

## RESPONSE LETTER TO REVIEWER'S QUESTIONS ON PHD THESIS

**Thesis Title:** Application of the European Basic Safety Standards Directive in Underground Mines: A Comprehensive Radioecology Study in a Hungarian Manganese Mine

**Author:** Amin Shahrokhi

**Reviewer:** Dr. Begy Róbert Csaba, PhD

Dear Dr. Begy Róbert Csaba,

I would like to take this opportunity to thank you for the effort and expertise that you contribute to reviewing my Ph.D. thesis.

The discussion below responds directly to specific questions made by Dr. Begy Róbert Csaba, PhD. The reviewer's questions are in bold and italicized. The author's answers are in normal font style.

I hope the responses are convincing and answer your questions correctly.

Thanks for all your attention and your useful comments which I learned a lot from them, I will try to avoid similar mistake in my future activities.

***1. Why candidate didn't establish a deep mathematical modelling simulation in case of contribution of the exhalated radon from water to the mine air?***

First, based on the decision tree theory, the author made the worst-case scenario (by conservative simulation) to find out the radon contribution from water to air and if the contribution is negligible, then more deep simulation is not necessary. The author has established a simple model conducting the highest value of factors and parameters. As results, based on the result of conservative calculation and paying attention to the forced ventilation velocity, the author concluded the exhalated radon from water to air in the worst-case scenario is negligible. Therefore, as a deep mathematical modelling require a huge effort on geological parameters and a comprehensive database, the author decided to not involve a more advanced modelling simulation.

I hope I've been able to answer your questions well.

Many thanks for your consideration.

2018. Dec. 03, Veszprém

Your sincerely,

Amin Shahrokhi

