

# International Conference on the Management of Naturally Occurring Radioactive Materials (NORM) in Industry

VIRTUAL EVENT

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## Naturally Occurring Radioactive Materials (NORM) in Oil and Gas Industry in Sudan

National NORM action plan of Sudan was established in 2015, with the assist of the IAEA, in order to control the exposures arising from the NORM relevant activities in Sudan. The plan started with the inventory of the NORM-related industries in country. This study aims to evaluation the NORM levels in the installations and associated equipment at the oil and gas operations in Sudan. Site visits were conducted to the oil and gas operation fields (more than 80% of the operation in Sudan). Survey and sampling were conducted. Collected samples were analyzed using High Purity Germanium (HPG) device. The assessment consisted of external radiation measurements, and determination of the activity concentration of the samples which taken from production units. The dose rate from NORM related activities ranged from background values of 0.03  $\mu\text{Sv/h}$  to 0.11  $\mu\text{Sv/h}$  up to 1.5  $\mu\text{Sv/h}$  and gamma spectrometric analysis of the samples indicates that Ra-226 having a maximum concentration of 2703 Bq/kg, Ra-228 having a maximum concentration of 691 Bq/kg and K-40 having a maximum concentration of 2260 Bq/kg.

The NORM levels are low but a monitoring program may need to establish for the industry, to ensure the safety of workers and the public and to protect the environment, which is not presen now.

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