Independent Environmental Oversight: Legal and Institutional Aspects

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The Age of Accountability

Key Concepts

Oversight

Independence

Independent Environmental Oversight

In almost all jurisdictions where environmental impact assessment is practiced, follow-up is dubbed the weakest stage.

Multiple Roles for Oversight Agencies

- Communication/ Transparency
- Technical Oversight
- Restoring Public Trust/ Inspiring Public Confidence
- A Check on Regulatory Capture and Group-Think

The Experience of Independent Oversight Agencies: Lessons Learned

Lesson #1: Independent oversight agencies have numerous potential drivers, many of which are relevant to Giant Mine.

Lesson #2: Not all bodies bearing the label "independent oversight agency" are necessarily independent, nor do they necessarily provide oversight functions.

Lesson #3: The primary role of an oversight body needs to be determined prior to choosing an appropriate form and structure.

Lessons Learned (contd.)

Lesson #4: Composition should follow function.

Lesson #5: Access to information is paramount.

Lesson #6: Guaranteed funding is necessary.

Lesson #7: Proponents should be obliged to respond to recommendations from oversight bodies.

Lesson #8: Oversight bodies should have a legal base.

Lesson #9: Independent oversight bodies can promote effective environmental management through identifying gaps in environmental monitoring and management.

Lesson #10: The meaningful involvement of Aboriginal groups in oversight and monitoring requires careful attention and devoted capacity funding.

Lesson #11: The impacts of natural resource projects are differentially experienced. Ensuring community participation requires an attentiveness to the gendered impacts of resource development.

Lesson #12: Ensuring an oversight body's independence can be critical to ensuring public confidence.

The full text of our report on independent environmental oversight can be found at:

http://www.reviewboard.ca/upload/project_document/EA0809-001_Independent_Environmental_Oversight_Report_1299265834.PDF

Giant Mine Perpetual Care Funding Options

Presentation to Mackenzie Valley Environmental Impact Review Board,

on behalf of Yellowknives Dene First Nation and Alternatives North

Sept 14th, 2012 Yellowknife, NWT

Duncan Kenyon, Pembina Institute

The Pembina Institute

The Pembina Institute is an environmental nonprofit think tank with 50+ staff in seven offices. We work to advance sustainable energy solutions through innovative research, education, consulting and advocacy.

Purpose of Report

- Identify & evaluate perpetual care funding options
- Make recommendations on funding for the long-term care and maintenance (perpetual care requirements) for the Giant Mine

Perpetual Care
Funding Options Report

1. Past and current funding processes for remediation work at the Giant Mine
2. Case studies: Review other Canadian & international long-term contaminated sites funding processes

Perpetual Care Funding Options Report cont

3. Establish criteria to evaluate long-term funding of contaminated sites
4. Use criteria to evaluate potential funding processes
5. Recommend appropriate funding options

Current Long-term Care Funding for Giant Mine

- Annual appropriations of funds.
  - since 1999, over $150 million spent on the site
  - $480 million latest estimate for the Remediation Plan, Public Accounts liability of $617 million
- Funding through Federal Contaminated Sites Action Plan (FCSAP) program

Current Long-term Care Funding for Giant Mine cont

- Policy framework for managing long-term funding?
  - $1.9 million/year for perpetual care costs
  - Policy framework not yet clear for these perpetual care costs

Case Studies

- 13 Canadian & International projects

Canadian Projects

1. Nuclear Waste Management Organization
2. Sydney Tar Ponds Agency (NS)
3. Britannia Mine (BC)
4. Cleanup of Abandoned Northern Sites (Sask)
5. DEW Line Cleanup
6. Up-front multi-year funding

International Projects

1. U.K. Coal Authority
2. U.S. Abandoned Mine Land Reclamation Fund
3. US Superfund Cleanup Program
4. Hanford plutonium production site (Washington state)
5. Zortman-Landusky Mine reclamation (Montana)
6. Town of Heerlen Minewater Geothermal District Heating Project (Netherlands)
7. Broken Hill Community Foundation (Australia)

Case Studies, Funding Mechanisms

- Four Main Funding Mechanisms:
  1. Government funding through annual appropriations e.g. DEW Clean-up, Hanford, UK Coal Authority
  2. Levies on existing operations (which can be used to establish a trust fund or be allocated annually) e.g. NWMO*, US Superfund
  3. Public-private partnerships
     e.g. Britannia Mine
  4. Trust funds
     e.g. Up-front Multi year, NWMO* Zortman*

Evaluation Criteria

Criteria for evaluating perpetual care funding approaches

- Life cycle
- Protection
- Contingency
- Third party expert involvement
- Long-term monitoring & review
- Stakeholder involvement
- Reporting
- Verification

Evaluation of Perpetual Care Funding Options

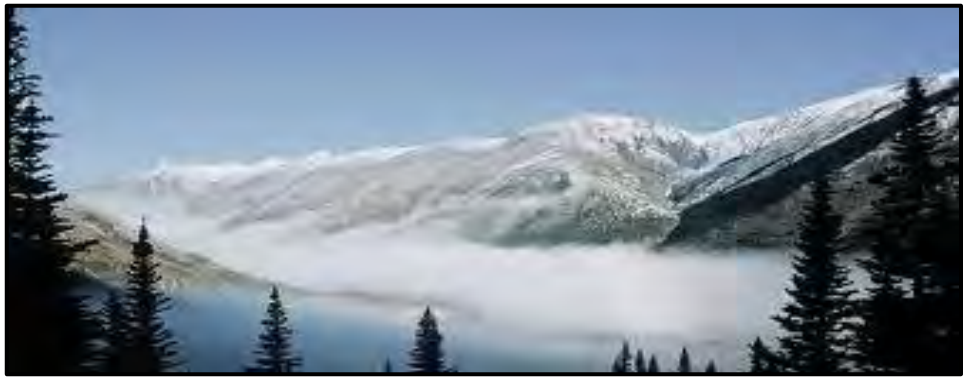
Criteria	Appropriations	Trust fund	PPP	User-pay (endowment)	User-pay (annual)
Life cycle		✓		✓	
Protection		✓			
Contingency		✓		✓	
Stakeholder		✓	✓	✓	✓
Third party experts		✓	✓	✓	✓
Reporting	✓	✓	✓	✓	✓
Verification	✓	✓	✓	✓	✓
Regular reviews	✓	✓	✓	✓	✓

Recommendations

- Trust Fund with provisions for:
  - contingency funds/plans
  - Regular reporting
  - Third party verification
  - Local stakeholder involvement in decisions
  - Independent expert participation
  - Annual public meetings & reporting

Recommendations cont

- Federal Governments' Up-Front Multi-Year Funding Mechanism: Mechanism for Trust Fund
- Further work needed: full assessment of a trust fund option in context of perpetual care of the Giant Mine site.



Thank you.

Questions?

The Perpetual Care of Contaminated Sites: Case Studies

Joan Kuyek, DSW

Presentation to the MVEIRB

Giant Mine Remediation Project EA

September 10, 2012, Yellowknife

The case studies

- Love Canal and Superfund
- The Hanford Nuclear Reservation and the US Department of Energy
- Zortman-Landusky Mines and US abandoned mines
- Uranium Mine and Mill Tailings in Saskatchewan
- Faro Mine and Abandoned Mines in Canada's North
- Port Radium and the Sahtu Dene of Deline
- Managing Nuclear Wastes: Deep Geological Disposal
- System Accidents
- UNESCO World Heritage Sites

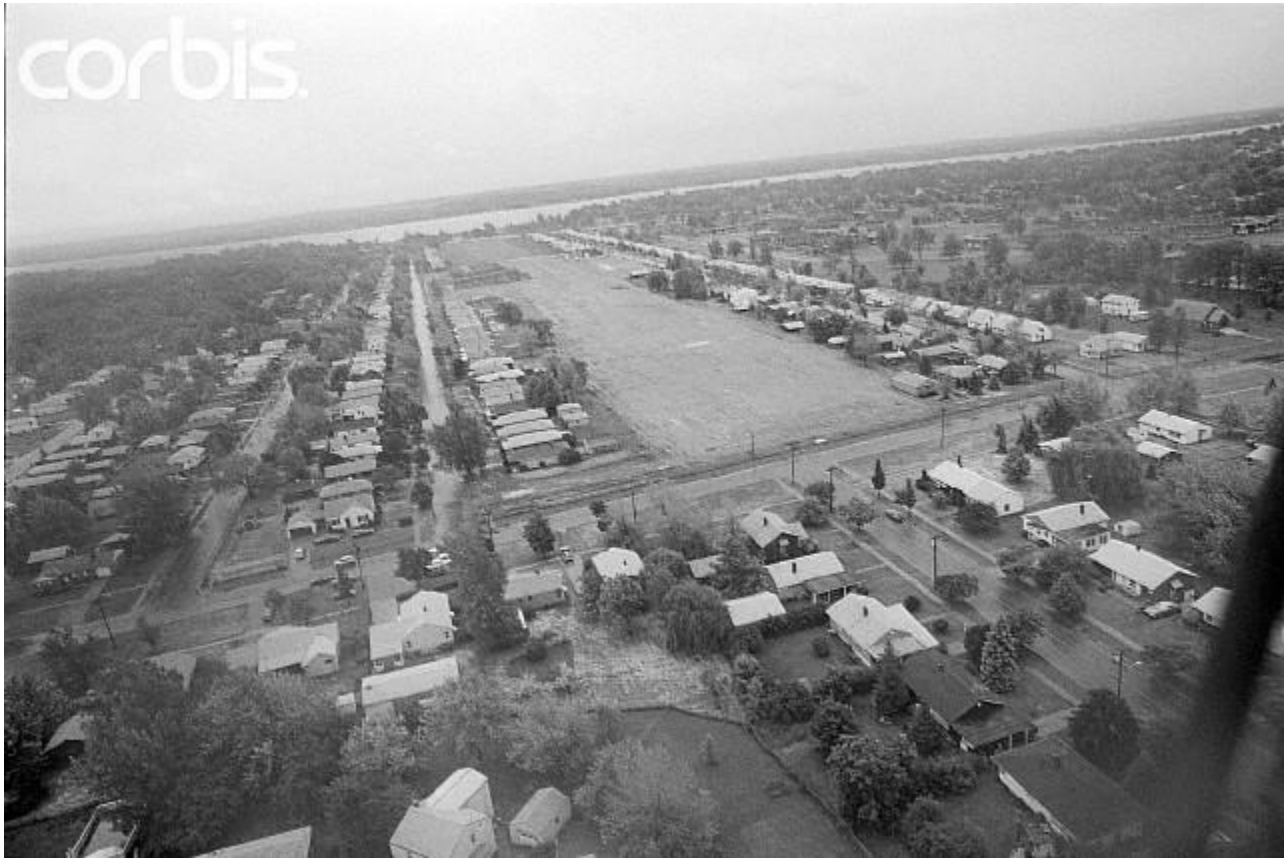
Questions for the case studies

- what is the site about and how it came to be,
- the role of the affected community in the history and cleanup of the site
- what organization(s) is charged with cleanup and long term care of the site and how does it work,
- what are some of the problems that have happened in long term care at the site,
- what can we learn from the case

Love Canal

journeyofthelizardking.blogspot.com

Love Canal



Superfund

- Superfund looks at hazardous sites and decides which ones are priorities
- It can force any current or past owners of the sites to pay for the clean-up.
- The U.S. Environmental Protection Agency requires controls to work for at least 200 years.
- Sites that are deemed to be cleaned-up are transferred to States, other departments or Tribes for long term care.

Superfund money

- In 1995, the US did not renew the authorizations that collected taxes from polluting corporations.
- These special taxes had been placed in a trust fund to pay for some of the activities of Superfund.
- The fund was worth $6 billion when it was not renewed.
- By 2003 the fund was used up
- Clean-ups are now funded out of annual appropriations from general revenues.

Hanford site- Jan 1960


CONTAMINATED
AREA
GROUND SURFACES CONTAMINATED
STAY ON ROADWAY
TO NEXT JUNCTION
RADIOLOGICAL SCIENCE DEPT.

Three key challenges with transition from clean-up to long term stewardship

- Remedy design and regulation were usually inadequate for long term processes;
- When establishing goals for clean-up, the focus is on accelerating cleanup in the short-term and not on long term stewardship effectiveness (often increasing risk for future generations), and
- The remediator often operates in a social environment of public distrust, but community trust is needed to undertake long term stewardship effectively.

U.S. DEPARTMENT OF ENERGY | Legacy Management

2011–2020 STRATEGIC PLAN

Managing Today's Change, Protecting Tomorrow's Future

Possible failure as a basis for planning

- The long term stewardship planning by DOE is based on an understanding that – over time – institutional and engineering controls will fail.

- Engineering failures may be caused by seismic, climactic or hydrological changes in the environment, or they may be caused by inadequate design, process errors, or inability to deal with entropy.

- Institutional controls may fail because of lack of oversight, inadequate public disclosure, information management, site security, record- keeping, and a myriad of other factors.

- The ability to respond effectively when and if these failures happen is key to long term stewardship.

Zortman Landusky

meic.org

Key Points from Zortman-Landusky

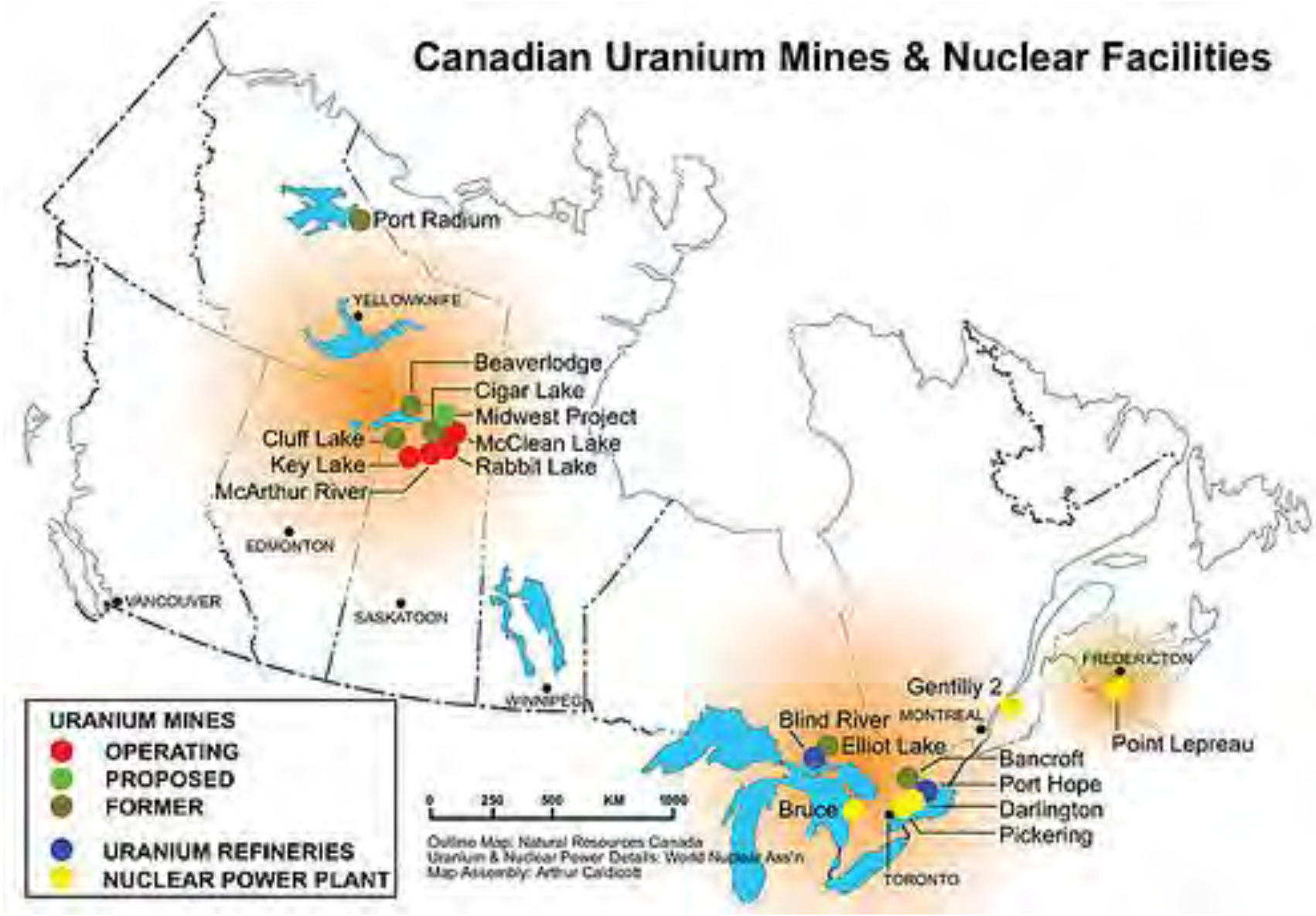
- The remediation at Zortman-Landusky Mines would be unlikely to have happened without the sustained advocacy and legal battles undertaken by the Fort Belknap indigenous peoples.

- The huge cost to taxpayers to remediate these mines and then to manage their wastes in perpetuity has focused attention on the adequacy of financial insurance.

- Annual appropriations from government are an inadequate means by which to ensure costs in perpetuity.

- There are serious problems with discounting and net present value as a basis for establishing long-term financial security, as they assume very long-term continuing economic growth, take no account of ecological destruction, and unfairly minimize the costs to future generations if/when something goes wrong.

- The accuracy of water quality predictions and the effectiveness of mitigation measures is always questionable. Real world emergencies will continue to occur during and after remediation


Canadian Uranium Mines & Nuclear Facilities
Port Radium
YELLOWKNIFE
Beaverlodge
Cigar Lake
Midwest Project
McClean Lake
Rabbit Lake
Cluff Lake
Key Lake
McArthur River
EDMONTON
VANCOUVER
SASKATOON
WINNIPEG
Gentilly 2
MONTREAL
FREDERICTON
Point Lepreau
Blind River
Elliot Lake
Bancroft
Port Hope
Darlington
Pickering
Bruce
TORONTO
URANIUM MINES
OPERATING
PROPOSED
FORMER
URANIUM REFINERIES
NUCLEAR POWER PLANT
0 250 500 KM 1000
Outline Map: Natural Resources Canada
Uranium & Nuclear Power Details: World Nuclear Ass'n
Map Assembly: Arthur Caldicott

Uranium City

esask.uregina.ca

Saskatchewan's Institutional Control Plan

- Institutional Control Registry
- Two funds:
  - Monitoring and Maintenance Fund
  - Unforeseen Events Fund

Uranium Tailings lessons

- Government/ industry designed "consultation" process is exhausting for First Nations and citizen's groups
- Engineering must be based on at least a 1000 year time frame
- Designs have to work with nature in the long term management of the site

Faro Mine

cbc.ca

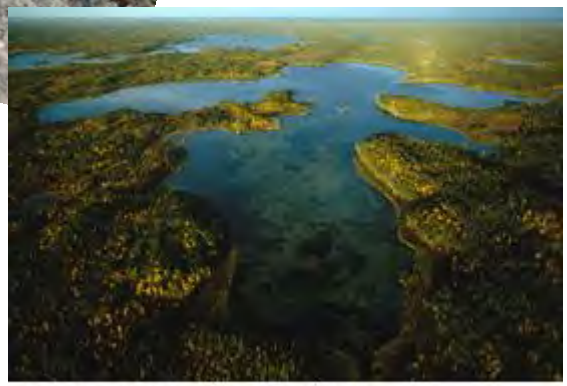
Faro Mine tailings

mineclosure.com

Lessons from Faro

- The original lump sum for FCSAP funding has run out and it is now subject to annual appropriations
- There are serious concerns about long term funding for the work.
- The engineered covers planned for Faro will likely need to be replaced at some time in the future.
- Ensuring trained personnel, transportation systems, essential material supplies and power supply for the site over the long term will be difficult.
- Figuring out and establishing the roles of various interests in monitoring and emergency response is important.

The Sahtu Dene and Port Radium



Source: National Geographic News
http://news.nationalgeographic.com/news/bigphotos/55114309.html

The Risk Society

"It is as though our senses, our very own perception, had been expropriated, rendered useless and vestigial in the face of threats that cannot be seen, heard, smelled, tasted, or touched. The appeal to the eyewitness comes to have little value here. There is nothing there, nothing to be seen, leaving us dependent on others (often the same others, that is the institutions that produced the threats) to determine the appropriate means (instrumentation) with which to represent it back to us and for us…what is dangerous and what is safe, what dosage is hazardous and what is not, such thresholds and limits obscure the fact that they are foremost creatures of politics and not the test tube, objects of persuasion, not measurement."

Peter Van Wyck, "Signs of Danger: Waste,Trauma and Nuclear Threat", *Theory out of Bounds* (Volume 26, 2005), pages 82-3.

Lessons from Port Radium

- Because the toxins cannot be seen, smelled or tasted by our unassisted senses, communities become reliant on science to reveal contamination.
- The Sahtu Dene learned of their exposure 60 years after the fact. Their traditional means of protecting themselves had been unheeded.
- The Canada-Deline Uranium Table was formed to deal with the problems (1998 to 2003)
- Cultural memory is essential to remembering the places of danger. The healing workshops, work to protect the watershed , protected areas and so on, are essential to this process.

Waste Isolation Pilot Project

Nuclear Waste Management: Key points

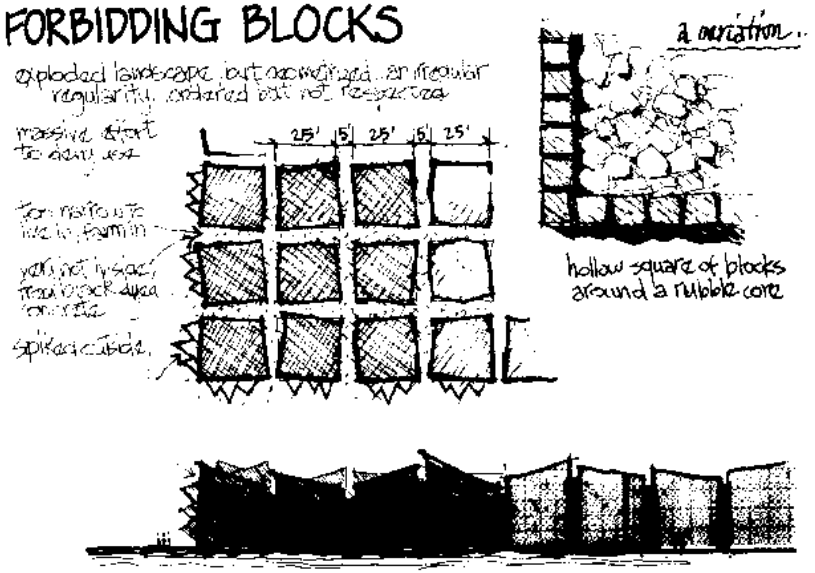
- It is impossible to predict the effectiveness of contaminated waste isolation facilities centuries and millennia into the future.

- No human made structure has shown itself to be effective forever. Everything chemically changes, leaks, or fractures. Attempts to contain transuranic wastes in salt mines to date have been fraught with problems and misjudgements.

- The money and resources to deal with contaminated sites are politically determined and flow only in response to sustained citizen advocacy. Funds for effective adaptive management are subject to political whim.

- For contaminated sites that are invisible to the senses, effective “go away” markers may be impossible to design. Signs and markers cannot be assured to operate apart from human practice and memory.


CAUTION–DO NOT DIG
BURIED IN THIS AREA IS RADIOACTIVE
MATERIAL FROM NUCLEAR RESEARCH
CONDUCTED HERE 1943–1949. BURIAL
AREA IS MARKED BY ST. CORNER MARK
ERS 100 FT. FROM THIS CENTRAL POINT
THERE IS NO DANGER TO VISITORS


FORBIDDING BLOCKS
exploded landscape, part ordered... or irregular regularity, ordered but not respective
massive effort to deny use
25' 5' 25' 5' 25'
spikes, cubes,
a variation...
hollow square of blocks around a rubble core

Systems Management

The introduction, management and control of technology are overwhelmingly in the hands of organizations.

The importance of organizations – their structure, culture and operations - to the management of technological risks is clear.”

Humans intend to make rational decisions. However, we often do not. This can be a result of our ignorance or self-interest.

But it can also be a result of expectations imposed by organizations that conflict with safety, of division of labour, of routinization, of ideological indoctrination, or an unresponsive authority structure. (Rosa)

Lessons Learned from the Case Studies

- About the community near the site
- Keeping people away (Institutional Controls)
- Managing the site over the long haul: who is in charge?
- Keeping records and accessing them
- Inspections, data analysis
- Maintenance and making things better
- Responding to slow leaks, emergencies and failures
- Money to pay for it: trust funds, how much? Avoiding crime?
- Protecting future generations; creating guardians
- Using what we learn, making new plans

Giant Mine Designation Options

Ideas for Discussion

Giant Mine Hearings September 2012

Avens Associates Ltd.
for Alternatives North

Why designate?

- Recommendation to review from Perpetual Care Workshop
- A place worth remembering for multiple reasons
- Designation(s) may provide other 'watchful eyes'
- Provides access to sharing ideas with other parties
- Possibilities for funding
- Increase tourism recognition

- **Building institutional and societal memory**

What is a “designation”?

- Inventories
- Legal and commemorative
- Municipal, Territorial, National, International

When?

- Most designations take a long time
- Most require a lot of parties to work together
- The process itself could be part of 'healing'

- **Start the discussion**

Inventories

- The start of reclamation process, i.e., figuring out what the problem is
- Leaving 'clean' sites in inventories gives people the opportunity to re-evaluate areas in the future.
- Properly resourced, inventories a part of an ongoing memory system.

- **Resource Federal Contaminated Sites Inventory**

Municipal

- **Recognized Heritage Resource:** commemorative
- **Designated Heritage Resource:** legal
- **Unique zone within the Zoning By-law:** legal
- remediation and ownership issues to sort out before pursuing any municipal designation

Territorial

- **Territorial Historic Site:** commemorative
- (Territorial Heritage Park: legal)

R. Knights/NWT Archives/N-1993-002:0012

Territorial Historic Site

- Working towards designation would encourage the multiple stakeholders and interest groups to ‘weave’ their stories in a way suitable for commemoration

- **Possible step to international designation**

Federal

- (National Historic Site)
- **Withdrawal** under the *Territorial Lands Act*

- AANDC responsibility...pre-devolution
- Legally restrict the types of activities in withdrawn area

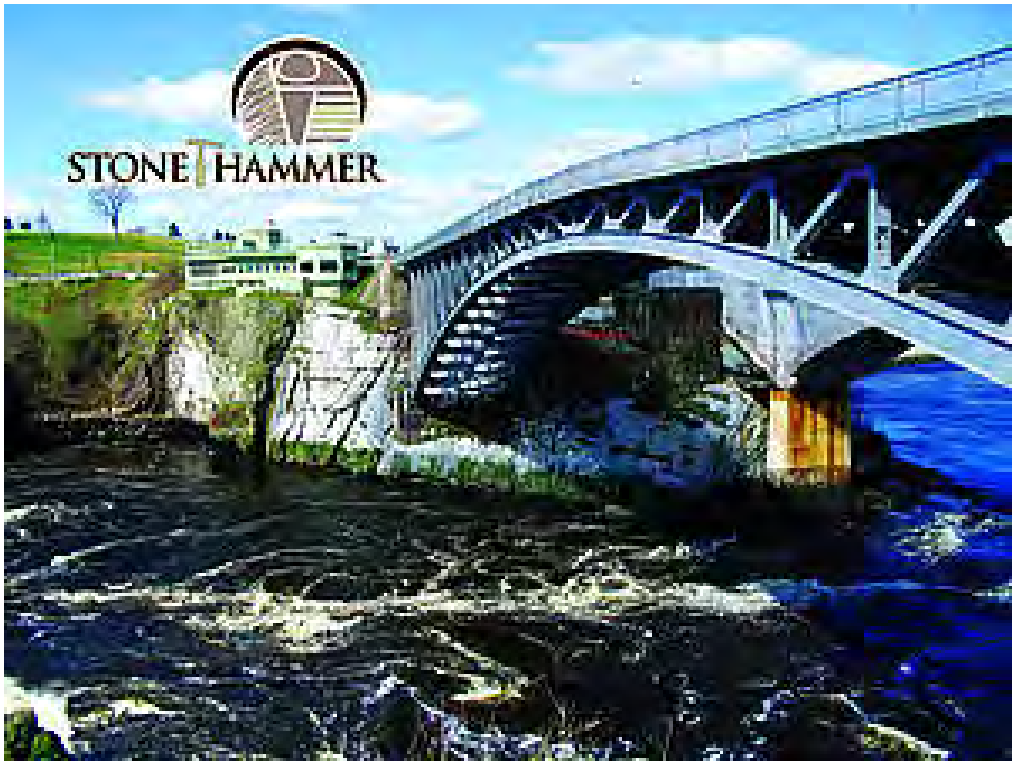
International

- All commemorative
- Larger landscape (not mine site)

International

- (World Heritage Site: requires national designation first)
- **Biosphere Reserve**: focuses on natural landscape

Global Geopark



Remembering: daily

- Inclusion in school curriculum
- Inclusion in employee orientation packages
- Inclusion in Chamber of Mines information
- Inclusion in Northern Contaminants Program

Recommendations

- Start the discussion
- Resource Federal Contaminated Sites Inventory
- Territorial Historic Site: commemorative;

suits multiple stories;

step to international designation

Recommendations

- Land Withdrawal
- Develop school curriculum
- Encourage other daily remembrances
- Network: Sustainable Remediation Forum (SURF)
- Research