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Documentation Experiences for Jamaican SLOWPOKE-2 Research Reactor Conversion from HEU to LEU

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The Jamaican SLOWPOKE-2 (JM-1) is a 20 kW research reactor manufactured by Atomic Energy of Canada Limited and has been operating since March 1984, in the department of the International Centre for Environmental and Nuclear Sciences (ICENS), at the University of the West Indies, Mona Campus in Kingston, Jamaica. The pool type reactor has been primarily used for Neutron Activation Analysis in environmental, agricultural, geochemical, health-related studies and mineral exploration. The University, assisted by the IAEA under the GTRI/RERTR program, is currently in the process of converting from HEU to LEU. Extensive documentation on policies, general requirements, elements of the conversion quality assurance (QA) system and conversion QA administrative procedures is required for the conversion. The core conversion activities are being carried out in accordance with current international standards and regulatory guidelines of the newly established Jamaican Radiation Safety Authority (RSA) with agreement between the RSA and IAEA or DOE related to Nuclear Safety and Control. The documentation structure has taken into consideration nuclear safety and licensing, LEU fuel design and conversion analysis, LEU fuel procurement and fabrication, removal of HEU fuel and reactor maintenance and conversion and commissioning, with the conversion QA manual at the apex of the structure. To a large extent, the documentation format will adhere to that of the IAEA applicable regulatory standards and guidance documents. The major challenge of the conversion activities, it is envisioned, will come from the absence of any previous regulatory framework in Jamaica; however, a timeline for the process, which includes training and equipping of regulators, will guide operation.

Country or International Organization

Jamaica

Primary author: WARNER, Tracey-Ann (International Centre for Environmental and Nuclear Sciences, University of the West Indies, Jamaica)

Co-authors: Mr DENNIS, Haile (International Centre for Environmental and Nuclear Sciences, University of the West Indies, Kingston Jamaica); Mr ANTOINE, Johann (International Centre for Environmental and Nuclear Sciences, University of the West Indies, Mona, Kingston 7, Jamaica)

Presenter: WARNER, Tracey-Ann (International Centre for Environmental and Nuclear Sciences, University of the West Indies, Jamaica)

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