivity Environmental Monitoring Database (REMdb) – an open door to boost environmental radioactivity research” by Marco Sangiorgi et al.

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Dear reviewer, thanks for the time you dedicated for reviewing this paper and all your good suggestions.

Every Member State competent authorities also publish at national level the same data submitted to REMdb; our database is a collection of all MSs' submissions. They are our only data providers. We don't have any plan of extending the time period backwards from 1984.

C1

Since we have received plenty of comments by five different reviewers, it is difficult to reply one by one in this window; please have a look at the revised paper which takes into account all of them.

For some of them, please find below our answer.

Is the high Cs-137 content of ocean water in the Irish Sea due to Sellafield emissions or the Chernobyl accident? We don't know, we are not in charge of giving an answer, our role is to collect and compile data; local national authorities are in charge to give explanations.

Maybe the gaseous iodine should also be discussed. Because of the short decay times of iodine radionuclides ($I-131:(T_{\frac{1}{2}})= 193h$, $Te-132/I-132:(T_{\frac{1}{2}})= 77.5h$, $I-133:(T_{\frac{1}{2}})= 20.9h$, $I-134:(T_{\frac{1}{2}})= 0.875h$, $I-135:(T_{\frac{1}{2}})= 6.57h$) the presence of this kind of nuclides is strictly related to the time of release / accident. Gaseous iodine requires specific sampling procedure that are not applied routinely from the most of laboratories. In REMdb's list of nuclides "I-131(G):IODINE-131 GAS" is included, therefore it would be possible to add these measurements if available.

How about "after the decay of short-lived radon progeny"? The short lived radon daughters are excluded through a sufficient delay time (e.g. five days) before counting (2000/473/Euratom). In general tritium and very low energy beta emitters are normally not included in the total measurement activity (2000/473/Euratom). T-BETA-ART e T-ALFA-ART are present in REMdb list of nuclides. Most of the laboratories carry out both type of measurements for air samples.

Is beryllium-7 significant from dose point of view? If so, please, add a literature reference. We changed our text in the paper. Be7 is used because its presence is well detectable in the spectrometric measurement and its identification is a continuous check system for the users. "Beryllium-7 should be reported as a qualitative check of the methods used." (2000/473/Euratom)

C2

In the meantime, we have released a new dataset including measurements from 2007 to 2011; we added it to the new paper draft.

Please also note the supplement to this comment:
<https://www.earth-syst-sci-data-discuss.net/essd-2018-160/essd-2018-160-AC1-supplement.pdf>

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2018-160>, 2019.