RWM Science & Technology Plan



Radioactive Waste Management Limited

Overview

- Purpose
- Structure of S&T Plan
- SRLs
- Site specific research



Purpose of S&T Plan

The term "research" includes all activities designed to enhance our knowledge base, including work on the specification, concepts, design development and improvements to safety and environmental assessments.

The S&T Plan will:

•Detail our current views on the nature and timing of RWMD's future <u>generic</u> research and development activities.

•It is intended that this will provide opportunities for dialogue and involvement of interested parties in the development of our knowledge base for the safe geological disposal of radioactive waste.

Following site identification the plan will be rigorously reviewed and updated.



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Protective marking

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Task Sheet Information

- Task number a unique identifier
- PBS descriptors
- Background

('How important or significant is this topic area?' & 'How urgent is the task?')

Research Need

('What is our 'knowledge gap'? & 'What is the driver for the R&D?')

- Internal 'Customer' or End-User
- Research Objective

('What do we need to know by when?')

- Short Title
- Scope

('What do we need to do to fill the knowledge gap?')

- SRL[®] at Task Start; SRL[®] at Task End; Target SRL[®]
- End point
- Further Information

Long-term Graphic



SRLs	 Although understanding is well developed there are still minor judgements required to make predictions to extend the validity to regions not covered by the underlying data. This SRL therefore APPLIES THE UNDERSTANDING 	ABLISHED
• Assessment and Comparison	A good understanding of the controlling physical and chemical processes has been attained, however further R&D is required in order to validate the understanding in the real environment. This SRL therefore VALIDATES THE UNDERSTANDING	MATURE – NEEDS SUPPORT
of Scientific Maturity 4	Following successful research there is a good understanding of the controlling physical and chemical processes, but major elements require further research to reduce uncertainty. This SRL therefore QUANTIFIES THE UNCERTAINTY.	MATURE – NEEDS UNDERPINNING
3 ^{Co} to	ontrolling physical processes have been identified but major assumptions requ o make predictions for parameters of interest. However, the research required justify such assumptions can be specified and it is possible to detail an R&D programme to move up SRLs. This SRL therefore DEFINES THE RESEARCH REQUIREMENT.	ired J to JUDGEMENTAL
2 The pot to c	ential physical processes have been assessed, but we require exploratory rese confirm the controlling processes. Predictions require assumptions of both the controlling processes and detailed parameters. This SRL therefore IDENTIFIES THE CONTROLLING PROCESSES	EXPLORATORY
1 Little of pro Radioactive Was	r no confidence in making predictions, but possible to identify physical / chem cesses that need to be understood and where expertise has to be established. This SRL therefore IDENTIFIES THE UNCERTAINTY	EMERGING ISSUE
		Protective marking

Transition to Site-specific Research

Once a potential site (or sites) is identified the focus of the work will transition in three ways:

- The emphasis of our research will focus on developing the underpinning science of concepts, designs and safety/environmental assessments specific to the site or sites in question.
- Where appropriate, the scope of those research activities currently identified in the generic programme will be tailored to the site or sites in question.
- A range of site specific research tasks will be developed, aimed at:
 Optimisation of the disposal concept and designs against the host geology;
 - Reflecting the real environment in the disposal system safety case.

Summary

- Simple access to our thinking
- Tool to assist in dialogue
- Use of NNL developed SRLs.
- Provides detailed information of needs, objectives and indicative scope
- Potential to support impact statements

Thank you

RWMD Bibliography:

http://www.nda.gov.uk/documents/biblio/search.cfm

Any questions:

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