

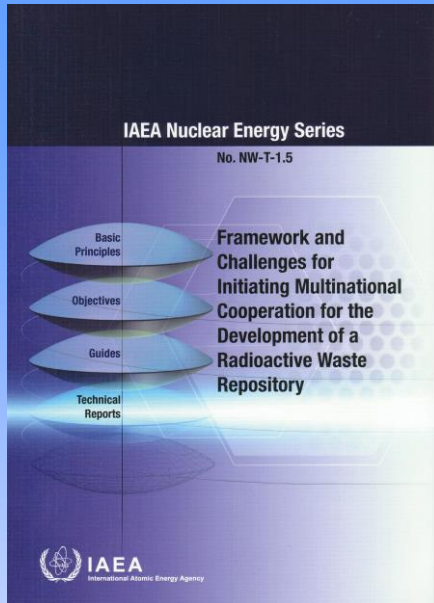
Project Risks in Financing a Multinational Repository

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Financing a Multinational Repository –
Challenges and Alternate Approaches
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Key Document



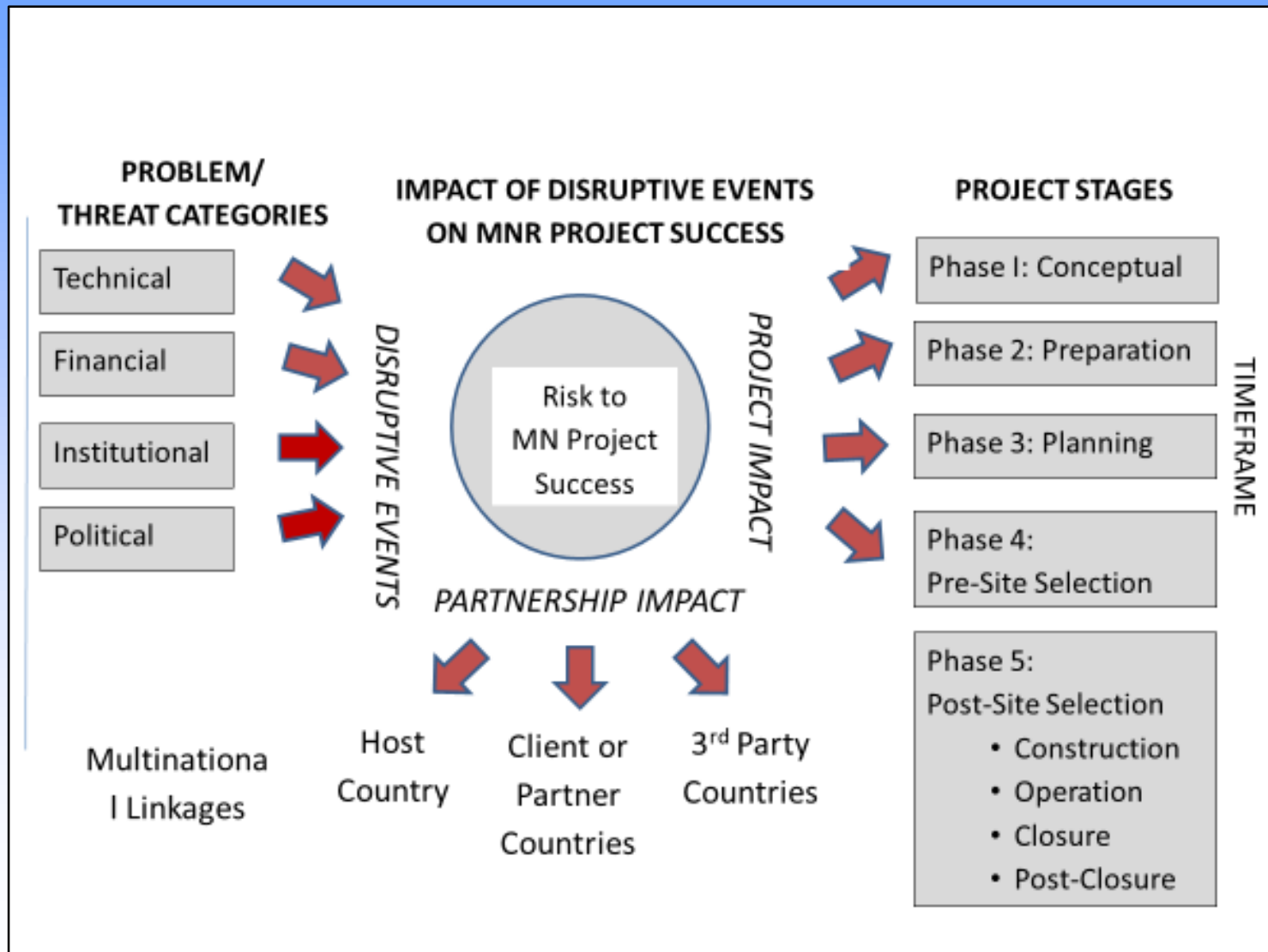
- IAEA (2016), *Framework and challenges for initiating multinational cooperation for the development of a radioactive waste repository* : IAEA nuclear energy series, NW-T-1.5

➤ Chapter 7

- 7.1. Principles of risk management
- 7.2. Risks in a multinational project
- 7.3. Technical risks
- 7.4. Financial
- 7.5. Institutional
- 7.6. Sociopolitical risks .

NOTE: the focus in this report is on the “partnering” scenario; today the “service provider” scenario is of most interest

All types of risks are present in all Phases



Risk Management

➤ Identify threat categories

- *Technical; economic; institutional; socio-political*

➤ Manage the Risks

- *identify* potential threats
- *quantify* the risks (likelihood and consequences)
- *Prioritise* the risks
- *define* ways to reduce those risks
- *prioritize* risk reduction measures based on a strategy

Managing Risks

➤ Strategies

- Reduction/Mitigation
- Sharing 1: outsource or insure critical risk
- Sharing 2: transfer some risk to project partners
- Retention (accept risks and allow for these in the budget)

➤ Application

- These are applicable to all risk categories
- But today we wish to focus on financial risks

Technical Risks: IAEA examples

Event
Unexpected fluctuations in disposal requirements of Participants
Unexpected tightening of waste acceptance criteria (WAC) imposed by Host Country.
Operational accidents
Malfunction of the completed facility

Not for consideration today, although all of these have financial implications

Institutional Risks: IAEA examples

Event

Legal challenges to siting or licensing in Host country

Changes in laws of Host country after siting

Failure of MN project to meet overall safety requirements

More stringent regulations imposed by national regulators of Participating countries

Not for consideration today, although all of these have financial implications

Socio-Political Risks: IAEA examples

Events

No volunteer countries offer to host repository

One or more participating countries withdraw from MN venture

Elections in national WM policy (host and partner country related)

Societal opposition (public acceptance, litigations)

National Disposal Programs slowed or stopped

Neighbouring country does not allow transports through territory - legally (ban of transport) or to avoid social disruption

Less consensus of desirability of disposal solution (new technology, changing in ethical approach)

Not for consideration today, although all of these have financial implications

Our main interest today: Financial Risk

- In finance, risk is the chance that the return achieved on an investment will be different from that expected, and also takes into account the size of the difference. This includes the possibility of losing some or all of the original investment.
- Risks can come from many different threats such as financial markets, project failures, legal liabilities, regulatory delays, political upheavals, accidents, natural causes and disasters, or events of uncertain or unpredictable root-cause.

Direct Financial Risks: IAEA examples

Event

Participants postpone transfers to repository because wastes are in national interim stores

Unexpected disposal tariff increases imposed by Host Country

Unexpected financial difficulties experienced by partners to meet MN commitments

Escalation in implementation costs

Are there more? What are possible mitigation measures?

Mitigation of Risk is Important – IAEA examples

Events	Impact	Mitigation
Participants postpone transfers to repository because wastes are in national interim stores	- Revenue stream insufficient to cover running costs	- Provide cost incentives for timely transfers - Penalise Partners for non-use of allocated capacity in the repository
Unexpected disposal tariff increases imposed by Host Country	- Partner countries find tariff increases unaffordable	- Make provisions in contractual arrangements for excluding such increases unless negotiated and agreed

Key Financial Risks to the Service Provider

- Insufficient customer base (present or future)
- Undercut by MNR competition
- Ensuring liquidity up to disposal operations
- Delays due to public/political opposition
- Liability payments due to operational malfunctions
- Long-term liabilities
- Currency exchange rates

Key Financial Risks to the Service User

- Up-front funding (e.g. pre-payments; storage fees) loss due to project failure (technical or political)
- Long-term contracts exclude potential future competing MNR offers
- Service provider or his government withdraws services
- National policy changes to exclude export
- Service provider insists on shared liabilities
- Currency exchange rates

Some Conclusions

- Most **project risks** in a repository development are similar whether one considers national or multinational implementation – exceptions are **political** and **financial** risks
- For an MNR, financial risks and mitigation measures will differ between **sharing concepts** and commercial **service provider** approaches
- A **robust, sustainable financing mechanism** is essential for success of a service provider initiative
- This has proven to be the stumbling block is some past proposals – **we need new ideas**

Today's Objectives

- Summarise the costs of a MNR
 - Level
 - Time profile
 - Financing requirements
- Financing
 - Examine potential financing approaches
 - Assess the associated risks and benefits
 - Consider risk mitigation measures

The End