



RADIOACTIVE WASTE MANAGEMENT AND A QUALITY MANAGEMENT SYSTEM IN THAILAND

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1. Background

The Radioactive Waste Management Center (RWMC) is the only agency responsible for the management of radioactive wastes (RW) generated from nuclear and radiation applications in industry, research, and agriculture in Thailand. RWMC operates under the supervision and authorization of a regulatory body (the Office of Atoms for Peace (OAP)) for radioactive waste management (RWM) services to government and private agencies. RWMC is serviced at a national level for RWM and uses a quality management system (ISO 9001) for the management of RW in the collection and transportation of RW to RWMC and radioactive waste storage buildings, where they are characterized, segregated, treated, conditioned, and stored. Including, other services such as radioactive contamination monitoring and decontamination service, disused sealed radioactive sources management service, and service on analysis of environment samples radioactivity. Additionally, service on analysis of water (surface water, wastewater, drinking water) radioactivity (Gross alpha, Gross beta, 3H, 60Co, and 137Cs) of RWMC control by ISO17025. In addition, RWMC focuses on safety for RWM to protect humans and the environment in the country under a quality management system ISO 14001 standard has been implemented for the RWM service at RWMC. In addition to a quality management system, the RWM services of RWMC are following IAEA guidelines and Ministerial Regulations including internal and external audits from outside agencies and regulators. Therefore, the quality management system is an efficient tool of RWMC to demonstrate that adequate measures are in place for RWM to ensure the safety of RWM activities of RWMC has continual improvement.

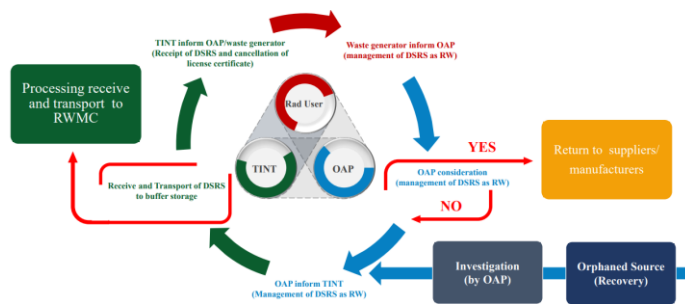


Fig. 3 Receiving DSRs from the waste generator to RWMC

2. Radioactive waste facilities in Thailand



Fig. 1 Three operating sites of Radioactive Waste Facilities

3. General requirement gratefully extend

The Quality Management System implemented for the RWM Service includes all the activities carried out within this Service. The ISO 9001 Standard encourages the adoption of a process approach to quality management. Also RWMC, there is awareness of the importance of running environment management. Radioactive Waste Management operations have been certified with ISO 14001:2015 environmental management system standards for radioactive waste management.

4. Description of the processes

This process is related to the activities carried out, such as the assessment, segregation, and characterization of existing radioactive waste before collection and transport to the Radioactive Waste Management Center; The assessment of radioactive waste includes verification of compliance with the waste acceptance requirements established by the RWMC for collection and transport included the process of receiving DSRs from the waste generator to RWMC until the process of store DSRs at Radioactive Waste Storage Building at TINT Ongkharak

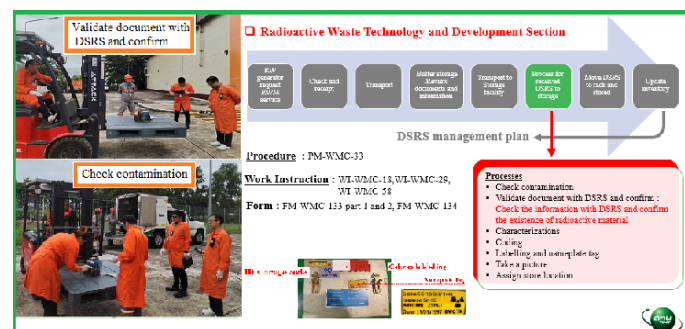


Fig. 4 Receiving DSRs for storage at RW Storage Building (TINT Nakorn-Nayok)

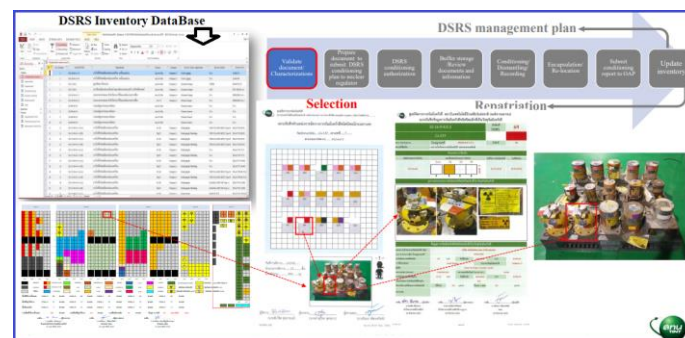


Fig. 5 The record-keeping system and the traceability of disused sealed radioactive sources are stored within Radioactive Waste Storage Building No.4

5. DSRs-TeC Peer Review Mission in Thailand

The implementation of the DSRs-TeC peer review field mission was performed from 18 to 21 July 2023. The result of this mission shows that QMS is very well established and implemented in all radioactive waste management (including DSRs management) activities. Documentation management is at a very high level in accordance with the best world practice. The hierarchy of documentation is very well established. RWMC used the document control software e-SMART to upload all documents to the online cloud. All documents are marked with code marks, by groups and processes, easily available in the electronic version on the server. The IAEA would recommend that TINT's inventory system be an exemplar of a good inventory system.

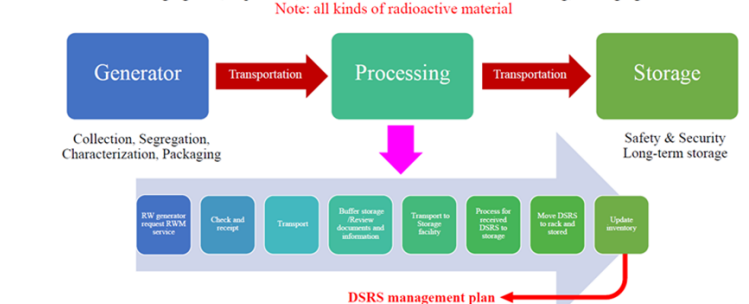


Fig. 2 The steps of Radioactive Waste Management in Thailand

6. Conclusions and Acknowledgements

RWMC treats the safety of the public and the environment as its first priority. The comprehensive quality assurance program applied to all stages and elements of predisposal radioactive waste management has a bearing on safety. It includes the operation and maintenance of radioactive waste management facilities. The quality assurance program is applied to waste processing to ensure that all waste acceptance requirements are fulfilled. This will provide an assurance of adequate quality and will ensure compliance with the relevant standards and criteria. The Quality Management System has demonstrated that adequate measures to ensure the safety and protection of the public and the environment have been implemented for RW Service. QMS is very well established and implemented in all radioactive waste management (including DSRs management) activities in Thailand.

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