Stakeholder Concerns – An International Perspective

Peter Booth – Hylton Environmental

Presentation Content

- A summary of the types of nuclear and radiological projects requiring stakeholder engagement.
- Barriers to successful decommissioning and environmental remediation projects.
- Barriers to successful engagement in support of decommissioning and environmental remediation projects.
- International perspective of stakeholder concerns and aspirations relating to nuclear and radiological D&D and ER projects.
- A short case study – engagement at the Caldas uranium mining site in Brazil.

A summary of the types of nuclear and radiological projects requiring stakeholder engagement

- Decommissioning projects
- Contaminated land remediation
- Search for radioactive waste disposal sites
  - Near surface
  - Deep geological disposal
- Mining of uranium
  - New mining sites
  - Re-establishment of previously mined areas
- Weapons testing sites or militarised zones

A summary of the types of nuclear and radiological projects requiring stakeholder engagement

- De-licensing of existing nuclear sites (or parts of a site)
- Construction of new nuclear power stations
- New facilities for metal recycling or waste incineration
- NORM industry sites and operations
  - Mining
  - Oil and gas
  - Desalination
- Fracking?

Barriers to successful decommissioning and environmental remediation projects

- The success or failure of decommissioning and environmental remediation projects may be due to many different factors.
- Barriers and impediments include;
  - Lack of adequately trained personnel
  - Lack of available technologies
  - Limited funds
  - Poor project management and project planning
  - Inadequate legislation and governance
  - Limited waste management solutions
  - Inadequate stakeholder engagement

Barriers to successful engagement in support of decommissioning and environmental remediation projects

- NIMBY (not in my back yard) – still a major issue even for D&D and ER projects.
  - Material often merely moved from A-B.
- Limited understanding of the work being undertaken
  - Secrecy and lack of transparency
  - Inability to communicate technical issues
  - Relatively uneducated stakeholder community
- Anti nuclear groups
  - Their ability to impact and influence others
- Public speaking

Barriers to successful engagement in support of decommissioning and environmental remediation projects

- Potentially long timescales
  - Stakeholders lose interest
  - An individuals role changes and continuity is lost
- Potentially short timescales
  - Pressure to attend meetings
  - Pressure to review documentation
- Using security as a reason not to engage
  - Balance between genuine security and transparency needs to be found

Barriers to successful engagement in support of decommissioning and environmental remediation projects

- Failed engagement practices of previous times
  - Re-establishing trust
  - Admitting and learning from failure
  - Potentially being more inclusive
- Competing demands of stakeholders
- Funding the engagement process
- Complexity of the adopted engagement process
- Lack of a national policy or directive
  - So why bother with an engagement programme?

International perspective of stakeholder concerns and aspirations relating to nuclear and radiological D&D and ER projects

Concerns

- General lack of information about site activities.
- The reuse of materials.
  - Will contamination remain.
- Lack of interrelated solutions – creates a lack of confidence
  - No waste storage or disposal solutions.
  - Inadequate plans for transporting of materials.
    - Health and safety
    - Noise
    - Dust

International perspective of stakeholder concerns and aspirations relating to nuclear and radiological D&D and ER projects

Concerns

- Finances (or limited finances) drive solutions.
  - Possibly lead to a relaxation in clean up criteria.
  - Often leads to incomplete projects.
- Limited understanding of radiological issues.
  - Will the mere existence of the site and its practices cause health issues.
  - How clean is clean.
  - Use of the term “contamination”.
    - Not removing all contamination but declaring a site/region “safe”.

International perspective of stakeholder concerns and aspirations relating to nuclear and radiological D&D and ER projects

Concerns

- Effect on local drinking water sources.
- Lack of independent facilitation during decision making processes.

International perspective of stakeholder concerns and aspirations relating to nuclear and radiological D&D and ER projects

Aspirations

- To see the clean up of **all** contamination.
- The site should be re-used in an unrestricted nature.
- Greater transparency of work being undertaken.
- Demonstration of benefit to the local community.
  - Maintenance of local employment.
  - Improvement /investment to local infrastructure.
  - Demonstrable improvement to water sources.

International perspective of stakeholder concerns and aspirations relating to nuclear and radiological D&D and ER projects

Aspirations

- To become more involved in the decision making process.
- To understand better about the longer term (IC) responsibilities once the site operator has moved on.
  - Continued monitoring.
  - Record keeping.
  - Future funding if and when required.
  - Improved legislation – relevant to many less developed countries.

A short case study – engagement at the Caldas uranium mining site in Brazil

Site Setting and Operations

- Caldas site – Located in the Federal State of Minas Gerais, Brazil.
- Situated about 25km from the city of Poços de Caldas.
- Poços de Caldas has 150,000 inhabitants but a population of around 0.5 million live in an area potentially influenced by the site.
- Site is owned and operated by INB (a state owned company).
- Uranium ore mined and milled between 1982 – 1995.
- Ore extracted from an open pit.
- Most of the extracted material (waste rock and overburden material) was disposed of onto two major rock piles.
- The site is now undergoing a phase of decommissioning and an environmental remediation strategy is being formulated.
- Uranium mining and milling sites are considered nuclear facilities in Brazil.

Site Setting and Operations

- Mine area ~ 2 km^2
- Max. depth ~150 m
- Acid water generation (treatment required)
- Mined area is a central element in the closure plan

Site Setting and Operations

Waste Rock Pile 4 - Acid Drainage Collection

- Acid water generation
- Water treatment required

- WRP ~ 28,4 x 10^6 m^3
- Overburden ~16,6 x 10^6 m^3
- Area ~173 hectare

Site Setting and Operations – Industrial Area

Site Decommissioning and Environmental Remediation

- In 2002 the site operator, environmental and nuclear regulators and Caldas Council signed an agreement committing to the development of an Environmental Remediation Plan – PRAD
- PRAD was guided by a Reference Term written by the Environmental and Nuclear regulators (based on the assumption of a dose public increment of 1 mSv/year)
- It was expected that PRAD would produce specifics solutions, in an integrated approach, for the four main areas: mine pit, waste rock piles, tailing dam and industrial area.
- The remediation assessment process was conducted from 2010 – 2012.
- It is now being assessed by the environmental and nuclear regulators.

Site Decommissioning and Environmental Remediation

- PRAD is still in a conceptual stage, the underpinning details are yet to be developed.
- Acid drainage was identified as the most relevant aspect for the mine decommissioning.
- Alternatives for eliminating or reducing water treatment were also considered.
- The dose scenarios were assessed for the land´s future use as a natural park and restricted access area (brown field).
- Total mine backfilling was identified as the best option taking into consideration dose constraint, geotechnical stability, potential for acid drainage generation and re-composition of the original landscape.
- In respect to the industrial area, deconstruction and debris deposition into the mine pit were defined as the best strategy.
- In order to move the project (PRAD) into the next steps of implementation, gaining the trust and approval of stakeholders was deemed to be paramount.

My role

- As part of an IAEA Technical Cooperation Project I undertook a technical mission to Brazil in November 2011.
- I provided advice on;
  - The benefits and detriments associated with stakeholder engagement.
  - Understanding the likely stakeholder issues of interest.
  - The potential mechanisms for engagement.
  - How stakeholder engagement fits into the decision making process.
  - How to develop a stakeholder engagement programme.
  - The role of the regulator in the engagement process.
- Engaged with CNEN, INB, IBAMA and local stakeholders.

Stakeholder Concerns

- Historically there had been insufficient liaison between the site operator, the nuclear regulator and the environmental regulator.
- There had been little engagement with local stakeholders about;
  - The various activities on the site
  - The potential impacts of such activities on human health and the environment.
- There are a number of potential historical and current environmental impacts to groundwater as a consequence of discharges into on-site streams which then flow off site.
- Local stakeholders had a number of concerns;
  - A lack of understanding about what occurred on the site.
  - Potential environmental impacts to both surface water and groundwater.
  - How the site may evolve over time.
  - A perceived lack of benefit to the local community as local labour was rarely utilised when work was being carried out.

Points of interest following meetings with the site operators and regulators

- There was an admission that a lack of engagement between the site operators and the local population had caused some levels of distrust.
- There was also an admission that there was some slight distrust of the regulators because of their perceived close relationship with the site operators within the structure of the Brazilian nuclear industry.
- The site operators had some concerns about the ability of individuals to negatively influence an audience at a public meeting.
- The Environmental regulator explained that although they did not run stakeholder engagement programmes they were regularly asked to do so (not just for the regulation of nuclear and radiological matters but also in support of their wider environmental jurisdiction).
- There was some concern that stakeholder engagement could cause long delays to projects.

Key Questions raised by the various parties

- The site operators asked if the lead of a stakeholder engagement programme should be technical, the company CEO or an expert in communications.
- The environmental regulator asked if they themselves should be constructing and coordinating programmes for nuclear and radiological concerns.
- The site operators asked if informing local stakeholders could be seen as true stakeholder engagement.
- The nuclear regulator asked if stakeholder engagement was equally important during the creation of new mining areas and in relation to radioactive waste disposal.
- The site operator asked if the release of a technical report on the planned remediation would be useful.

Moving Forward

- Although there was always liaison between the nuclear and environmental regulators, this liaison has now increased and continues to include joint inspections.
- The two regulatory bodies have agreed to develop a written statement that will enable them to jointly assess and discuss issues on the site.
- The site operator has started to present the proposed environmental remediation plans to various towns and cities influenced by the Caldas site.
- A local stakeholder group under the auspices of the Water Commission is now starting to have more regular meetings with the site operators and the nuclear regulator.
- The Water Commission encompasses several stakeholder groups: local environmental department, local councilmen, water protection agency, water supply agency, NGO´s and universities.

Future Aspirations

- The development of a broad stakeholder engagement programme based on the Water Commission experience, conducted by the operator. The US DOE EM Site Specific Advisory Board (SSAB) can be used as reference.
- Sustainable solution can be identified (by SSAB) and implemented, producing better environmental results and preserving the mineral technology developed in this first Brazilian uranium mine.
- The Water Commission, as a politically strong group, may help to ensure the budget needed for ER implementation.
- This experience can be shared with others countries with similar culture.

Conclusions

- Little if any stakeholder engagement was being conducted at the Caldas site.
- Local stakeholders had concerns about the impact of discharges from the site to local surface waters and groundwater.
- The IAEA mission was aimed at explaining the principles and benefits of stakeholder engagement and how a programme could start to be built up.
- Subsequent to the IAEA mission there has been an increase in stakeholder engagement by both the nuclear regulator and the site operator.
- While it is still in its early days, the improved engagement is due to;
  - The encouragement from the nuclear regulator to all parties to engage more.
  - The willingness of the site operator to engage more openly.
  - The enthusiasm of the Water Commission and the Local Council to be interested and involved within the process.
- The advice and process established could be adopted in other countries.

Thank you for your attention – any questions?