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Main technical points of NORM facility radiation environmental impact review in China

This paper mainly introduces the legal and regulatory basis for preparation and review, review process and basic requirements of radiation environmental impact assessment documents for NORM facilities in China. This paper analyzes and summarizes the technical points in the review of EIA documents, as well as existing problems and challenges.

Environmental Impact Protection Law and Environmental Impact Assessment Law stipulate that NORM facilities should conduct environmental impact assessments. Radioactive Pollution Control Law further clarifies that radiation environmental impact assessment should be carried out at NORM facilities. Catalogue of Radiation Environment Supervision and Management of Mineral Resources Development and Utilization clearly states that five industries (rare earth, niobium / tantalum, zirconium and zirconia, vanadium, stone coal) and their corresponding types of industrial activities need to carry out radiation environmental impact assessment, defined the levels of nuclides that should be included in radiation environment safety regulation, and specified the form of radiation environmental impact assessment document. Format and Content of Radiation Environmental Impact Assessment for the Development and Utilization of Mineral Resources specifies the format and content requirements for preparation of radiation environmental impact assessment documents for NORM facilities, mainly including the analysis of radiation source items, natural radiation background level, and the analysis of radiation environmental impacts, radiation environmental management and radiation monitoring. Radioactive Pollution Control Law stipulates that the regulatory authority responsible for the radiation environmental impact of NORM facilities is the ecology and environment department. The technical support unit under the ecology and environment department is responsible for technical review of EIA documents. According to laws and regulations and review experience, technical review of EIA documents mainly focuses on consistency of file format and content with standards, completeness of process and pollution analysis, rationality of radioactive source items analysis, feasibility and effectiveness of pollution prevention measures, whether the survey of natural radiation background level meets requirements, effectiveness of environmental impact assessment model and rationality of results, feasibility of radiation environment management and radiation monitoring plans, etc. During operation of NORM facilities, the technical support unit will cooperate with the ecology and environment department to supervise radiation environment safety of facilities, including operation of pollution prevention measures, implementation of effluent and environmental radiation monitoring plans, and management of radioactive waste. Finally, analyze and summarize problems and challenges in the review of radiation environmental impact of NORM facilities.

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