

Study of Radioactivity of Oil and Gas

Authors : Harish Aryal, Thalia Balderas, Alondra Rodriguez

Abstract : Radioactivity present in nature possess a major challenge to public health and occupational concerns. Even at low doses, NORM can cause radiation-induced cancers, heritable diseases, genetic defects, etc. There have not been enough radiological studies and consequently, there is a lack of supportive data. In addition, there is no universal medical surveillance program for low-level doses and there is a need for NORM management guidelines for appropriate control. Naturally Occurring Radioactive Material (NORM) is present everywhere during oil/gas exploration. Currently, there is limited data available to quantify radioactivity. This research presents the study of radioactivity in different areas in the United States to be encouraged to be used for further study in Texas or similar areas within the oil and gas industry. Many materials that are found in the oil and gas industry are NORM (Naturally Occurring Radioactive Materials). The NORM is made of various types of materials, including Radium 226, Radium 228, and Radon 222. Efforts to characterize the geographic distribution of NORM have been limited by poor statistical representation in this area of study. In addition, the fate of NORM in the environment has not been fully defined, and few human health risk assessments have been conducted. To further comprehend how to measure radioactivity in oil and gas, it will be essential to understand the amount and type of radioactivity that is wasted on the water and soil of the industry.

Keywords : NORM, radium 226, radon 222, radionuclides, geological formations

Conference Title : ICEEPE 2023 : International Conference on Environment, Energy and Petrochemical Engineering

Conference Location : Zurich, Switzerland

Conference Dates : July 24-25, 2023