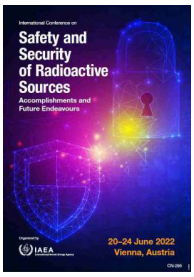

Contribution ID: **304** Type: **Poster**

Safety Analysis on Land Transportation of Cobalt-60 Radioactive Waste Using Fault Tree Analysis (FTA)

Thursday, 23 June 2022 16:15 (15 minutes)

Cobalt-60 teletherapy usages for cancer treatment produce radioactive waste. This radioactive waste must be transported from the hospital to nuclear waste repository within the country or can also be re-exported to the country of origin. This radioactive waste produce by the hospital can bring negative impact to the environment, therefore radioactive waste transportation safety analysis is needed to ensure that the transportation process can be done safely. This paper analysis causes of the radioactive transportation accident by the land route using fault tree analysis. The main accident to be analysed is defined first as the top event, then this top event is analyzed to gain primary event. Furthermore, the probability of the top event is calculated based on the probability of each primary event. From the research, it was found that the waste transport truck accident is the top event, and the primary are accidents that occur due to human error, vehicle factors, road factors, and environmental factors. The probability of this top event is below 5%, this system meets the safety standards for the transportation of radioactive waste.

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Presenter: ANTONIUS, Juandi

Session Classification: Poster Session 3

Track Classification: 14. Safe and secure management of disused sealed radioactive sources, including field operations, new technologies and end-of-life-cycle management options