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Atmospheric Chemistry and Physics Discussions

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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We thank the referee for the constructive and helpful comments.

We agree that an introduction would be helpful. It may also help overcome the objection of Seibert about the publication of our comment as an ACP paper. We will add the following text: "In the above mentioned article we assessed the worldwide risk of exposure to radioactivity due to the atmospheric dispersion of gases and particles following severe nuclear accidents, using particulate 137Cs and gaseous 131I as proxies for the fallout. To evaluate the global risks, we applied empirical evidence to estimate the probability of severe accidents. Our results and the methods used have been sub-

ject of scientific and public debate. For this reason, we re-opened the discussion and offered the possibility for further interested colleagues and members of the public to contribute comments. We used Atmospheric Chemistry and Physics Discussions as a transparent and archived forum through the submission of a "peer-reviewed commentary". We also used this forum to provide some additional information and explanation about the assumptions and methods basic to our work".

Reply Q7: We will add the following text, following the suggested clarification: "The INES scale was defined after the Chernobyl accident to inform the public through a tool or standard that can be applied worldwide, agreed upon by the IAEA Parties. The term "severe accident" was defined by the power plant operators/constructors after the Three Mile Island accident on a scale starting from a transient without shutdown of the reactor, an accident with a long shutdown, to a severe accident with core melt (in-vessel or ex-vessel) and closure of the reactor."

Reply Q8: We will add the following sentence: "Ideally, we should account for PRA's of individual nuclear reactors worldwide. Since these are not available, we simplify the risk assessment by performing a relative comparison of reactors by adopting a single risk profile, based on empirical information."

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