

Interactive  
Comment

## ***Interactive comment on “Comment on “Global risk of radioactive fallout after major nuclear reactor accidents” by J. Lelieveld et al. (2012)” by J. Lelieveld et al.***

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General comments:

The manuscript provides answers to frequently asked questions related to the ACP article “Global risk of radioactive fallout after major nuclear reactor accidents” published earlier in 2012. The content is certainly of interest to the community. It is left to the editors to decide, however, whether the format of a publication is correct in this case. Given the relevance of the paper and the questions/answers, a publication may be justifiable. There are, however, some comments to make on the content (see specific comments below).

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## Specific comments:

- Chernobyl emissions: I would not say that general consensus does exist on the Chernobyl emissions. There is, however, certainly a high level of agreement on the source term provided in international studies, combined with a residual uncertainty
- Fukushima emissions: I would not say that the Fukushima emissions are subject to “large uncertainty”. Meanwhile, also these emissions are reasonably well known, at least for certain species, within factors of 2-4. The order of magnitude of the emissions is certainly well established.
- The INES Scale is not an good argument of why other incidents like the Three Miles Island accident are not considered, since INES was introduced by IAEA some years after the Chernobyl accident, and does not apply to earlier accidents
- Emission height: the assumption of a low emission height is a bit in contradiction with the severity of the accident scenarios assumed – according to my understanding, a cooling failure leading to a (at least partial) containment failure would almost certainly be associated with significant hydrogen explosions.
- Averaging period: As can be concluded from the accidents so far, there is certainly no such a thing like a “typical” time scale for releases. Chernobyl emitted during about 10 days, Fukushima during about a month. Certainly, the contamination threshold should not be applied to “averaged releases”, but to each assumed accident scenario individually.

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Interactive comment on Atmos. Chem. Phys. Discuss., 12, 19303, 2012.

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