Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 22-H7.80A

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Supplementary Information

Presentation from Gabrielle Psotka

Renseignements supplémentaires

Présentation de Gabrielle Psotka

In the Matter of the

Canadian Nuclear Laboratories (CNL)

Application from the CNL to amend its Chalk River Laboratories site licence to authorize the construction of a near surface disposal facility

Commission Public Hearing
Part 2

May 30 to June 3, 2022

À l'égard des

Laboratoires Nucléaires Canadiens (LNC)

Demande des LNC visant à modifier le permis du site des Laboratoires de Chalk River pour autoriser la construction d'une installation de gestion des déchets près de la surface

Audience publique de la Commission
Partie 2

30 mai au 3 juin 2022

Canada

Gabrielle Psotka NSDF Intervention

CMD 22-H7.80

Tuesday, May 31, 2022

Topics

- My background
- Involvement with NAYGN
- Why is this project important to me?
- Characterization process
- Iterative nature of characterization
- Waste verification
- Sort and segregation
- Conclusion

My Background

- Resident of Deep River on one of the emergency routes, very close proximity to the site
- Environmental Engineering (B. Eng Hon.) at the University of Guelph
- Waste Characterization Specialist at CNL since July 2017
  - Supported Chalk River, NPD, Douglas Point, Gentilly-1
- Vice-president of NAYGN Chalk River Chapter
  - North American Young Generation in Nuclear

NAYGN : North American Young Generation in Nuclear

- Four pillars:
  - Community outreach
  - Professional development
  - Public information
  - Networking
- Advocate for nuclear technologies, promoting the nuclear industry

Why is this project important to me? Why do I believe in it?

I live in the community and enjoy access to the Ottawa River

Long term solution to the legacy liabilities, considers future generations

Urgency to continue clean-up; seen contamination first-hand

Confident in the extensive safety studies completed

Waste Characterization Process

Assessing Waste
- Process Knowledge
- Scoping Surveys

Waste Characterization Plan
- Sample Plan

Execution of Waste Characterization
- Laboratory analysis
  - Radiological
  - Non-radiological

Waste Characterization Report
- Data Analysis
- Waste Fingerprint

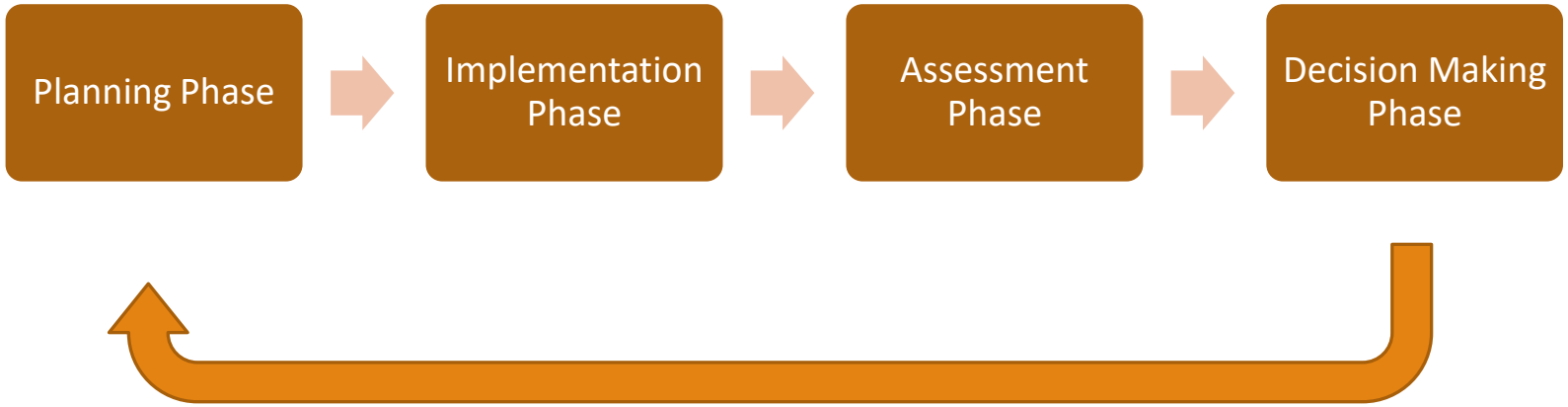
Remediation
- Shave concrete
- Segregate active / hazardous components

Verification of Waste Packages
- Gamma spectrometry
- Dose rates

Follows CSA N292 standards,
ISO standards,
IAEA and EPRI guidance documents

Iterative Nature of Waste Characterization

- Important to assess your data, and determine if you met your objectives
- Didn’t meet your objective? Re-survey / re-sample!



Significance of Verification of Waste

- Characterization team that works to gamma assay bins of packaged waste for:
  - Clearance
  - Active waste, some of which destined to the NSDF
- Can see easy-to-measure gamma radionuclides such as Cs-137, Co-60, Nb-94, sometimes Am-241
- Important to verify initial assumptions
- Previously, waste was characterized by measuring hot spots, very conservative

Sort and Segregation of Waste

- Ability to open up legacy containers with unknown / unverified contents, poor process history
- If destined to the NSDF, waste is sampled to be compared to the NSDF Waste Acceptance Criteria
  - Radiological
  - Non-radiological
- Some waste was able to be deemed clearable, some deemed Intermediate Level Waste

Conclusion

- Confident in the **waste characterization** techniques and processes used
  - Robust process
  - Iterative approach
  - Sort and segregation
- Need to clean-up the site **urgently** and not leave this to future generations

Thank you!