Moving towards Licensing of Geological Disposal Facilities in Europe - Lessons from the WIPP

IGD-TP Strategic Research Agenda Exchange Forum

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Waste Isolation Pilot Plant

- Located in southeastern New Mexico
- Bedded salt formation
- Disposal of transuranic waste from US DOE defence programmes – (contact handled and remote handled)

Schedule

- 1974 Site selected
- 1981 First shaft excavated
- 1988 Facility ready for waste receipt
- 1993 DOE Carlsbad Area Office established
- 1996 Compliance Certification Application (CCA) submitted
- 1998 Certification by EPA
- 1999 Disposal operations commence
Reasons for Success - Management

- Project management – local office and schedule driven
  - Use of PA to prioritise required R&D work in view of remaining uncertainties and project timescales, and elimination of unnecessary R&D activities
  - Shift from science-driven project to licensing-driven project
  - Determined leadership by CAO, but gradual acceptance within project that licensing needs and schedule drivers were imperative

- How much information is enough?
  - GDF development programmes running over decades are information rich and much shared information between countries
  - When a project director says the license application must be ready!
Systems Prioritisation Methodology

- A risk-informed approach to decision-making to prioritise the R&D needed to move to licensing

- Tool for systematic consideration of trade-offs:
  - Between current understanding of system performance and associated uncertainties, and likelihood that the outcomes of particular R&D could reduce uncertainty / increase confidence in licensing case
  - Between likelihood of R&D increasing confidence in system performance and programme COST
  - Between proposed R&D and programme SCHEDULE
  - Also considered modifications to design and operation
Reasons for Success - Governance

- High level of continuing political and local public support – timely passage of enabling legislation

- Regulator-proponent dialogue
  - Robust CCA; iterative approach; responding to queries

- Ongoing independent review
  - Iterative assessments in period 1989-1995
  - Peer review and stakeholder review
  - Response to comments, additional work where needed
Reasons for Success – the CCA

- Focused on issues of importance to regulatory compliance
  - Not everyone agreed with the level of scientific detail in particular areas

- Several innovative information management systems aided in finding information and tracing arguments
  - Across single iteration - 22 volumes, tens of thousands of pages
  - As PA and CCA documents are updated over time