Involvement of Interested Parties in Decision-Making on Decommissioning, Remediation Strategies and Site End States

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Outline

- General considerations on involvement
  - Why involvement?
  - Particular relevance for decommissioning?
  - Organising effective involvement:
    - General lessons learned
    - Lessons from RWM
- Considerations on involvement in decision-making on decommissioning
  - Decommissioning at the end of existing operations
  - Decommissioning and clean-up of legacy site
  - Remediation after an accident

GENERAL CONSIDERATIONS ON INVOLVEMENT

Why Involvement ?

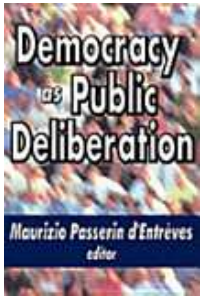
- Both pragmatic and normative grounds
- Legitimates decisions
- Raises democratic citizenship and social responsibility
- Often more effective in defusing conflict and arriving at shared solutions
- Often facilitates implementation
- …

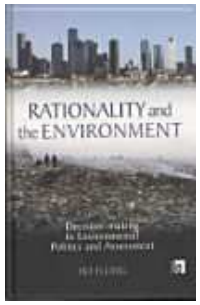
"… public groups can be expected to bring more than blank sheets to environmental debate : memories of previous incidents, moral judgements and forms of local knowledge can all play a part in local understandings of environmental issues and in the very construction of those 'issues'."
Alan Irwin (2001: 96) – Copenhagen Business School

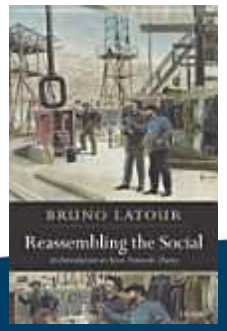
"Deliberative Polls in various contexts around the world show that the people are, collectively very smart, and fully capable of dealing with complex public issues when they think their voice matters."
James Fishkin – Stanford University

Inclusiveness and 'Interactivity' in Decision Making

- Argued for and substantiated at length by various of authors, belonging to different schools within the social sciences
- Some examples:
  - deliberative democracy,
  - multi-actor governance,
  - science policy,
  - risk governance,
  - sociology of the environment,
  - science and technology studies,
  - actor network theory







Transparency and Involvement in Decision Making

Overall 'trend'

Those affected by policy should have a say in its coming about

Of particular relevance for environmental and risk governance

Environmental risk

- Blurred boundary between facts and values
- 'Modern' risks:
  - Results of human intervention
  - Technical instruments and scientific judgement needed
  - BUT declining trust in (scientific) authority

'Wicked' problems

- Complex
- Technology-driven
- Facing **uncertainties** that are both
  - Socio-political (strategic & institutional)
  - Scientific or factual (cognitive)

Particular Relevance for Decommissioning

Involvement of affected parties / citizens because…

- the stuff is out there
- the problem IS in someone's back yard and people can be affected by it
- chances are no one else will take the generated waste after clean up
- effective remediation depends to a great extent on the behaviour of the affected people
- …

Potential countermeasures contain assumptions about the ways in which people will behave (…), and what is meaningful, valuable, credible and possible for affected populations. (…) Thus, selection of the appropriate suite of countermeasures involves knowledge of the social and cultural dimensions of affected groups.

(Howard et al., 2005: 284)

Types of Decommissioning Activity

- At the end of existing regular operations
- Remediation and clean-up of contamination on legacy sites
  - With known 'ownership' and accountabilities
  - With no clear 'ownership' or accountabilities
- Remediation and clean-up after an accident

Potential (difficulty) for organising effective involvement and consensus based decision making depends on context and type of decommissioning activity

Organising Effective Involvement

"Thus, multiple sources of evidence give strong confidence that public participation, done well, can be effective in achieving multiple desired benefits in a wide variety of settings and that it can be effective even within the resource limitations that commonly exist in federal, state, and local governments.

It is also true that public participation, if not done well, may not provide any of these benefits - in some circumstances, participation has done more harm than good."

NRC Panel on Public Participation in Environmental Assessment and Decision Making (Dietz & Stern, 2008: 226-227)

- Various models available
- Wide range of literature exploring what are useful indicators of effectiveness

Recommendations NRC Panel

on Public Participation in Environmental Assessment and Decision Making

- Embedded in EA and DM processes
  - BUT not merely a formal procedural requirement
- Demands proper planning and 'management'
  - Clarity of purpose, commitment to process and to act on results, adequate funding & staff, appropriate timing, …
  - Proper preparation (diagnosis of context, learn from others and past experiences)

Timing:

- start early in the DM process, when alternatives are still open (Bond et al., 2004: 622)
- Intensity of the process is context depended (NRC: 233)

Recommendations NRC Panel

on Public Participation in Environmental Assessment and Decision Making

- Process should be transparent and inclusive, based on collaborative problem formulation and process design
  - Context driven; no single best format
  - Flexible in view of enhanced understanding of who may be affected or concerned
  - Good-Faith (and two-way) communication

Inclusive: full spectrum of parties who are interested in or will be affected by a decision (NRC: 230)

⇨ Often recommended to take particular account of minorities (Bond et al., 2004: 622)

Collaborative process design: essential that participants co-invent and govern the process (NRC: 231)

Recommendations NRC Panel

on Public Participation in Environmental Assessment and Decision Making

- All relevant information should be accessible
  - Make scientific information accessible and scientific analysis transparent
  - Allow for independent review
  - Acknowledge limits of knowledge and remaining uncertainties
  - Pay explicit attention to both facts and values
  - Flexibility in terms of reconsidering past conclusions based on new information

Availability of **resources** for participants:
- To attend
- To undertake comprehensive reviews

(Bond et al., 2004: 623)

Recommendations NRC Panel

on Public Participation in Environmental Assessment and Decision Making

- Learning by doing
  - Process monitoring (including self-evaluation by participants) and iteration
  - Invest in social science research to build broader knowledge about participation
- Not to forget (Bond et al., 2004: 623):
  - Maturity of civil society and political culture
  - Former history and level of / lack of trust between concerned parties

Lessons from Radioactive Waste Management

From stakeholders to shareholders

- Give people voice and a sense of ownership
- Engage the host community in the design of ***their*** project
- Leave options for creation of added value from a community perspective

In for a penny is in for a pound

- Social and ethical considerations matter as much as technical ones: wide variety of criteria, and different views on what (enough) safety is ⇨ outcome to be negotiated
- Open information. Be prepared to discuss technical details and revise strategies, including safety strategies
- Anticipate **long-term engagement**

Importance of active 'monitoring' and memory keeping

- 'Monitoring' = any data gathering relating to behaviour of a facility, site, … and its natural and social environment
- Focus on **checking** and follow-up of (expected) behaviour and making sure contextual requirements are met
- Keep memory alive through active follow-up

CONSIDERATIONS REGARDING INVOLVEMENT IN DECISION-MAKING ON DECOMMISSIONING

Decommissioning at the End of Operations

- Most straightforward in terms of organising participation
- Problem definition relatively straight forward (nuclear reactors need to be decommissioned at the end of operations)
- Solution may be more contested and people living in the area will have their concerns
  - regarding the decommissioning strategy,
  - the management of the generated waste,
  - the future use of the land,
  - etc.
- Public participation experiences limited
- In Europe: as of 1997 decommissioning activities for (most) nuclear reactors require an Environmental Impact Assessment (EIA), including public involvement

Case Studies of Public Participation in NPP decommissioning projects
(Bond et al., 2004)

Trawsfyndd NPP (North Wales)

- Engagement process separate to the EIA process
- Positive attitude of site operators towards public participation
- Participation launched before final strategies were adopted
- Decommissioning strategy revised after consultation

Greifswald NPP (Germany)

- No formal participation during the EIA process
- Ongoing dialogue with opposition groups and the public

Vandellós (Spain)

- Extensive scope of the EIA (but project inherently not controversial)
- Decommissioning strategy based on agreement between all concerned parties
- Emphasis on local people and local authorities (strong local actors)

Clean-up of legacy sites

- With known 'ownership' and accountability
- With no clear 'ownership' or accountability
- Comparable to brownfield management
  - Originated in the USA in the 1990s
  - Sites with a history, value laden
  - Long period of inactivity; no dynamic around site; no (or little) 'trust relations' to start from
  - Sustainability as core value in redevelopment : balancing the economic, the ecological and the social
  - Process driven approach in which support of the affected community is key

From the OVAM guidance on brownfield management

Flemish Waste Management Agency

- Preparation is key
  - Learn about history and context
  - Identify concerned parties and views on redevelopment
  - Share information with all concerned
- Transparent and iterative process
  - Early involvement of different stakeholders, in particular the affected local community
  - Split redevelopment into smaller projects
  - Mark intermediary decision points
- Overall good of the community as the driving force: project to bring added (social) value

Nuclear examples of dealing with legacy sites

- DOE's Environmental Management Site-Specific Advisory Board (EM SSAB) (cf. Nielson & Brennan, 2009; Branch & Bradbury, 2006)
- Clean-up of nuclear weapons production legacy
  - 108 contaminated sites, covering 2 million acres in total
- Focus on collaboration with affected communities in planning and decision-making
- Federal dialogue on how to proceed (1992)
  - Public & Intergovernmental Accountability Programme
  - EM SSAB: multiple local site specific boards and committees sharing one mission and exchanging experiences
    - Annual report and self-evaluation
    - Charter renewed every 2 years
- Ongoing challenge: engaging a continuous and diverse membership (high level of involvement required + differences in views, expectations, trust …)

Remediation after an accident

(cf. Howard et al., 2005; Alexander et al., 2005; Oughton, 2003, 2011)

- Holistic approach to remediation (Oughton)
  - Social and technical feasibility of remediation / restoration strategies
  - Integration of dose reduction measures with economic, ecological and health measures
- Examples of 'Social remediation strategies' (Oughton, 2011: 4):
  - Compensation
  - Medical check-up
  - Public information centre, education programmes
  - Provision of counting equipment
  - Participation in follow-up and decision-making
  - …

Remediation after an accident

(cf. Howard et al., 2005; Alexander et al., 2005; Oughton, 2003, 2011)

- Therefor input from affected communities needed in developing remediation strategies
- Appropriateness and effectiveness of countermeasures depend on:
  - their perceived credibility and value,
  - the willingness and ability of affected populations to put them into practice,
  - the degree of control given to affected persons, and their ability to take matters into their own hands,
  - …

Remediation after an accident

(cf. Howard et al., 2005; Alexander et al., 2005; Oughton, 2003, 2011)

- **Examples** of engaging stakeholders, including representatives from potentially affected local communities in the development and testing of 'recovery handbooks' and 'response plans':
  - Agriculture and Food Countermeasures Working Group (AFCWG) – UK (Alexander et al., 2005)
    - Decision oriented, different type of stakeholders, networking and preparedness in case of …
  - STRATEGY project (Howard et al., 2005)
    - Development of different tools for preparing with input from different stakeholders, including scenario testing with locals
    - Datasheets on countermeasures, models to help decide which measures to use when and where, value matrix to map different concerns

Conclusions (1/3)

- In order to be effective, decommissioning and remediation strategies have to be meaningful to affected parties
- Involvement of stakeholders to start in early stages of 'project' development (incl. process preparation)
- Particular attention to affected communities
- Holistic approach:
  - integrating technical measures, social measures, stakeholder expectations and values

Conclusions (2/3)

- Tailor-made processes, measures and projects
- Long-term commitment:
  - Preparation of process
  - Development and design of project / measures
  - Implementation
  - Follow-up and long-term stewardship
    - e.g. TMI Citizen Monitoring Network;
    - e.g. Nevada Test Site Community Environmental Monitoring Program
- Variety of tools, techniques, approaches
  - Advisory boards, site stakeholder groups, community partnerships, …
  - Various degrees of responsibility/autonomy for affected communities
  - Choice depended on context

Conclusions (3/3)

- Most important: commitment of initiator and political decision-makers to involvement, to doing it well, being honest and accountable, and to take results into account
- Ability to engage effectively in remediation after accident depends on:
  - **Preparation**: prepare response plan and possible counter measures with input from stakeholders (engage local communities in testing)
  - **Handling of the incident**: trustworthy communication, timely warnings, reliable explanations, level of breach of confidence, …
  - **After**: focus on supporting affected community to handle things themselves

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