

**International Conference on Occupational Radiation Protection:
Strengthening Radiation Protection of Workers –Twenty Years of Progress
and the Way Forward**

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**CALCULATION OF RADIATION SHIELDING FOR
MEGAVOLTAGE GAMMA RAY FACILITY USING
MONTE CARLO CODE EGSnrc**

This research applies the Monte Carlo simulation method EGSnrc Electron Gamma Shower (EGSnrc) Code with two code is dedicated: BEAMnrc code is used to simulate the beam emitted from the accelerator head and DOSXYZnrc code is used to calculate the dose emitted from the accelerator. From there, evaluate beam attenuation of radiation emitted from the accelerator through the layers of shielding material at staff area and public area.

Result, We have successfully applied EGSnrc simulation program with two dedicated code is BEAMnrc and DOSXYZnrc with the initial results of the study showed that the dose limit in the staff area is 0.11 mSv/week (5.5 mSv/year) and at public area is 0.022 mSv/week (1.1 mSv/year). This result is lower than 8.3% in staff area and in the public area is 10% higher than the regulations of the IAEA, the ICRP. However, these results need to be verified further through further research.

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