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This study aims to identify the variety of NORM (Naturally Occurring Radioactive Material) radionuclides in the Nuclear Energy Research Organization, National Research and Innovation Agency, Pasar Jumat, South Jakarta, Indonesia, along with the concentration levels received by workers and to see the influence of radionuclides from countries outside Indonesia during 2023.



a. HVAS



b. Snow White

Air measurements were carried out using HVAS (High Volume Air Sampler) with a flow rate of 1000 m<sup>3</sup>/s for 168 hours and snow white 700 m<sup>3</sup>/h for 24 hours.

The results of NORM measurements in the air were analyzed by gamma spectrometry using a High Purity Germanium Detector (HPGe) detector.

The results of NORM radionuclide concentrations from air monitoring with the HVAS tool are lower than the results from the Snow White tool. The concentration results are still below the threshold value of the activity concentration set by BAPETEN (Nuclear Energy Regulatory Agency) regarding the radiation safety of NORM storage, namely Ra-226 around 0.05 Bq/m<sup>3</sup>, Th-228 around 0.003 Bq/m<sup>3</sup>, Th-232 around 0.006 Bq/m<sup>3</sup>, and K-40 around 3 Bq/m<sup>3</sup>.

The highest concentration detected by the snow white tool was K-40 with an average concentration of around  $8.19 \times 10^{-4} \pm 2.65 \times 10^{-5}$  Bq/m<sup>3</sup>, followed by Th-232 with a concentration of around  $1.29 \times 10^{-5} \pm 3.67 \times 10^{-6}$  Bq/m<sup>3</sup>, Th-228 Around  $8.78 \times 10^{-6} \pm 1.23 \times 10^{-6}$  Bq/m<sup>3</sup>, and Ra-226 As the lowest around  $7.75 \times 10^{-6} \pm 6.43 \times 10^{-7}$  Bq/m<sup>3</sup>.