

**ROADMAP FOR TECHNOLOGY DEVELOPMENT TO SUPPORT CANDU
DECOMMISSIONING AND LONG-TERM WASTE MANAGEMENT;
PART 1: ROADMAP PREPARATION**

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Abstract

As part of its Strategic Research and Development Program, the CANDU Owners Group (COG) has commissioned a study to develop a Roadmap for technology in support of the following CANDU specific decommissioning and long-term waste management goals set by CANDU's Senior Nuclear Executives: (1). Reducing waste costs by 50% over the next 5-10 years and 75% over the next 10-25 years, and (2) Reducing waste volumes by 25% over the next 5-10 years and 40% over the next 10-25y by providing "faster, better, cheaper" technologies and strategies.

Beginning with an extensive review and categorization of recent decommissioning literature, seven High-Tier topical areas were identified: I: Planning, management and control software, II: Remotely operated platform and manipulators, III: Characterization of activation/contamination and in-plant identification of non-rad contamination, IV: Processes and equipment for waste-destined materials, subdivided into IVa: Out of reactor waste sequence, IVb: Waste recycle and improved package development, IVc: Treatment of special /mixed waste and remediation processes for H-3 and C-14 contaminated materials, and V: Site and infrastructure.

Brief state-of-the-art reports were prepared for each Topical Area and gaps in knowledge and technology were identified to create an implementation Roadmap. Eleven (11) innovative work packages were selected for the first year of this program requiring an initial investment of about 1.5 M\$ CAD.

This paper will provide an overview of the inputs, process, structure, issues and expectations associated with the development of the Roadmap. It is intended as a companion to Paper #116 which will outline early results in the implementation of the Roadmap

KEYWORDS: roadmap, strategic decommissioning technology, R&D, radioactive-waste, recycling