Sustainable Radioactive Waste Management techniques: Minimization, Recycling & Disposal

Ahmed Saleh
HSE Section Head, Khalda Petroleum Company, Egypt

Abstract

Wise and effective management of different types of associated by-products of the oil & gas industry is crucial for a sustainable industry growth. One of the ultimate hazardous & critical associated wastes of the petroleum industry is the bulk accumulation of naturally occurring radioactive material (NORM) which represents health, environment & legal vital challenges.

By considering the fact that, all established radioactive waste management polices & procedures in the Egyptian oil & gas market are dealing only with the protection & handling procedures with no real practices for final disposal of the existing & future radioactive waste bulk; it is desperately needed to launch an endeavor to set the frames for effective radioactive waste management process while keeping the highest health & safety standards.

This study aims to address resilient management techniques for the Low-Level Radioactive waste by actualizing the “waste hierarchy" principle (Prevention–Minimization–Recycling–Disposal) while complying with the local & international regulatory requirements using an integrated process of minimization on site, central recycling & final secure and safe disposal in an economic feasible way.

The sustainable, effective & resilient radioactive waste management not only will dramatically eliminate one of the present major potential hazards in the oil & gas fields, but also manage additional bulks of NORM wastes arise due to production acceleration & new avenues of unconventional resources that could be opened in the Egyptian oil & gas market.

Biography

Ahmed Saleh, 33 years, bachelor in geological and geophysical engineering (Suez University) experienced engineer in Health, Safety and Environmental through oil & gas field with expertise in Technologically Enhanced Naturally Occurring Radioactive Material (TE-NORM) control and management.

References

- Resolution No. 166 / 2006 regarding the issuance of Regulatory Rule No. Pet 1-2.
- Law no. 7 / 2010 and its implementing regulation.
- Nuclear & Radiological Regulatory Authority (NRRA) Regulatory Procedures.
- IAEA safety standards series.