Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

Report, General

STAKEHOLDER ACTIVITIES REPORT - NEAR SURFACE DISPOSAL FACILITY

232-513400-REPT-001

Revision 0

Prepared by
Rédigé par

LeBlanc Nicole -
Communications Officer

Reviewed by
Vérifié par

Buckley James Ben Jr - Director,
LLR Waste Facilities

Approved by
Approuvé par

Quinn F Pat - Director, Corporate
Communications

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ILLIMITÉ

286 Plant Road
Chalk River, Ontario
Canada K0J 1J0

286, rue Plant
Chalk River (Ontario)
Canada K0J 1J0

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

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Stakeholder Activities Report - Near Surface Disposal Facility

Near Surface Disposal Facility (NSDF)

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1. INTRODUCTION

This report summarizes and assesses stakeholder communications activities completed in support of the Environmental Impact Statement (EIS) for the Near Surface Disposal Facility (NSDF) Project between 2017 January and 2017 July.[1]

All engagement with Indigenous communities is detailed in a separate, Aboriginal Engagement Report.[2]

The NSDF is a key project identified by Canadian Nuclear Laboratories (CNL) as part of the overall integrated Decommissioning and Waste Management (DWM) approach to safely manage and reduce Canada's legacy liabilities.

The Outcomes and Analysis section and the Conclusions and Recommendations section are both located at the front of this report. The remainder of the document provides detailed information on activities and communication products.

[1] Per REGDOC 2.9.1 Environmental Protection – Environmental Policy, Assessments and Protection Measures, 2015

[2] 232-513130-REPT-001 Aboriginal Engagement Report Near Surface Disposal Facility Project

1.1 Acronyms and Abbreviation

AECL	Atomic Energy of Canada Limited
CEAA	Canadian Environmental Assessment Act
CNA	Canadian Nuclear Association
CNL	Canadian Nuclear Laboratories
CNSC	Canadian Nuclear Safety Commission
CRL	Chalk River Laboratories
DWM	Decommissioning and Waste Management
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESC	Environmental Stewardship Council
FAQ	Frequently Asked Questions
MRC	Municipalité régionale de comté
NSDF	Near Surface Disposal Facility
OFWCA	Old For William Cottager's Association
PIS	Public Information Sessions
SAR	Species at Risk
WiN	Women in Nuclear

1.2 Communications Objectives and Strategy Alignment

As a part of the Environmental Assessment (EA) process, information on the NSDF Project is made available to CNL host communities and stakeholder groups through a variety of mechanisms to ensure accessibility of fact-based information throughout the duration of the Project.

Beyond the timeframe of the NSDF Project, CNL also has an overarching and enduring responsibility to uphold particular regulatory requirements of informing the public outlined by the Canadian Nuclear Safety Commission (CNSC) Regulatory Document RD/GD-99.3: Public

Information and Disclosure. Canadian Nuclear Laboratories meets this requirement primarily through its Public Information Program.[3]

Communication activities are conducted to support the EIS and the broader regulatory requirements.

By conducting communications activities, CNL is aiming to meet specific objectives. These specific communication objectives include:

1. Maintain and initiate two-way communication channels between CNL, host communities and stakeholder groups, determining the best methods for communicating project information and facilitating input at appropriate junctures in the project schedule.
2. Develop meaningful, user-friendly information and communication products geared for host communities and stakeholders, ensuring accessible and current information on project activities.
3. Demonstrate CNL's long-term commitment and approach to safely and cost-effectively reducing Canada's nuclear legacy liabilities.
4. Inform and educate host communities and stakeholders about nuclear decommissioning, environmental remediation and radioactive waste management.
5. Meet all regulatory based communication and engagement requirements.

A variety of tactics or activities are employed to achieve stated objectives. The following table outlines strategy alignment linking objectives to planned activities.

[3] CW-513430-REPT-001

Table 1-1
Communications Objectives and Strategy Alignment2

Objective précis	Strategy	Activities	Stakeholders
1. Maintain and initiate two-way communication 2. Develop meaningful communication products 3. Demonstrate commitment and approach to safely and cost-effectively reduce Canada's nuclear legacy liabilities 4. Inform and educate on nuclear decommissioning, environmental remediation and radioactive waste management 5. Meet all regulatory based communication and engagement requirements	• Present information in an easy to understand format through a variety of communications channels using targeted key messaging. • Use technical experts to communicate information through a variety of channels. • Ensure that all required activities are accomplished in a timely and prescribed manner. • Ensure all regulatory requirements relating to communications are met. • Ensure availability of information for use by stakeholders/interest groups.	• Presentations • Web page content • Social media • Site visits • Advertising • Factsheets • Poster boards • Public information sessions (PIS) • Employee information sessions • Educational outreach • Community events	• Host communities • Elected officials • Environmental organizations • Non-governmental organizations (NGOs) • CNL employees (internal stakeholder) • Nuclear industry

2. OUTCOMES AND ANALYSIS

This section provides an exploration of the outcomes of project specific communication activities, including the following:

- 18 presentations to varying stakeholders (members of the public, industry and elected officials and employees)
- Updated webpage content in French and English (www.cnl.ca/nsdf)
- Social media
- Site visits
- Two advertising campaigns (one in support of PIS and one for general awareness of the project)
- Production of four new project specific poster boards
- Production of two new infographics
- Conduct of eight PIS
- Conduct of two employee information sessions
- Exhibit booths at community event and industry conferences
- Technical discussion

The following section details what could be understood as the outcomes of public engagement activities.

Web analytics, social media metrics, formal feedback, and media coverage from the first seven months of 2017 are all considered in the following section.

2.1 Web Analytics

To understand reach, interest and suitability of content, web page activity is tracked and analyzed. Analysis is focused on understanding user behavior and acquisition. User behaviour is categorized by project and tracked through time spent, pages viewed, bounce rate, and download activity. Understanding acquisition is important as it provides insights on accessibility of project information. This analysis covers 2017 January 01 to 2017 July 31. (For Google reports, see Appendix A.)

2.1.1 User Behaviour

User behavior while at the project web pages indicates higher than average interaction in comparison to activities while visiting cnl.ca in general. Analysis of behavior results focuses on time spent at project web pages, the number of web pages viewed, and downloads.

The number of guests to the NSDF project page has increased by 100%. In comparison to the last seven months of 2016, the first seven months of 2017 have seen the number of users and sessions approximately double.

Bounce rates, the percentage of visits in which a user left the site from the entrance page without interacting with the page, continue to demonstrate that users are engaged with the information made available. A pattern of low percentages indicates that upon accessing project pages visitors remained and interacted with the available material. It should be noted, however, that the bounce rate has increased over the first seven months of 2017. While the bounce rate remains lower than for the CNL website as a whole, it does seems to be trending towards a bounce rate similar to the rest of the website.

Recent behaviour details are summarized against past user behaviour in the following table:

Table 2-1
User Behaviour Summary

	cnl.ca		**cnl.ca/nsdf**	
	2016 June – 2016 December	**2017 January – 2017 July**	**2016 June – 2016 December**	**2017 January – 2017 July**
Sessions	82,504	100,012	1,200	2,377
New Users	49,585	58,981	642	1,352
Session Duration	2:08	2:65	7:44	5:53
Web Pages Viewed	2.61	2.65	6.30	4.42
Bounce Rate	46.67%	47.18%	20.17%	32.44%

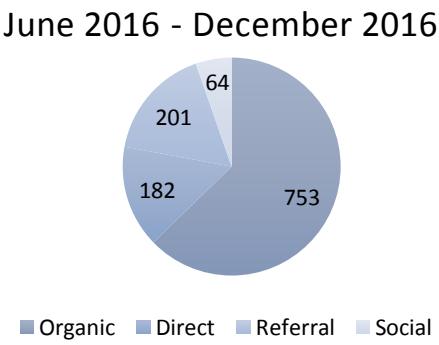
2.1.2 Acquisition

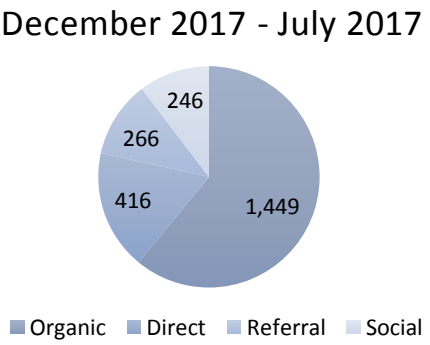
Analysis seems to indicate that it is not difficult for interested stakeholders to find information on the project as the majority of project web page traffic is organic, meaning most users are finding the web pages via a key word search using a search engine.

Means of acquisition to project web pages:

- Referral – link provided by a third party website, e-mail, etc.
- Organic – key word search via search engine

- Direct – input of specific URL
- Social media – from a social media channel, such as Facebook, LinkedIn, Twitter, etc.





Referrals

In 2017, referrals have accounted for 266 of the 2,377 sessions on the NSDF web pages. Referral links include those found at third party web sites (i.e. Canadian Nuclear Safety Commission, Environment Canada, and AECL)

Direct access

Direct access, input of specific URL(s), accounted for 416 of the 2,377 sessions on the project pages. URLs were advertised in a variety of media: online at the cnl.ca website, via social media, on our infographics, fact sheets, print advertising, and email correspondence.

In summary, acquisition statistics indicate that an increasing number of individuals are aware of the NSDF and know how to access CNL's information on the NSDF Project, attributable to the high percentage of access though referral links and direct access. Efforts to share links and advertising of URL information is increasingly effective at making the project information accessible. Efforts to continue to make information available will sustain this trend.

(See Section 4: Recommendations.)

2.1.3 Downloads

Since the NSDF Project was launched, the Project and Communications have continued to provide new information in the form of documents and infographic available for visitors to the webpage to download. The following analysis covers a set period of time between 2017 January 01 and 2017 August 13. Downloadable information available for the NSDF, via the project webpage, includes:

- Quick Facts (or frequently asked questions)
- Project description
- Three sets of informational posters from the PIS:

1. July 2016
2. October 2016
3. April 2017

- Two infographics
  1. A general overview of the project
  2. A size comparison of waste facilities
- The CNL-CNSC Administrative Protocol for the NSDF Project at CRL
- Environmental Impact Statement documents:
  1. Executive Summary
  2. Report
  3. Appendices
- The NSDF Waste Acceptance Criteria

Over the set period of time between 2017 January 01 and 2017 August 31, this information was downloaded 705 times. Table 2-1 details the downloaded information for the NSDF in order from the item with the greatest number of downloads to the item with the fewest downloads:

Table 2-2
NSDF Project Downloads

Item	Times downloaded
NSDF Project Description (English)	126
Draft EIS Report (English)	124
NSDF Infographic (English)	105
Draft EIS Executive Summary (English)	68
Draft EIS Appendices (English)	51
October 2016 NSDF Public Information Session Posters (English)	49
April 2017 NSDF Public Information Session Posters (English)	37
NSDF Quick Facts (English)	25
NSDF Project Description (French)	24
July 2016 NSDF Public Information Session Posters (English)	18
Draft EIS Report (French)	15
NSDF Infographic (French)	14
Size Comparison of Waste Facilities Infographic (English)	13
NSDF Quick Facts (French)	8
October 2016 NSDF Public Information Session Posters (French)	7
April 2017 NSDF Public Information Session Posters (French)	5
NSDF Waste Acceptance Criteria (English)	4

Item	Times downloaded
CNL-CNSC Administrative Protocol for the NSDF	3
July 2016 NSDF Public Information Session Posters (French)	3
Size Comparison of Waste Facilities Infographic (French)	3
Draft EIS Appendices (French)	2
NSDF Waste Acceptance Criteria (French)	1
TOTAL DOWNLOADS	**705**

2.2 Formal Feedback

Between 2017 January 01 and 2017 July 31, there have been 27 individuals that have provided 28 formal comments to CNL. One of these individuals represented a local cottagers' association.

The full text of the formal comments can be found in Appendix B.

Formal comments are defined as any written feedback (including request for further information) received from the public, through the following varying mechanisms: by completing feedback forms at, or bringing letters to, the PIS or Technical Discussion, via the online feedback form on the NSDF webpage, via mail or via email. See Appendix C for an example of a received feedback form.

Most formal comments (17) have been from the feedback forms that were available at PIS and Technical Discussion. The second most common feedback mechanism was by email. Canadian Nuclear Laboratories received six formal comments via email. Figure 2-1 details how many formal comments were received via each formal feedback mechanism.

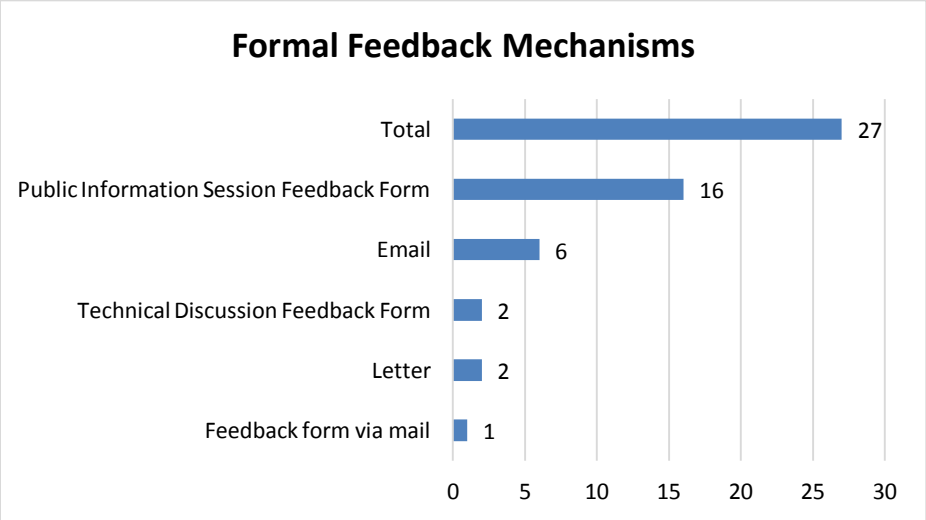


Figure 2-1 Formal Feedback Mechanisms

The kinds of issues or areas of interest that have been put forward about the NSDF are similar to previously received feedback. Interest in new areas is also emerging and interest in previously seen themes is growing.

The following chart illustrates the themes of the comments during this time period. It should be noted that one comment may address many themes.

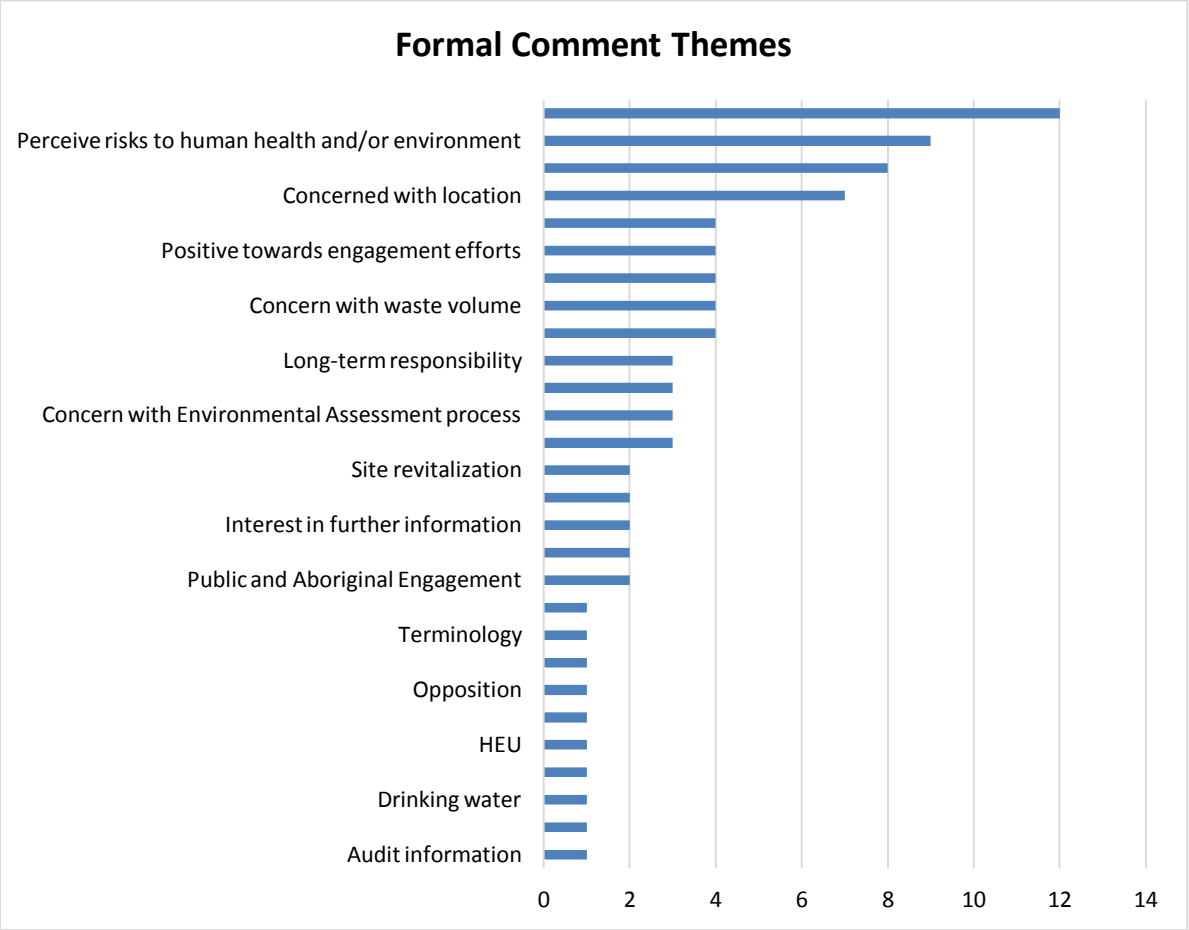


Figure 2-2 Formal Comment Themes

The most frequently seen themes were related to:

1. The proposed facility's engineering and design
2. Environmental and human health risks perceived to be associated with the facility
3. Concern for the Ottawa River
4. Concern with location of the proposed NSDF.

2.2.1 Engineering and Design of the Facility

Twelve individuals had comments relating to the engineering and design of the facility. These included questions about safety barriers, such as the liner system, “Who will be making the liner for the NSDF?” and construction materials, "How do we know these materials can endure 550 years?”

Another focus was the dimensions of the facility, “I question the terminology of "near surface" when it will be 60 feet high” and, “Dimensions of height, depth and width would be helpful.”

Some expressed doubt in the ability of the design to protect against releases to the environment, “What man made facility will be leak proof in perpetuity?” as well as preference for another technique, “Rather than design as proposed, the disposal facility could be below ground encased in concrete with the liner within that bunker.”

2.2.2 Perception of Risk to Human Health and/or Environment

Related to a mistrust in the ability of the engineering and design of the facility to protect, nine comments perceived a risk to human health or the environment associated with the proposed NSDF. With respect to human health, two individuals perceived a relationship between the proposed facility and cancer, “I think the cancer rate down river and downwind from your plant is already too high…” and, “Not interested in dying of multiple kinds of cancer…”

Concerns about whether the facility poses a risk to the environment are seen as well, “Main concern: again radioactive seepage into the Ottawa River or air, affecting communities and residents down river from the NSDF Project.”

2.2.3 The Ottawa River

Eight mentions of the Ottawa River are seen in this feedback. In the set time period it is the third most commonly observed theme, a growth from previous sets of feedback.

It is often mentioned in relation to a concern or perceived risk to human health and/or the environment (the second most commonly seen theme), especially related to the proximity of the chosen location for the proposed facility, which is the fourth most commonly seen theme:

“I have ongoing concerns about the proximity to the Ottawa River for the disposal site.”

2.2.4 A Concern with Location

Seven comments expressed a concern with the location of the proposed facility, often in relation to the Ottawa River, another common theme, “It should not be so close to the Ottawa River.”

2.3 Social Media Metrics

The following summarizes the results of the Facebook and Twitter activity related to the NSDF with 32 Facebook posts and 31 Tweets.

2.3.1 Facebook

The following summarizes the user engagement with CNL's 32 Facebook posts on the NSDF. A more thorough look at reach and engagement for each post is found in Appendix D.

Total number of posts: 32
Total Reach: 34,538
Total Shares, Comments and Reactions (Engagement): 536

Definitions:

Reach – Post reach is the number of people who have seen your post

Shares, Comments & Reactions (Engagement) – A comment, like and/or sharing of a post

2.3.2 Twitter

The following summarizes the impressions and engagement from the 31 Tweets. A more thorough look at the metrics for each Tweet can be found in Appendix E.

Total Impressions: 13,142

Total Engagements: 661

Definitions:

Impressions – The number of times your Tweet is seen

Engagements - Total number of times a user interacted with a Tweet, including clicks anywhere on the Tweet, Retweets, replies, follows, likes, etc.

2.4 Media Coverage

The NSDF was mentioned in the media 76 times between January 01 and July 31.

Media mentions can be categorized as follows:

Kinds of Coverage	Quantity
Editorial	3
Letter to the Editor	16
Media Release	2
News	51
Podcast interview	1
Radio interview	3

Kinds of media can be categorized as follows:

Kinds of Media	Quantity
Magazine	2
Media release	2
Newsletter	1
Newspaper	56
Online	5
Podcast	1
Radio	8

Media coverage was mostly regional with a national outlets posting articles about it. Most of the radio interviews were accompanied with an online story and most of the newspaper articles were online, as well.

Table 2-3 details when, where and which kind of source covered the NSDF. For the text of the print media coverage, see Appendix F.

2.5 Environmental Impact Statement Public Comment Period

The public comment period for the draft EIS, the document that CNL prepares to summarize the findings of the EA, is intended to facilitate the public and Indigenous groups participation in the Enviornmental Assessment process for the EA.

The public comment period for the draft EIS for the NSDF Project was launched with the submission of the draft EIS to the CNSC on 17 March 2017.

On 15 May 2017 the CNSC announced that a relaunch of the public comment period to enable review of the French translation of the EIS, as requested by an intervenor. As such, the public comment period was scheduled to remain open until 16 August 2017.

At the time of the data cut off for this Stakeholder Activites Report not all the public comments had been received by the CNSC. However, from the comments that had been received and made public on the CEAA website, a few key themes emerged. Going forward, the project will work to respond to the public comments on the draft EIS and will consider how these comments may impact planning for the proposed NSDF.

The following in particular were common themes found throughout a number of public comments.

2.5.1 Concern with Intermediate-Level Waste

To date, a number of public comments have brought up intermediate-level waste (ILW) as a concern. Citing international classifications of radioactive waste, many public comments rejected the proposal to have the NSDF accept even the minimal proposed one per cent: “To lump VLLW, and LLW along with some ILW into one repository is not acceptable in the long-term.”

CNL is taking the public’s concern with ILW seriously and exploring ways to respond.

2.5.2 Concern with CNL’s Engagement

Another theme that emerged amongst from a few different public comments was a concern with CNL’s engagement. In particular, the level of engagement with residents in Quebec and the nature of engagements with the public. One comment stated that, “Two locations and six information sessions in one year in the entire province of Quebec is not sufficient.”

Another comment took issue with their perception that there was engagement was not being sought on whether the project was a good idea: “There is no indication that CNL seeks to listen to the public and consider accommodating its concerns and preferences in its program. There are many well-informed local members of the public in the Upper Ottawa Valley who might lend their support to proposals if their views were sought and responded to before key decisions are made.”

CNL has heard these concerns and has been making a concerted effort to reach residents of Quebec, coordinating a presentation with a local cottagers association on 15 July 2017 and an information session with a presentation is scheduled for 03 August.

CNL is also working on improving engagement and facilitating feedback that will shape how the project proceeds with local members of the Upper Ottawa Valley.

Table 2-3
NSDF Media Coverage

	Date	Source	Type	Headline	Media Outlet
1.	January-01-17	Newsletter	News	Canadian Nuclear Laboratories Delivers an Update to County Council	Council Communiqué
2.	January-04-17	Newspaper	News	Year in Review: CNL submits projects for approval	North Renfrew Times
3.	January-29-17	Newspaper	News	CNL ready for the future	Daily Pembroke Observer
4.	February-08-17	Newspaper	Letter to the Editor	Sustainable host communities	North Renfrew Times
5.	February-09-17	Radio/Online	News	Gestion de déchets radioactifs á Chalk River	CBC Radio-Canada Online
6.	February-15-17	Newspaper	News	Town to seek waste compensation	North Renfrew Times
7.	February-22-17	Newspaper	Letter to the editor	Sustainable host communities (pt 2)	North Renfrew Times
8.	March-08-17	Newspaper	Letter to the editor	Sustainable host communities (pt 3)	North Renfrew Times

	Date	Source	Type	Headline	Media Outlet
9.	March-14-17	Magazine	News	Radioactive Waste Dump on Ottawa River has citizens furious	Ottawa Life Magazine
10.	March-16-17	Newspaper	News	Citizens Upset by Proposed Radioactive Waste Dump Beside Ottawa River	Pontiac Journal
11.	March-21-17	Newspaper	News	Opposed to CNL waste site	Daily Pembroke Observer
12.	March-21-17	Newspaper	News	Waste site impact report sent to CNSC	Daily Pembroke Observer
13.	March-21-17	Newspaper	News	Proposed nuclear disposal facility generating concern	Bulletin d'Aylmer
14.	March-21-17	Newspaper	News	Public can comment on CNL draft EIS	Daily Pembroke Observer
15.	March-22-17	Newspaper	News	CNL issues draft statement on waste facility	North Renfrew Times
16.	March-24-17	Newspaper	News	Residents opposed to Chalk River waste facility	Daily Pembroke Observer
17.	March-27-17	Radio/Online	News	Citizens group fears approval of nuclear disposal facility	MyFM Online
18.	March-28-17	Newspaper	Letter to the editor	Radioactive waste a threat to lakes, river	The Daily News
19.	March-28-17	Online	News	Arnprior to hold meeting on nuclear waste facility upriver	InsideOttawaValley.com
20.	April-06-17	Newspaper	News	Chalk River neighbours worry over plans to build dump for low-level radioactive waste	The Ottawa Citizen

	Date	Source	Type	Headline	Media Outlet
21.	April-06-17	Newspaper	News	Chalk River neighbours worry over plans to build dump for low-level radioactive waste	The Ottawa Sun
22.	April-10-17	Radio	Radio Interview		The Carol Anne Meehan Show
23.	April-10-17	Radio	Radio Interview		Ottawa Morning
24.	April-10-17	Online	Article	Proposed radioactive waste facility in Chalk River raises concerns	CBC online
25.	April-10-17	Newspaper	Article	CNL, citizen's group at odds over disposal site	Daily Pembroke Observer
26.	April-11-17	Radio	Radio Interview		Ontario Morning
27.	April-12-17	Newspaper	News	Our Environment	Pontiac Journal
28.	April-13-17	Radio/Online	Article	County Committee Supports CNL NSDF Project	MyFM online
29.	April-14-17	Radio/Online	News	Un futur dépotoir de déchets radioactifs soulève des craintes en Outaouais	Radio-Canada online
30.	April-19-17	Newspaper	News	More meetings coming for NSDF	Daily Pembroke Observer
31.	April-24-17	Online	News	Pembroke Mayor satisfied questions about CNL waste disposal being addressed	Pembroke Today online

	Date	Source	Type	Headline	Media Outlet
32.	April-26-17	Newspaper	Letter to the editor	Nuclear facility is a threat to people, enviroment, Renfrew County's future	Eganville Leader
33.	April-26-17	Newspaper	Letter to the editor	Our tax dollars at work	North Renfrew Times
34.	April-26-17	Newspaper	News	Proposed waste site is not a dump, says CNL	North Renfrew Times
35.	April-27-17	Newspaper	News	County council supports Deep River on NSDF site at Chalk River	Daily Pembroke Observer
36.	April-30-17	Radio/Online	News	Le projet risqué de site d'enfouissement nucléaire à Chalk River	Radio-Canada
37.	May-01-17	Newspaper	News	Chalk River: Choquette réclame toujours une enquête du CLO	Le Droit
38.	May-02-17	Newspaper	Letter to the editor	Oversight or incompetence?	North Renfrew Times
39.	May-03-17	Online	News	The Chiefs of Ontario have added their voices to the Iroquois caucus in opposition to the transport of nuclear waste.	APTN National News
40.	May-03-17	Newspaper	News	County backs delay on nuclear waste site comments	North Renfrew Times

	Date	Source	Type	Headline	Media Outlet
41.	May-03-17	Newspaper	Letter to the editor	Who Knows?	North Renfrew Times
42.	May-03-17	Online	News	Indigenous leaders unify against transport of radioactive waste	Two Row Times
43.	May-04-17	Newspaper	News	Dépotoir nucléaire en Ontario: Québec prépare un plan d'urgence	Le Devoir
44.	May-04-17	Media Release	Media release	Nuclear depot in Chalk River - Martine Ouellet is pleased that the Parti Québécois supports its request for BAPE	Bloc Québecois
45.	May-04-17	Newspaper	Letter to the editor	Canadian Nuclear Laboratories not telling whole story about radioactive waste facility	Whitewater News
46.	May-04-17	Newspaper	News	Carr keeps hands off nuclear waste	Winnipeg Free Press
47.	May-10-17	TV	News	News	CTV News
48.	May-10-17	Newspaper	Letter to the editor	If it walks like a duck	North Renfrew Times
49.	May-10-17	Newspaper	Letter to the editor	Fish to fry	North Renfrew Times

	Date	Source	Type	Headline	Media Outlet
50.	May-15-17	Newspaper	News	Le dépotoir nucléaire de Chalk River	Le Devoir
51.	May-15-17	Newspaper	News	Depotoir nucleaire a chalk river inquiete Heurtel	Le Soleil
52.	May-15-17	Newspaper	News	Dépotoir nucléaire de Chalk River: Ouellet dénonce une «grave menace»	Le Droit
53.	May-17-17	Newspaper	Letter to the editor	CNL must do better	North Renfrew Times
54.	May-17-17	Newspaper	News	Commission extends comments on radioactive waste site	North Renfrew Times
55.	May-24-17	Newspaper	News	Faut-il avoir peur… du dépotoir nucléaire de Chalk River?	L'Actualité
56.	May-31-17	Newspaper	Letter to the editor	Pontiac MP William Amos addresses Chalk River Nuclear Waste Proposal	Bulletin d'Aylmer
57.	June-09-17	Newspaper	News	Concerned about CNL's new project	Daily Pembroke Observer
58.	June-21-17	Newspaper	News	Comment period re-opens on proposed waste site	North Renfrew Times
59.	June-26-17	Media Release	Media release	Citizens ask Auditor-General to probe origins of plan to create a giant mound of radioactive waste beside Ottawa River	Canadian Environmental Law Association
60.	June-26-17	Newspaper	News	Déchets radioactifs à Chalk River: une pétition à la commissaire à l'environnement	Le Droit

	Date	Source	Type	Headline	Media Outlet
61.	June-27-17	Newspaper	News	Scientists decry plan for Ontario nuclear-waste site	Globe and Mail
62.	June-28-17	Newspaper	News	Laurentian Hills clears business in speedy meeting	North Renfrew Times
63.	July-05-17	Newspaper	News	Citizens ask Auditor General to probe giant mound of radioactive waste beside Ottawa River	Bulletin d'Aylmer
64.	July-11-17	Podcast	Podcast	UN Passes Nuclear Weapons Ban + Dr. Gordon Edwards on Canada's Nuclear Waste Insanity – Nuclear Hotseat #316	Nuclear Hotseat
65.	July-12-17	Newspaper	Editorial	Near Surface Disposal Facility: a waste solution	North Renfrew Times
66.	July-13-17	Newspaper	News	Meeting about NSDF in Ft. William	Daily Pembroke Observer
67.	July-15-17	Newspaper	Editorial	Near Surface Disposal Facility: a waste solution	Daily Pembroke Observer
68.	July-17-17	Magazine	News	Proposal to store nuclear waste along Ottawa River arouses concern	Bulletin d'Aylmer – Cottage Living
69.	July-17-17	Newspaper	News	Concerns about CNL project aired	Daily Pembroke Observer
70.	July-17-17	Newspaper	News	'Taxpayers are getting a bad deal,' residents protest proposed nuclear waste disposal site north of Ottawa	The Hill Times
71.	July-19-17	Newspaper	Editorial	There's a nuclear dump planned for OUR future	Pontiac Journal
72.	July-19-17	Newspaper	News	Pontiac Mayors visit proposed nuclear disposal site near Ottawa River	Pontiac Journal

	Date	Source	Type	Headline	Media Outlet
73.	July-26-17	Newspaper	Letter to the editor	Where is the “more, factual, information”	North Renfrew Times
74.	July-28-17	Newspaper	Letter to the editor	Concerns about the new nuclear waste site	Eganville Leader
75.	July-28-17	Newspaper	News	On-water protest planned Aug 6	Daily Pembroke Observer
76.	July-31-17	Newspaper	Letter to the editor	Canadian Nuclear Laboratories responsible for safe, secure operation of sites	The Hill Times

3. CONCLUSIONS AND RECOMMENDATIONS

This section provides a summary drawn from the outcomes of the engagement activities and marks out a path forward on where future engagement activities can focus.

3.1 Conclusions

Continuing to provide information as it becomes available will encourage transparency, and CNLfurther feedback, which can assist the projects in understanding and incorporating stakeholder perspectives into project planning, future communications and the final EIS.

Activities to date are helping to inform, educate and discuss the projects with stakeholders, and are enabling the public to provide valuable feedback into the NSDF Project.

Stakeholder engagement will be ongoing to support growth in awareness and understanding of the Project.

3.2 Recommendations

The recommendation is that the NSDF project and Nuclear Power Demonstration Closure Project continue to work towards resolving the following questions:

- What would the impact to human health and the environment be if the engineering or the design of the facility did not perform as intended? There seems to be concern about the engineered safety barriers not performing as intended. It would help to understand what would happen in this case to convey a sense of what the actual risk is.
- Why is the chosen location, preferred? In particular, more detail on the layout of the CRL site (in particular, the East Mattawa Road site), alternative locations and the geology and hydrogeology studies in clear, “layperson” language.
- What will be disposed in the NSDF? Continue to provide greater clarity on the waste. In particular, further detail on the characteristics of the waste and increased messaging on where the waste will originate and how it will be transported (for waste located off site).
- How is the facility designed to protect the environment and human health? Greater detail on the materials used, as well as how these materials are tested, the layout of the facility and comparison to other facilities, and would help to answer the demonstrated public interest in the engineering and design of the facility.

4. ACTIVITIES AND PRODUCTS

The Stakeholder Activities Report documents the tactics and activities to inform the final EIS. The section details what activities CNL undertook to inform, educate and discuss the NSDF with specific stakeholders between January 01 and July 31. These activities facilitated valuable feedback for the project to incorporate into future communications and the final EIS.

4.1 Presentations and Site Tours

As part of the Public Information Program CNL periodically hosts site visits.[4] These visits provide an opportunity for open dialogue with stakeholders. Visits are, and will continue to be, an avenue to ensure dialogue and information sharing with stakeholders.

4.1.1 Technical Discussion – January 19

With assistance from a retired employee, CNL coordinated a technical discussion in Deep River to meet with interested members of the local scientific community. An invitation was sent to the email list of CNL alumni (approximately 400 individuals). The event consisted of a presentation and dialogue between subject matter experts on the project team and event participants. Fifteen individuals attended the event, including local elected officials, industry members and CNL alumni. Copies of the presentation deck were provided, and questions and answers were recorded. See Appendix G.

Stakeholder(s): Local elected officials, industry, host communities, members of the public.

4.1.2 Deep River Town Council – January 25

Canadian Nuclear Laboratories attended a public meeting of the Deep River Town Council and shared a presentation on the NSDF Project. See Appendix H.

Stakeholder(s): Local elected officials, host communities, members of the public.

4.1.3 Renfrew County Council – January 25

Canadian Nuclear Laboratories attended Renfrew County Council and shared a presentation on the NSDF Project. See Appendix I.

Stakeholder(s): Local elected officials.

4.1.4 Ottawa Valley Chamber of Commerce – January 27

Canadian Nuclear Laboratories CEO Mark Lesinski attended the Annual General Meeting of the Ottawa Valley Chamber of Commerce in Pembroke and gave a presentation on CNL's plan for site revitalization, the NSDF Project and long-term strategy. See Appendix J.

Stakeholder(s): Members of the local community.

[4] CW-513430-REPT-001

4.1.5 Eastern Ontario Wardens' Caucus (EOWC) – January 31

Canadian Nuclear Laboratories CEO Mark Lesinski presented to the EOWC at the Rural Ontario Municipal Association (ROMA) conference in Toronto on CNL's plan for site revitalization, the NSDF Project and long-term strategy. See Appendix K.

Stakeholder(s): Local elected officials.

4.1.6 United Counties of Prescott Russell Council – February 02

Canadian Nuclear Laboratories was invited to attend a council meeting where CEO Mark Lesinski gave a presentation on the NSDF Project. The council meeting was covered in the media. See Appendix L.

Stakeholder(s): Local elected officials, media.

4.1.7 Pontiac MP William Amos – February 09

In follow up to the December meeting, subject matter experts from the CNL had a teleconference meeting and presentation with Pontiac MP William Amos to finish the presentation and discuss to the NSDF. See Appendix M.

Stakeholder(s): Local elected officials.

4.1.8 MRC Pontiac Council – February 14

Canadian Nuclear Laboratories attended a council meeting in the MRC Pontiac and gave a presentation on the NSDF Project. See Appendix N.

Stakeholder(s): Local elected officials.

4.1.9 Environmental Stewardship Council Meeting – March 23

Established in 2006, the Environmental Stewardship Council (ESC) meets three times annually. The objective of the ESC is to build working relationships and create opportunities for open dialogue between various stakeholder groups, local communities and CNL. These conversations are integral in providing CNL with a wide range of viewpoints.

During regularly scheduled meetings ESC members are presented with information about CNL, our environmental practices and are given the opportunity to ask questions and discuss the information presented; ESC members are also asked to take meeting information back to their respective constituents. This open dialog and sharing of information is very important for CNL, ensuring that the viewpoints of our closest neighbours and non-governmental organizations are heard and considered in how we carry out our missions. Meeting notes are taken at each meeting, recording all question and actions that occurred during an ESC meeting.

On March 23 the ESC was briefed on updates to the NSDF Project. See Appendix O.

Stakeholder(s): Host communities, local elected officials, Indigenous communities, NGOs.

4.1.10 All Staff – March 28

Canadian Nuclear Laboratories CEO Mark Lesinski and VP D&WM Kurt Kehler shared a presentation on the NSDF and information on the progress of the EA at a meeting for All Staff. A question and answer period followed the presentation. See Appendix P.

Stakeholder(s): CNL Employees.

4.1.11 Sheenboro Town Council – April 3

Vice President of D&WM Kurt Kehler gave a presentation on the NSDF and information on the progress of the EA and the submission of the draft EIS. See Appendix Q.

Stakeholder(s): Local elected officials.

4.1.12 Pembroke Town Council – April 18

Vice President of D&WM Kurt Kehler gave a presentation on the NSDF and information on the progress of the EA and the submission of the draft EIS. See Appendix R.

Stakeholder(s): Local elected officials.

4.1.13 Laurentian Hills Town Council – April 19

Vice President of D&WM Kurt Kehler gave a presentation on the NSDF and information on the progress of the EA and the submission of the draft EIS. See Appendix S.

Stakeholder(s): Local elected officials.

4.1.14 Petawawa Town Council – May 01

Vice President of D&WM Kurt Kehler gave a presentation on the NSDF and information on the progress of the EA and the submission of the draft EIS. See Appendix T.

Stakeholder(s): Local elected officials.

4.1.15 L'Isle-aux-Allumettes Town Council – May 02

Canadian Nuclear Laboratories CEO Mark Lesinski gave a presentation on the NSDF and information on the progress of the EA and the submission of the draft EIS. A representative of a local NGO, the Concerned Citizens of Renfrew County, also gave a presentation related to the NSDF. See Appendix U.

Stakeholder(s): Local elected officials, NGOs

4.1.16 Environmental Stewardship Council Meeting – June 22

Established in 2006, the ESC meets three times annually. The objective of the ESC is to build working relationships and create opportunities for open dialogue between various stakeholder groups, local communities and CNL. These conversations are integral in providing CNL with a wide range of viewpoints.

During regularly scheduled meetings, ESC members are presented with information about CNL, our environmental practices and are given the opportunity to ask questions and discuss the information presented; ESC members are also asked to take meeting information back to their respective constituents. This open dialog and sharing of information is very important for CNL, ensuring that the viewpoints of our closest neighbours and non-governmental organizations are heard and considered in how we carry out our missions. Meeting notes are taken at each meeting, recording all question and actions that occurred during an ESC meeting.

On June 22, the ESC was briefed on updates to the NSDF Project and another member of the ESC, representing the Concerned Citizens of Renfrew County also gave a presentation related to the NSDF. See Appendix V.

Stakeholder(s): Host communities, local elected officials, Indigenous communities, NGOs.

4.1.17 MRC Pontiac Council Site Visit – July 11

Canadian Nuclear Laboratories hosted members of the MRC Pontiac at the CRL site. Subject matter experts gave a presentation on the NSDF Project, answered questions and dialogued on the NSDF with the MRC Pontiac. The visit also included a visit to the location of the proposed facility. A member of the local media attended and covered the visit. See Appendix W.

Stakeholder(s): Local elected officials, media.

4.1.18 Old Fort William Cottagers' Association Meeting – July 15

Canadian Nuclear Laboratories had offered to meet with the Old Fort William Cottagers' Association (OFWCA) and the Association invited CNL to hold a meeting on the proposed NSDF in Fort William. Canadian Nuclear Laboratories Kurt Kehler, VP D&WM gave a presentation and there was approximately 1.5 hours of questions and answers. The event was featured in the local media. An estimated 80 individuals attended the event. See Appendix X.

Stakeholder(s): Members of the local community, media, NGOs.

4.2 Events

Canadian Nuclear Laboratories attended events to share information, collect feedback and dialogue with stakeholders about the NSDF.

4.2.1 Canadian Nuclear Association Conference – February 22-24

Canadian Nuclear Laboratories had a booth at an industry conference, hosted by the CNA in Ottawa in February. Canadian Nuclear Laboratories had a corporate presence at the event. Information about the NSDF was on hand and CNL representatives were prepared to respond to questions about the Project.

Stakeholder(s): Industry

4.2.2 Petawawa Showcase – April 28-30

Canadian Nuclear Laboratories had a booth at a local home show, which attracts approximately 10,000 individuals from across the region. Canadian Nuclear Laboratories had a corporate presence at the event. Information about the NSDF was on hand and CNL representatives were able to respond to questions about the Project. The NSDF Project Head, Jim Buckley, also represented CNL at this event.

Stakeholder(s): Host communities, members of the local community, CNL employees.

4.2.3 Canadian Nuclear Society Conference – June 04-07

Canadian Nuclear Laboratories had a booth at this industry conference, hosted by the Canadian Nuclear Society in Niagara Falls in June. Canadian Nuclear Laboratories had a corporate presence at the event. Information about the NSDF was on hand and CNL representatives were prepared to respond to questions about the Project.

Stakeholder(s): Industry

4.3 Emails

Emails have been used to contact both external and internal stakeholders.

4.3.1 Notification of Public Comment Period on Draft EIS – March 17

Canadian Nuclear Laboratories sent an email notifying more than 150 stakeholders of CNL's submission of the draft EIS for NSDF and the opening of the public comment period. Another email was sent when the draft EIS was translated to French and the public comment period extended. See Appendix Y.

Stakeholder(s): Host communities, local elected officials, Indigenous communities, NGOs, media.

4.3.2 Notification of Internal Information Sessions – May 10

Canadian Nuclear Laboratories sent an email to all employees to advise of the employee information sessions that were held on 2017 May 10. See Appendix Z.

Stakeholder(s): Employees

4.4 Webpage content

Web content has been updated and the project specific URL have been maintained: www.cnl.ca/nsdf. Ease of access to the project pages is encouraged through project sliders and quick links, which are located on CNL's homepage.

Since 2017 January, the following downloadable information has been added to each project web page (in English and French) to reflect recent updates, provide further information in areas of demonstrated stakeholder interest, and ensure availability of information for stakeholders:

- Infographic – Near Surface Disposal Facility (Appendix AA)
- Infographic – Waste Facilities: Volume Comparison (Appendix BB)
- Informational posters created for the April and May PIPs (Appendix CC)
- Quick Facts compiled from frequently asked questions on the Project (Appendix DD)
- NSDF Waste Acceptance Criteria[5]
- Links to the Draft EIS documents
    - Executive Summary
    - Report
    - Appendices
- Link to the CNL-CNSC Administrative Protocol for the NSDF Project at Chalk River Laboratories CNL updated web content on the project specific webpage – www.cnl.ca/nsdf - in response to feedback, to better reflect themes or areas of interest that were observed in 2016.

Canadian Nuclear Laboratories also created a new webpage focussed on how members of the public could submit comments to the CNSC on the draft EIS: www.cnl.ca/nsdf-eis

Stakeholder(s): All

4.5 Infographics

Canadian Nuclear Laboratories worked with a graphic designer to create two infographics to better reflect themes or areas of interest that were observed in 2016 and to improve public understanding of the project by using more straightforward, plain language and images.

The first infographic, created in March, shared the frequently asked questions from the Quick Facts in a shorter, more accessible format, and identified contact information and resources for more information on the project and the EIS.

[5] WASTE ACCEPTANCE CRITERIA Chalk River Site (includes NLBU Administrative Records) 232-508600-WAC-002

The second infographic, Waste Facilities: Volume Comparison, was created in July, in response to public feedback indicating interest in the other examples of waste facilities and how these other examples related to the NSDF. Both infographics are available online.[6] See Appendix AA, BB.

Stakeholder(s): All

4.6 Social Media

Canadian Nuclear Laboratories used social media, specifically Facebook and Twitter, to:

- Promote the PIS.
- Notify stakeholder of project developments, in particular the submission of the EIS.
- Share information and facts about the project in an accessible manner.

To date, no formal feedback on the project has come from social media, however, the metrics indicate it is an effective communications tool for engaging with the public. Canadian Nuclear Laboratories corporate social media channels have grown significantly over the last seven months, as the chart below details – enabling a wider platform for communicating with stakeholders. See Appendix E and F.

Table 4-1
CNL Socail Media Accounts

Social		Followers (Dec) 2016	Followers (Aug 2017)
Facebook	www.facebook.com/CanadianNuclearLaboratories	722	1,300
Twitter	www.twitter.com/CNL_LNC	218	405

Stakeholder(s): All

4.7 Advertising

Between January 01 and July 31, CNL ran advertising in local newspapers, published a flyer insert, ran a radio advertisement, and used social media to publicize the following:

1. Infographic: CNL ran the infographic advertisement a way of counteracting misinformation about the proposed facility and sharing links to CNL's information on the Project and EIS.
2. Public Information Sessions: As CNL had done for previous PIS, CNL promoted awareness of the events by advertising and distribution of flyer insert.

Table 4-2 details the media, dates and circulation or reach of the advertising.

[6] www.cnl.ca/NSDF

Table 4-2
NSDF Project Advertising Dates & Reach

Infographic		
Media	**Date**	**Circulation/reach**
The Daily Pembroke Observer full page	2017 April 08	3,000/day
NRT full page	2017 April 12	4,000/week
Pontiac Journal full page	2017 April 12	9,400/week
The News full page	2017 April 13	29,000/week
Facebook boosted post	2017 April 14	4,902
Flyer insert	2017 April 20	~30,000
Public Information Sessions		
Media	**Date**	**Circulation/reach**
NRT 1/4 page	2017 Apr 12 & 19	4,000/week
Pontiac Journal 1/4 page (French and English)	2017 Apr 12 & 26	9,400/week
Flyer insert	2017 April 13	~30,000
Star 96.7 FM	2017 April 17 – May 3	~40,000/week
The News ¼ page	2017 April 20 & 27	29,000/week
Pembroke Observer ¼ page	2017 April 22 & 29	3,000/day
Arnprior Chronicle	2017 April 27 & May 03	

Stakeholder(s): Host communities, local members of the public, media, local elected officials

Appendix AA

4.8 Intranet

MyCNL is CNL's internal website for employees. Since 2016 January, CNL has used myCNL as a communication channel on the NSDF in three ways. One way was the creation of an internal NSDF webpage on myCNL, another way was to advertise the PIS via myCNL and the third way was to share progress stories on the Project by posting articles related to the NSDF. See Appendix FF.

Stakeholder(s): Employees

4.8.1 Internal Near Surface Disposal Facility Webpage

An NSDF specific page was created on the internal myCNL intranet to provide employees with up to date information on the Project. This included the set of Quick Facts, the infographic, links to the draft EIS, and contact information on how to ask questions or share comments to CNL.

4.8.2 Advertising of Public Information Session

Canadian Nuclear Laboratories advertised the third round of PIS to employees via the intranet.

4.8.3 Articles

Eight articles about the NSDF were shared on myCNL to educate, inform and provide updates on the Project to employees between January 01 and July 31:

1. NSDF: What does it mean for CNL?- March 29[7]
2. Can I talk about CNL on Facebook? – May 12[8]
3. A busy spring for the NSDF project – May 17[9]
4. NSDF design contract awarded – July 08[10]
5. Hard working team releases RFP for NSDF – July 10[11]
6. Mark Lesinski speaks up on the NSDF project – July 12[12]
7. Preliminary Waste Acceptance Criteria Summary for the NSDF – June 16[13]
8. NSDF: Volume Comparison – July 26[14]

[7] NSDF: What does it mean for CNL?

[8] Can I talk about CNL on Facebook?

[9] A busy spring for the NSDF project

[10] NSDF design contract awarded

[11] Hard working team releases RFP for NSDF

[12] Mark Lesinski speaks up on the NSDF project

[13] Preliminary Waste Acceptance Criteria Summary for the NSDF

[14] NSDF: Volume Comparison

4.9 Informational Poster Boards

Five new informational poster boards were created to educate and prompt discussion about the NSDF, with especial emphasis on the EIS:

1. Infographic: a poster version of the infographic, which gives an overview of the project
2. What will the facility look like? Images of the proposed NSDF at 100 per cent design
3. A Safe Solution: information on the timeline for the project and why CNL is ready to use a near surface facility to dispose of waste
4. The EIS: an introduction to the EIS
5. The EIS: describes the potential impact on valued components and how the project proposes to mitigate impacts

One of the previously created poster boards on Site Revitalization was also built into the narrative.

Specifically, the posters contained updated information to share with the local communities at the third round of PIS in 2016 October.

The poster boards were a versatile tactic used in conjunction with other tactics such as presentations, employee information sessions and site visits. See Appendix Y.

Stakeholder(s): All

4.10 Public Information Sessions

A third series of PISs were conducted to help CNL inform, educate and discuss the projects and EA process with members of the host communities surrounding CRL. Again, CNL used a series of posters to share information and generate conversation at each session. This third series also provided CNL the opportunity to address specific areas of questioning that had arisen through feedback from previous information sessions in 2016, such as more detailed information related to future monitoring programs.

The PIS were held after the draft EIS was made public and the public comment period to the CNSC had begun, and information particular to the draft EIS was shared with the public. Subject matter experts were again made available for answering questions and engaging in one-on-one dialogue with members of the public.

Seven PISs were scheduled, advertised and held. Locations of the PIS were chosen based on proximity to proposed project sites, population size, and in consultation with local elected officials in the case of Deep River and Sheenboro.

An eighth PIS was also coordinated, advertised and held in Arnprior at the request of local elected officials from the Town of Arnprior.

Dates are summarized in the following table:

Table 4-3
Public Information Session Dates

Town	Location	Time	Dates
Deep River	Deep River Arena	6:00 – 8:00 p.m.	Thursday, April 20
Stonecliffe	Township Hall	6:00 – 8:00 p.m.	Monday, April 24
Chalk River	Lion's Club Hall	7:00 – 9:00 p.m.	Tuesday, April 25
Rapides-des-Joachims	Town Hall	6:00 – 8:00 p.m.	Wednesday, April 26
Petawawa	Civic Centre – Rotary Room	6:00 – 8:00 p.m.	Monday, May 01
Sheenboro	Municipal Hall	6:00 – 8:00 p.m.	Tuesday, May 02
Pembroke	Best Western – Copeland Room	6:00 – 8:00 p.m.	Wednesday, May 03
Arnprior	Nick Smith Centre	6:00 – 8:00 p.m.	Tuesday, May 10

Attendance and feedback are summarized in the following table in comparison to previous series of PISs.

Table 4-4
Public Information Session Attendance & Feedback

	2017 April/May		2016 October		2016 June/July	
Location	**Attendance**	**Formal Feedback**	**Attendance**	**Formal Feedback**	**Attendance**	**Formal Feedback**
Rapides-des-Joachims	2	0	10	6	7	6
Deep River	35	7	22	6	17	2
Stonecliffe	5	0	5	0	2	0
Sheenboro	33	5	12	2	29	10
Pembroke	16	2	20	8	13	10
Chalk River	9	2	18	4	11	10
Petawawa	12	1	9	2	17	7
Arnprior	2	0				
Total	114	17	96	28	96	45

Stakeholder(s): Host communities, local elected officials, members of the local communities, media.

4.10.1 Communications Materials Available at Public Information Sessions

- Informational poster boards (Appendix Y)
- Quick Facts (Appendix Z)
- Infographics (Appendix W, X)
- Draft EIS Executive Summary
- Draft EIS on USBs
- Hard Copy of draft EIS for reference
- Feedback form (Appendix C)

4.11 Internal Information Sessions

Employee information sessions to reach internal stakeholders. These internal events were similar to the PIS with the same communications products used and a similar level of access with subject matter experts

The following chart details attendance in comparison to the 2016 November Employee Information Sessions.

Table 4-5
Employee Information Session Attendance & Feedback

Location	2017 May	2016 November	Comments Received
Deep River Campus	21	35	0
Chalk River Site	~5	10	0

Stakeholder(s): Employees

4.12 Release of Documents – March 17-August 16

To support their review of the draft EIS, 11 members of the public requested supporting documentation for CNL.

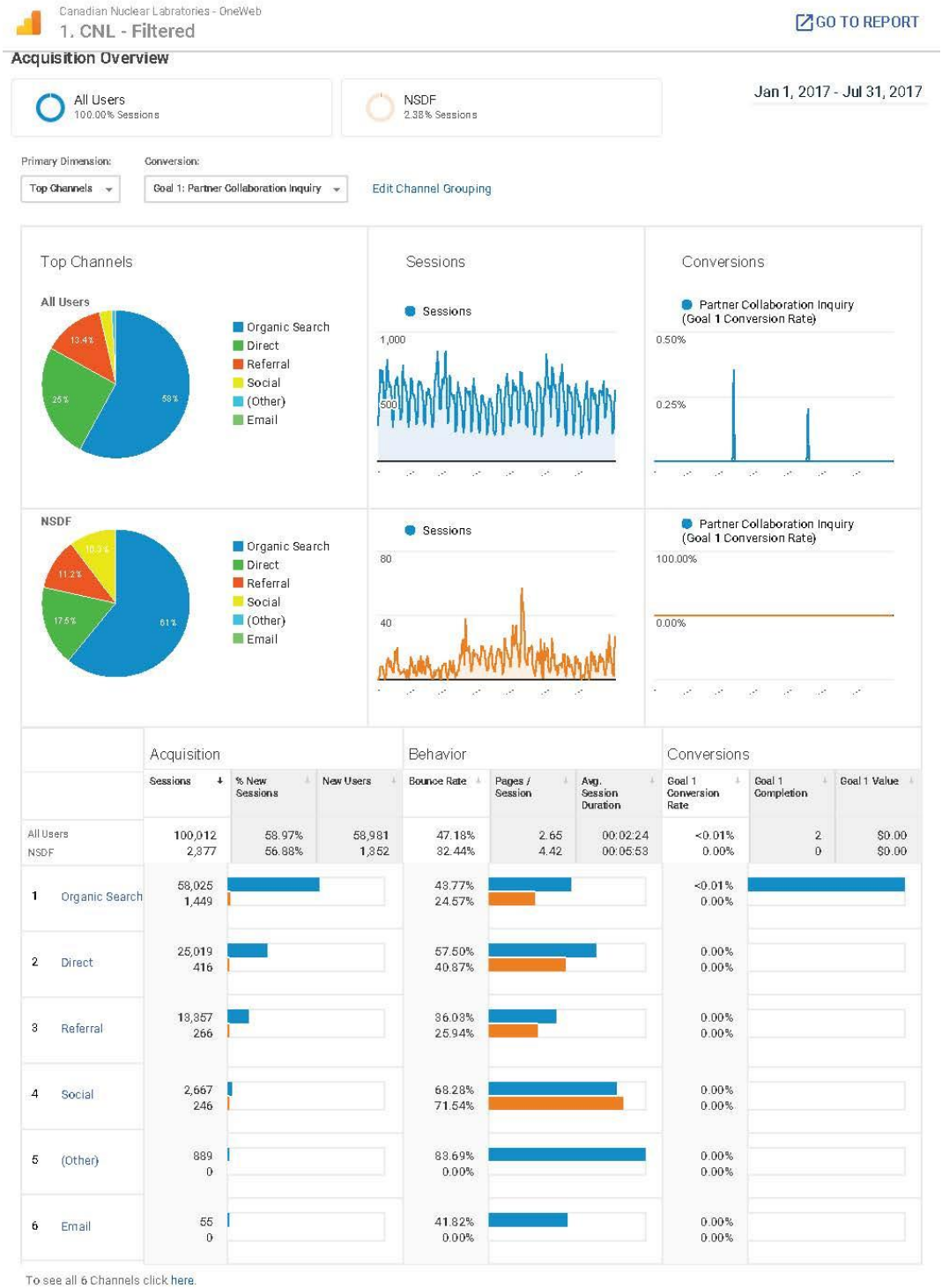
Sixty seven documents were requested in total. Thirty nine documents are released and 28 were not released. See Appendix CC.

Stakeholder(s): Member of the public, host communities.

4.13 Document Repository – March

Canadian Nuclear Laboratories made two hard copies of the draft EIS publicly available, functionally creating a document repository for the draft EIS volumes. One hard copy of the draft EIS was available at the Deep River Library and another copy was made available at the Town Hall for the Town of Deep River.

Appendix A – Google Analytics Reports



Canadian Nuclear Labratories - OneWeb
1. CNL - Filtered

GO TO REPORT

Channels

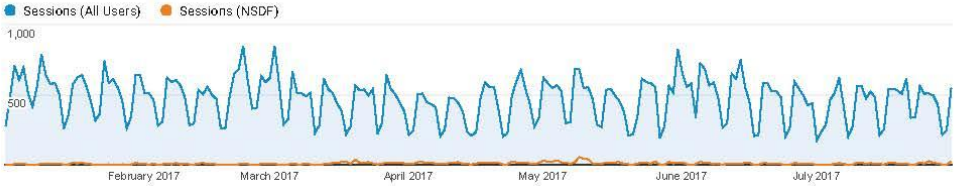
All Users
100.00% Sessions

NSDF
2.38% Sessions

Jan 1, 2017 - Jul 31, 2017

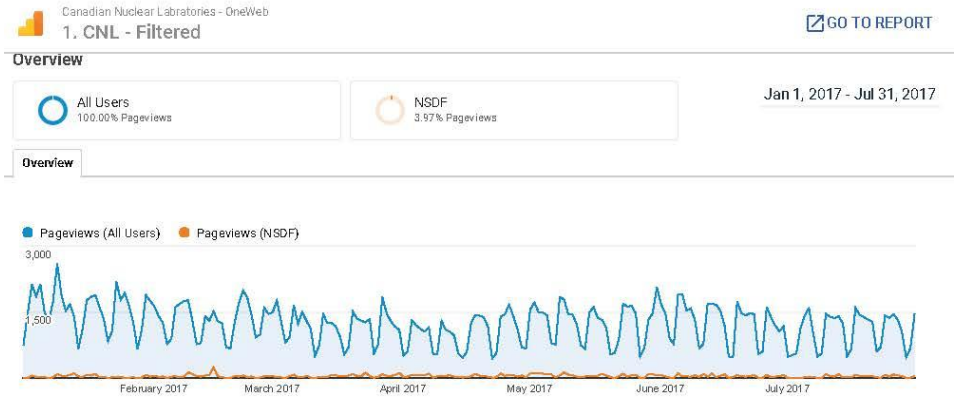
Explorer

Summary



Default Channel Grouping	Acquisition			Behavior			Conversions Goal 1: Partner Collaboration Inquiry		
	Sessions	% New Sessions	New Users	Bounce Rate	Pages / Session	Avg. Session Duration	Partner Collaboration Inquiry (Goal 1 Conversion Rate)	Partner Collaboration Inquiry (Goal 1 Completions)	Partner Collaboration Inquiry (Goal 1 Value)
All Users	100,012 % of Total: 100.00% (100,012)	58.97% Avg for View: 58.97% (0.00%)	58,981 % of Total: 100.00% (58,981)	47.18% Avg for View: 47.18% (0.00%)	2.65 Avg for View: 2.65 (0.00%)	00:02:24 Avg for View: 00:02:24 (0.00%)	<0.01% Avg for View: <0.01% (0.00%)	2 % of Total: 100.00% (2)	$0.00 % of Total: 0.00% ($0.00)
NSDF	2,377 % of Total: 2.38% (100,012)	56.88% Avg for View: 58.97% (-3.55%)	1,352 % of Total: 2.29% (58,981)	32.44% Avg for View: 47.18% (-31.25%)	4.42 Avg for View: 2.65 (66.91%)	00:05:53 Avg for View: 00:02:24 (144.67%)	0.00% Avg for View: <0.01% (-100.00%)	0 % of Total: 0.00% (2)	$0.00 % of Total: 0.00% ($0.00)
1. Organic Search									
All Users	**58,025** (58.02%)	58.39%	33,880 (57.44%)	43.77%	2.88	00:02:35	<0.01%	2 (100.00%)	$0.00 (0.00%)
NSDF	**1,449** (60.96%)	50.66%	734 (54.29%)	24.57%	5.17	00:06:57	0.00%	0 (0.00%)	$0.00 (0.00%)
2. Direct									
All Users	**25,019** (25.02%)	60.11%	15,038 (25.50%)	57.50%	2.07	00:02:08	0.00%	0 (0.00%)	$0.00 (0.00%)
NSDF	**416** (17.50%)	72.84%	303 (22.41%)	40.87%	3.57	00:04:58	0.00%	0 (0.00%)	$0.00 (0.00%)
3. Referral									
All Users	**13,357** (13.36%)	54.94%	7,339 (12.44%)	36.03%	2.98	00:02:32	0.00%	0 (0.00%)	$0.00 (0.00%)
NSDF	**266** (11.19%)	54.89%	146 (10.80%)	25.94%	4.11	00:05:43	0.00%	0 (0.00%)	$0.00 (0.00%)
4. Social									
All Users	**2,667** (2.67%)	71.24%	1,900 (3.22%)	68.28%	1.76	00:01:07	0.00%	0 (0.00%)	$0.00 (0.00%)
NSDF	**246** (10.35%)	68.70%	169 (12.50%)	71.54%	1.74	00:01:17	0.00%	0 (0.00%)	$0.00 (0.00%)
5. (Other)									
All Users	**889** (0.89%)	89.20%	793 (1.34%)	83.69%	1.30	00:00:12	0.00%	0 (0.00%)	$0.00 (0.00%)
NSDF	**0** (0.00%)	0.00%	0 (0.00%)	0.00%	0.00	00:00:00	0.00%	0 (0.00%)	$0.00 (0.00%)
6. Email									
All Users	**55** (0.05%)	56.36%	31 (0.05%)	41.82%	2.15	00:05:07	0.00%	0 (0.00%)	$0.00 (0.00%)
NSDF	**0** (0.00%)	0.00%	0 (0.00%)	0.00%	0.00	00:00:00	0.00%	0 (0.00%)	$0.00 (0.00%)

Rows 1 - 6 of 6



Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
All Users	All Users	All Users	All Users	All Users
264,556	213,055	00:01:26	47.18%	37.59%
NSDF	NSDF	NSDF	NSDF	NSDF
10,495	7,824	00:01:42	32.44%	22.51%

	Page	Pageviews	% Pageviews
1.	/en/home/default.aspx		
	All Users	58,148	21.98%
	NSDF	1,172	11.17%
2.	/en/home/work/employment/default.aspx		
	All Users	31,363	11.85%
	NSDF	135	1.29%
3.	/en/home/work/default.aspx		
	All Users	16,759	6.33%
	NSDF	112	1.07%
4.	/en/home/work/student-opportunities/default.aspx		
	All Users	11,026	4.17%
	NSDF	35	0.33%
5.	/en/home/about/default.aspx		
	All Users	10,352	3.91%
	NSDF	223	2.12%
6.	/en/home/contact-us.aspx		
	All Users	8,173	3.09%
	NSDF	53	0.51%
7.	/en/home/about/corporateprofile.aspx		
	All Users	4,291	1.62%
	NSDF	102	0.97%
8.	/en/home/about/locations/offices.aspx		
		4,215	1.59%
	NSDF	23	0.22%
9.	/en/home/facilities-and-expertise/all-facilities/default.aspx		
	All Users	3,935	1.49%
	NSDF	227	2.16%
10.	/en/home/work/student-opportunities/coop.aspx		
	All Users	3,583	1.35%
	NSDF	8	0.08%

Appendix B – NSDF Formal Comments

Table B-1
Formal Comments

	Feedback Mechanism	Comment/Question	Response	Themes
1.	Email	I have a question regarding NSDF. It has a total capacity which could easily be filled up if we use it as a grab all. I want to know what initiatives are or will be put into place so that people continue to segregate clean waste from contaminated and use the NSDF for truly low to intermediate waste rather than clean waste that just hasn't been checked/sorted.	First of all, thanks for taking an interest in the NSDF Project and reaching out to learn more! The NSDF is not intended to be a grab all. On the contrary, only specific, sorted and well characterized wastes will be permitted for disposal in the NSDF. Essentially, each waste generator will be responsible for characterizing their own waste intended for disposal in the NSDF. And, prior to disposal, the waste will also be verified to see if the waste packages are accurately characterized. However, I think your question was more about how non-radioactive waste will be separated from radioactive waste. As you may have heard, one of the largest single origins of waste destined for the NSDF is demolition debris related to site revitalization activities. To ensure that non-radioactive material is segregated from radioactive materials, there are existing processes in everyday operations surrounding the decommissioning of structures. For instance, a concrete structure may be divided into affected areas and non-affected areas such that the non-affected areas are managed as clean waste and the affected areas (even though they are surface contaminated big blocks of concrete) managed as low-level waste. This strategy is taken in the site hazard assessment phase of planning the decommissioning of a structure and carried through the decommissioning, such that as far as reasonably achievable, clean wastes are segregated from the radioactive waste materials. Decommissioning economics do play a role in	Waste classification and/or segregation and/or characterization Concern with waste volume

	Feedback Mechanism	Comment/Question	Response	Themes
			determining how much effort can reasonably be committed to removing low amounts of radioactivity from a large volume or mass of materials, like a contaminated concrete structure. Using the example of a concrete building, the affected area materials would then be screened through the NSDF Waste Acceptance Criteria in order to classify it for disposal and the non-affected area materials would be managed as clean waste according to our current practices. The NSDF Waste Acceptance Criteria ensures we know exactly what is going in the NSDF by laying out a number of future CNL administrative practices. The Waste Acceptance Criteria describes the expectations of generators to create a waste profile for each waste destined for the NSDF. The document also describes the six specific waste types allowed in the NSDF and the physical, chemical and radiological qualities and limits on NSDF wastes. All waste disposed of in the NSDF will be required to fall within the NSDF Waste Acceptance Criteria. The preliminary Waste Acceptance Criteria document is available on our external website and in TRAK. The Waste Acceptance Criteria will evolve, as it is being done in parallel with other parts of the NSDF Project (i.e., the Environmental Assessment process) and with another, related initiative – the Integrated Waste Strategy. To clarify, the NSDF is a part of a bigger picture that is being laid out in the Integrated Waste Strategy (IWS), an emerging holistic mapping tool that aims to develop a cradle to grave path for all CNL-managed wastes, both radioactive and non-radioactive, while at the same time enhancing transparency and alignment in waste	

	Feedback Mechanism	Comment/Question	Response	Themes
			management practices across CNL. The IWS, which is intended to be an iterative planning document, starts with identifying existing gaps (i.e., incorrect segregation or storage capacity) in the current waste management strategies and creating an action plan to close these gaps. The first revision of the Integrated Waste Strategy CW-508600-PLA-002 Rev. 0 is available in TRAK and the IWS Summary will be published on our external website soon (we are waiting on the translated copy, to ensure it is available in both official languages).	
2.	Letter	[See Appendix B1 for questions and responses from an individual]		Concern with project description Dissatisfied with engagement efforts Site revitalization Concerned with location Concern with waste volume Extreme weather Waste classification and/or segregation and/or characterization Engineering and design of facility Perceive risks to human health and/or environment Concern with Environmental Assessment process
3.	Email	I think the cancer rate down river and downwind from your plant is already too high, I am told highest in the country, the people in the Ottawa valley don't need any more health risks due to your plant. For the sake of $$$$	In response to your question we located some cancer incidence statistics for Ontario: According to Cancer Care Ontario, a provincial government agency, the cancer incidence rates in the Renfrew County Public Health Unit's catchment area are lower than many other areas in our province. See the full report on Ontario's cancer statistics on the Cancer Care Ontario website: https://www.cancercare.on.ca/ocs/csurv/stats/ontario_cancer_stat	Perceive risks to human health and/or environment

	Feedback Mechanism	Comment/Question	Response	Themes
			istics/	
4.	Email	Thank you for the follow up, a few questions 1. Do you have any elevation views of the NSDF? 2. Who will be making the liner for the NSDF? 3. When was the first public meeting held re: NSDF? 4. What is the alternate plan? 5. Where can I find the most recent audits by the CNSC of the Chalk River site?	1. Do you have any elevation views of the NSDF? 2. Who will be making the liner for the NSDF? 3. When was the first public meeting held re: NSDF? 4. What is the alternate plan? 5. Where can I find the most recent audits by the CNSC of the Chalk River site? The first document provide answers to the five questions, the second is reference material to support your request for audit information. Do not hesitate to let me know if you require any additional information.	Alternative techniques Audit information Engineering and design of facility

	Feedback Mechanism	Comment/Question	Response	Themes
5.	Email	This is a terrible idea and our family who lives in Renfrew County and boat on the Ottawa are vehemently opposed. 1. What man made facility will be leak proof in perpetuity? None. So the lovely description of a 300 year control period means a leak eventually, just a matter of when not if. 2. It will be open, rain gets in, and what about ground water? And the precipitation is treated at the waste water treatment plant which spills into the river ALL the time with flooding, heavy rain, etc. So there is a guarantee that there will be untreated water that has contacted nuclear waste going into our River. Not interested in dying of multiple kinds of cancer or destroying the historic Ottawa river, no matter how pretty you make the info-graphic or nice words used to sell (or blind) the public to this. Not that the Lab will listen but we will join Concerned Citizens, as a family not usually activists in any way, to protest this until we run out of breath. Which won't matter because this project will lead to us to poor heath in any case.	N/A	Engineering and design of facility Perceive risks to human health and/or environment Extreme weather Ottawa River Opposition Long-term responsibility

	Feedback Mechanism	Comment/Question	Response	Themes
6.	Public Information Session Feedback Form	[Request for links to online content)	At our Public Information Session in Pembroke on Wednesday, May 3rd, you mentioned you were interested in receiving the posters from our Public Information Sessions. Currently, we have the posters from our June/July 2016 and October 2016 Public Information Sessions on our website – www.CNL.ca. We will be posting the posters from our Public Information Sessions this spring, next week, once we have finished our last session in Arnprior on May 9th. In the meantime, to view our past posters on the Near Surface Disposal Facility (NSDF) and the Nuclear Power Demonstration (NPD) Closure Project, you can check out the links below: NSDF: October 2016 June/July 2016 NPD Closure Project: October 2016 June/July 2016 Thank you for your interest, and please stay tuned for more information.	Interest in further information

	Feedback Mechanism	Comment/Question	Response	Themes
7.	Public Information Session Feedback Form	I came here with several questions regarding operational and long-term safety requirements, the insurance of capacity and only 10% from other sites, long-term responsibility after the ten year term of the contract ends, effects of DGR on the environment, etc. Spoke at length with Pat Quinn who answered my questions and helped me to understand the industry's position.	N/A*	Long-term responsibility Perceive risks to human health and/or environment
8.	Public Information Session Feedback Form	I remain concerned that the location for the NSDF is too close to the Ottawa River. The assurance that models stat e.g., 10 year leaching period is secure is questionable geological timeline.	There is no direct pathway to the Ottawa River from the Near Surface Disposal Facility (NSDF) site. While it seems counterintuitive, due to the hydrogeology of the Chalk River Laboratories site, the location for the proposed NSDF is a good location. Also, extensive monitoring will be conducted to assure and demonstrate that NSDF will perform as expected: • CNL's Environmental Protection Program maintains a comprehensive effluent and environmental monitoring program of more than 400 sampling locations with approximately 30,000 analyses performed each year. • CNL's Groundwater Monitoring Program will be expanded to cover the NSDF site. Groundwater monitoring will provide further assurance the leachate collection system is functioning and that there are no leaks to groundwater from the Engineered Containment Mound. In the unlikely event of a breach of the engineered barriers of the Near Surface Disposal Facility, CNL would be able to repair and/or put into place measures that would protect the environment from harm.	Perceive risks to human health and/or environment Ottawa River Concerned with location

	Feedback Mechanism	Comment/Question	Response	Themes
9.	Public Information Session Feedback Form	The site is too close to the Ottawa River. It is false economy to locate the disposal site so close to the River.	There is no direct pathway to the Ottawa River from the Near Surface Disposal Facility (NSDF) site. While it seems counterintuitive, due to the hydrogeology of the Chalk River Laboratories site, the location for the proposed NSDF is a good location. Also, extensive monitoring will be conducted to assure and demonstrate that NSDF will perform as expected: • CNL's Environmental Protection Program maintains a comprehensive effluent and environmental monitoring program of more than 400 sampling locations with approximately 30,000 analyses performed each year. • CNL's Groundwater Monitoring Program will be expanded to cover the NSDF site. Groundwater monitoring will provide further assurance the leachate collection system is functioning and that there are no leaks to groundwater from the Engineered Containment Mound. In the unlikely event of a breach of the engineered barriers of the Near Surface Disposal Facility, CNL would be able to repair and/or put into place measures that would protect the environment from harm.	Perceive risks to human health and/or environment Ottawa River Concerned with location
10.	Public Information Session Feedback Form	The site is too close to the river. I find it strange that out of 4,000 hectares there is not a location much farther away from the river. Rather than design as proposed, the disposal facility could be below ground encased in concrete with the liner within that bunker. The footprint could be much less ex. 500 m by 4 metres deep - 1,000,000 cubic metres, divided in sections if necessary. And, put a lid on it. I doubt it would be much more expensive - we do it all the time with parking garages under block long apartment or commercial buildings.	N/A*	Ottawa River Concerned with location Engineering and design of the facility Alternative technique

	Feedback Mechanism	Comment/Question	Response	Themes
11.	Public Information Session Feedback Form	Excellent presentation but I am opposed to transporting radioactive materials anywhere. It should not be so close to the Ottawa River	N/A*	Concern with transportation of nuclear waste Ottawa River
12.	Public Information Session Feedback Form	Based on the public information session, engagement approach is thorough. However, must answer 1. Why community should accept waste from 2. Hazards/risks through life of facility. To some degree public is missing contest of risks, hazards therefore making up own.	N/A*	Concern with transportation of nuclear waste Public and Aboriginal engagement
13.	Public Information Session Feedback Form	What happens if nuclear accident?	N/A*	Nuclear accident
14.	Public Information Session Feedback Form	I have ongoing concerns about the proximity to the Ottawa River for the disposal site. I question the terminology of "near surface" when it will be 60 feet high. I have already spoken to one other County Official who was under the impression that this was all underground, but "near surface" I get nervous with misleading terms. Especially with nuclear waste.	There is no direct pathway to the Ottawa River from the Near Surface Disposal Facility (NSDF) site. While it seems counterintuitive, due to the hydrogeology of the Chalk River Laboratories site, the location for the proposed NSDF is a good location. Also, extensive monitoring will be conducted to assure and demonstrate that NSDF will perform as expected: • CNL's Environmental Protection Program maintains a comprehensive effluent and environmental monitoring program of more than 400 sampling locations with approximately 30,000 analyses performed each year. • CNL's Groundwater Monitoring Program will be expanded to cover the NSDF site. Groundwater monitoring will provide further assurance the leachate collection system is functioning and that there are no leaks to groundwater from the Engineered Containment Mound. In the unlikely event of a breach of the engineered barriers of the Near Surface Disposal Facility, CNL would be able to repair and/or put into place measures that would protect the environment from harm.	Ottawa River Terminology Engineering and design of facility Concerned with location

	Feedback Mechanism	Comment/Question	Response	Themes
			Near surface disposal is a particular term in nuclear waste management, referring to waste facilities that are partially under the surface. In contrast to geological or deep geological waste facilities, which are entirely underground, near surface facilities are near the surface – on both sides of the surface. The proposed NSDF at Chalk River Laboratories is designed to be 18 metres high and would not be visible from the Ottawa River.	
15.	Public Information Session Feedback Form	No questions. Seems well engineered with all aspects that would be of concern considered.	N/A*	Engineering and design of facility Positive towards engagement efforts
16.	Public Information Session Feedback Form	Please note the information session facility had no accessible access. The Royal Canadian Legion has a similar large room with elevator access. I have attached a list of 19 questions [See Appendix B2]. Overall, I am disturbed by the way the project has proceeded. It should have begun with a discussion with the community to decide if it was a willing host for a disposal facility. This is not NIMBY, it is the respectful, Canadian preferred siting option. This facility could be developed by it must be demonstrated to meet IAEA standards, not US ones.		Dissatisfied with engagement efforts Concern with waste volume Concern with transportation of nuclear waste Extreme weather Waste classification and/or segregation and/or characterization Engineering and design of facility Perceive risks to human health and/or environment Concerned with location Concern with Environmental Assessment process
17.	Public Information Session Feedback Form	Very well displayed forum. Very knowledgeable people all questions answered.	N/A*	Positive towards engagement efforts
18.	Public Information Session Feedback Form	I am super impressed with the project thus far. It is obvious that care and fastidious research has gone into the planning of the facility and I for one feel safe and confident about the work moving forward. Love the visual aids. A great addition to the presentation.	N/A*	Positive towards engagement efforts Engineering and design of facility

	Feedback Mechanism	Comment/Question	Response	Themes
19.	Public Information Session Feedback Form	No comments today but I appreciated the opportunity to speak with CNL and NSDF staff.	N/A*	Positive towards engagement efforts
20.	Public Information Session Feedback Form	Why are you proposing to truck 2500 - 3000 truckloads of active waste 1900 km from Whiteshell? If you have a safe procedure for the NSDF here with good experience and Port Hope and Port Granby why are Manitoba's waste not stored in a similar small, monitored mound next to the WR1 entombment site? Highway 17 has its share of accidents without adding a large traffic of active material being moved.	The Near Surface Disposal Facility proposed for the Chalk River Laboratories' site is an engineered waste containment facility that is uniquely suited for low and (limited) intermediate-level waste. Building such a specialized facility for the small amount of this waste at Whiteshell was not deemed to be appropriate. Atomic Energy of Canada Limited and CNL have safely transported radioactive material nationally and internationally for more than 45 years by road, rail, water and air without radiological incident. It is a highly regulated activity that must meet the stringent requirements of both Transport Canada and the Canadian Nuclear Safety Commission (CNSC). Canada has decades of experience in transporting radioactive materials, and has an excellent safety record. Thousands of shipments containing radioactive material are transported safely in Canada each year.	Concern with transportation of nuclear waste
21.	Public Information Session Feedback Form	I have reviewed examples of NSDF Technology supplied to me by CNL staff, and wonder how you can suggest these examples are comparable.**	We've consulted the Near Surface Disposal Facility team and we think the information you are looking for may be found in the information we provided to the Old Fort William Cottagers' Association (OFWCA). Please find this additional information attached. [See Appendix B3]	Engineering and design of facility Comparison to other examples of near surface disposals
22.	Public Information Session Feedback Form	Everyone I talk to in my community is supporting the construction of the NSDF. However I continue to hear through some media outlets a small but vocal group of citizens that are protesting the construction. Thanks for providing the NSDF centerfold in the North Renfrew Times. Good science applied to solve the disposal of radioactive materials make good policy and supports the continued science and	N/A*	Support

	Feedback Mechanism	Comment/Question	Response	Themes
		technology mission at CNL. A few environmental protestors don't deserve to have their minority opinion count for anything but social unrest. You have my vote and the community of Deep River supports the construction of NSDF.		
23.	Email	When will CNL visit Arnprior to provide a public briefing on the CNL Near Surface Disposal Facility? Thank you.	We held a Public Information Session in Arnprior on May 09 at the request of the Mayor of Arnprior and CNL is open to attending any community for an information session or presentation to municipal council, as requested by a community. We will also be sure to notify you for our next round of information sessions, which are tentatively planned for later on in the year.	Interest in further information
24.	Email	I have been researching the examples use sent me of the NSDF technology on January 17. One of the examples you sent me is listed as being from Portsmouth England, however it appears to be from Portsmouth, Ohio. Could you verify that for me.**	Yes you are correct it is Portsmouth Ohio – the reference to England should have been corrected to indicate Ohio, apologies for the confusion.	Comparison to other examples of near surface disposals Engineering and design of facility
25.	Technical Discussion Feedback Form	a) Design of top cover for leak monitoring and repair, plus b) design of recovery of under-mound liquid releases (if any) and perimeter leachate releases for early warning and repair. A and B) as at ANDRA's Centre de la Manche near Cherbourg, France, would be worth considering in the design for the NSDF. I would be pleased to discuss further.	1. Thank you for the information. Our design team will review the application at ANDRA's Centre de La Manche, as noted. 2. Thank you for your comment. Engagement activities with Indigenous groups were initiated at the onset of the NPD Closure Project and are ongoing. Please note, the NPD reactor would not meet the NSDF Waste Acceptance Criteria for the NSDF, thus disposition into NSDF is not an option.	Engineering and design of facility Public and Aboriginal Engagement

	Feedback Mechanism	Comment/Question	Response	Themes
26.	Technical Discussion Feedback Form	This project seems to the be the most prudent and cost-effective way forward for Canada to deal with this level of nuclear legacy and to support medical, industrial and educational/scientific uses of nuclear materials.	N/A*	Support
27.	Feedback form via mail	Main concern: again radioactive seepage into the Ottawa River or air, affecting communities and residents down river from the Near Surface Disposal Facility Project	N/A*	Ottawa River Perceive risks to human health and/or environment
28.	Email	See Appendix B3 for questions and responses from and individual representing the OFWCA.		Dissatisfied with engagement efforts Site revitalization Comparison to other examples of near surface disposals Concerned with location Concern with waste volume Extreme weather Waste classification and/or segregation and/or characterization Engineering and design of facility Perceive risks to human health and/or environment Concern with Environmental Assessment process Drinking water Monitoring program at CNL Tritium HEU Emergency preparedness Nuclear accident Ottawa River Long-term responsibility

Appendix B.1 – Questions from W. Turner

Question	Answer
1. The reason for the project has changed from what was given in the original project description. If the reason for the project is "enables the transformation of the Chalk River Laboratories ...", then these transformational activities must be considered within the scope of the project. Why are these activities not within the scope of the project?	While the Near Surface Disposal Facility (NSDF) is related to site revitalization, the NSDF is a distinct project. Future projects undertaken at Chalk River Laboratories, to enable site revitalization, will undergo individual Environmental Assessments as required.
2. What are these transformational activities?	The Government of Canada has committed to invest $800 million in CNL over the next five years. This funding is outside of CNL's current operating budget, and provides the dedicated funding required to enable a complete transformation of the Chalk River site through renewed infrastructure and the construction of new facilities. This investment will lead to the continued revitalization of the Chalk River Site. Priorities for 2016/17 include the completion of B350 Laboratory Complex, the B215 Tritium Lab, and the installation of domestic water, natural gas and sanitary sewage treatments systems at the Chalk River site. Other facilities under consideration for future development include: • Office Facility (Occupancy 400 plus) • Maintenance Facility • Logistics Building (Warehouse – Shipping and Receiving) • Advance Nuclear Materials Research Centre
3. Why do the buildings within the controlled areas have to be removed? Surely somewhere on the 4,000 ha of the site, an area can be set aside for any new construction.	Maintaining buildings that are past their useful purpose and building elsewhere on the Chalk River site would increase the impacted footprint on the Chalk River site. The priority is to reduce nuclear legacy liabilities that have outlived service.
4. What is the contribution of these activities to the "cumulative	With the exception of bats and Blanding's turtle, the cumulative effects identified from

Question	Answer
effects"?	the NSDF Project and previous and existing activities and developments in the Regional Study Area were primarily either neutral or positive. The positive cumulative effects are in regards to human health, ecological health, and land and resource use. For bats and Blanding's turtle, significant adverse effects are related to the existing conditions for these species and not due to the NSDF Project.
5. The wastes to be emplaced in the mound include "low-level and other suitable waste ..." Please provide the a breakdown of these wastes in accordance with the IAEA waste classes, including estimated quantities, waste forms, physical, radiological and chemical properties.	To facilitate management of the wastes at CNL, six different waste types have been defined, see the response to questions #19 and #26 below. Regarding physical, radiological and chemical properties, limits for these will be specified as part of the waste acceptance criteria (attached).
6. For those wastes deemed "unsuitable", what facilities are proposed to manage these rejected wastes?	As part of the CNL Integrated Waste Strategy Program, capabilities for interim storage will be maintained at the Waste Management Areas until a final disposition path for all waste types will be available.
7. The current volume of the proposed facility is 1 million cubic meters. What processes, procedures, pre-treatment facilities and/or any other activities were considered to minimize the wastes to be emplaced in the mound?	Majority of the waste that is destined for the NSDF represents waste generated over the course of 60 years of Chalk River Laboratories operations and will meet the NSDF waste acceptance criteria. Waste volume will be minimized by characterization and remediation activities designed to efficiently and effectively segregate waste materials. A small volume of wastes will require processing, such as stabilization, prior to disposal in the NSDF.
8. Please explain how the projected waste volume was optimized.	Total disposed waste volume is optimized by the bulk disposal of wastes from decommissioning and environmental remediation activities; that is, the waste is emplaced directly in the disposal cell, thereby eliminating void space and placement geometry issues presented by packaged waste.
9. What is proposed to manage the run-off from extreme storm events before the cells are completely filled and then covered?	Please see responses to questions #11 and #12.
10. What is proposed to minimize the dust generated from the dumping of the soils and soil like wastes, and the building debris	The main dust control methods will be water spraying or misting techniques (e.g., water trucks). Fixatives may also be used for dust control. All excavating, loading,

Question	Answer
during the emplacement of these wastes?	hauling and dumping operations would be suspended when wind speeds exceed the specified criterion (in accordance with common practices for dust management). Loading, transportation, placement and compaction operations will be performed in accordance with a dust management plan.
11. What is the capacity of the Waste Water Treatment Plant? How was this capacity determined?	At the Waste Water Treatment Plant, waste water will first be transferred to one of three stainless-steel holding tanks – each with a capacity of 1,890 m^3. This capacity will ensure that the plant can accommodate storm water from two back-to-back 100-year, 24-hour storm events, as well as the maximum amount of leachate and waste water from operations at the engineered containment mound. From the holding tanks, the waste water will be transferred to one of two parallel trains for chemical processing and filtration. Each of these has a design flow rate of 11.36 m^3/hour.
12. Please describe the contingency if the capacity is found to be insufficient.	If the flow rate of one of the two chemical processing and filtration drains (11.36 m^3/hour) is insufficient, both drains would be operated in parallel, which would mean that the capacity is doubled. As well, the large capacity of the holding tanks (total of 5,670 m^3) has been set to ensure that there is ample surge capacity, should the maximum flow rate through the plant temporarily be insufficient.
13. What will be done with the wastes from the Waste Water Treatment Plant, given that the contaminants in the wastes will be concentrated?	The radionuclide-containing residuals from the waste water processing will be treated within the Waste Water Treatment Plant, followed by disposal in the engineered containment mound. The residual management process includes dewatering and sampling to ensure that the NSDF waste acceptance criteria are met prior to disposal in the mound.
14. What will be done with the discharge of the WWTP if that waste water does not meet the discharge criteria?	If discharge does not meet discharge criteria, it would be transferred to the holding tanks and subject to a second round of chemical processing and filtering at the Waste Water Treatment Plant.
15. What are the discharge criteria?	As NSDF will be licensed as part of the overall Chalk River site licence, the criteria and procedures for discharge of water from the NSDF will be the same as for other existing and future facilities on the site.

Question	Answer
16. This timeline is rather aggressive. What are the contingencies to the transformation of the CRL site, if this timeline cannot be met?	The timelines of what we term the site revitalization activities and NSDF are strongly linked, in that NSDF has been identified as the disposal path for the majority of radioactive wastes that will be generated during site revitalization. Therefore, in the event that the NSDF timeline cannot be met, some site revitalization activities could be delayed or additional interim waste storage solutions would be needed. Environmental remediation activities where larger volumes of contaminated soils are intended to be removed would also be deferred.
17. The footprint of the mound is given as 16 hectares, whereas the footprint of the facility is somewhere between 30 and 34 hectares. Is the 18 meter height exclusive of the 2 meters each for the liner and the cover?	No. The 18 metre height includes the cover liner system and engineered cap.
18. What will be done with the support facilities (such as the WWTP) once the mound is closed? Where will the decommissioning wastes from these structures be managed?	Once the mound is closed, the support facilities will eventually be decommissioned. Decommissioning of these facilities will be subject to the same requirements as any other nuclear activities, including production of a preliminary decommissioning plan, as part of which waste management disposition routes will be identified.
19. Please provide a breakdown of the wastes according to their IAEA waste class, their radioactive inventory, their chemical inventory, their physical nature.	To facilitate management of the wastes at the NSDF, six different waste types have been defined, see the response to question #5 and #26. Regarding physical, radiological and chemical properties, limits for these are specified in the waste acceptance criteria.
20. Since the some of the wastes are generated off-site, what contingencies are included with respect to possible transportation accidents?	It is important to note that Atomic Energy of Canada Limited (and now, Canadian Nuclear Laboratories) has been transporting waste and other nuclear materials for decades. Emergency preparedness for this transportation has also been in place for decades. Regardless of whether the waste, or other nuclear materials, being transported is related to a specific project, all transportation is subject to the regulations of Transport Canada and under the oversight of Canada's nuclear regulator, the Canadian Nuclear Safety Commission.

Question	Answer
21. What are the potential environmental effects from the decommissioning and destruction of the buildings on the CRL site?	The net environmental effects from decommissioning legacy buildings will be positive as debris and materials will be properly characterized, assessed and placed into disposal or storage. The ongoing environmental monitoring program (groundwater/surface water/air) is also in place, and it will continue to provide regular monitoring to ensure that any environmental effects are addressed in a timely manner. If a measured risk to human health or the environment is identified, CNL will address these through prudent options assessments, remedial planning and execution of remedial activities
22. What are the proposed mitigation measures to address any adverse effects from the building decommissioning or destruction?	Potential issues/effects and their mitigation will be detailed in the remedial planning documents and addressed as they are encountered during execution. These potential effects and mitigation measures will be assessed and developed on a site-specific basis as remedial efforts are planned.
23. What are the potential environmental effects from the contaminated site restoration activities?	The goal of the environmental restoration activities is to improve any existing environmental effects, not to create additional effects. Every effort will be made during these remedial activities to mitigate any additional impacts to the surrounding environment through implementation of strict physical controls (i.e. dust, silt, contamination controls, etc.), real time monitoring (air monitoring, radiological monitoring, volatile organic compound/chemical monitoring, etc.), analyses of soils/groundwater, and strict adherence to safety and environmental requirements.
24. What are the proposed mitigation measures to address any adverse effects from these restoration activities?	Please see response to question #22.
25. What are the site clean-up criteria for these restoration activities?	Interim site clean-up criteria for restoration activities, which are protective of human health and the environment, are currently under development.
26. What methodology will be used to characterize the wastes?	The specific methodology for waste characterization will depend on the type of waste, as well as the degree to which documentation of the waste characteristics already exist. Waste characterization will be a key aspect of the site revitalization plans and will be

Question	Answer
	coordinated throughout CNL's facilities to ensure that consistent and efficient practices are followed. All waste characterization activities will be performed in accordance with applicable regulations and standards. The preliminary waste acceptance criteria (WAC) have been developed for the NSDF. These preliminary criteria will enable the creation of compliant packages that satisfy anticipated NSDF waste acceptance requirements pending issuance of the final NSDF waste acceptance criteria. These are conservative criteria to avoid creation of non-compliant packages and to provide a tool to advance Facilities Decommissioning and Environmental Remediation activities in the interim. Here is the basic process: Categorization - waste is divided into six categories that define the composition of waste by material type; bulk waste (Waste Types 1 through 4), packaged waste (Waste Type 5) and an "other" category (Waste Type 6) meant to identify wastes like "oversize debris" and other non-routine waste materials. The waste types are: • Type 1 Waste – Soil and soil-like wastes. • Type 2 Waste – Comingled radioactive waste, debris, refuse and soil and soil-like waste. • Type 3 Waste – Non-soil-like waste, includes materials that can be excavated and handled as bulk materials but do not have the physical characteristics of soil and soil-like materials. • Type 4 Waste – Refers to decommissioning and demolition waste. • Type 5 Waste – Packaged Waste • Type 6 Waste – Miscellaneous waste that does not fall within the definition of

Question	Answer
	waste Types 1 through 5. Once the waste type has been determined, the waste is further classed against WAC limits on radioactivity. This step puts waste into one of three disposal packaging classes: bulk, packaged and stabilized packages. Additional information can be found in the attached preliminary waste acceptance criteria.
27. Who is responsible for this characterization?	Waste characterization is the responsibility of the waste generator who prepares and submits a waste profile that is reviewed and approved by waste acceptance personnel.
28. Where will it be done?	Waste characterization will typically be done at the respective waste generating project site.
29. What methodology will be used to confirm the wastes meet the WAC?	Procedures are being developed for the approval of waste profiles that identify waste streams, provide the waste stream characterization data, and document acceptance for disposal at the NSDF.
30. Who is responsible for this confirmation?	Waste acceptance personnel will review and approve waste profiles, and a process will be developed where waste stream packages being considered for disposal are accepted on receipt at the NSDF.
31. Where will it be done?	Confirmation that packages are compliant with the waste profile will be performed at the NSDF upon arrival of each waste shipment before the waste is emplacement in the engineered containment mound.
32. What are the quality assurance and quality control requirements for these methods?	Waste characterization and confirmation that waste acceptance criteria are met will be subject to the same quality management system that applies throughout the Chalk River Laboratories site.
33. Where will the wastes go if they do not meet the WAC?	As part of the CNL Integrated Waste Strategy, capabilities for interim storage will be maintained at the Waste Management Areas until a final disposition path for all waste types becomes available. Waste that does not meet the NSDF waste acceptance criteria will be transferred to those facilities for storage. Only waste that meets the waste acceptance criteria will be emplaced in the NSDF.

Question	Answer
34. Please provide examples where containment mounds have been used to dispose of Low- Level and Intermediate-Level wastes.	Internationally, several near-surface low-level waste (LLW) disposal facilities are active at this time, and examples in the USA include facilities in Texas, Utah, Tennessee, South Carolina, Washington and Idaho. Wastes qualified for disposal in LLW facilities are defined as those that satisfy intrusion and public safety criteria for LLW as established by regulation. Historical classification of waste streams does not determine the disposal path; NSDF acceptance is based on the characterization-based classification of a particular waste stream against the NSDF waste acceptance criteria.
35. Please provide examples of where a mound facility has been located in the middle of wetlands.	The information you are looking for may be found in the information we provided to the Old Fort William Cottagers' Association (OFWCA). See attached information.

Appendix B.2 – Questions from D. Walker

Question	Answer
1. Please provide dimensions for the facility including height above ground. The facility is as "near surface" which implies near to the surface but is also said to be an engineered mound. Dimensions of height, depth and width would be helpful.	The Near Surface Disposal Facility (NSDF) consists of an engineered containment mound (in which the waste will be contained), a waste water treatment plant, support facilities (such as change rooms), and infrastructure (power lines, roads, etc.) The engineered containment mound will be 18 metres high and have an approximate total 'footprint' of 16.4 hectares. Of that, the surface area of the lined portion of the mound will be approximately eight hectares. The entire NSDF site, including the aforementioned components, will occupy an area of just over 33 hectares.
2. Please provide a pictorial illustration that reflects the design dimensions.	The design of the NSDF has recently been completed, so we look forward to sharing a level of detail that was not possible to do previously. We agree that a pictorial illustration that includes the design dimensions is a good idea and will take that into consideration as we develop new educational materials.
3. What type of facility is this? It is described in the draft EIS as a disposal facility. In what ways does it differ from the long term managed storage facility at Port Hope?	NSDF is designed to be a permanent solution and is, therefore, referred to as a disposal facility. As such, the facility has been designed to ensure that the wastes will be safely managed long-term without a need for retrieval. Although the intent is not to retrieve the waste, consistent with international practices, the design of NSDF does not preclude future generations from retrieving NSDF contents, should they so wish. Although the designs are similar, facility in Port Hope is referred to as a long-term storage facility. Similar to the NSDF, it will be up to future generations to choose whether or not to retrieve the wastes contained.
4. What extra protections does this facility offer beyond the Port Hope facility?	The NSDF would be licensed as a Class IB nuclear facility, which means that, compared to the Port Hope long-term waste management facility, NSDF is subject to more stringent regulatory requirements. Both facilities include a robust multi-barrier system, but compared to Port Hope, NSDF will be equipped with additional engineered barriers.
5. Will CNL publish the "waste acceptance criteria"? In public	Yes, please find attached the preliminary waste acceptance criteria document which

Question	Answer
presentations CNL assert the facility is "safe" and that any material placed in the facility must meet the criteria. It is implied that meeting the criteria means the facility will be safe. Thus, the criteria must be published showing what radionuclides may be present, in what concentration, and what other hazardous materials may also be present.	will also be posted to www.cnl.ca upon translation prior to the Canadian Nuclear Safety Commission's public hearing on the NSDF Project. The waste acceptance criteria for NSDF provides limits on a range of physical, radiological and chemical properties of the waste to protect workers, the public and the environment. These limits have been set to ensure safety during the operational phase, as well as long-term safety once the NSDF has been closed.
6. Will CNL put this application on hold until the detailed waste acceptance criteria information is released?	Yes, please find attached the preliminary waste acceptance criteria document which will also be posted to www.cnl.ca upon translation prior to the Canadian Nuclear Safety Commission's public hearing on the NSDF Project.
7. How will the waste be treated before it is brought to the facility to ensure it meets the waste acceptance criteria? Some waste will be in containers that will fail. Please identify that waste (radionuclides, hazardous etc.). Once the containers have failed, how will the waste released be prevented from impacting future generations?	The NSDF has been designed to facilitate disposal of a wide range of waste streams without requiring treatment, so wastes that meet the waste acceptance criteria without prior treatment will not be treated before emplacement in the NSDF. Some wastes will, however, require treatment in order to meet the waste acceptance criteria. For instance treatment could include the removal of liquids in liquid-containing waste streams prior to placement into the NSDF.
8. How will alpha contaminated buildings be identified?	As part of CNL's plans for decommissioning and site restoration, a comprehensive waste characterization program is being developed. The program will ensure that a robust process is in place to accommodate the wide range of waste streams that will be generated during the revitalization activities at Chalk River and other CNL sites. Known hazards, such as alpha contaminated buildings, will be an important input to the waste characterization process.
9. Will all buildings that have alpha contamination be excluded from the facility?	Waste streams that meet the waste acceptance criteria can be emplaced in the NSDF, regardless of origin. In practice, this may mean that parts of certain buildings are not suitable for disposal in NSDF.
10. The EIS states that only one alternative location was considered. Were there no other suitable locations on the 38 sq km site?	CNL Site Planning and Property Management (SPPM) utilize an accepted site-wide process for facility site selection. Therefore, the methodology used to establish potential Very Low Level Waste (VLLW) disposal facility locations was the same as was used to determine potential locations for the NSDF. In every case, attribute and exclusion criteria are developed to determine a potential site in the prescribed

Question	Answer
	approach. In 2012, the VLLW disposal facility site selection criteria were prepared by an external contractor, and from these, the VLLW disposal facility attribute and exclusion criteria were established. In February 2013, SPPM utilized the CRL Geographic Information System (GIS) to apply the VLLW attribute and exclusion criteria to the entire CRL site (3700 ha). Twelve potential locations were identified as viable for the VLLW disposal facility. In this calculation, the slope requirement at each location was 10% or less even though the slope could be up to 25%. With a relaxation in the slope requirement to above 10%, but still well below 25%, the GIS application was processed again and two more suitable sites were identified. A total of 14 sites were available for consideration at that time. These sites represented 247 ha. The VLLW Project Team completed a walkdown of the 14 sites in March 2013 and the acceptability of the locations was scrutinized even further. As a result, the number of potential sites was reduced from 14 to five. These represented an area of 103 ha. In April 2013, the five sites were examined by the VLLW Project Team, as well as internal stakeholders, against the criteria and a series of qualitative assessment criteria. The results of the evaluation indicated that two sites were potential candidates for the VLLW disposal facility location (upon further geotechnical review at a later date). The NSDF siting process began in the fall of 2015 and the results of the VLLW disposal facility site selection process were revisited. The VLLW disposal facility and NSDF attribute criteria are fundamentally the same except for the facility footprint size. The VLLW disposal facility footprint was considerably smaller than the NSDF (8 ha for the VLLW disposal facility location versus 14 ha for the NSDF location – which has since expanded to 30 ha).

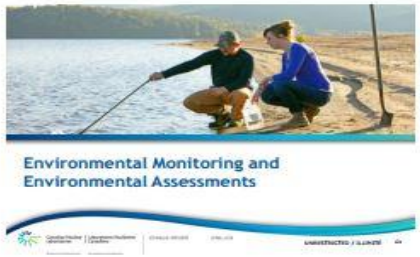
Question	Answer
	The exclusion criteria for the VLLW disposal facility and NSDF are the same, except in the geotechnical category: • The requirement of overburden thickness (minimum of 6 ha in a continuous land area) was removed as an NSDF requirement and • The locations which are susceptible to liquefaction potential and do not include active fault lines were added. SPPM once again utilized the GIS application with the NSDF attribute and exclusion criteria to the entire CRL site. For the NSDF GIS application, the slope evaluation was relaxed to include right up to 25%. If new locations were discovered as a result the slope relaxation, these would be considered as well. It was determined that one of the two potential VLLW disposal facility sites was acceptable for NSDF review (the Alternate site or 11 A from the VLLW review), and a new location, the East Mattawa Road site, was also a credible location (upon further geotechnical review). Sites beyond Chalk River were also considered in the alternative means assessment of the EIS, see response to question #11.
11. If the only location on-site is on a swamp draining into a lake and is within 1 km of the Ottawa River, were other sites explored in Ontario or in the rest of Canada?	The majority of the waste destined for the proposed Near Surface Disposal Facility is already located at Chalk River Laboratories. While Atomic Energy of Canada Limited does have waste located at other sites in Ontario and across Canada, locating the NSDF elsewhere in the province or country would require significant increases in the transportation of nuclear waste. Moreover, Chalk River Laboratories has existing security and environmental protection programs in place, which protect the environment and public. The benefits with choosing Chalk River Laboratories as the preferred site for the NSDF was confirmed as part of the alternative means assessment in the Environmental Impact Statement. That assessment included consideration of other locations both in Ontario (the Nuclear Power Demonstration site) and in Manitoba (Whiteshell) and

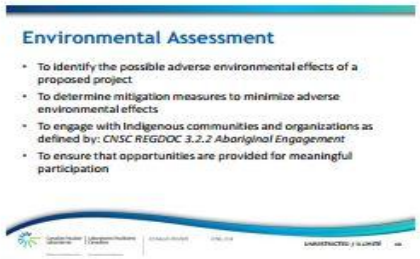
Question	Answer
	concluded that both alternatives are less favourable than Chalk River Laboratories.
12. This preferred site has radioactive plumes in the near vicinity. How will the facility combine with these plumes?	The plumes are expected to be part of the site-wide soil remediation. Some of the plumes, based on their category, will be destined for disposal in the NSDF provided they meet the waste acceptance criteria.
13. How will this short-lived (500 years) facility ensure the biosphere is protected in the future?	The engineered containment mound of the NSDF will feature a double, composite base liner system and a cover system, both of which are comprised of multiple engineered barriers that work together as a system to contain the waste and isolate it from the environment. Both natural and synthetic (man-made) materials will be employed in the construction of the base liner and cover systems. The vast majority of the radionuclides that will be accepted for disposal in NSDF will be relatively short lived, so after 500 years, the overall radioactive inventory in the mound will have decayed substantially compared to when they were emplaced. The Environmental Assessment process will demonstrate that long-term safety can be achieved for both humans and non-human biota.
14. Since the proposal can include long-lived (thousands of years) radionuclides, how will future generations be protected?	. While the practice to date of storing radioactive waste on-site in individual facilities is safe, consistent with international best practices, it is not viewed as a viable permanent solution. For this reason, the NSDF Project is rooted in the requirements established by Atomic Energy of Canada Limited, on behalf of the Government of Canada, to substantially reduce the risks associated with the CNL legacy wastes, liabilities, and to create the conditions for the revitalization of the CRL property.
15. The EIS states this is a disposal facility. It is surprising therefore that in siting it CNL is using "Decide, Announce, Defend" as the planning method. This has not been used in Canada for many years for such a facility. Instead, using the OECD's preferred approach, Canada has used the "willing host community" model. Why has CNL reverted to the old model? Has the government of Canada agreed to the use of the Decide, Announce, Defend model?	There has not been a regulatory decision on whether the NSDF Project will go forward. The NSDF Project is currently in its Environmental Assessment process, governed by the Canadian federal legislation, the Canadian Environmental Assessment Act (CEAA). As per the CEAA, public and Indigenous input is being sought before any decision has been made. The decision on the NSDF will be made by Canada's nuclear regulator, the Canadian Nuclear Safety Commission, and a public hearing is part of that decision-making process.

Question	Answer
	The NSDF as a waste disposal solution was included as a part of the contract with the Crown Corporation, Atomic Energy of Canada Limited to operate Canadian Nuclear Laboratories.
16. Having decided to forgo the willing host model, CNL is also using short timelines. CNL is hoping to secure a construction licence from the CNSC by January 2018. Why is CNL pushing for such a short timeline?	Canadian Nuclear Laboratories has established target dates leading to completion of the project. Canadian Nuclear Laboratories is proceeding according to a schedule establisher per the requirements of the Canadian Environmental Assessment Act (CEAA) and the regulatory requirements set by the Canadian Nuclear Safety Commission. Canadian Nuclear Laboratories first began engaging with the public and Indigenous groups on the subject of the proposed Near Surface Disposal Facility in October 2015. Since then, regular updates on design developments and the information about the regulatory and Environmental Assessment process have been shared with the public and Indigenous groups. You can reference the protocol at http://www.ceaa.gc.ca/050/documents/p80122/116946E.pdf for scheduling updates.
17. Are there financial or commercial considerations, such as bonuses, that would result from meeting this timeline?	Every single employee of CNL receives remuneration that takes into consideration individual performance and employees are compensated accordingly. This could be reflected in performing work on schedule, however health, safety, security, environmental protection and regulatory requirements are not compromised for the sake of schedule.
18. The facility has not yet been approved. Will CNL commit that no waste will be transported from Whiteshell, Manitoba to the Chalk River site until such approval is granted?	Whether the waste is located at Whiteshell Laboratories in Manitoba or Chalk River Laboratories in Ontario, all radioactive waste on any Canadian Nuclear Laboratories' site is the property of the Government of Canada through the crown corporation,

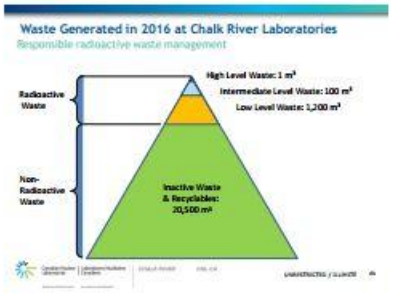
Question	Answer
19. If waste is brought to the Chalk River site, but the project is not approved, will the waste be returned to Manitoba, or will the residents of Ontario have to store it?	Atomic Energy of Canada Limited. Atomic Energy of Canada Limited in the past (and now Canadian Nuclear Laboratories) has been transporting waste and other nuclear materials between Whiteshell Laboratories and Chalk River Laboratories for decades and will continue to do so. Whiteshell is a licensed site undergoing closure, therefore any wastes received would not be returned. Transportation of nuclear materials is stringently regulated by the Canadian Transportation Agency with oversight by Canada's nuclear regulator, the Canadian Nuclear Safety Commission.

Appendix B.3 – Letter to the OFWCA

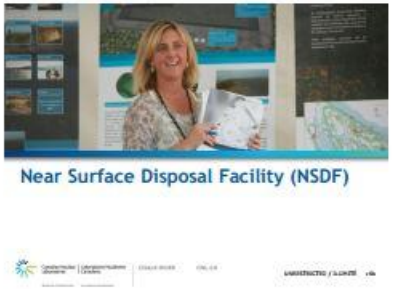




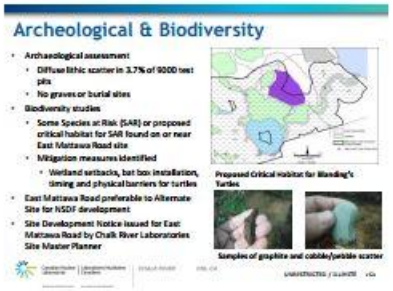

Radioactive Waste
From the Canadian Nuclear Association (www.cna.ca)


Waste Generated in 2016 at Chalk River Laboratories
Responsible radioactive waste management
Radioactive Waste
Non-Radioactive Waste
High Level Waste: 1 m³
Intermediate Level Waste: 100 m³
Low Level Waste: 1,200 m³
Inactive Waste & Recyclables: 20,500 m³


Chalk River Laboratories
Waste Management Areas

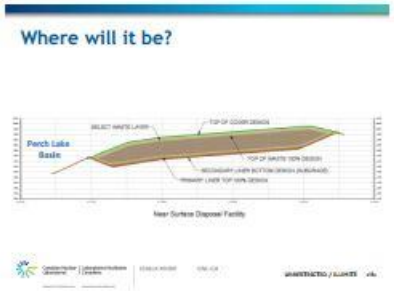

Near Surface Disposal Facility (NSDF)


What is the NSDF for?
Site revitalization
Safe disposal of potentially contaminated materials:
demolition waste for more than 100 buildings/ structures at Chalk River Laboratories
contaminated soils
suitable on site stored waste from over 65 years of operations
suitable waste from future operations
waste from other AECL liabilities; Whiteshell and Douglas Point and Gentilly-1 prototype reactors
waste from ongoing commitments to health care institutions and universities
Reducing risks to workers, the public and the environment

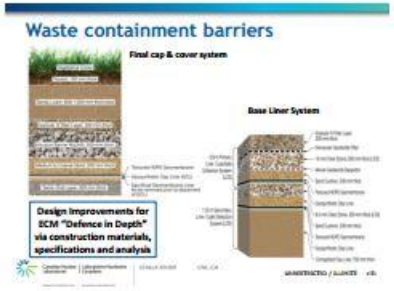

Archeological & Biodiversity
Archaeological assessment
Diffuse lithic scatter in 3.7% of 9000 test pits
No graves or burial sites
Biodiversity studies
Some Species at Risk (SAR) or proposed critical habitat for SAR found on or near East Mattawa Road site
Mitigation measures identified
Wetland setbacks, bat box installation, timing and physical barriers for turtles
East Mattawa Road preferable to Alternate Site for NSDF development
Site Development Notice issued for East Mattawa Road by Chalk River Laboratories Site Master Planner
Proposed Critical Habitat for Blanding's Turtles
Samples of graphite and cobble/pebble scatter

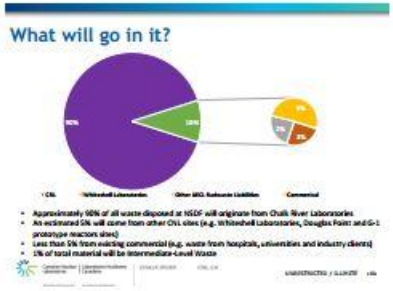

What exactly is the NSDF?
Engineered Containment Mound (ECM)
Waste Water Treatment Plant (WWTP)
Support Facilities
NSDF Site Infrastructure
1,000,000 Cubic Metres


Where will it be?
PERCH LAKE


Where will it be?
Perch Lake Basin
Near Surface Disposal Facility

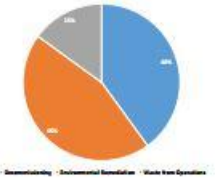

Artist's rendering


Waste containment barriers
Final cap & cover system
Base Liner System
Design Improvements for ECM "Defence in Depth" via construction materials, specifications and analysis


What will go in it?
90%
10%
5%
3%
2%
CRL
Whiteshell Laboratories
Other AECL Radioactive Liabilities
Commercial
Approximately 90% of all waste disposed at NSDF will originate from Chalk River Laboratories
An estimated 5% will come from other CRL sites (e.g. Whiteshell Laboratories, Douglas Point and G-1 prototype reactors sites)
Less than 5% from existing commercial (e.g. waste from hospitals, universities and industry clients)
1% of total material will be Intermediate-Level Waste

What is the 90%?

- Building decommissioning and demolition debris (40%)
- Soils and related materials resulting from remediation (45%)
- Legacy waste from 65 years of operation, stored on site, and waste from future research and operations activities (15%)



Waste Acceptance Criteria

Waste Acceptance Criteria were defined to ensure that accepted waste streams meet the following requirements:

- Design Specifications
- Performance Assessment Safety Objectives; and
- Proven technology exists for near-surface disposal and is appropriate.

Waste Acceptance Criteria is submitted to the Canadian Nuclear Safety Commission meet the requirements of the Nuclear Safety and Control Act.

Waste Acceptance Criteria specify limits and/or requirements on:

- Physical properties
- Radioactivity
- Prohibited materials
- Liquids
- Packaging
- Hazardous substances and contaminants.

Waste Limits and Requirements

Prior to waste acceptance at Near Surface Disposal Facility:

- Waste must be characterized for radiological and chemical constituents and physical properties sufficient to demonstrate that the waste meets the Waste Acceptance Criteria
- Characterization methods and analytical requirements must be documented and approved by the Waste Management Program
- The waste generator must demonstrate sufficient knowledge of waste history
- NSDF Operations certifies suitability of the waste

Waste streams containing mixed waste are subject to requirements specified in the Ontario Environmental Protection Act, Regulation 347, General Waste Management.

Prohibited Wastes

Waste Acceptance Criteria specifies wastes that are not acceptable for disposal in the NSDF.

Examples of prohibited wastes:

- Pyrophoric
- Shock sensitive or explosives
- Strong oxidizing agents
- Ozone Depleting Substances
- Chelating agents
- Corrosive Materials
- Majority of intermediate-level waste
- High-level waste

Disposal Material Examples


Demolition debris


Soil clean up


Lab materials


Demolition debris


Soil remediation


Personal protective equipment

Will it be safe?

- The NSDF will be built to protect people and the environment
- The mound will fully contain the waste, preventing release of contaminants to the environment
- Waste water treatment effluent is monitored
- Designed and assessed to be safe in extreme natural events (i.e., flood, earthquake, tornado, climate change, etc.) and human intrusion
- Present day monitoring and additional integrated environmental monitoring from construction to long-term institutional control
- Canadian Nuclear Safety Commission (CNSC) regulatory approval and continuing regulatory oversight
- Subject to other federal and provincial regulations
- Subject to centuries of institutional controls

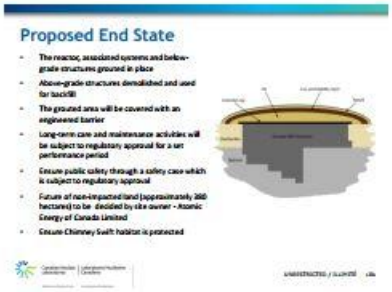

What is the timeline?
* Dialogue with stakeholders first initiated in 2015
* March 17 to August 16, 2017 – Draft Environmental Impact Statement (EIS) available to public for review and comment
* June 2018 – anticipated timing for Commission's EA public hearing
2018
Construction begins
2020
Facility operation begins
2070
Facility operation ends
Monitoring and surveillance period begins
2100
2200
2300
300-year institutional control period begins


NPD Closure Project


NPD site
Chalk River Laboratories site
Algonquin Provincial Park
Pembroke
Renfrew


NPD Site
NPD


NPD Layout


Proposed End State
The reactor, associated systems and below-grade structures grouted in place
Above-grade structures demolished and used for backfill
The grouted area will be covered with an engineered barrier
Long-term care and maintenance activities will be subject to regulatory approval for a set performance period
Ensure public safety through a safety case which is subject to regulatory approval
Future of non-impacted land (approximately 360 hectares) to be decided by site owner - Atomic Energy of Canada Limited
Ensure Chimney Swift habitat is protected

NPD Target Timeline

Activity	2016	2017	2018	2019	2020
Decommissioning Planning					
EA and Licensing					
Decommissioning Execution					

Fall 2017: French and English EIS submitted to the CNSC for public review

May 2020 – TBD: NPD site closure followed by institutional control, which is subject to regulatory approval. Environmental monitoring will continue under institution control.

How can I stay up to date?

www.cnl.ca/NSDF
www.cnl.ca/NPD
@CanadianNuclearLaboratories
@CNL_LNC
communications@cnl.ca

How do I get involved?

Share your thoughts on the NSDF draft Environmental Impact Statement by contacting the Canadian Nuclear Safety Commission at cnsc.ea-ee.ccsn@canada.ca

- Deadline – August 16 2017

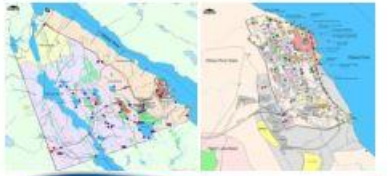
For more information on how to participate visit www.cnl.ca/nsdf-ea

Questions?

Supplementary Information

Supplementary Environmental Monitoring and Environmental Assessments

Effluent and Environmental Monitoring Program



Supplementary NPD Closure Project

Why In-situ Decommissioning?

In-situ decommissioning offers the safest approach:

- Reduces worker risk, radiological risk, and industrial accident risk
- Reduces the risk of public / environment exposure during transportation
- Eliminates multiple handling of waste packages
- Effective reduction of the liability (e.g. eliminates interim waste storage at Chalk River Laboratories)

Alternative means considered:

- Removal of some or all source term for shipment to Chalk River for storage and in-situ decommissioning (ISD)

Conclusion to be supported through the Environmental Impact Statement

Current NPD Site Monitoring

Ambient radiation monitoring stations near NPD

- Dose rates onsite are comparable with offsite background dose rates

Surface water samples from the Ottawa River

- No distinction between upstream and downstream measurements
- <1/30,000 of the regulatory limit

Soil and vegetation samples around the NPD site

- Vegetation at the base of the stack <1/100 of the regulatory limits
- Everywhere else at natural background levels and <1/1,000 of the regulatory limits

Supplementary Transportation

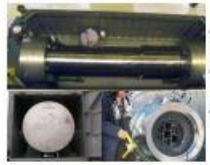
Transportation of Radioactive material in Canada

- ~1,000,000 radioactive shipments per year
- In 60 years – no transportation incident resulting in significant radiological impact to people or the environment
- AECL/CNL has never had a transportation accident resulting in a radioactive release

Repatriation of Highly Enriched Uranium

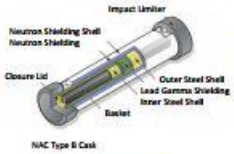
- Addressing historic liabilities.
- Used fuel - NRX and NRU research reactor fuel
- Target Residue Material - production of medical isotopes
- Pool Test Reactor fuel
- SLOWPOKE Reactor fuel

Safe Transportation



- Regulated by both the CNSC and the US NRC
- Decades long practice, worldwide experience
- Track record of safety

Transportation Container



- Drop test
- Drop puncture test
- Dynamic crush test
- Thermal test
- Water immersion test
- 24 Tonnes, 6 metres long

Off-Site Emergency Preparedness

- CNSC approved transportation security plans
- All shipments are escorted
- Weather assessments are performed
- Support community first responders
- CNL Response Team
- Shared experience within the industry
- Learn from deployments

Some Resources

CNL – www.CNL.ca - Repatriation

Canadian Nuclear Safety Commission - CNSC - Packaging and transport of nuclear substances - http://nuclearsafety.gc.ca/eng/nuclear-substances/packaging-and-transport-of-nuclear-substances/index.cfm

International Atomic Energy Agency - IAEA - Testing of Radioactive Material Packages - https://www.youtube.com/watch?v=Qirr11pqRZY

Appendix C – Feedback Form

Canadian Nuclear Laboratories

Nuclear Power Demonstration Closure Project (NPD) and Near Surface Disposal Facility (NSDF)

Name: [redacted]
City: [redacted]
Province:
Postal Code:

Street Address:
Phone:
Email: [redacted]

Please write any questions or comments you may have on the **NPD Closure Project**.

I have ongoing concerns about the proximity to the Ottawa River for the disposal site.

Please write any questions or comments you may have on the **Near Surface Disposal Facility.**

I question the terminology of "NEAR SURFACE" when it will be 60 feet high.
I have already spoken to one other County official who was under the impression that this was all underground but "NEAR SURFACE"
I get nervous with misleading terms. Especially with nuclear waste.

Would you like to receive a response from a team member about your questions, concerns or issues?

(YES) NO

Would you like to be added to the mailing list for information on future public open houses?

(YES) NO

If you have any future questions or comments about either project, please contact:

CNL Corporate Communications
ATTN: Environmental Assessments
286 Plant Road
Chalk River, ON
K0J 1J0
communications@cnl.ca *or*
www.cnl.ca/feedback

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

Appendix D – Facebook Posts

	Date	Facebook Post	Reach	Comments, Shares, Reactions
1.	1/19/17	Our Technical Discussion is underway, speaking this morning about the NPD Closure Project. We will be live this afternoon starting at approximately 12:45 to hear about the NSDF project, tune in to find out more or learn more about NPD project here: http://www.cnl.ca/en/home/environmental-stewardship/npd-closure-project/default.aspx	564	4
2.	1/19/17	Jim Buckley speaking about NSDF	1400	15
3.	3/17/17	Canadian Nuclear Laboratories has submitted the draft Environmental Impact Statement for the Near Surface Disposal Facility to the Canadian Nuclear Safety Commission (CNSC). The document is available for public comment until May 17. For more information on the Project and how you can participate in the Environmental Assessment process: http://ow.ly/qWCK30a0LFa L'ébauche d'étude d'impact environnemental (EIE) pour le projet d'installation de gestion des déchets près de la surface soumise par les Laboratoires Nucléaires Canadiens, est maintenant accessible au public. Les commentaires du public doivent être envoyés avant le 17 mai 2017. Pour plus de renseignements sur le projet ou sur le processus lié à l'évaluation environnementale, veuillez visiter: http://ow.ly/qWCK30a0LFa	1253	38

	Date	Facebook Post	Reach	Comments, Shares, Reactions
4.	4/6/17	Join us at an upcoming Public Information Session for more information on our NSDF and NPD Closure Projects. www.cnl.ca	647	13
5.	4/6/17	Participez à une des séances d'information publiques pour vous renseigner sur nos projets. www.cnl.ca/fr	414	2
6.	4/11/17	A safe solution supporting CNL's site revitalization for #Canadian #science & #technology www.cnl.ca	1046	17
7.	4/17/17	Check out our NSDF infographic – the project at a glance. http://ow.ly/8Z9R30aVenx To learn more about the NSDF and NPD projects please join us at one of the upcoming Public Information Sessions: http://ow.ly/srKy30aVerj	4,902*	72
8.	4/19/17 1	We are in Town of Deep River, Ontario tomorrow evening at 6:00 p.m. to kick off our spring Public Info Sessions on the NSDF Project and NPD Closure Project http://ow.ly/wNLb30aZtMG Members of both project teams will be there to share information and answer questions. Hope to see you there!	415	3

	Date	Facebook Post	Reach	Comments, Shares, Reactions
9.	4/24/17	Join us tonight! Stonecliffe, Ontario Public Info Session on Near Surface Disposal Facility & NPD Closure Project ow.ly/wNLb30aZtMG	716	5
10.	4/25/17	Looking for updated information on CNL's Near Surface Disposal Facility or the NPD Closure Project? Have a few questions you'd like to ask our project teams? CNL is back at Chalk River & Area Lion's Club tonight between 7:00 p.m. and 9:00 p.m. Hope to see you there! ow.ly/wNLb30aZtMG	1,043	6
11.	4/25/17	Une séance d'information publique: aura lieu à Sheenboro dans seulement une semaine http://ow.ly/1NIJ30b9YNM	471	1
12.	4/25/17	Public Information Session: One week until we are in Sheenboro again ow.ly/wNLb30aZtMG	647	5
13.	4/25/17	At the Lions Club in Chalk River, Ontario until 9:00 p.m. Stop by for a coffee and more info on the Near Surface Disposal Facility and the NPD Closure Project!	814	10
14.	4/26/17	At the town hall in Rapides des Joachims for at our public information session on NSDF and NPD Closure Project. Bring your questions!	747	7

	Date	Facebook Post	Reach	Comments, Shares, Reactions
15.	4/26/17	A l'hôtel de ville de Rapides-des-Joachims 6-8 ce soir!	177	1
16.	5/1/17	Why does CNL want to build a Near Surface Disposal Facility? Learn more about the #NSDF and #NPD Closure Project at our Public Information Session in the Town of Petawawa at the #CivicCentre. Both project teams and representatives from our Environmental Protection branch will be there from 6:00 p.m. until 8:00 p.m. Stop by for cookies and conversation! http://ow.ly/Eumm30bkwSE	731	11
17.	5/2/17	Projet de fermeture du réacteur nucléaire de demonstration: De quoi s'agit-il? Ce soir, venez rencontrer nos équipes de projet pour L`IGDPS et NPD à Sheenboro de 18h à 20h http://ow.ly/MUCv30bmSJR	488	3
18.	5/3/17	#DYK CNL is a leader in environmental protection with >25,000 analyses performed each year? We bring that expertise to our plans to decommission #NPD and dispose of waste with #NSDF in a safe and responsible manner. Learn more in The City of Pembroke at the Best Western Pembroke Inn & Conference Centre 6:00 p.m. to 8:00 p.m. tonight ow.ly/K8Kv30bmpz7	1,189	21
19.	5/3/17	Come meet our project teams for the Near Surface Disposal Facility and the NPD Closure Project. We're at the Best Western Pembroke Inn & Conference Centre until 8:00 p.m.	883	14

	Date	Facebook Post	Reach	Comments, Shares, Reactions
20.	5/9/17	What is the NSDF? Find out more at our Public Information Session tonight in Arnprior. Drop by the Community Hall at the Nick Smith Centre before 8:00 p.m. for coffee and conversation with our project team members!	928	14
21.	5/10/17	Thanks Megan, for sharing your informed perspective and the facts about our Near Surface Disposal Facility Project. We appreciate everyone's views and please reach out if you have any questions :)	1,294	28
22.	5/24/17	#ICYMI fact #1 about the NSDF #ICYMI fait n ° 1 sur le IGDPS	1,005	24
23.	5/30/17	Near Surface Disposal Facility: What? www.cnl.ca/NSDF Installation de gestion des déchets près de la surface: Qu'est-ce? www.cnl.ca/fr/NSDF	489	9
24.	6/1/17	Near Surface Disposal Facility: Timeline www.cnl.ca/NSDF Installation de gestion des déchets près de la surface: Chronologie www.cnl.ca/fr/NSDF	585	10
25.	6/2/17	What will the Near Surface Disposal Facility look like? www.cnl.ca/NSDF À quoi l'installation d'élimination près de la surface ressemblera-t-elle? www.cnl.ca/fr/NSDF	689	15

	Date	Facebook Post	Reach	Comments, Shares, Reactions
26.	6/5/17	Near Surface Disposal Facility: What will go in it? www.cnl.ca/NSDF Installation de gestion des déchets près de la surface: Qu'y mettra-t-on? www.cnl.ca/fr/NSDF	577	5
27.	6/12/17	www.cnl.ca/nsdf	438	8
28.	6/16/17	La version française de l'ébauche d'étude d'impact environnemental (EIE) pour le projet d'installation de gestion des déchets près de la surface est maintenant accessible au public: http://ow.ly/sR6p30cEM4a	395	5
29.	7/11/17	Bienvenue aux laboratoires de Chalk River MRC Pontiac Welcome to Chalk River Laboratories!	1,133	17
30.	7/14/17	We're visiting Fort William in MRC Pontiac at 9:30 a.m. tomorrow to discuss Environmental Assessments for two proposed projects to take care of some of our waste; all are welcome to come out The Daily Observer Welcome To The Fort	508	6
31.	7/15/17	Thank you to the Old Fort William Cottagers' Association for inviting us to share information on our NSDF Project and NPD Closure Project with the community. For more information on both projects: www.cnl.ca We welcome your questions	925	18

	Date	Facebook Post	Reach	Comments, Shares, Reactions
32.	7/31/17	Public Information Session Join us this Thursday to find out more about our Near Surface Disposal Facility Project and our NPD Closure Project and speak with experts from our project teams. Thursday, August 3, 6:00 p.m. to 8:00 p.m. Harrington Community Hall L'Isle-aux-Allumettes, Quebec *Presentation will begin at 6:45 p.m.* www.cnl.ca/NSDF www.cnl.ca/NPD	8,388**	129
		Total	34,538	536

Appendix E - Twitter

	Date	Tweet text	Impressions	Engagements
1.	2017/01/19	Join our live feed from the Technical Discussion on the NSDF and NPD projects. Underway in a few minutes on our facebook page!	311	1
2.	2017/01/30	Thanks to the @UOVCC for having us share our path forward. For more on what's happening at our laboratories: https://t.co/uJRfICBijm https://t.co/fFzmil7gjj	454	10
3.	2017/01/31	Today we met with @EOWC_ON @ROMA_Ont to show how CNL is transforming. The communities we call home share an important role in our successes.	687	22
4.	2017/03/17	NSDF draft Environmental Impact Statement submitted to @CNSC_CCSN Available for public comment until May 17: https://t.co/gG9eq7X2Ie https://t.co/F7pNFY7f2K	423	21
5.	2017/04/06	Join us at an upcoming Public Information Session for more information on our NSDF and NPD Closure Projects. https://t.co/3pHxKpe5wq https://t.co/jXTjN4ZIZt	321	33
6.	2017/04/06	Participez a une des seances d'information publiques pour vous renseigner sur nos projets. https://t.co/7u0Cw0Hltl https://t.co/t8Gne2AYEL	266	28
7.	2017/04/10	Thanks @OttawaMorning for having us on to discuss proposed Near Surface Disposal Facility. More questions? Join us: https://t.co/IBmgsEgjQ5 https://t.co/8AlVqLlxE1	924	76
8.	2017/04/11	A safe solution supporting CNL's site revitalization for #Canadian #science & #technology https://t.co/3pHxKpe5wq https://t.co/3P37D063J4	414	69

9.	2017/04/18	Near Surface Disposal Facility @ a glance https://t.co/WVuCvHMA5O Join us at an Public Information Sessions for more https://t.co/KuyWgBQ74y https://t.co/aXPH1AQDUe	335	39
10.	2017/04/19	We are in @TownofDeepRiver tomorrow to kick off our spring Public Info Sessions on the NSDF and NPD Closure Project https://t.co/HYm8vkFxYz https://t.co/53bvspPxjj	1003	56
11.	2017/04/24	Join us tonight! Stonecliffe, Ontario Public Info Session on Near Surface Disposal Facility & NPD Closure Project https://t.co/HYm8vkFxYz	221	6
12.	2017/04/25	Public Information Session: One week until we are in Sheenboro again https://t.co/HYm8vkFxYz https://t.co/bcXMK4mxx5	258	6
13.	2017/04/25	Une seance d'information publique: aura lieu Ã Sheenboro dans seulement une semaine https://t.co/2wZai4E4Nj https://t.co/OQN8eEuRVe	196	1
14.	2017/04/25	Have questions for our #NSDF or #NPD project teams? We're at the Chalk River Lion's Club 7-9 tonight. See you there! https://t.co/HYm8vkFxYz https://t.co/Vu0Hr60ot3	402	9
15.	2017/04/29	We are at Showcase in @TownofPetawawa! Stop by and say Hi! https://t.co/51qHUwY0oN	260	11
16.	2017/05/01	Why does CNL want to build a Near Surface Disposal Facility? Stop by tonight @TownofPetawawa to learn more https://t.co/0bboxiYShn https://t.co/R0t9dEvuZV	259	10
17.	2017/05/02	We are in Sheenboro until 8:00 p.m. to answer questions about the NPD and NSDF projects. Stop by to learn more! https://t.co/IhC3APx5Dl	394	9
18.	2017/05/02	Meet with our project teams for the NSDF and the NPD Closure Project tonight in Sheenboro 6:00 p.m. to 8:00 p.m. https://t.co/TH7vJJW1BJ https://t.co/fT1BYT62ZI	1096	17
19.	2017/05/02	Ce soir, venez rencontrer nos Ã©quipes de projet pour L`IGDPS et NPD Ã Sheenboro de 18h Ã 20h https://t.co/iirPxaptMj https://t.co/KZu6pkt8cb	394	11

20.	2017/05/03	#DYK we perform~25,000 analyses/yr? Bringing enviro expertise to NPD & NSDF. Tonight: @PembrokeEcDev @BestPembroke https://t.co/TH7vJJW1BJ https://t.co/vKHGJkjjd6	710	99
21.	2017/05/24	#ICYMI fact #1 about the NSDF #ICYMI fait n Â° 1 sur le IGDPS https://t.co/uEYPx9EWPD	244	7
22.	2017/05/30	Near Surface Disposal Facility: What? https://t.co/HlzlTwtKjS https://t.co/3Jsx80nn5Q	287	19
23.	2017/05/30	Installation de gestion des dÃ©chets prÃ¨s de la surface: Qu'est-ce? https://t.co/M6OC1mZnkf https://t.co/RChQQhBcAK	211	3
24.	2017/06/01	Near Surface Disposal Facility: Timeline https://t.co/HlzlTwtKjS https://t.co/7LkUkfia2t	319	15
25.	2017/06/01	Installation de gestion des dÃ©chets prÃ¨s de la surface: Chronologie https://t.co/M6OC1mZnkf https://t.co/VTzHTLFnJg	296	11
26.	2017/06/02	What will the Near Surface Disposal Facility look like? https://t.co/HlzlTwtKjS https://t.co/wOyQLKeL9n	402	13
27.	2017/06/02	A quoi l'installation d'Ã©limination prÃ¨s de la surface ressemblera-t-elle? https://t.co/M6OC1mZnkf https://t.co/vb3cYO0LLw	352	4
28.	2017/06/05	Near Surface Disposal Facility: What will go in it? https://t.co/HlzlTwtKjS https://t.co/CiBcRV0AxY	470	17
29.	2017/06/05	Installation de gestion des dÃ©chets prÃ¨s de la surface: Qu'y mettra-t-on? https://t.co/M6OC1mZnkf https://t.co/ulw6NZ6q0Y	400	11
30.	2017/06/12	cnl.ca/nsdf	391	17
31.	2017/06/16	La version franÃ§aise de l'Ã©bauche d'EIE pour le projet d'IGDPS est maintenant accessible au public: https://t.co/bD0Yv728VU https://t.co/Ktk1Cmntes	442	10
		Total	**13142**	**661**

Appendix F – Media Coverage

County of Renfrew
Ontario . Canada
Experience Our History, Share Our Future!

Council Communiqué

County Council Review **JANUARY 2017**

County Council Adopts 2017 Budget

At Wednesday's session of County Council, a by-law was adopted by Council to accept the estimates for the sums required during the Year 2017. As such the 2017 budget of $42,292,821 was approved by Council.

At the September 2016 session, County Council gave clear direction to the CAO and staff on how they would like the first draft of the budget prepared in order to minimize the financial impact on Renfrew County residents.

Last week, County of Renfrew Warden Jennifer Murphy and Councillor Walter Stack, Chair of the County's Finance & Administration Committee, led the annual County of Renfrew Budget Workshop. The pair commended Elected Officials and County staff on the delivery of the 2017 budget which contains a tax levy increase to existing ratepayers of 3%.

By holding to the 3% increase as laid out in the Long-term Financial Plan, the County of Renfrew will have the resources necessary to operate all of its programs and services as well as fund the $239 million asset renewal program over the next 10 year planning horizon. This will allow for the continued and necessary investment in vital infrastructure such as roads, bridges, and social housing.

Canadian Nuclear Laboratories Delivers an Update to County Council

Mr. Kurt Kehler, Vice President Decommissioning and Waste Management, Canadian Nuclear Laboratories, Chalk River provided a presentation on the Chalk River Laboratories Site Revitalization and major projects update. A significant part of the presentation dealt with the proposed Near Surface Disposal Facility for low and intermediate waste.

For more information, contact: 9 International Drive, Pembroke, Ontario
K8A 6W5, 613-735-7288 mbarber@countyofrenfrew.on.ca

COUNCIL INITIATIVES

County Council Adopted By-law 4-17 A By-Law of the Corporation of the County of Renfrew to Authorize the Borrowing upon Amortizing Debentures in the Principal Amount of $4,750,000.00 Towards the Cost of the Renfrew OPP Base.

County Council Adopted By-law 5-17 A By-law to adopt the estimates for the Sums Required during the Year 2017 for General, Capital and All Purposes of the County of Renfrew.

County Council Adopted By-Law 5-17 A By-law to Authorize the Warden and Clerk to Enter into a Service Agreement Renewal with Cowan Benefits Consulting for a Benefits Program.

County Council Adopted By-law 6-17 A By-law to Authorize the Warden and Clerk to Enter into a Service Agreement Renewal with Manulife Financial for the Provision of a Benefits Program.

County Council Adopted By-Law 7-17 A By-Law to Regulate the Operation of Off-Road Vehicles on County of Renfrew Roads.

County Council Adopted By-Law 8-17 A By-law To Enter into a Lease with the Renfrew County and District Health Unit at 7 International Drive, Pembroke, Ontario for a Period of Five Years Commencing March 1, 2017 and Expiring February 28, 2022.

County Council Adopted By-law 9-17 A Tariff of Fees By-law for Applications Made in Respect of Planning Matters.

County Council Adopted By-Law 10-17 A By-Law to Delegate to the Land Division Committee and to Appointed Officers Part of the Authority with Respect to the Granting of Consents.

County Council Adopted By-law 11-17 A By-Law to Enter into a Lease with Brenda Kincaide, Foot Care Service Provider.

County Council Adopted By-law 12-17 A By-Law to Authorize Entering into a Contract for the Provision of Psychological Consultation Services for Integration Services for the Year 2017.

2016: The Year in Review

A look back at some of the top stories of the past 12 months

January

Town plans moves to tame deficit

Deep River council may be drawing on a number of financial resources to pare down the municipality's deficit.

One of the grim highlights of the town's consolidated financial statements for 2014 was an operating deficit that now sits at just over $470,000.

In a report to council recently, Deep River's chief administrative officer, Ric McGee, outlined what can be taken to eradicate the financial shortfall.

United Way extends campaign

The Renfrew County United Way has announced that the 2015 Fundraising Campaign deadline has been extended to February 26, 2016.

The 2015 United Way Campaign was launched in Deep River on September 15 and to date, donations and pledges receivable, currently sit at approximately $365,000. The campaign goal is $405,000, leaving a shortfall of $40,000.

Town awards contract for CNL waterline

Deep River will be piggy-backing a major infrastructure project of its own along with the construction of a waterline to Canadian Nuclear Laboratories (CNL).

Town council has awarded the contract for the CNL waterline project, in combination with infrastructure upgrades to water and sewer lines on Deep River Road and Algonquin Street, to RGT Clouthier Construction.

Total cost of the contract is $9,488,461.46.

Future of airport at risk?

Is the Pembroke and Area Airport at a point of no return? Mayor John Reinwald has warned Laurentian Hills council that the airport could close unless all of the six owner municipalities supported a plan to fix the airport's infrastructure.

The work, however, comes with a price tag of more than $6 million spread over 10 years.

Syrian family selected for town

The Deep River Welcome Project is preparing to say "Marhaba" (Welcome) to a family of Syrian refugees.

The family chosen by the government's sponsorship process to come to Deep River is composed of four children - two girls and two boys ranging in age from three to nine - and their two parents.

Francois Trottier, minister of St. Barnabas Anglican Church and lead contact for the Welcome Deep River committee, informed committee members last Wednesday.

First troops arrive home from Ukraine

Soldiers from 2 Canadian Mechanized Brigade Group (2 CMBG) were welcomed home last week on their return from Operation (Op) UNIFIER, Canada's ongoing contribution to strengthening Ukrainian Armed Forces through training and capacity building.

It was that kind of start to the year, as mild temperatures showed no signs of freezing on the Ottawa River and sisters Cathy Jefferson and Janet Ungrin enjoyed a New Year's padde.

Last Tuesday, the first 75 of 200 soldiers scheduled to return by the end of January were received by family and friends at a ceremony held at 4th Canadian Division Support Base Petawawa.

The troops from 2 CMBG deployed on short notice in August of last year.

Snowmobile association opens new staging area

Deep River Mayor Joan Lougheed joined members of the North Renfrew Snowmobile Association Saturday for the "official opening" of the new snowmobile staging area off Highway 17 beside the Deep River Animal Hospital.

The town cleared and levelled the new parking and trailhead area in the fall after a presentation by the NRSA last spring requesting the town's assistance and noting the many tourism and economic development benefits snowmobiling brings to the area.

February

Town, hospital put new building on hold

Construction of the $3.44 million primary care building at the Deep River and District Hospital has been put on life support.

Following a special closed emergency meeting of town council last week, the municipality and the hospital's board of governors have both agreed to halt construction of the facility that would house the hospital's Family Health Team.

Recreation volunteers needed

The town of Laurentian Hills is hoping to resurrect a volunteer recreation committee so that activities and events can be organized and co-ordinated.

A meeting will be held on February 6, at the Chalk River Legion Hall, for anyone interested in helping out.

Councillor Dennis Hyde, chair of the town's community and social services committee, stressed that he was looking for volunteers from all parts of the town.

"This is not just for Chalk River - we want both ends of the town involved - and not just recreation for kids, but for adults too," he said.

Company adds Valley bus route

Travellers hoping to get to Ottawa or North Bay by bus now have another option.

Ontario Northland, a provincial agency operating train and bus service out of North Bay, began offering service from Sudbury to Ottawa three days per week as of last Thursday.

"This route will provide a growth opportunity for our business and provide connectivity for the communities we serve," stated Corina Moore, president and CEO of Ontario Northland.

Hospital names new CEO

The Deep River and District Hospital has announced the appointment of a new president and chief executive officer, Richard Bedard.

Bedard will formally begin his role on May 16, 2016.

In its announcement, the hospital said Bedard brings considerable experience to the region.

Most recently, Bedard held the role of chief operating officer and vice-president of corporate services at Alexandra Marine and General Hospital in Goderich, Ontario.

Helicopter squadron welcomes first pilots

Members of the 450 Tactical Helicopter Squadron at Garrison Petawawa formally recognized the first class of graduates to train and qualify on the CH-147F Chinook helicopter in Canada Monday.

A total of 10 aircrew - six pilots, two flight engineers and two loadmasters - successfully completed the 24-week course.

Deep River to hike marina fees?

Deep River's marina was awash in a river of red ink in 2015, and the town is pledging to take corrective action this year to reverse that financial tide.

That's likely to mean higher fees for slip rentals and boat launches, among other things.

A financial analysis conducted as part of the town's comprehensive review of the marina reveals a $37,951 shortfall at the waterfront facility in 2015.

DRSA suspends summer program

The Deep River Science Academy (DRSA) has announced that it will not operate the 2016 Summer Science Immersion program.

Elaborating on the board's decision, chair Carl Turner explained that operating the summer program under the current level of funding would lead to unacceptable compromises in the program's delivery.

"We value the quality experience that the current program provides our students and rather than compromise on quality, it would be better to temporarily suspend the program until such time it can be offered meeting the hallmark standard of excellence of the last 29 years."

CNL ready for the future

By Stephen Uhler, The Daily Observer
Sunday, January 29, 2017 10:19:16 EST AM

Mark Lesinski, the president and CEO of Canadian Nuclear Laboratories (CNL), right, speaks to the Upper Ottawa Valley Chamber of Commerce on Friday, as Chad Charbonneau, CNL's Director, Supply Chain, looks on. The two were the guest speakers at the chamber's annual general meeting, held at Anthony's Italian Grill.

Canadian Nuclear Laboratories' shakedown cruise hasn't been easy, but is making progress.

Mark Lesinski, the president and CEO of Canadian Nuclear Laboratories (CNL), said the last year has been a busy one, as the company i transformed from a research one to a more commercial entity, through changes in corporate culture and in updating its infrastructure. He said gone are the days of research for research sake, noting while there will always be that element, most of what they do will have more direct commercial applications.

"We want to take the burden of the lab off of the Canadian taxpayer, and pay for it ourselves," Lesinski told members of the Upper Ottawa Valley Chamber of Commerce Friday, explaining the company is privately run under the government-owned, contractor-

operated model, while the assets and liabilities are owned by the government. They were gathered in Anthony's Italian Grill for their annual general meeting.

The president said their priorities continue to be the legacy cleanup, rebuilding the infrastructure of the Chalk River complex and modernizing operations with new construction. To date, they have demolished 20 older buildings out of the 120 they intend to flatten, plus are working on getting the Near Surface Disposal Facility project approved, which will be used to get rid of the demolition waste and store on site.

He said they have been adding facilities as well, including the $113 million lab complex build in October.

"We'll do a lot of good research and materials research there," Lesinski said. He estimates it would take five years to complete the corporat transformation from the top down, but said they will get there.

The president said some of the future projects which they will be working on include helping extend the operational life of existing reactors continue work on hydrogen-based fuels, assist in the development of very small modular reactors – which would be used by isolated communities in the north as power sources – by being the host and testing site for the prototypes, and connect up their own bio-research labs with pharmaceutical companies to work on nuclear medicine development.

Answering a question from Jayne Brophy, Pembroke Mall manager, about future employment at CNL, Lesinski said he sees workforce leve remaining stable for the next few years while work is completed on the corporate reorganizing.

"The reality is we have a shift going on," he said, once the NRU reactor is shut down next year. Currently, between 400 and 500 people are assigned to the NRU, meaning work will have to be found for them, and others may have to be let go.

"That doesn't mean letting them all go," he said. Many would still be needed for the lengthy decommissioning process as the reactor and surrounding support structures are disassembled a piece at a time and disposed of, a process which will take years.

Lesinski said as they work on improving their corporate systems, it is inevitable there will be adjustments on the size of the workforce, as th company's priorities shift. But how much and how many jobs could be affected is something which no one can accurately predict. It really depends on the amount of work and projects they are doing at the time, the president said.

"I'm not sugar coating it," he said. "It's not going to remain at the 3,000 level, but it is not going to be 1,000 either, but somewhere in between."

Larry Schruder from the Delphi Group asked if there is a way to encourage CNL's contractors and suppliers to buy local.

Chad Charbonneau, CNL's Director, Supply Chain, said that is on their radar and is very important to them. He said part of these changes i the way CNL does things is how they will stir up the regional economy by including them in their procurement plans.

He said they will use a fair and open process whenever contracts of goods and services come up, giving plenty of advance notice so local businesses will have a chance to get ready to apply for them, plus provide information so they would know who to contact, both within CNL its partners and its contractors.

Charbonneau said a portal on the CNL website will become active March 31, allowing interested businesses to check what is coming up ir terms of business opportunities.

"This would be a chance to stand up and get noticed," he said.

SUhler@postmedia.com

This Week's Flyers

EDITORIAL

North Renfrew Times

Published by the
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NRT Editorial Board:
A. Cahoon (AC), M. Coy (MC), K. McDonald (KMD),
T. Myers (TM), D. Tennant (DT), B. Wilkin (BW) - chair

A Slow Day in Peoria

Green apples are first and foremost sour. Not to be confused with the sourness of sour grapes or the sweet aroma of apple seeds with their burden of arsenic. Arsenic was ingested by Nero to give himself a ruddy complexion. He built up a tolerance to arsenic over time and thus frustrated the efforts of those trying to poison him because they disagreed with his policies. The colour of green apples is iconic in its use in interior decorating and in adverts on television. A green tree frog has a slightly lighter shade of green but with a luminescent skin. The luminescent colour is also used in TV commercials for network and telephony services. The sponsors seem to like the colour. It must work for them in differentiating their products from the other guy's.

A tree frog was found a couple of years ago in a local swimming pool inside the skimmer. It was then discovered that the little fellow was entertaining a lady frog friend in the seclusion of the skimmer and in the comforts of the summer water temperatures. I admit there is more to the biologic attraction of the tree frog for its mate than a shiny luminescent green coat but it shows what you can get if you advertise. Smart frog.

Green apples rounded out the education for those brought up on one basket per year of Kiwanis MacIntosh apples that arrived in February or March. The Kiwanis apples were red and sweet and that led to a horticultural lesson for the kids in that red apples were ripe and green apples were not. Imagine the consternation of those poor children when in later life they would discover that green apples were also ripe at their maturity but they were not necessarily sweet. Some possibly even required counselling.

The apple as an object was recently involved in civil disobedience at a university where student activists were protesting an increase in library fees. The meeting discussing the increase in fees was held in the library as you might expect. But further, the administration used the rule of silence in the library as a projected means of removing the protesters if they were bold enough to voice their disapproval during the meeting. The protesters were slightly more astute in their planning. Since the library allowed students to bring a bag lunch into the library to encourage Spartan study habits, the protesters all brought a lunch bag containing apples. They proceeded to munch the crisp, crunchy, aromatic fruit with much gusto, all 200 students. A staccato of mandibles cracking into the flesh of the apples created a subtle undercurrent of agitation that played on the nerves of the library officials to the point that they had to suspend the meeting.

KMD

Flocks of Bohemian waxwings are in town searching for their main winter food source: frozen fruit or berries. Bohemians (the name refers to the nomadic movements of these birds) add a flash of colour to grey February days. Photo: Tony McLaughlin

Letter to the Editor

Sustainable host communities

On behalf of several AECL retirees, I wish to express our appreciation for the opportunity to present our concerns with respect to "host community compensation" at the January 25 Deep River town council meeting.

I am pleased that the two reports of that council meeting, that appeared in the NRT, February 1, addressed all three presentations about the future of the Chalk River site, including ours.

At the end of our presentation on "host community compensation", Reeve Glenn Doncaster raised an issue that appears to be missing in all discussions regarding the locating of radioactive waste disposal sites.

That issue is the un-stated assumption that the communities in the vicinity of these disposal sites will be sustainable in the long-term.

Each of the descriptions of CNL's two proposals for radioactive waste disposal (the closure of the NPD site, and the Near Surface Disposal Facility), include a period of control, maintenance and monitoring that will occur over several hundreds of years.

Essentially this is the time required to ensure that the site is properly maintained and monitored until the radioactivity in the waste decays to a level that permits the unrestricted use of that property.

However, the long-term requirement for maintenance and monitoring, as described in their two proposals, ignore the socio-economic necessity for sustainable communities in the vicinity of the two projected disposal sites.

In other words, CNL implicitly assumes there will be a community in the area that will provide the infrastructure to ensure compliance with the long-term obligations as stated in their proposals.

Although compensation to communities hosting radioactive waste disposal sites remains a concern, there is the much broader issue of which compensation is only one aspect.

We need to ensure that the implicit assumption, the existence of long-term sustainable communities, is made explicit.

Once the requirement for community sustainability is clearly identified as a prerequisite, it cannot be ignored.

What does CNL, AECL and/or the government of Canada propose to ensure our community will be sustainable to meet the long-term commitment of having two radioactive waste disposal sites located here?

I suggest that town council raise the "sustainable host community" issue with CNL, AECL and the government of Canada to ensure CNL's proposals for the two disposal sites explicitly address this matter.

W. Turner, Deep River

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ACCUEIL | POLITIQUE

Gestion de déchets radioactifs à Chalk River : des maires de la région font part de leurs inquiétudes

PUBLIÉ LE MERCREDI 8 FÉVRIER 2017

Au centre, Mark Lesinski, président et chef de la direction des Laboratoires nucléaires canadiens, s'est adressé mercredi matin auxmaires des Comtés unis de Prescott et Russell. Photo : Radio-Canada/Denis Babin

Le projet des Laboratoires nucléaires canadiens (LNC) visant l'aménagement d'une installation de gestion des déchets radioactifs à Chalk River continue préoccuper certains maires des Comtés unis de Prescott et Russell (CUPR).

Un texte de **Denis Babin**

Ces derniers ont été en mesure de partager leurs inquiétudes avec le président et chef de la direction des LNC, Mark Lesinski, qui a participé à la réunion plénière mensuelle du conseil des CUPR mercredi matin.

« Qu'en est-il des fuites? Votre propriété borde la rivière des Outaouais. Des milliers de personnes boivent l'eau de la rivière », a lancé d'entrée de jeu le maire de la Cité de Clarence-Rockland, Guy Desjardins.

Le grand patron des LNC est le premier à l'avouer : des fuites se sont produites au fil des ans.

« Toutefois, la quantité de matières libérées n'a jamais dépassé les niveaux recommandés par les régulateurs. Notre projet va mettre fin à ces fuites-là. Nous utilisons une technologie qui a fait ses preuves pour nettoyer notre site. Celui-ci sera ainsi beaucoup plus stable, beaucoup plus sécuritaire », a indiqué Mark Lesinski.

Des déchets radioactifs de faible activité

Les déchets radioactifs seront stockés à l'intérieur d'une cellule de confinement. Photo : Laboratoires nucléaires canadiens

Selon le président et chef de la direction des LNC, la nouvelle installation permettrait le stockage permanent et sécuritaire de déchets radioactifs de faible activité à l'intérieur d'un cellule de confinement.

« La chose qui m'inquiète, c'est que les déchets produits par l'industrie nucléaire, nous ne savons pas comment les détruire, les recycler. Tout ce que nous faisons, c'est les enterrer, n'est-ce pas? », a demandé la mairesse de Hawkesbury, Jeanne Charlebois.

« L'avantage avec des déchets radioactifs, c'est que nous savons où ils se trouvent. Nous les contrôlons et les surveillons afin qu'ils n'aillent nulle part », a répliqué M. Lesinski.

Town to seek waste compensation

BY VANCE GUTZMAN

The town of Deep River wants to have its voice heard in the approval process for the massive Near Surface Disposal Facility (NSDF) that's being proposed at Canadian Nuclear Laboratories (CNL).

The municipality's finance and administration committee expressed that sentiment loud and clear when it discussed the project last week.

The NSDF is expected to facilitate the demolition and decommissioning of more than 120 aging buildings and smaller structures on the site of the Chalk River Labs, but will also play host to about 45,000 cubic metres of waste from Whiteshell Laboratories in Manitoba.

Local resident and Atomic Energy of Canada Limited (AECL) retiree William Turner appeared as a delegation before town council last month, questioning how much compensation local communities would derive from CNL's waste disposal initiatives.

Meeting with ministers

"I think he's opened the door," Mayor Joan Lougheed remarked last week of Turner's presentation.

"We took that message to Toronto with us."

By that the mayor meant the annual Rural Ontario Municipal Association (ROMA) conference held earlier this month, at which time the town was able to share Turner's concerns with a number of officials at Queen's Park.

Lougheed cautioned last week that the town has a long way to go and a short time to get there to have a say on the NSDF, as the environmental assessment process for the project is slated to get underway next month.

"After that we will not have the ability to really negotiate," Lougheed said.

To that end, the mayor proposed raising the matter at the next joint meeting the town has with AECL, and the creation of a community advisory committee for purposes of input into the process.

"There's a lot of work to be done in a short time," the mayor said.

Reeve Glenn Doncaster concurred with that sentiment.

"The thing that's concerning is the timeline," Doncaster remarked.

"That window is very short and we need to do something. The CNSC (Canadian Nuclear Safety Commission) has to understand we're not necessarily the willing host community for this."

The town, Doncaster went on to state, has always been supportive of AECL's waste management initiatives as they pertained to research at Chalk River.

But not as "a nuclear dumpsite," the reeve added.

"It's different from what this community has supported for 60-plus years."

Finance and administration committee chairman Terry Myers also came out in support of the town taking action to get involved in the NSDF approval process.

"We do have the right to some compensation," Councillor Myers said, while also expressing the opinion that the town also needs to "walk a fine line" going forward.

"I don't think we're in a position where we want to be an opponent of CNL. We need to represent our community's interests, but we don't want to be in the position where we're trying to block their forward movement."

Mayor Lougheed, however, felt the town has been "diligent" in maintaining its corporate communications with CNL.

"But it's been frustrating because it's always one-way," she added, noting, for example, that during Deep River's Christmas celebrations all CNL donated towards the festivities was a carton of hot chocolate.

"That's not a community investment," Lougheed said.

The mayor did acknowledge, though, that things are improving.

She noted that the town was accompanied by CNL representatives to five of the 10 meetings the municipality had with provincial cabinet ministers and other officials at the ROMA conference.

"CNL has acknowledged their lack of consultation with us," Reeve Doncaster remarked.

"It's going to take them some time to get up to speed."

NRU

The municipality also put forward a recent presentation made to council by John Hilborn and Bill Buyers to all who would listen at the ROMA conference.

Those two gentlemen, speaking on behalf of NRU alumni, recently outlined a business plan to council which would continue to see NRU operate, for the foreseeable future, as a multi-purpose reactor.

Isotope production at NRU was halted at the end of October 2016, and the reactor is scheduled for final shutdown in just over a year's time, as of March 31, 2018.

The NRU alumni are proposing the establishment at Chalk River Labs of a fully integrated industrial scale radiopharmacy, and the continued operation of the Canadian Neutron Beam Centre.

"There's a market here that needs to have an evaluation and assessment," Lougheed said of the business case put forth by the alumni, adding that their proposal should also be on the agenda for the town's next joint meeting with SECL and CNL.

"This is much bigger than just the town," the mayor said.

Local pharmacy for sale under competition ruling

BY VANCE GUTZMAN

The Rexall pharmacy in Deep River is being sold by its new owner.

The store is one of 26 Rexall pharmacies across the country which will have to be sold as part of a consent agreement between Canada's Competition Bureau and Rexall's parent company.

That would be pharmaceutical wholesaler McKesson Corporation, which acquired he Rexall chain from Katz Group last year.

McKesson Corporation is the largest pharmaceutical distributor on this continent, delivering one-third of all the medications used each day in North America.

It's also the largest wholesaler of pharmaceutical products in Canada - carrying 55,000 products in 13 distribution centres to supply approximately 7,100 pharmacies.

The Competition Bureau's recent review of the proposed merger has determined that it would likely result in a "substantial lessening or prevention of competition in the wholesale and retail sale of certain pharmacy products and services," including prescriptions and over-the-counter pharmaceuticals.

Under terms of the consent agreement, McKesson must sell Rexall pharmacies in Alberta, British Columbia, the Northwest Territories, Ontario and Saskatchewan.

A total of 11 of the Rexall retail stores to be sold are located in Ontario.

Apart from the one here in Deep River, the others are located in Campbellford, Durham, Englehart, Iroquois Falls, Lindsay, Sioux Lookout, Smithville, Stayner, Sturgeon Falls and Wingham.

The NRT contacted McKesson's media relations department for more information about the sale of the Rexall store in Deep River but as of press-time had not heard back from the company.

LETTERS TO THE EDITOR

Big picture please

Re: NRU Alumni news, NRT February 15.

John Hilborn stated, "Greg Csullog's query (NRT February 8) about the cost of a fully integrated prototype radiopharmacy at Chalk River, serviced by the NRU reactor, has a short answer and a long answer."

John gave a comprehensive answer to a question that I did not ask.

It is not relevant that the proposed radiopharmacy can make a profit. Nordion made a lot of profit off the back of AECL, which bore the reactor operations and waste management costs for Moly.

The fact is that AECL was bleeding to death financially with NRX and NRU because Nordion was only paying a small fraction of the cost of waste management.

When AECL could not get a better deal with Nordion, it shut down NRX and Nordion sued AECL's butt off and won. That's when the Maple fiasco started.

See if you can get a look at the second isotope agreement between AECL and Nordion through the freedom of information act and let me know what you think of AECL's follow-up to losing its shirt on waste management in the first agreement.

If you think the above is merely my opinion, check out the following:

Government of Canada Response to the Report of the Expert Review Panel on Medical Isotope Production (http://www.nrcan.gc.ca/energy/uranium-nuclear/7795)

"The Government of Canada is looking to transform the way Canada produces medical isotopes... so that Canadian production is on a sound commercial footing without government support...

"Canada's NRU reactor has satisfied a significant portion of world demand for Mo-99; by producing at this scale, Canadians have been left to shoulder a disproportionate amount of the nuclear waste burden associated with reactor-based isotope production.

"This includes the significant costs associated with long-term management of the waste. The Government favours a new paradigm in which Canadians benefit from Canadian-based isotope production, supplemented if necessary from the world market, and supply is sustainable because of reduced waste and improved economics."

As I said, if the proposed isotope business can make enough profit to justify keeping NRU open, then go for it.

I simply do not want to see another huge financial drain on a corporation that has a disastrous business track record.

All that I am asking is, show me the BIG picture, which includes fuel and waste management costs.

If, on the other hand, your proposal is to have a "profitable" business that does not include the underlying cost of that business, which the public will eventually pay for, then that's going down the wrong path again.

Science invents. Engineering and entrepreneurship bring science to market.

Government sometimes brings unprofitable business to market that is subsidized by those who benefit little from that business.

Deep River and area would benefit from an unprofitable business subsidized by Canadians across the country. But what the heck, we've been used to that business model for a long time.

Greg Csullog

Sustainable host communities (pt 2)

From the article in the February 15 NRT, "Town to seek waste compensation," it appears that Deep River council and the mayor are now focused on obtaining compensation for the town's agreeing to host AECL/CNL's proposed Near Surface Disposal Facility (NSDF).

I admit that the focus of our presentation to the January 25 council meeting was "Host Community Compensation." Therefore, we have to take some responsibility for that emphasis.

Following our presentation, Reeve Glenn Doncaster pointed out that a more important consideration is the long-term sustainability of the communities that will be required to support radioactive waste disposal sites.

In my last letter to the editor, "Sustainable Host Communities" (NRT February 8), I attempted to address that key point (which, I admit, was missing from our presentation to council).

In that letter, I put forward the idea that when siting radioactive waste disposal facilities, there is an unstated assumption that the disposal facilities require the communities in the vicinity of these sites be sustainable in the long-term.

I also pointed out that this implicit assumption needs to be made explicit. (As far as I know, that has yet to happen.)

In the light of Mr. Doncaster's comments, I have come to the realization that requesting compensation is just not good enough.

This town needs a long-term commitment from CNL, AECL and/or the government of Canada that will ensure our community is sustainable for the complete duration of the proposed NSDF.

However, even that guarantee is not good enough. It is essential that our town be involved in any decisions regarding any additional waste disposal facilities that may be proposed for the Chalk River Laboratories site.

Recall that CNL has stated that the wastes to be emplaced in the proposed NSDF are limited to low-level and some intermediate-level radioactive wastes. What is being proposed for the other categories of radioactive wastes?

Since I have no evidence, I am guessing that CNL, AECL and/or the government of Canada have plans for additional waste disposal facilities to handle the wastes that are not currently destined for the NSDF.

(Let's not forget CNL's other disposal projects. The commitment for ensuring a sustainable community in the vicinity of radioactive waste disposal facilities applies just as much to Laurentian Hills (for the "NPD Closure Project") and the Pinawa/Lac du Bonnet communities in Manitoba (for the "WR-1 In-Situ Decommissioning Project").)

Let's step back from considering these other disposal facilities, and focus on the undertaking that we know about, the NSDF.

CNL, AECL and/or the government of Canada must provide assurance that their commitment to sustainability of this community will end only when the radioactivity in the wastes in that facility decay to a level that permits the unrestricted use of the property.

So, I encourage town council to modify its approach to CNL and AECL, and any other interested organization, or government entity to ensure that the implicit assumption about sustainable communities is made explicit.

Given this explicit assumption, council needs to request that CNL, AECL and/or the government of Canada commit to ensuring the long-term sustainability of our community since we appear to be the de facto host to one (or possibly more) radioactive waste disposal facility(ies).

Compensation alone is just not good enough.

W. Turner, Deep River

Great work

I have just picked up my paper (NRT February 15) and was thrilled to see the photos it contains of the Peace Walk.

Thank you for the wonderful job you and all the staff at the NRT do covering the activities of our community.

I really appreciate the wonderful quality of the photos that tell our story each week in the NRT, whether they are taken by staff or sent in by the community.

I used to teach publication design in the states and understand how much effort goes into preparing the NRT each week.

Thank you also for taking time to post photos and stories on Facebook. It allows me to share a bit of your work electronically with family around the world.

I would also like to note that the layout of the advertising in the paper is exceptionally well done.

The NRT, either electronic or printed, is one of the best bargains in print media around. Keep up the great work for our community!

Nancy Trottier

Legislature to mark 100 years of women's vote

MPP John Yakabuski is encouraging young women from Renfrew-Nipissing-Pembroke to apply to "A Remarkable Assembly – Celebrating 100 Years of Women's Right to Vote in Ontario."

On April 12 this spring, the Legislative Assembly of Ontario is hosting 107 young women (one from each riding) to gather in Toronto at the provincial parliament to mark the occasion of the 100 year anniversary of women's right to vote in Ontario.

"This is a wonderful opportunity for a woman from our riding to help celebrate this significant milestone in our democracy," said Yakabuski.

Ontario women between the ages of 18 to 23 who are interested in civics, politics, and current affairs should apply.

"What better way to celebrate the anniversary of women's franchise in the province than to give a group of young women an unforgettable one-day adventure," said Yakabuski.

The deadline to apply is February 28. Candidates are asked to complete their application online. Links to the application can be found on Yakabuski's website at: www.johnyakabuski.com or the Legislative Assembly's website at: www.ontla.on.ca.

SUDOKU SOLUTION

• FROM PAGE 13

3	1	6	9	2	5	4	8	7
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CROSSWORD

• FROM PAGE 13

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Letters to the Editor

Sustainable host communities (part 3)

In my last two letters to the editor, February 8, "Sustainable Host Communities" and February 22, "Sustainable Host Communities (Part 2)", I put forward the idea that when siting radioactive waste disposal facilities, there is an unstated assumption that the communities in the vicinity of these disposal sites will be sustainable in the long-term.

This begs a question that most likely never crossed your mind: "What is a sustainable community?"

Let's consider an answer using our own community of Deep River as the basis.

The town of Deep River was founded sometime in the 1940's in order to support the "secret" research being conducted on the Chalk River site.

As I understand it, the town was built (including housing, apartments, and some facilities) and owned by the government.

Over the decades since its founding, most of these government owned properties have been sold.

My understanding is that AECL still retains ownership of several properties in the town.

I am not an early resident of this community, so I cannot comment on the first few decades of Deep River's history. But I do have some knowledge about our current status as a community.

What are the elements that make this community sustainable?

I will not provide an exhaustive list. I'll bet you can identify many other examples.

Some of the more obvious ones include (in alphabetical order): churches, clubs, concert hall (Childs Auditorium), cultural and social events (Deep River Symphony Orchestra, Summerfest, Deep River Players, choral groups, Silver Spoon, Deep River music camp), doctor and dental offices, hospital, housing (from single family through to apartments and condos), library, parks, restaurants, hotels and motels, schools, shops and stores (groceries, pharmacies, clothing, building materials, gas stations), sports facilities (including an arena, golf course, beaches, boating facilities, and a community pool), town administration (including town maintenance, police and fire protection).

Can this community remain sustainable given what CNL is proposing for the Chalk River site?

To answer that, we need to look at what CNL has currently identified as its intention for the site.

First, let's look at the future for research on the site. Has CNL announced or committed to any undertakings to revitalize science and technology at the site? I am not sure.

Recall the announcement back in April 2016, in which CNL received $800 million to revitalize the site. As to what are those revitalization initiatives, I can find nothing.

That said, I note that in CNL's presentation to council (January 25, 2017), Mr. Kurt Kehler showed a slide that depicted three (relatively large) buildings.

These were identified as new S&T (science and technology) buildings. However, Mr. Kehler never provided any information as to the purpose for any of these buildings.

Showing pictures of a concept is easy. By not providing any rationale for these buildings, it is easy for a viewer to conclude that these images were for public relations only and therefore are essentially meaningless.

The question, "What are the S&T activities being planned for these new buildings?" remains unanswered.

Since we do not know what CNL is proposing for their new S&T buildings, we have no alternative but to look at what we do know about their plans for the site.

Thus the second question. What are the activities that CNL has decided and announced, to which they are committed?

The only actions I can find are those undertakings associated with decommissioning and waste management.

These include removing over 120 buildings and emplacing the wastes generated in a new disposal facility.

Therefore, I regret to say that, with CNL at the helm, the apparent destination for the Chalk River site appears to be closure in the near term.

That is not necessarily all doom and gloom. The wastes generated from the closure activities will need to be managed in the long term.

> CONTINUED ON PAGE 19

Daylight Savings Time officially begins at 2 am this Sunday, March 12. Don't forget to set your clocks ahead one hour Saturday night!

Pensions

CONTINUED FROM PAGE 6

Remember when the town wanted to prostitute itself for a waste management site for Port Hope wastes?

If that's the kind of business the local population wants then John Hillborn's plan will probably succeed.

However, if put to a vote, like the Port Hope insanity, I will once again vote no.

Greg Csullog

This Week

Items are listed free for non-profit community groups. To have an upcoming event listed, call the NRT at 584-4161 or email <NRT@magma.ca> before 10 am Monday.

Wednesday, March 8
12-8 pm, Free Walk-in Counselling Clinic, no appointment needed, North Renfrew Family Services (for information, call 584-3358) *
10 am - 5 pm & 7-9 pm, "Exhibition of Art by Children," hosted by the Deep River Library Arts Committee, DR Library program room (show continues until March 25)
10 am - 12 pm, Renfrew County Paramedic Service free walk-in "Wellness Clinic," Stonecliffe township hall & North Renfrew Long-Term Care Centre, Deep River
12-1 pm, Soup & Sandwich Luncheon, St. Andrew's United Church, Chalk River *
1:15 pm, Social Bridge, sponsored by Friends of the Library, Deep River Library program room *
6 pm, International Women's Day dinner, Deep River Legion (for information, call 613-635-2223)
7:15 pm, Deep River Toastmasters meet, North Renfrew Long-Term Care Centre, Ridge Rd *

Thursday, March 9
6-7:30 pm, "Get WITH It" (Walking in the Halls) program, Mackenzie Community School *
6:45 pm, Lions bingo, doors open at 6 pm, Chalk River Lions Hall *
7 pm, Al-Anon meeting, for family and friends of alcoholics, Laurentian Hills municipal hall, Point Alexander *

Friday, March 10
10-11:15 am, Coffee morning, everyone welcome, Deep River Community Church *
8 pm, Alcoholics Anonymous meeting, Laurentian Hills municipal hall, Point Alexander *

Saturday, March 11
10 am - 12 pm, Pokemon Trading Club, Chalk River Library

Sunday, March 12

Monday, March 13
10 am - 1 pm, Deep River and Area Food Bank open (except holidays), at the Deep River and District Hospital (for more information, phone 584-2484) *
1 pm, Golden Oldies Euchre Club, CR Legion *
1:30 pm, Share program, 118 Frontenac Cres, Deep River (for information, call 584-3618) *
3-6 pm, March Break Lego Club, Chalk River Library
7:30 pm, Deep River Choral Group, Childs Auditorium, MCS *
8 pm, Alcoholics Anonymous meeting, Laurentian Hills municipal hall, Point Alexander *

Tuesday, March 14
11:30 am, Seniors Friendship Club "Spring Potluck o 'the Irish," CE Centre
1 pm, 49ers euchre, Deep River Legion *
1:15 pm, Duplicate Bridge Club meets, DR Library program room *
6-7:30 pm, "Get WITH It" (Walking in the Halls) program - cancelled for March Break, Mackenzie Community School *

Wednesday, March 15
10:15 am, March Break Story Time, Deep River Library
2-4 pm, March Break Children's Crafts, Chalk River Library

Laurentian Hills

CONTINUED FROM PAGE 4

Mayor Jed Reinwald responded very warmly to the group.

He said "we know it takes a lot of hard work by dedicated volunteers."

"We will definitely put the request in the budget discussions and hopefully we will be able to help you out."

Elections

Municipal council elections may be over a year away, but CAO Sherry Batten explained council needed to make some decisions now on what format will be used.

The province has given municipalities the option to use ranked ballots (where voters list their preferences for candidates) as opposed to the traditional first past the post system.

In the current system the candidate with the highest number of votes wins.

Municipalities can also opt for regular paper ballots or some other form of registering votes.

They can also choose whether to maintain a ward system or elect all members of council by general vote.

Mayor Reinwald said he was opting for the status quo.

"I don't see the need to make changes for our small community. We don't need the expense of it."

Councillor Brenda Blimkie agreed.

"Our current system works well and the ward system is very important for this area."

She pointed out that turnout had increased by 200 voters in the last election.

Deputy Mayor Anne Giardini was also in favour of the status quo, as was Councillor John Hoyle.

Summerfest

CONTINUED FROM PAGE 4

"The town has benefited from a big-time volunteer effort," Myers said, noting Deep River not only received economic spinoffs from Summerfest, but also tangible infrastructure, like the construction of shelters at Lamure Beach and the marina.

"They put money back into this community," Myers said of Summerfest organizers.

"For us to object to a one-time grant, I have a hard time with that."

"I bristle a little with the word 'irresponsible' too. A new group of people has come forward. They've made significant progress and they want to step it up this year. I don't think it's an outrageous request."

Reeve Glenn Doncaster was on the same page.

"I'm not overly pleased with that, but it's in the past," Doncaster said of the financial problems the event ran into in the past.

"A significant number of volunteers stepped up last year. What happened in the past is concerning, but they stepped up to the plate and I think we should support that."

"I just think we need to be a bit more fiscally responsible," McAuley said in light of the push-back from his council colleagues.

"It's a great and wonderful festival. I'd hate to see it go anywhere."

Community grants

The $10,000 donation to Summerfest came about as an addition last week to the annual awarding of community grants through the town's recreation department.

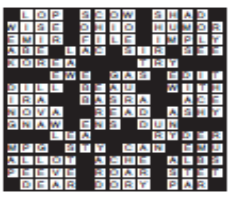
In addition to allocating $6,000 more from the 2017 budget contingency fund for the Deep River 150th Committee, council signed off on the following list of grant recipients.

Deep River Yacht and Tennis Club ($2,000), Deep River Candu Swim Club ($816.40), Deep River Skating Club ($942), Deep River and Area Minor Hockey Association ($2,983), Deep River Cross Country Ski Club ($785), Mount Martin Ski Club ($1,852.60), River Recreation Improvement Association ($500), Charity Ice Rental ($325), Deep River Community Association ($3,000), Society for the Preservation of Canada's Nuclear Heritage ($1,000) and the Seniors Friendship Club in the amount of $2,670.

Sudoku solution

3	4	6	2	5	8	9	1	7
5	9	2	1	7	3	6	8	4
1	8	7	4	6	9	5	3	2
6	1	8	9	3	4	7	2	5
7	3	9	8	2	5	4	6	1
2	5	4	7	1	6	3	9	8
4	6	3	5	8	1	2	7	9
8	7	5	3	9	2	1	4	6
9	2	1	6	4	7	8	5	3

Crossword



Letters to the editor

One & done?

Here's the thing ... I'm old and some parts of me are older than others. Case in point – I have to have my right hip replaced.

I have already had my left hip replaced and my right knee – I can hardly wait to go through airport security.

The problem is that when I had my left hip done, the pre-op nurse said that my post-operative stay would be three to five days - most likely three - but there would be a visiting nurse organized through CCAC.

When I had my knee replaced it turned out to be one and a half days. The hospital would argue that it was actually three days but they are counting the surgical day (surgery was 3 pm). Really? We're counting that as a full day?

And, by then no in-home nursing.

Now I am told that I will have one night in hospital and be out the next morning.

That is an interesting turn of events, don't you think? This flies in the face of what some of the other hospitals are doing.

Did you know that the Orthopaedic and Arthritic Hospital in Toronto still have big posters everywhere saying: "Hip or knee – out in three."

And they mean three nights - not this convoluted three days nonsense.

How did we get here? Well, some hospitals have discovered that the sooner they can push us out the door, there are fewer costs for those additional days - and the more patients they can get in for surgery, the more they can bill the government.

It's a win-win for the hospital - the only one getting the short end of the straw is the patient.

This is no more than a cost saving money grab for hospitals put on the backs of patients.

And just while I am on this rant, did you know that at the Orthopaedic and Arthritic Hospital in Toronto, when they do knee replacements they put in a pain block catheter into the knee for a full two days?

Why? - so you can get up and do all the physio exercises and really stretch the muscles with no pain limitations.

Of course, we in the Champlain LHIN are only in for one and a half days, so what's the point?

The Ontario government is no better - according to one of the CCAC managers the government "quietly" defunded all in-home services about two and a half years ago for all hips and knees.

Have you figured it out yet?

Who are the ones getting hip and knee replacements? Well, the Baby Boomers of course.

I can remember - because I'm old - in the mid 80's dire predictions about the Boomers.

We are and were the most physically active generation ever, which meant that as we got older there would be a huge demand for replacement parts.

So what did the governments of the day and since do? Planted their heads firmly, umm... in the sand and did nothing. And here we are.

Now we have an orthopaedic surgical unit closer to home in Pembroke. They also have a state of the art rehab floor with great doctors and nurses.

But apparently hips and knees do not automatically get sent to the rehab floor. Why not?

Did you know that in Switzerland if you have a knee replaced, you get sent to their rehab unit and you are there for four weeks - four weeks - mandatory?

And then have outpatient physio - also mandatory - for another four to six weeks?

I am guessing, but I think the Champlain LHIN saw a revenue source leaving their borders and wanted in on the action.

Now we have Pembroke doing hip and knee surgeries and instead of doing the ethical thing for their patients, we have them sending patients home the next day.

Maybe they should get posters that read: "Stay a day and then pray."

Unless more Boomers stand up for themselves, the health care we signed up for and have paid for since its inception will disappear.

Wendy Murphy

Sustainable

CONTINUED FROM PAGE 7

Since the wastes generated from decommissioning the site will include all categories of radioactivity from very-low level to high level, the currently planned disposal facility cannot be the destination for all these waste classes.

Therefore, more than just this type of disposal facility will be required.

So, even after the research at the site is phased out (which seems to be the focus of CNL's current plans), and the disposal activity becomes the only reason for the site, the need for maintaining a long-term sustainable community remains.

That said, if CNL, AECL and/or the government of Canada commits to maintaining the sustainability of this community, if only to address just the planned disposal facilities, then fostering any future revitalization plans for the site (that CNL has yet to specify) is much easier.

Without that long-term commitment, CNL, AECL and/or the government of Canada would need to develop another sustainable community in order to support any other site dedicated to science and technology as well as disposal.

So, what is the answer to my initial question, "Can this community remain sustainable given what CNL is proposing for the Chalk River site?"

I suggest it is a somewhat qualified "yes."

But only if the town gets the appropriate commitment from CNL, AECL, and/or the government of Canada.

Thus I repeat the concluding statement from my February 8 letter:

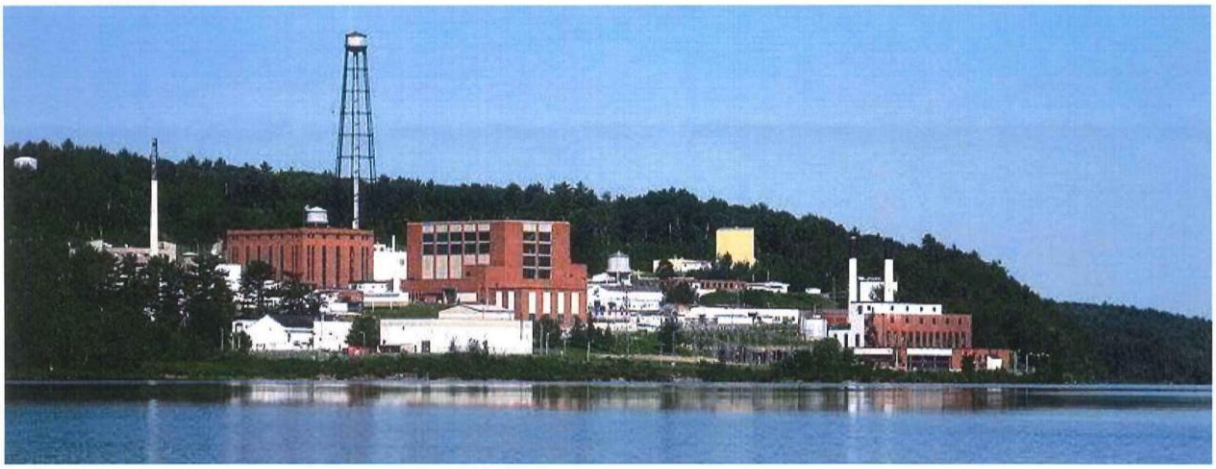
"I suggest that town council raise the 'Sustainable Host Community' issue with AECL, CNL and/or the government of Canada to ensure CNL's proposals for the two disposal sites explicitly address this matter (ie. sustainable host communities)."

W. Turner, Deep River

Joel Redekop
Posted: March 14, 2017

Good Reads

Radioactive Waste Dump on Ottawa River has Citizens Furious



A massive new radioactive waste dump located on the Ottawa River has been proposed. Residents of Chalk River, Ontario, the community closest to the facility, are voicing their anger and fear.

Currently under review by the Canadian Nuclear Safety Commission, the proposed 30-hectare "Near Surface Disposal Facility" would dispose of up to one million cubic metres of low- and medium-level radioactive waste, protruding up to 25 metres above ground. Not only would the facility handle radioactive materials, but would include other wastes from commercial activities, including PCBs, arsenic and mercury. The facility would be located a mere kilometre away from the Ottawa River at the Canadian Nuclear Laboratories. Construction would begin as early as 2018.

Behind the proposal is a consortium of multinational companies. Citizens are concerned that these companies have no stake in the long-term health of the Ottawa River. Johanna Echlin of the Old Fort William Cottagers' Association says that she and her fellow cottagers worry that "after making a tidy profit on [the] creation of the dump, they could walk away in 10 years when their contract ends and leave a leaking mess for others to live with."

Local citizens' groups say that the proposed land is unsuitable for a dump of any kind, given its proximity to the Ottawa River, a source of drinking water for millions of Canadians. Downstream of the radioactive waste dump is the Ottawa-Gatineau area, as well as many small Ontario and Quebec communities. Furthermore, the site is near a major fault line, and on top of fractured and porous bedrock through which groundwater flows rapidly into the Ottawa River.

This is not the first time that there has been a proposal to dump radioactive waste at this area. In the 1990s, over 50 Ontario and Quebec communities spoke out against the Deep River Disposal Project, because of the unsuitability of this site. Since then, Chalk River Nuclear Laboratories has continued to do explore possibilities of a radioactive waste facility, though time and time again, the cracked and porous bedrock has proved unsuitable for containing hazardous waste.

Dr. Ole Hendrickson, researcher for Concerned Citizens of Renfrew County and Area, notes that the event of these hazardous materials leaking into the Ottawa River is not a question of if, but when.

"Plastic binders, even of the best quality, can't last forever," he explains. "It's a question of if they can last longer than the half-lives of the waste that you put in them. You only want short-lived waste to put in this kind of facility." Thus, Hendrickson notes, "a key question is whether wastes from Canada's nuclear power reactors could be sent to this facility for disposal."

As Hendrickson points out, there is still some unclarity over the exact purpose of the proposed facility, "such as what commercial activities the proponents have in mind." He hopes that questions will be addressed in the draft Environment Impact Statement that is scheduled for release on March 17, 2017. Once released, the public will have 60 days to respond to the Environmental Impact Statement.

Hendrickson and Echlin are encouraging individuals to write into the Canadian Environmental Assessment Agency and voice their opinion on the radioactive waste dump and the related Environmental Impact Statement, and for municipalities to pass resolutions opposing the facility.

View the CEAA's Environmental Impact Statement here, once it is posted on March 17.

Echlin's group is currently tracking opposition on their website here. More information on the Chalk River Near Surface Disposal Facility is available here.

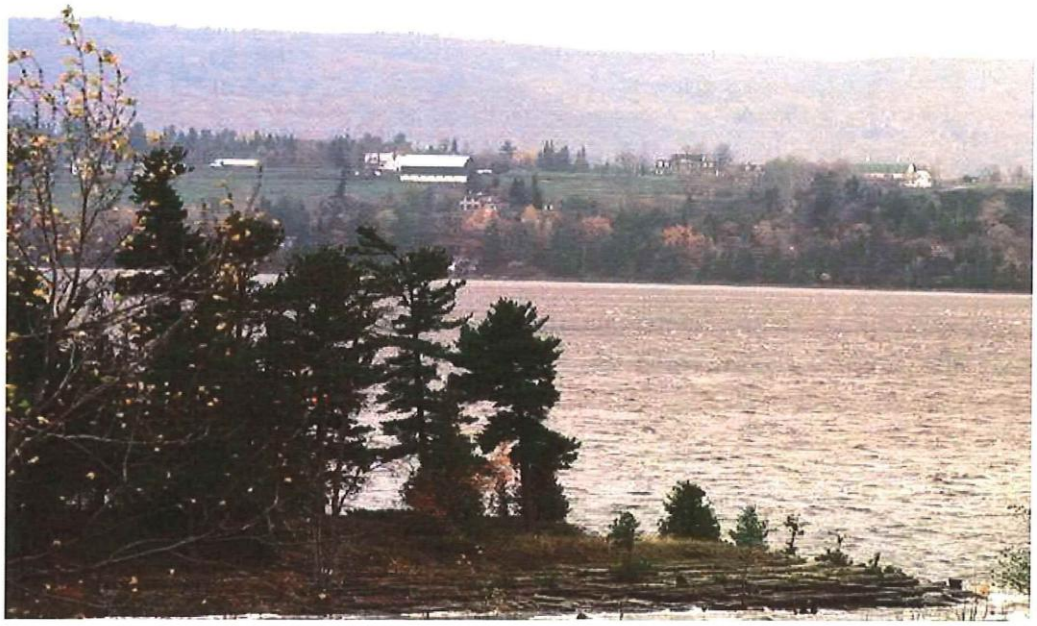
By: Joel Redekop

Recommended Articles

NEWS LOCAL

Opposed to CNL waste site

By Stephen Uhler, The Daily Observer
Tuesday, March 21, 2017 10:04:09 EDT PM



JEFF BASSETT/QMI AGENCY A view of the Ottawa River in rural Kanata, which opponents to a new Chalk River radioactive waste disposal site are worried could be contaminated if the project isallowed to go ahead.

Opposition to the Near Surface Disposal Facility (NSDF) at Chalk River has been growing.

The project, the latest from Canadian Nuclear Laboratories, is designed to store low level waste on site, primarily demolition waste as the company deals with decommissioning and demolishing more than 100 buildings and structures at Chalk River Laboratories.

It will also contain a small volume of mixed waste from off site sources.

The Concerned Citizens of Renfrew County and Area (CCRCA) and the Old Fort William Cottagers' Association (OFWCA) have both come out opposed to the NSDF, fearing both groundwater contamination and putting the Ottawa River at risk.

In a joint press release, both groups state if approved, the 30–hectare Near Surface Disposal Facility would be used to dispose of up to one million cubic metres of low- and medium-level radioactive waste.

Both the CCRCA and OFWCA state they feel the proposed site is unsuitable for a dump of any kind given its proximity to the Ottawa River, a source of drinking water for millions of Canadians. They also say the site is near a major fault line, and on top of fractured and porous bedrock through which groundwater flows rapidly into the Ottawa River.

Johanna Echlin of the Old Fort William Cottagers' Association, from the Sheenboro, Quebec, area, said the proposal has shocked and angered residents, as well as people downstream in Ottawa and Montreal.

"Folks I talk to are outraged at the idea of dumping a million cubic metres of radioactive waste beside the Ottawa River," she said.

Echlin said OFWCA members understand that CNL must adopt a long-term plan for the radioactive waste that has accumulated on the site for half a century.

"However, our members are very disturbed to learn that CNL also plans to transport radioactive waste and other waste from different areas of the country to Chalk River for disposal. We find it unacceptable to turn this site into a huge area for disposing of radioactive material from other parts of the country," she said.

The OFWCA also objects to the size of the facility, which they state makes it unacceptable to locate so close to the river.

Added to these fears is the concern the group of multinational corporations now in charge of Chalk River Labs have no stake in the long-term health of the Ottawa River.

Echlin and her fellow cottagers worry that "after making a tidy profit on creation of the dump, they could walk away in 10 years when their contract ends and leave a leaking mess for others to live with."

Dr. Ole Hendrickson, researcher for Concerned Citizens of Renfrew County and Area, hopes that questions raised by local citizens will be addressed in the draft Environmental Impact Statement, which was released March 17.

"We don't yet have adequate information about the purpose of the proposed facility, such as what commercial activities the proponents have in mind," said Hendrickson. "A key question is whether wastes from Canada's nuclear power reactors could be sent to this facility for disposal."

The public has until May 17 to submit their opinions to the CNSC. Public hearings on the matter are due to be held sometime in January 2018.

The two groups opposing it hope municipalities and all others downstream from Chalk River make their voices heard through resolutions, petitions and appeals to the CNSC.

Pat Quinn, corporate communications director for CNL, said the NSDF site is meant for low level waste, 90 per cent of which would be stored there, is already stored, or would be produced, out of activities at the Chalk River site.

"Approximately five per cent would be waste originating from the Whiteshell Laboratories, in Manitoba and other AECL sites, such as the prototype reactors Douglas Point and Gentilly-1; and less than five per cent would be commercial sourced inventories, for example from Canadian hospitals and universities, a service that has been underway for decades," Quinn said.

He stressed the site will not be used to dispose of materials such as fuel rods and other such highly radioactive materials.

"All waste to be disposed at the NSDF will be required to meet the waste acceptance criteria established, thus ensuring operational and long-term safety requirements," he said.

The NSDF Project may accept less than one percent by volume of intermediate-level waste, which are wastes with higher levels of radioactivity that may require shielding for worker protection during handling, and may contain higher concentrations of longer-lived radionuclides. The NSDF will also accept mixed waste, which is radioactive waste that includes hazardous substances.

Written comments can be sent to:

Nicole Frigault

Environmental Assessment Specialist

Canadian Nuclear Safety Commission

P.O. Box 1046 Station B

280 Slater Street

Ottawa (ON) K1P 5S9

Telephone: 613-995-7948 or 1-800-668-5284

Fax: 613-995-5086

Email: cnsc.ea-ee.ccsn@canada.ca

The draft environmental impact statement, supporting documents and associated links can be viewed at the following link:

NEWS LOCAL

Waste site impact report sent to CNSC

By Stephen Uhler, The Daily Observer
Tuesday, March 21, 2017 12:34:01 EDT PM

Aerial view of CNL's Chalk River Laboratories (File photo)

Canadian Nuclear Laboratories (CNL) has submitted a draft environmental impact statement for its latest project to the Canadian Nuclear Safety Commission (CNSC).

The Near Surface Disposal Facility Project (NSDF) is for the siting and construction of a facility which would be used for the disposal of low level radioactive waste and a small amount of intermediate level waste.

The public will be able to review this environmental impact statement and submit comments on it for the next 60 days through the CNSC website. Written comments in either official language must be submitted by May 17, 2017.

CNL hopes to break ground in 2018, and have the NSDF ready for operation in 2020.

Patrick Quinn, corporate communications director for CNL, said the NSDF will allow them to decommission and demolish more than 100 buildings and structures at Chalk River Laboratories – a necessary step to revitalize the site – by providing a safe and permanent disposal site for waste from 65 years of science and technology and the laboratories' continuing operations.

He said the vast majority of the waste which would be stored there, some 90 per cent, is already stored, or would be produced, out of activities at the Chalk River site.

"Approximately five per cent would be waste originating from the Whiteshell Laboratories, in Manitoba and other AECL sites, such as the prototype reactors Douglas Point and Gentilly-1; and less than five per cent would be commercial sourced inventories, for example from Canadian hospitals and universities, a service that has been underway for decades," Quinn said.

If the site meets all of the approvals and comes into being, it will operate for about 50 years, anticipated to begin in 2020 and closing up in approximately 2070. Closure activities are expected to start in 2070 and continue through to 2100, after which the NSDF Project will transfer into the post-closure phase, in which it will be monitored and maintained for the next 300 years, after which it would be decommissioned

The site will be constructed to resist groundwater and any sort of disruption for that long time period.

During operations, leachate from the engineered containment mound will be collected and treated to remove radiological and non-radiological contaminants. Tritium concentrations discharging to the Ottawa River will not exceed the drinking water guideline. Surface water quality monitoring will be conducted as part of CNL's Environmental Monitoring Program to verify water quality predictions.

Quinn said the submission of the draft Environmental Impact Statement to the Canadian Nuclear Safety Commission is a requirement of the Environmental Assessment process for the Near Surface Disposal Facility Project.

"In order for the Near Surface Disposal Facility Project to move forward, the Environmental Assessment, which is carried out under the Canadian Environmental Assessment Act, 2012, and regulated under the authority of the Canadian Nuclear Safety Commission, must be completed," he stated.

Following receipt of public comments on the draft EIS, CNSC staff will consider all submissions received in making its determination on whether the EIS is satisfactory or whether further information is required from the proponent.

Should further information be required, the proponent will be requested to submit the necessary information until CNSC staff are satisfied with a final EIS.

In addition, CNSC staff will provide responses to all comments received from members of the public and Indigenous groups. Following receipt of a final EIS, CNSC staff will prepare a CEAA 2012 EA report (EA report), to inform the Commission's EA decision. The EA report will be available to the public and Indigenous groups 60 days prior to the Commission's EA public hearing, which is anticipated to be held in January 2018. Public participation will be offered through the submission of written and/or oral interventions.

Written comments, deadline May 17, 2017, can be sent to:

Nicole Frigault

Environmental Assessment Specialist

Canadian Nuclear Safety Commission

P.O. Box 1046 Station B

280 Slater Street

Ottawa (ON) K1P 5S9

Telephone: 613-995-7948 or 1-800-668-5284

Fax: 613-995-5086

Email: cnsc.ea-ee.ccsn@canada.ca

The draft environmental impact statement, supporting documents and associated links can be viewed at the following link:

http://www.ceaa-acee.gc.ca/050/document-eng.cfm?document=118381

SUhler@postmedia.com

Laurent Robillard-Cardinal & Allyson Beauregard

A disposal facility for radioactive waste a kilometre away from the Ottawa River could see the day in a couple years. The project's proponent is Canadian Nuclear Laboratories (CNL), which operates Chalk River Laboratories (CRL), just across the river from the Pontiac.

"About 95% of the waste is already here (in Chalk River). Through decades of operation, we have accumulated material that has been in storage here. That's what will be disposed of in the Near Surface Disposal Facility (NSDF). The project is focused on the remediation of the CRL site. One of the key aspects is looking at the demolition waste from some of the buildings we will be taking down in the next little while. We are looking at demolishing over 100 buildings/structures," explained Patrick Quinn, CNL spokesperson.

The NSDF is planned to have an operating life of at least 50 years and as proposed, would be an engineered mound built at near-surface level on the CRL site. The facility will cover about 34 hectares and stand about 18 meters high. Quinn clarified that although the NSDF mound will be about 18 meters in height, it would be built on a hill and follow the landscape closely. "The mound wouldn't actually be that high," he said.

Approvals needed

The target date for the NSDF's operation is 2020, but CNL, formed by a consortium of five corporations, first needs to get the green light from the Canadian Nuclear Safety Commission (CNSC).

This body "regulates the use of nuclear energy and materials to protect health, safety, security and the environment; to implement Canada's international commitments on the peaceful use of nuclear energy; and to disseminate objective scientific, technical and regulatory information to the public."

The CNSC's Commission Tribunal (the Commission), formed by seven appointed permanent members, is the CNSC's decision-making body that makes environment assessments and licensing decisions for all major nuclear projects.
The federal government states that "Under the Nuclear Safety and Control Act, CNL's proposal requires approval by the CNSC and involves an amendment to the CRL Nuclear Research and Test Establishment Operating Licence. An environmental assessment conducted under the Canadian Environmental Assessment Act, 2012 is required, and an decision affirming that the proposed activities will not cause significant adverse environmental effects is required before the CNSC can make a licensing decision on this proposal."

Local organizations concerned

The CNSC is scheduled to make a decision on this important file in January 2018, one Dr. Ole Hendrickson, researcher for Concerned Citizens of Renfrew County and Area, considers potentially "precedent setting."

"This is the first project in Canada to involve permanent abandonment disposal of radioactive waste with no intent to retrieve or monitor it at least after the initial 50 year period of operation," he told the Bulletin. The Old Fort-William Cottagers Association (OFWCA), located near Sheenboro and represented by Johanna Echlin, is also very concerned about the proposed project.

Having dealt with the CNSC in the past, Hendrickson is wary of their objectivity. "We had some experiences that lead us to think the CNSC is closely tied to the nuclear industry. The CNSC and the CNL public affairs will cooperate to determine what information will be released to the public," he said, suggesting there is a lack of information available about the project.

"The sentence 'The NSDF Project may also accept a very small amount of intermediate-level waste (ILW) and mixed wastes' is inadequate to provide a clear understanding of the proposed project. It is particularly important to know if radioactive wastes with long half-lives, or significant amounts of non-radioactive hazardous wastes (such as mercury) would be included in the proposed facility. A detailed description of wastes proposed for disposal must be included in the environmental assessment," he wrote in a statement.

However, Quinn said the whole process has been very public and transparent: "We've engaged in groups, such as the OFWCA. The regulatory framework is also a very public process. People will have the opportunity to review the environmental assessment material and make comments. The public can also contact us directly."

"We've had 14 public information sessions and seven more are scheduled. Many people are in support of the activities we've undertaken," he added.

Regardless, Hendrickson believes there's a lack of adequate information "about the purpose of the proposed facility, such as what commercial activities the proponents have in mind. A key question is whether wastes from Canada's nuclear power reactors could be sent to this facility for disposal." Quinn says waste from the reactors is not on the list of materials to be accepted at the facility.

Quinn said the amount of waste accepted from other sites will be limited. "We've talked about accepting material from the Manitoba-based Whiteshell Laboratories currently being decommissioned and there's the potential of accepting material coming from prototype reactors, from Douglas Point (Manitoba) and Gentilly One (Québec). That's a tiny amount and the key here is that the waste material is owned by Atomic Energy of Canada Limited (AECL)," said Quinn.

AECL is a federal Crown corporation, whose mandate is to "enable nuclear science and technology and fulfill Canada's radioactive waste and decommissioning responsibilities." It delivers its mandate through a contractual arrangement with Canadian National Energy Alliance (CNEA) for the management and operation of CNL under a Government-owned, contractor-operated (GoCo) model.

Enduring the test of time

On top of the potential of accepting waste from outside Chalk River, Echlin is also worried about the facility's durability: "Do you think any liner will survive our kind of weather or earthquakes, for that length of time?"

She also believes that down the road, something will puncture the liner: "it's on low lying wetland and is surrounded by water. I believe it will leech out into the river. The proposed site is located on a major

fault line above porous and fractured bedrock. There must be another solution."

However, Quinn says Echlin worries are unfounded. "The facility will be safe. CRL employs 2,800 people, the majority of whom live along the Ottawa River. This is our home too and the protection of the environment is important to us all. We've talked to people about extreme weather events, seismic activity, and we know it (the NSDF) is engineered to withstand quite extreme circumstances."

Quinn added that the NSDF includes a plan for wastewater treatment to collect both runoff from the mound due to natural elements such as rain or snow, as well as liquids developing in the mound over time, and then treat them and safely return them to the environment. "CLR is already on the river, and 95% of the material is already here and we are placing it in a better situation. There's an opportunity for a better situation through a permanent disposal site, which also allows us to remediate some of the property here," he explained.

Hendrickson believes the decision to abandon waste in large quantities should be reviewed by elected officials and not technocrats.

Getting municipalities on board

OFWCA as already adopted a resolution indicating that it "strongly objects to CNL receiving and accepting radioactive waste and any other waste from another site outside the Chalk River facility. Disposal of radioactive waste and any other waste must be limited to Chalk River's current levels of generated radioactive waste."

The municipality of Sheenboro adopted a similar resolution in December against imported nuclear waste. Contacted by the Bulletin, Sheenboro Mayor Doris Ranger was unwilling to comment.

"It's a difficult thing for some of the mayors in the area because some of their residents work in Chalk River," said Echlin.

MRC Pontiac's position

According to Raymond Durocher, MRC Pontiac Warden, the MRC will not intervene in the review of the proposal or form an opinion about the proposed project until the review is complete and a report is released. "We are following the process like everyone else, " he said, noting it is a very important file because of its proximity to the Ottawa River.

Durocher said questions such as what exactly the site will be, what guarantees will be in place, if there will be testing of the river and underground water supplies, and if there are possibilities for liability all need to be determined.

"I don't think the CNSC will take this lightly," he concluded, claiming the MRC is closely following the file.

Collecting comments from the public

Starting March 17, the CNSC has provided the public with two months to comment on the NSDF's environmental assessment.

-30-

Public can comment on CNL draft EIS

STEPHEN UHLER
DAILY OBSERVER

Canadian Nuclear Laboratories (CNL) has submitted a draft environmental impact statement for its latest project to the Canadian Nuclear Safety Commission (CNSC).

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The site will be constructed to resist groundwater and any sort of disruption for that long-time period.

See **CNL** | A2

Canada."

Pleau, who coaches the Ottawa Valley Thunder peewee girls, said this was a positive experience for his team. He said his players can take home the fact that they will be leaving a legacy in upgrades for the popular community arena.

"They will get a lifetime value out of seeing what did for their rink," said Pleau.

See **HOCKEY** | A2

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INSIDE

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Lisa Bell
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Mailing Address:
The Daily Observer
100 Crandall St.
Pembroke, Ontario
K8A 0B1

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PICK 2 MIDDAY: 4 1
PICK 3 MIDDAY: 9 4 3
PICK 4 MIDDAY: 8 2 6 8
KENO MIDDAY: 04 05 06 09 20 26 28 31 35 37 43 44 47 50 52 55 57 59 61 70

TODAY IN HISTORY

In 547, Italian monk Benedict, author of the Benedictine rule which established the pattern for European monastic life through the Middle Ages, died at Monte Cassino. In 1965, Pope Paul VI proclaimed him the patron saint of Europe.

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RBC BANK SUPPORTS NATIONAL CUPCAKE DAY

CÉLINA IP / DAILY OBSERVER

The RBC Bank in Pembroke held its first National Cupcake Day on Friday, Feb. 24 which raised more than $250 for the Renfrew County OSPCA Animal Care Centre. The RBC Foundation then matched those funds to provide the Renfrew County OSPCA with a grand total of $510.40. On March 14, a cheque presentation was held to celebrate the fundraising success and to make the donation official. Taking part in the presentation (from left) are RBC client adviser Samantha Adkins, community manager Jackie Laughlin, OSPCA community development co-ordinator Danielle Brunette, client adviser Carol-Ann Adams, client adviser Jason MacNabb, bank adviser Tyler Sargeant and client adviser Cathy Rossi.

Kraft Hockeyville competition teaches important life lessons

HOCKEY from A1

The nomination proposal was written by Thunder team captain Emma McGrath and members of the squad. Pleau credited that nomination and a professional video created by Matt LeMay as two factors that attracted judges to their submission.

"It was a pretty cool experience for our girls and I think we put in a good showing for our area," he added.

The initial voting round on March 12-13 attracted support for the arena from not just around Renfrew County but Eastern Ontario. Pleau said the campaign received voter support from as far away as British Columbia.

"It created positive buzz for the area," he said.

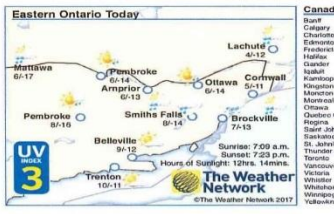
SChase@postmedia.com

Pembroke and Area Forecast

Today	Tomorrow	Thursday	Friday	Saturday
High 6° Low -14° Isolated showers (POP 40%). Winds northerly 25 km/h.	High -7° Low -14° Sunny with cloudy periods. Feels like -14. Winds northwesterly 25 km/h.	High 1° Low -4° Sunny with cloudy periods. Feels like -2. Winds light.	High 4° Low 1° Light snow (POP 70%). Winds southerly 15 km/h.	High 2° Low -8° Isolated flurries (POP 70%). Feels like -2. Winds northerly 25 km/h.

Today:
Normal High ..... 2.5°
Normal Low ..... -8.0°
Record High ..... 12.2°(1976)
Record Low ..... -26.3°(1988)

New Moon Mar 27 · First Quarter Apr 03 · Full Moon Apr 11 · Last Quarter Apr 19



Canada	tomorrow
Banff p.cloudy	6/-4
Calgary p.cloudy	12/-1
Charlottetown snow	-2/-11
Edmonton flurries	3/-5
Fredericton snow	-1/-13
Halifax rain/snow	2/-10
Gander flurries	2/-6
Iqaluit flurries	-13/-26
Kamloops p.cloudy	11/0
Kingston p.cloudy	-4/-16
Moncton snow	-2/-13
Montreal p.cloudy	-6/-15
Ottawa p.cloudy	-7/-14
Quebec City flurries	-9/-15
Regina flurries	5/0
Saint John snow	2/-11
Saskatoon snow	3/-3
St. John's p.cloudy	2/-2
Thunder Bay sunny	-1/-8
Toronto m.sunny	-2/-9
Vancouver rain	9/5
Victoria showers	10/5
Whistler rain	5/-1
Whitehorse flurries	-4/-9
Winnipeg flurries	0/-1
Yellowknife p.cloudy	-10/-19

Plenty of enthusiasm

TRAINING from A1

Once the kids had brushed up on their fire safety knowledge, they had the opportunity to climb into the fire truck, check out Troutman's firefighting gear and conduct a rescue mission to retrieve a teddy bear from a dark, 'smoke' filled room.

"With the teddy bear activity, it gave them a chance to experience what it's like being a firefighter going through a dark smoke-filled room," said Troutman. "So they had to stay low and close to the wall and follow the wall until they found the teddy bear before coming back the same way."

Troutman said that he was pleased by the participants' enthusiasm to play along and eagerness to learn and he hopes that they share their newfound knowledge with their families.

"They were all fired up about it and they all wanted to be the first in line to do an activity," said Troutman. "I just loved their enthusiasm and I hope that they implement what they learned back at home with their family."

cip@postmedia.com

Written comment deadline May 17

CNL from A1

During operations, leachate from the engineered containment mound will be collected and treated to remove radiological and non-radiological contaminants. Tritium concentrations discharging to the Ottawa River will not exceed the drinking water guideline. Surface water quality monitoring will be conducted as part of CNL's Environmental Monitoring Program to verify water quality predictions.

Quinn said the submission of the draft Environmental Impact Statement to the Canadian Nuclear Safety Commission is a requirement of the environmental assessment process for the Near Surface Disposal Facility Project.

"In order for the Near Surface Disposal Facility Project to move forward, the environmental assessment, which is carried out under the Canadian Environmental Assessment Act, 2012, and regulated under the authority of the Canadian Nuclear Safety Commission, must be completed," he stated.

Following receipt of public comments on the draft Environmental Impact Statement (EIS), CNSC staff will consider all submissions received in making its determination on whether the EIS is satisfactory or whether further information is required from the proponent.

Should further information be required, the proponent will be requested to submit the necessary information until CNSC staff is satisfied with a final EIS.

In addition, CNSC staff will provide responses to all comments received from members of the public and Indigenous groups. Following receipt of a final EIS, CNSC staff will prepare a CEAA 2012 EA report (EA report), to inform the commission's EA decision. The EA report will be available to the public and Indigenous groups 60 days prior to the commission's EA public hearing, which is anticipated to be held in January 2018. Public participation will be offered through the submission of written and/or oral interventions.

Written comments, deadline May 17, can be sent to:

Nicole Frigault
Environmental Assessment Specialist
Canadian Nuclear Safety Commission
P.O. Box 1046 Station B
280 Slater Street
Ottawa (ON) K1P 5S9
Telephone: 613-995-7948 or 1-800-668-5284
Fax: 613-995-5086
Email: cnsc.ea-ee.ccsn@canada.ca

The draft environmental impact statement, supporting documents and associated links can be viewed at the following link:

http://www.ceaa-acee.gc.ca/050/document-eng.cfm?document=118381

SUhler@postmedia.com

Firefighters equipped with opioid antidote

BY VANCE GUTZMAN

The Deep River Fire Service is taking a proactive approach towards dealing with a drug epidemic that's sweeping across the country, equipping itself with Naloxone kits to deal with opioid overdoses firefighters may encounter on a call-out.

The Deep River Fire Service becomes just the second fire department in all of Ontario to carry the kits with them on their trucks.

And the move comes after all of its firefighters recently received their certification as emergency first responders, which enables them to stabilize and prep patients for transport to hospital by paramedics.

Naloxone acts as an antidote to opioid overdoses from drugs such as morphine, heroin, methadone, oxycodone and fentanyl, which can cause breathing to slow down or even stop.

Naloxone injections reverse that to restore normal breathing and consciousness.

The importance of the live-saving antidote has been amplified in recent years due to the mounting public health crisis posed by opioid overdoses.

A recent study found that, in 2014-15, 4,779 people across Canada, or 13 a day on average, were hospitalized or taken to emergency departments because of opioid overdoses.

That volume is up more than 30 percent since 2007-08.

"There's a great pandemic with fentanyl and other opioids," acknowledges Deep River firefighter Tanner Fleury, who spearheaded the Naloxone initiative on behalf of the fire service.

"People are overdosing on them."

The fire service received its kits, and training on how to use them, from Cahoon's Pharmacy.

> CONTINUED ON PAGE 5

From left to right, pharmacist Philip Cahoon, Deep River firefighters Tanner Fleury and Dan Walsh and fire chief Rob Shaw hold the Naloxone kits that can be used as antidotes for opioid overdoses. Photo: Vance Gutzman

CNL issues draft statement on waste facility

PUBLIC COMMENTS UNTIL MAY 17

Area residents will have about two month to submit their comments on the potential impact of a proposed low-level radioactive waste site at the Chalk River labs.

Canadian Nuclear Laboratories (CNL) has released a draft "environmental impact statement" for the Near Surface Disposal Facility (NSDF) project.

Full copies of the document are available through the CNL website, the Canadian Nuclear Safety Commission, or the Canadian Environmental Assessment Registry.

Public comments will be accepted until May 17.

A final report will be released 60 days ahead of the CNSC's hearing on the facility, which is expected to be held in January 2018.

According to the executive summary of the draft environmental impact statement (EIS), the proposed NSDF is "rooted in the requirements established by Atomic Energy of Canada Limited, on behalf of the government of Canada, to substantially reduce the risks associated with the CNL legacy wastes, liabilities, and to create the conditions for the revitalization of the CRL property."

"The NSDF project will enable the site revitalization through improved environmental management of government of Canada legacy waste liabilities and the decommissioning of outdated infrastructure at the CRL property and other business locations."

The site would be built as an "engineered containment mound" and would receive up to 1 million cubic metres of radioactive waste over an operating life of about 50 years.

The site would be closed over about 30 years, from 2070 to 2100, and then monitored for another 300.

> CONTINUED ON PAGE 5

Above: A computer graphic shows the layout of the proposed Near Surface Disposal Facility at Chalk River.

Public comments on waste facility

CONTINUED FROM PAGE 3

Overall, the draft EIS says the NSDF is "not likely to result in significant residual adverse effects on most environmental components," and could actually leave things in better shape.

"The development of a near surface disposal facility for radioactive waste at CRL would reduce any potential risks associated with the CNL legacy wastes, liabilities, and create the conditions for the revitalization of the CRL property," the draft statement says.

"The NSDF project would enable the remediation of contaminated lands and legacy waste management areas, and decommissioning of outdated infrastructure at the CRL property and CNL's other business locations...

"Residual effects on Ottawa River water quality are determined to be negligible during operations and post-closure phases and may even result in the net reduction due to remediation of legacy waste storage areas."

The NSDF is part of CNL's new "aggressive" schedule on decommissioning at the Chalk River labs and other sites.

Speaking to members of the CNSC last fall, Kurt Kehler, vice-president for decommissioning and waste management for CNL, said decommissioning is part of the company's "new mandate" associated with the move to a government-owned, contractor-operated (GoCo) management model.

"First and foremost, our mission is to modernize the infrastructure, capabilities and approach to deliver science and technology to the government and to third party customers," he said.

"To support this we need to accelerate the decommissioning, environmental remediation, and establish long-term waste management solutions while reducing costs and the financial risk to the Canadian taxpayer."

HIGHEST PRIORITIES

Kehler said all of CNL's work is done under the watch of AECL, which oversees the GoCo contract and takes "policy direction" from the federal government through Natural Resources Canada.

"I want to assure the commission that, as a licensee, we understand our responsibilities for safety and protection of the environment, and that these are our highest priorities.

"I can also assure the commission that our contracts with AECL are aligned with these priorities," Kehler said.

"We fully understand the licensing and approvals required to support this work, and we are engaged with CNSC staff to support the multiple concurrent licensing efforts underway."

Kehler said the NSDF in particular is a key part of "Vision 2026" for Chalk River, allowing for the redevelopment of the site with new labs and facilities as older buildings are removed.

Firefighters

CONTINUED FROM PAGE 3

The training measures included how to recognize opioid overdoses and proper injection techniques, as well as what to expect when victims come to, according to pharmacist Philip Cahoon.

The federal government has issued most pharmacies with a couple of Naxolone kits, and staff at Cahoon's then took the initiative of building their own kits for the fire service.

Each kit contains two vials of Naxolone, a pair of syringes to inject the antidote, gloves, a disposable CPR mask and alcohol wipes.

"He's done an excellent job, showing initiative and putting the program together," Fire Chief Rob Shaw says of Tanner's efforts in getting the program off the ground.

Chief Shaw also stresses the important role played by Cahoon's Pharmacy.

"Philip should get a lot of credit for being proactive," said the chief.

"It's been a real asset and there's been no costs to the fire department."

Residents opposed to Chalk River disposal facility

STEPHEN UHLER
DAILY OBSERVER

Opposition to the Near Surface Disposal Facility (NSDF) at Chalk River has been growing.

The project, the latest from Canadian Nuclear Laboratories, is designed to store low-level waste on site, primarily demolition waste as the company deals with decommissioning and demolishing more than 100 buildings and structures at Chalk River Laboratories.

It will also contain a small volume of mixed waste from off-site sources.

The Concerned Citizens of Renfrew County and Area (CCRCA) and the Old Fort William Cottagers' Association (OFWCA) have both come out opposed to the NSDF, fearing both groundwater contamination and putting the Ottawa River at risk.

In a joint press release, both groups state if approved, the 30-hectare Near Surface Disposal Facility would be used to dispose of up to one million cubic metres of low- and medium-level radioactive waste.

Both the CCRCA and OFWCA state they feel the proposed site is unsuitable for a dump of any kind given its proximity to the Ottawa River, a source of drinking water for millions of Canadians. They also say the site is near a major fault line and on top of fractured and porous bedrock through which groundwater flows rapidly into the Ottawa River.

Johanna Echlin of the Old Fort William Cottagers' Association, from the Sheenboro, Que. area, said the proposal has shocked and angered residents, as well as people downstream in Ottawa and Montreal.

"Folks I talk to are outraged at the idea of dumping a million cubic metres of radioactive waste beside the Ottawa River," she said.

Echlin said OFWCA members understand that CNL must adopt a long-term plan for the radioactive waste that has accumulated on the site for half a century.

"However, our members are very disturbed to learn that CNL also plans to transport radioactive waste and other waste from different areas of the country to Chalk River for disposal. We find it unacceptable to turn this site into a huge area for disposing of radioactive material from other parts of the country," she said.

The OFWCA also objects to the size of the facility, which it states makes it unacceptable to locate so close to the river.

Added to these fears is the concern the group of multinational corporations now in charge of Chalk River Labs has no stake in the long-term health of the Ottawa River.

See **WASTE** | A2

More information needed

WASTE from A1

Echlin and her fellow cottagers worry that "after making a tidy profit on creation of the dump, they could walk away in 10 years when their contract ends and leave a leaking mess for others to live with."

Dr. Ole Hendrickson, researcher for CCRCA, hopes that questions raised by local citizens will be addressed in the draft Environmental Impact Statement, which was released March 17.

"We don't yet have adequate information about the purpose of the proposed facility, such as what commercial activities the proponents have in mind," said Hendrickson. "A key question is whether wastes from Canada's nuclear power reactors could be sent to this facility for disposal."

Members of the public have until May 17 to submit their opinions to the CNSC. Public hearings on the matter are due to be held sometime in January 2018.

The two groups opposing it hope municipalities and all others downstream from Chalk River make their voices heard through resolutions, petitions and appeals to the CNSC.

Pat Quinn, corporate communications director for CNL, said the NSDF site is meant for low-level waste, 90 per cent of which would be stored there, is already stored, or would be produced, out of activities at the Chalk River site.

"Approximately five per cent would be waste originating from the Whiteshell Laboratories, in Manitoba and other AECL sites, such as the prototype reactors Douglas Point and Gentilly-1 and less than five per cent would be commercial sourced inventories, for example from Canadian hospitals and universities, a service that has been underway for decades," Quinn said.

He stressed the site will not be used to dispose of materials such as fuel rods and other such highly radioactive materials.

"All waste to be disposed at the NSDF will be required to meet the waste acceptance criteria established, thus ensuring operational and long-term safety requirements," he said.

The NSDF Project may accept less than one percent by volume of intermediate-level waste, which is waste with higher levels of radioactivity that may require shielding for worker protection during handling and may contain higher concentrations of longer-lived radionuclides. The NSDF will also accept mixed waste, which is radioactive waste that includes hazardous substances.

Written comments can be sent to:
Nicole Frigault
Environmental Assessment Specialist
Canadian Nuclear Safety Commission
P.O. Box 1046 Station B
280 Slater St.
Ottawa, Ont.
K1P 5S9
Telephone: 613-995-7948 or 1-800-668-5284
Fax: 613-995-5086
Email: cnsc.ea-ee.ccsn@canada.ca

The draft environmental impact statement, supporting documents and associated links can be viewed at the following link: https://goo.gl/JF20kG.

SUhler@postmedia.com

CITIZENS GROUP FEARS APPROVAL OF NUCLEAR DISPOSAL FACILITY
3/27/2017 8:46:05 AM
The Chalk River Near Surface Disposal Facility Project took another step toward completion in

March and some area residents are concerned for their safety. Canadian Nuclear Laboratories submitted its draft Environmental Impact Statement earlier this month, which triggered a 60-day public comment period. Concerned Citizens of Renfrew County researcher Ole Hendrickson says the disposal facility will have a huge environmental impact.
Hendrickson says the project is on the fast track and the public needs to move quickly on the issue. He says the facility may be approved before the end of the year if there is not enough public opposition to the project. For more information on the disposal facility, visit CNL's website.
http://pembroketoday.ca/default.asp?pid=9164621&wireid=02901_RAP_CNL_Nuke_Dump1web_082319

OPINION LETTERS

LETTER TO THE EDITOR

Radioactive waste a threat to lakes, rivers

Johnna Echlin, Special to The Daily News
Tuesday, March 28, 2017 12:31:29 EDT PM

Regarding the column by Erika Simpson (*Chatham Daily News*, March 24).

Radioactive waste must never be disposed of and abandoned near a large body of water. There are right now two proposals that are plannin just that: one for the DGR (Deep Geological Repository) beside Lake Huron and the other for a NSDF (Near Surface Disposal Facility) beside the Ottawa River. Both facilities are only about a kilometre away from their respective water bodies. No matter how much their proponents insist on their safety, there is absolutely no guarantee that they will not leak. Inevitably they will and right into the bodies of water on which the sit. Some of the radioactive wastes to be contained in these facilities will remain hazardous for millions of years.

There has been an enormous public outcry opposing the DGR beside Lake Huron, completely contradicting the OPG's statement that there i little public opposition. About 187 local, county and state governments in Canada and the U.S., representing 23 million people, have passed resolutions. Members of the US Congress have written to MP Chrystia Freeland requesting that Canada oppose this plan because of the thre to the entire Great Lakes Basin.

What does it take for the public to be heard? Are 23 million voices not strong enough? And why is there silence from the neighbouring communities to the proposed site of this DGR? Might it be the millions of dollars they are being promised in compensation? I thought bribery was illegal? Is this our democracy - silencing some communities with promises of money and other incentives but ignoring the voices of millions of other people further afield who will be affected?

As a proud Canadian, who believes that Canada is progressive and cares deeply about protecting the environment and its citizens, I must tru that this government will not deceive us and that they will reject both the proposal for this DGR along Lake Huron and the proposal for the NSDF along the Ottawa River.

Johanna Echlin

Westmount, Quebec

metroland media
InsideOttawaValley.com

Arnprior to hold meeting on nuclear waste facility upriver

Derek Dunn

Arnprior Chronicle-Guide | 22 hours ago

Mounting opposition to a proposed radioactive waste site has Arnprior council calling for a public meeting.

A radioactive waste disposal site is planned for the Ottawa River, upstream from Arnprior and about one million people who depend on its water.

Groups such as the Council of Canadians, Ottawa Riverkeeper, Concerned Citizens of Renfrew County and Area, and Old Fort William Cottagers' Association are concerned that a nuclear waste disposal facility near Chalk River would prove hazardous to a water source for more than 1 million people downriver.

The project, called the Near Surface Disposal Facility, by Canadian Nuclear Laboratories (CNL), would store mostly low-level waste (primarily demolition waste) accumulated from the decommissioning of more than 100 buildings at Chalk River Laboratories. A small amount of mixed waste from sources across Canada — including other nuclear sites and hospitals and universities — will be included at the 30-hectare location. Up to one million cubic metres of radioactive waste could be stored, but only 360,000 are expected. It currently houses 267,000.

Ottawa Riverkeeper's Meredith Brown has numerous questions regarding the plan.

"If there is contamination of our waters, what are the implications for the aquatic ecosystem and for the million Canadians who swim, drink, fish the Ottawa River?" she said in a news release. "I am painfully aware of the need to find responsible ways to safely deal with the radioactive wastes that have been accumulating at the site over the last 90 years."

Located about one kilometre from the river, and almost completely surrounded by water, the waste site would have a mound up to 25 metres high. It is atop a major fault line and fractured and porous bedrock where groundwater flows rapidly into the river.

Concerns about CNL, a consortium of multinational corporations, has also arisen. In 10 years' time when its contract expires, after some revenue is generated for the federal government, the group could walk away. Its long-term interest in the land and surrounding neighbours is in doubt.

The ability to influence decision-makers is also tenuous, according to the Council of Canadians. They point out that Harper-era changes to the Canadian Environmental Assessment Act mean the project is not subject to cabinet approval. It is strictly in the domain of the Canadian Nuclear Safety Commission (CNSC).

However, CNSC is a government agency led by Dr. Michael Binder, a longtime federal bureaucrat.

Arnprior Mayor David Reid has followed the reports by various groups. While admitting he is no expert, he does put his faith in the regulation bodies that oversee the best interests of all Canadians.

"I'm sure the right agencies are working on it," Reid said. "I believe they'll do the right thing."

Reeve Walter Stack, who sits on county council and has followed the issue more closely, said a lot of residents around town and elsewhere are interested in knowing more.

He asked staff to organize a public meeting in a room larger than council chambers, and invite CNL to make a presentation.

The meeting would need to take place fairly soon. On March 17 the project's environmental assessment was completed. Residents have until May 17 to comment on it. After that, the facility could be up and working by the fall of 2018.

Derek Dunn is a reporter and photographer at the Arnprior Chronicle-Guide. He can be reached at derek.dunn@metroland.com . Follow him on Twitter and Arnprior Chronicle-Guide on Facebook .

Chalk River neighbours worry over plans to build dump for low-level radioactive waste

TOM SPEARS, OTTAWA CITIZEN
More from Tom Spears, Ottawa Citizen (HTTP://OTTAWACITIZEN.COM/AUTHOR/TOMSPEARS1)

Published on: April 6, 2017 | Last Updated: April 6, 2017 5:19 PM EDT

Canadian Nuclear Laboratories, formerly known as the Chalk River Labs *POSTMEDIA*

Radioactive waste has been in temporary storage at Chalk River since the mid-1900s, and now there's a detailed proposal to bury it in a huge mound similar to a city garbage dump.

The Near Surface Disposal Facility would operate from 2020 until about 2070. It would be a mound 18 metres high, covering 16 hectares and designed to last 500 years.

It would contain as much as one million cubic metres of mostly low-level radioactive waste, such as building rubble from demolition, and soil, and used protective clothing, mop heads and air filters. But about one per cent of the total could be medium-level waste.

The site would be between one and two kilometres from the river, near the boundary where Chalk River meets Garrison Petawawa. The design calls for a water-tight "cap" on top and liners to prevent water from washing through the waste into the ground. Water leaching out would be treated.

Canadian Nuclear Laboratories, formerly the Chalk River Labs, has now set out details in a lengthy environmental impact statement (http://www.ceaa-acee.gc.ca/050/documents/p80122/118412E.pdf). The public can comment until May 17.

"Some of this is stored (now) and it is safe," said CNL spokesman Pat Quinn. "But a lot of the material we're talking about ... is demolition debris" from buildings that are going to be decommissioned and knocked down. "So that really isn't stored; it's standing there. If you leave it to the elements, that really isn't a responsible thing to do."

Some of the neighbours are organizing opposition.

Johanna Echlin of the Old Fort William Cottagers' Association warns that some of the waste will stay radioactive for hundreds of thousands of years, far longer than the life of the dump.

Sooner or later, she warns, radioactive contamination is going to escape into the environment.

Meredith Brown, the Ottawa Riverkeeper, says she is "painfully aware" that keeping waste forever in temporary storage is the worst solution. But she has some criticism of the proposed dump,

She opposes the plan to import about 10 per cent of the waste from other nuclear facilities, including the Whiteshell lab in Manitoba that is being decommissioned.

"I really believe in treating your waste locally as much as possible," she said.

Her group has hired experts to review the 900-page environmental impact statement. Her early impression: "This is going to be an engineered dump. The problem is, this is kind of unknown territory." The technology has been used for "maybe 40 or 50 years. We don't know how those are going to stand the test of time for thousands of years."

The site has fractured rock that will allow any spillage to run underground to the Ottawa River, she said, "so that's a concern... What's going to get in there, and what's going to be the effect on aquatic health, on human health?"

CNL's website says that it is using a reliable technology: "Near surface disposal technology has been in use for decades, applied in both the nuclear industry and elsewhere, such as municipal landfills. The technology is mature and well understood. Performance for this engineered solution is sound."

It says close neighbours of the plant would be exposed to less than 0.01 per cent of the radiation set as the acceptable limit in federal rules governing Chalk River.

NEWS LOCAL

CNL, citizen's group at odds over disposal site

By Stephen Uhler, The Daily Observer
Monday, April 10, 2017 1:56:09 EDT PM

Image: 1 of

Illustration courtesy Canadian Nuclear Laboratories/Pembroke Daily Observer/Postmedia Network An artistic depiction of the proposed Near Surface Disposal Facility, to be located on the Chalk River Labs property.

The war of words is heating up in regards to Canadian Nuclear Laboratories's proposed new disposal facility.

The Near Surface Disposal Facility (NSDF) is now subject to public comment as part of the approval process following the March 17 releas of the draft environmental impact statement (EIS), which details the project and its potential impact on the surrounding area.

If approved, the NSDF would be built on a 34-hectare site about one km from the Ottawa River at Canadian Nuclear Laboratories in Chalk River, Ontario. It is to be used for permanent disposal of up to one million cubic meters of "low-level" and "intermediate-level" radioactive wastes in a mound up to 25 meters high.

The public has until May 17, 2017 to make their views known about it, which will be the subject of a Canadian Nuclear Safety Commission (CNSC) hearing in January 2018. Their input will become part of the written record which will be submitted to the CNSC as CNL seeks permission to proceed.

If approved, construction could begin soon after.

Earlier this week, two local citizen's groups expressed alarm over the EIS and their interpretation of it, envisioning a huge radioactive dum site containing plutonium and dozens of other waste products created by nuclear reactors, many of which will be radioactive for hundreds thousands of years.

Johanna Echlin, spokeswoman for the Old Fort William Cottagers' Association, said in a press release issued April 3 she was shocked to learn that the dump would contain very long-lived radionuclides.

"How can it possibly be ethical and environmentally-responsible to put plutonium and other very long-lived radioactive wastes in a landfill beside the Ottawa River?" she asks. "I have talked to many people on both sides of the river, all the way to Montreal, and everyone I have spoken to thinks this is a terrible idea."

Dr. Ole Hendrickson, the scientific researcher for the Concerned Citizens of Renfrew County and Area, is reviewing the draft EIS, and says the landfill-type design would expose radioactive wastes to wind, rain and snow.

He said long-lived radioactive wastes would be hazardous long after plastic liners had deteriorated and leachate collection and treatment had ceased, and would spread into surrounding wetlands, lakes and waterways.

"By failing to provide adequate waste containment, this proposal flagrantly disregards the International Atomic Energy Agency's safety standard for disposal of radioactive waste," Hendrickson said in the press release.

The comments within the release were disputed by CNL, who insist the project is designed to ensure the safe storage of waste.

Patrick Quinn, CNL director of corporate communications, said this proposed facility is a key step in enabling the transformation of the Cha River Laboratories into a world class

centre for science and technology, by creating a safe and permanent disposal site for the legacy and mostly low-level radioactive waste coming from more than 65 years of operations and research in the Ottawa Valley.

"The NSDF is designed to eliminate risk by putting materials into a safer state and further eliminate risk to people and the environment," he said, stating the facility is being designed to protect people and the environment even in the case of a disruptive event such as severe weather or an earthquake.

"The material is safely contained and managed now, but the NSDF will provide a permanent site for safe disposal," Quinn said. "The NSDF will incorporate a base liner and cover system which are key safety features to protect people and the environment by fully containing the waste and preventing the release of contaminants."

He said the cover system, installed at closure, will provide an impermeable barrier that blocks precipitation from entering the waste, thereb minimizing the amount of leachate generated inside the mound. The baseliner system, using natural and specially manufactured materials will also function as a barrier to keep leachate from entering the environment.

"All of the waste water generated from construction, excavation and operations of the project, as well as leachate from within the mound, w be directed to the on-site waste water treatment plant for treatment," Quinn said.

The CNL spokesman said 90 per cent of the material destined for the NSDF originates from Chalk River Laboratories itself, while five per cent will come from other CNL sites such as Whiteshell Laboratories, Douglas Point and G-1 prototype reactors sites, and less than five pe cent from existing commercial sources, such as waste from hospitals, universities and industry clients.

Of the disposal material from Chalk River, 40 per cent is building decommissioning and demolition debris, 45 per cent will be soils and related materials resulting from remediation, and the remaining 15 per cent is legacy waste from 65 years of operation, stored on site and waste from future research and operations activities.

He said no fuel rods or anything of that nature would be disposed of there. Any trace amounts of plutonium or other longer-lived radionuclides which may occur will be sorted out and not disposed of in the NSDF.

"Most of the material will be low level radioactive waste," Quinn said. "Demolition debris with higher concentrations will not be allowed in th NSDF. This waste will be diverted elsewhere for proper management."

"The Waste Acceptance Criteria (for the NSDF) clearly limits the amount of material with long lived radionuclides. Those small quantities w be under long-term monitoring and containment in the NSDF. The facility will be under institutional control for a minimum of 300 years."

Quinn said CNL has well established and effective processes in place to safely handle this material which includes an extensive and established environmental monitoring program. He stated NSDF operations will ensure these practises are incorporated in future to contin to safeguard people and the environment, and the risk of an uncontrolled releases from the NSDF is mitigated, so dust and runoff will not b factors. Quinn said

CNL is ready and willing to discuss this project, and has already held 14 information sessions since last summer throughout the Ottawa Valley.

"Another round of public information sessions is coming up in the next few weeks," he said, noting at the same time, CNL has engaged extensively with other stakeholders on both sides of the Ottawa River to discuss the NSDF, including Indigenous communities, municipal councils, regional economic development groups, the Environmental Stewardship Council, and Non-Governmental Organizations.

Quinn said CNL is confident that anyone thoroughly studying the Environmental Impact Statement will be satisfied that the proposed NSDF is the most responsible method to safely and permanently contain this waste.

The NSDF is designed to eliminate risk by putting materials into a safer state and further eliminate risk to people and the environment," he said. "The material is safely contained and managed now, but the NSDF will provide a permanent site for safe disposal."

The public has until May 17, 2017 to respond to the EIS. It is posted on the Canadian Environmental Assessment Agency website at: http://www.ceaa-acee.gc.ca/050/document-eng.cfm?document=118381

SUhler@postmedia.com

Proposed radioactive waste disposal site in Chalk River raises concerns

Proposed 'Near Surface Disposal Facility' would be operational by 2020 near Chalk River

By CBC Radio's Ottawa Morning, CBC News Posted: Apr 10, 2017 11:31 AM ET Last Updated: Apr 10, 2017 11:31 AM ET

A plan to build a disposal facility for radioactive waste from Chalk River Laboratories near the Ottawa River isn't sitting well with conservationists, but the company behind the project wants to assure people who live by the river the landfill will be safe.

Canadian Nuclear Laboratories has proposed building a five-storey-high mound roughly a kilometre from the river to store mostly low-level waste from the Chalk River nuclear facility, about 180 kilometres west of Ottawa.

The "near surface disposal facility" would be operational by 2020, and would take up to 1 million cubic metres of waste by the year 2070, when it would be closed.

"I understand that we definitely need to take care of the waste that's been building up at that site. But of course we have some concerns," Ottawa Riverkeeper Meredith Brown told host Hallie Cotnam on CBC Radio's *Ottawa Morning*.

"This is a project that will eventually abandon low-level and intermediate-level nuclear waste right beside the Ottawa River, so of course we're concerned about what the impacts on the river will be in the long term."

Brown is worried about leachate — potentially contaminated water coming from the the site — seeping in to the river.

But Kurt Kehler, vice-president of decommissioning and waste management at Canadian Nuclear Laboratories, wants to assure concerned residents and environmentalists there's a plan for that.

"Leachate occurs while it's being filled. So through precipitation — rain and snowfall — obviously before it's capped, will get into the waste, and will leach out. And we collect all that leachate and treat it," Kehler said on *Ottawa Morning*.

"Our experience at other sites is about ten years after you finish the cap, all the moisture has drained out, and you've treated that, and you will no longer have any leachate at that point in time."

Concerns about waste levels

While the plan is to store mostly low-level radioactive waste, one per cent of the disposed waste will be intermediate-level, which raises red flags for Brown.

"We're really concerned about the intermediate-level waste, because what they're proposing for this — it's really a landfill. It's a landfill for hazardous waste. And those landfills are made to last up about 500 years, and intermediate level waste will last for thousands of years," she said.

But Kehler says that small amount only contains the "very lowest edge of intermediate-level waste" and that monitoring will be conducted for "hundreds and hundreds of years" after the mound is capped and closed.

Once CNL's contract is up after 10 years, the site and its assets will be the responsibility of the federal government, namely Atomic Energy Canada Limited and the Canadian Nuclear Safety Commission.

"People are commonly using the word dump. It's not a dump. It's a very engineered facility. It is engineered to last for 500 years, and so the science is there," said Kehler.

The company is planning more open houses this spring for people in the area looking for more information on the project.

Read Canadian Nuclear Laboratories' environmental impact statement here.

Mobile users: View the document
(PDF KB)
(Text KB)
CBC is not responsible for 3rd party content

http://www.pontiacjournal.com/column/nuclear-waste-storage-chalk-river-%E2%80%9Csafe%E2%80%9D-until-year-2400

Our Environment by Katharine Fletcher

Ottawa Riverkeeper Meredith Brown has been an outspoken defender of the Ottawa River watershed for thirteen years and counting. So it's no
surprise that she's deeply concerned about Chalk River's Canadian Nuclear Laboratories' proposed nuclear waste storage site.

She addresses the issue on her Ottawa Riverkeeper blogsite (http://bit.ly/2oR0VEz):

"For 90 years, there has been nuclear activity on the shores of the Ottawa River, with no solutions in place for permanently safeguarding the radioactive waste that is continuously generated at Canadian Nuclear Laboratories (CNL) in Chalk River.

"That may soon change. Ottawa Riverkeeper has received intervenor funding to take part in the federal environmental assessment related to CNL's proposal to create a permanent 'Near Surface Disposal Facility' for nuclear waste."

It's about time CNL takes responsibility for the safekeeping of nuclear waste. It's beyond time that such waste be contained and contaminated grounds stabilized. But… is this a safe site? Perhaps like you, I'm relieved Ottawa Riverkeeper has hired two independent assessors.

Environmental Impact Assessment

I encourage you to read the Environmental Impact Assessment for the
development of the Chalk River site, released March 17 (http://bit.ly/2nLtlxS).

In it, I was struck how the plans for it extend into year 2400. While meeting with Brown on April 5, I shared my thoughts regarding radionuclides (highly toxic nuclear waste) escaping from the supposedly safe storage site during these several hundred years. Is she concerned, I asked?

Shared concerns

Unsurprisingly, I discovered that my relatively informed layperson's concerns reflect hers. Here are Brown's five major issues:

1. Contamination of Perch Creek and the Ottawa River;
2. Longevity of the geomembrane: what if it punctures? Leachate will go into Perch Creek and the Ottawa River;
3. Abandonment and long-term monitoring of the mound (container);
4. Bringing waste from other sites; and
5. Seismic activity (our region is in a significant earthquake zone, meaning fissures occur).

Ten things document

In fact, these concerns de facto merely scratch the surface of major issues related to the permanent, "safe" storage of nuclear waste. The Concerned Citizens of Renfrew County and Area (CCRCA) maintain a website (http://bit.ly/2p9Gmmd) at which you'll find "Ten things Canadians need to know about the Chalk River 'Near Surface Disposal Facility'". The Pontiac region's Old
Fort William Cottagers' Association assisted CCRCA in developing it.

Read it. Then? Get engaged by sending your concerns and questions concerning the Environmental Impact Statement by May 17, 1017.

Further reflections

The megadump for nuclear radioactive waste "would stand seven stories high and cover an area the size of 70 NHL hockey rinks." It'll be the world's largest and "eventually contain one million cubic metres of radioactive waste."

Who is the dump proponent? A consortium of multi-national companies. The CCRCA website explains, "In 2015 the Harper government turned the operation and management of CNL over to a consortium of for-profit multi-national corporations based in the U.S., the U.K., and Canada (although the Chalk River site and its wastes remain under public ownership)."

I can't think of any multi-national corporations let alone government organizations who can plan for or guarantee the safety of a project whose lifetime is 383 years and counting. Can you?

Brown also confirmed what the CCRCA claims about the Harper government's change to the Canadian Environmental Assessment Act where, in 2012 the Conservative government "eliminated independent panel reviews for nuclear projects and excluded the Minister of Environment from the decision-making process."

I'm concerned, frankly, that there's no governmental body – let alone Catherine McKenna, Minister of the Environment and Climate Change – engaged in this process.

Short window for public to comment

CNL's website declares their proposal is "A proven, environmentally sound, safe solution, designed to address CNL's nuclear legacy liabilities."

On their site, (http://bit.ly/2nSLoTM) you will find information on seven upcoming public meetings (look at the bottom right). Or send your views to: communications@cnl.ca; or call for information: 1–800-364-6989.

Katharine Fletcher
is a freelance writer, columnist, author and visual artist.
Contact her
atfletcher.katharine@gmail.com

COUNTY COMMITTEE SUPPORTS CNL NSDF PROJECT

4/13/2017 1:55:17 PM

MUNICIPAL CORPORATION OF THE COUNTY OF RENFREW
FLOREAT ARBOR
1861

Renfrew County's Development and Property Committee thinks Renfrew County council should write a letter of support for Canadian Nuclear Laboratories' Near Surface Disposal Facility project. The committee received a letter from CNL's president Mark Lesinski asking for support. Committee chair Bob Sweet thinks safety shouldn't be an issue.

The project has stirred up some controversy in the Valley over the last few weeks. The Friends of Renfrew County activist group has been very vocal in its opposition to the facility. While there was just enough councillors to hold quorum during the April 11th committee meeting, all six present voted in favour of drafting a letter.

Back to News

http://ici.radio-canada.ca/nouvelle/1028231/depotoir-dechets-radioactifs-berges-riviere-outaouais-nucleaire

Un futur dépotoir de déchets radioactifs soulève des craintes en Outaouais

Publié le vendredi 14 avril 2017 à 14 h 37 | Mis à jour le 14 avril 2017 à 19 h 57

Le reportage de Florence Ngué-No

Un immense site d'entreposage de déchets radioactifs pourrait voir le jour prochainement sur les berges de la rivière des Outaouais, à Chalk River, en Ontario. Alors que la compagnie Laboratoires nucléaires canadiens (LCN) se veut rassurante en ce qui a trait à la sécurité, des citoyens dénoncent le risque de fuites provenant de cette installation.

Un texte de **Florence Ngué-No**

À 180 km à l'ouest d'Ottawa, un promoteur privé compte aménager un site de stockage de déchets radioactifs provenant de la centrale nucléaire de Chalk River, devenue un laboratoire de recherche. Les Laboratoires Nucléaires Canadiens proposent la création d'un monticule de déchets de cinq étages qui s'étendrait sur 16 hectares et qui pourrait recevoir un million de mètres cubes de déchets radioactifs d'ici 2070.

Ce qui inquiète des groupes écologistes et des citoyens, c'est que les déchets seraient stockés à un kilomètre des berges. Ils craignent qu'une fuite contamine l'eau potable des dizaines de municipalités situées en aval de la rivière, dont Ottawa et Gatineau.

« Ce qui nous préoccupe, c'est la possibilité que les eaux de pluie s'infiltrent et soient contaminées par les déchets nucléaires et qu'ensuite elles se retrouvent dans les eaux souterraines ou dans la rivière des Outaouais. Les promoteurs ne sont pas en mesure de nous assurer que ça ne se produira pas et c'est d'autant plus particulier et préoccupant que c'est un risque qui s'échelonne sur plusieurs centaines d'années », a expliqué le directeur de Sentinelle de la rivière des Outaouais, Patrick Nadeau.

Les opposants au projet réclament plus de temps avant qu'une décision ne soit prise.

« On veut être inclus dans la prise de décision. On ne veut pas se voir imposer un dépotoir qui pourrait être extrêmement problématique pour des générations », a affirmé un scientifique et militant du comté de Renfrew, Ole Hendrickson.

La compagnie se veut rassurante

« Nous construirons une usine de traitement des eaux contaminées afin de les nettoyer pour les rendre à la nature », a assuré le vice-président du démantèlement et de la gestion des déchets aux LCN, Kurt Kehler.

L'entreprise ajoute que le site sera étroitement surveillé pour prévenir un déversement.

Le public peut consulter l'ébauche de l'étude d'impact environnemental et envoyer ses commentaires à la Commission canadienne de sûreté nucléaire jusqu'au 17 mai.

Si le projet est approuvé, le site de gestion de déchets radioactifs de Chalk River pourrait être opérationnel dès 2020.

NEWS LOCAL

More meetings coming for NSDF

By Stephen Uhler, The Daily Observer
Wednesday, April 19, 2017 9:26:00 EDT AM

Illustration courtesy Canadian Nuclear Laboratories/Pembroke Daily Observer/Postmedia Network An artistic depiction of the proposed Near Surface Disposal Facility, to be located on the Chalk River Labs property.

The public will soon be able to see for itself what the fuss is all about regarding Chalk River's proposed disposal site.

Starting April 20 and wrapping up May 3, Canadian Nuclear Laboratories will be holding a total of seven public information sessions to cover the area on both sides of the Ottawa River from Stonecliffe to Pembroke, in which those in charge of designing, building and operating the Near Surface Disposal Facility will be available to answer questions and address concerns about the project.

The public information sessions and their locations are as follows:

Thursday, Apr. 20 - Deep River at the Deep River Arena – Mezzanine; 6 p.m. - 8 p.m.
Monday, Apr. 24 - Stonecliffe Township Hall, 6 p.m. - 8 p.m.
Tuesday, Apr. 25 - Chalk River Lion's Club Hall 7 p.m. - 9 p.m.
Wednesday, Apr. 26 Rapides-des-Joachims, QC Town Hall 6 p.m. - 8 p.m.
Monday, May 1 - Petawawa Civic Centre, Rotary Room 6 p.m. - 8 p.m.
Tuesday, May 2 - Sheenboro, QC Municipal Hall 6 p.m. - 8 p.m.

Wednesday, May 3 – Pembroke Best Western - Copeland Room 6 p.m. - 8 p.m.
These will be in addition to the 14 public meetings which have already been held on the subject.
Speaking to Pembroke's operations committee Tuesday evening, Kurt Kehler, vice-president of decommissioning and waste management, said the company wants to get the support it needs to move on with the project, which is key to the renewal of Chalk River Labs.
This includes having a place to safely put the debris from the more than 100 buildings and structures at the Chalk River site which are to be demolished to make way for new facilities.
Once the site completed, the NSDF will have the capacity to hold up to one million cubic metres of low to medium level radioactive material, 90 per cent of it will be mainly demolition waste and contaminated soil generated right on site, legacy waste from 65 years of operation which is stored on site, and waste from future research and operations activities.
The rest will come from other AECL properties such as Whiteshell, Douglas Point and Gentilly-1 prototype reactors, and waste from ongoing commitments to health care institutions and universities.
Kehler said the whole facility will be lined and sealed, any water associated with it treated, and it will be engineered in a way to keep waste products contained.
If approved by the Canadian Nuclear Safety Commission, which is expected to hold a public environmental assessment hearing in January 2018, construction would begin right away, with the facility ready to begin operations in 2020. It is designed to operate for 50 years,.and then to be monitored for at least 300 years after it is shut down.
Kehler said CNL released its draft environmental impact statement earlier in March, which outlines the entire project and its impact on the surrounding area, and the public has to May 17 to comment on it.
Mayor Michael LeMay said while most of the project makes sense to him, such as keeping waste created at Chalk River on site, he was concer4ned about how the remaining 10 per cent would be transported.
Kehler said CNL and AECL have been transporting waste and radioactive materials to Chalk River for years. He said they have the methods and the equipment to ensure it is done safely, with the materials properly contained.
He added these NSDFs are in operation in the United States, Europe, and two in Canada, saying it is a proven method of disposal.
Coun. Les Scott, operations committee chairman, said he appreciates the efforts of CNL to bring this information out and to stand before the public to explain it.
"Addressing rumors is one of the hardest things to do," Scott said, noting the negative publicity the facility has attracted, and commended them for carrying on.
To comment on the draft environmental impact statement before May 17 of this year, contact the Canadian Nuclear Safety Commission at cnsc.ea-ee.ccsn@canada.ca.
SUhler@postmedia.com

This Week's Flyers

http://pembroketoday.ca/default.asp?pid=9167155&wireid=02904_P_CNL_Presenation_Pembroke1web_090605

PEMBROKE MAYOR SATISFIED QUESTIONS ABOUT CNL WASTE DISPOSAL BEING ADDRESSED
4/24/2017 9:26:42 AM
The city of Pembroke was the latest municipality to hear about the proposed near surface disposal facility at CNL in Chalk River.

Canadian Nuclear Laboratories is hoping to construct the facility beginning next year. It is meant to store waste created from the demolition of more than 100 buildings at the Chalk River site.

Five percent of the facility will also house waste disposed from other sites across Canada. According to CNL's engineering plan, the facility is meant to last 500 years.

Pembroke Mayor Mike Lemay says he feels that the concerns are being addressed.

CNL is also hosting a series of public information sessions about the facility. One will be held on Monday, May 1st in Petawawa and another in Pembroke on Wednesday May 3rd.

The Leader, Eganville, Ontario - April 26, 2017

The Eganville Leader

The flooding

Property owners with coveted waterfront properties know all of the advantages of living on the water, including access to easy swimming, boating and fishing, but this year the hazards of living so close to large bodies of water in Canada and many parts of the Valley have become ever so clear.

Unprecedented flooding on Round Lake, Golden Lake, along the [illegible] *Draymount*

Nuclear facility is a threat to people, environment, Renfrew County's future

Dear Editor:

I notice that yesterday (April 25) our county council was set to consider providing a letter of support for the proposed "Near Surface Disposal Facility" (NSDF) for great quantities of radioactive waste at Chalk River. While I have no idea how council's deliberations went, as this is not a "done deal", I do want to air my opinions about this proposed facility while the topic is before the public.

Building one of the world's largest nuclear waste disposal facilities in Renfrew County, just a kilometre from the Ottawa River, would provide lots of temporary jobs in an area with a high unemployment rate. It would also relieve the dangers of stored nuclear radiation for millions of Canadians living near nuclear sites elsewhere in Canada, as this one would be The Big Dump for it all.

However, amongst the negatives of this proposal are the potential to pollute the drinking water for millions of people downstream of the site, and the danger posed by nuclear radiation entering the water table of everyone in this whole area, as no one really knows how water moves underground. I also have great concerns about radiation leaking into the surrounding wetlands and into the air and winds. There is enough cancer in Renfrew County. We don't need a facility that would add to the already present carcinogenic dangers already in our area.

This landfill-type facility does not conform to the guidelines of the International Atomic Energy Agency nor to the policies of the Canadian government for disposal of low level radioactive wastes.

When I was in kindergarten I was taught to clean up my messes and wastes as I created them. What kind of children are these nuclear industry corporations that they didn't invest their massive profits 50 years ago into how to properly clean up their wastes? Why do they think the people of Renfrew County would accept their messes willingly?

I notice there was a recent TED talk about Denmark using small Thorium reactors that use up lots of the nuclear waste, making into power and a nuclear waste that is less dangerous in the long run. Has this, or other alternatives, been considered?

We notice that Westinghouse, the largest provider of nuclear technology in the world, is filing for bankruptcy. All over the world countries are divesting from nuclear. Why is Ontario investing in more nuclear and raising electricity rates for doing so? Why does Canada allow nuclear industry companies to privatize their profits, while making the taxpayer responsible for the liabilities and insurance costs?

Why is Renfrew County council considering supporting a facility that will likely endanger the people, environment, and future of tourism in Renfrew County? What is the hurry? Why not wait for the second public input comment period to be over? Maybe you did. May it be so.

Robbie Anderman,
Killaloe

Letters to the Editor

Our tax dollars at work

Re: CNL's glossy two-page ad, NRT April 12. Does it tell the whole truth?

- "A safe solution"?

Canadian Nuclear Laboratories (CNL) issued a draft environmental impact statement (EIS) for their proposed "Near Surface Disposal Facility" (NSDF) that uses "safe" 70 times and "safety" 405 times. Repeating words over and over does not make them true.

- "Proven technology"?

CNL says that "proven technology" means: "The effectiveness for disposal of LLW and ILW has been demonstrated through similar facilities currently in operation globally." (EIS, p. 2-24)

"Effectiveness for disposal of waste" is not the same as protecting the environment. It could just mean "getting rid of" some waste.

Large "similar facilities" in the United States are located in the desert. "Proven technology" used in the wrong place can cause considerable health and environmental damage.

- "Federal agencies set regulations and provide oversight"?

Federal agencies set lots of regulations. But the Canadian Nuclear Safety Commission (the lead federal agency on nuclear matters) has never set any regulations for permanent disposal or abandonment of radioactive waste. Why not?

- "Waste Acceptance Criteria"?

CNL will propose its own Waste Acceptance Criteria (WAC) for what goes in the dump. It hasn't done so yet.

These criteria may be "quantitative or qualitative." (EIS, p. 13-8)

- "Waste that does not meet the criteria will not be accepted"?

CNL says, "In the rare occasion that wastes that do not meet the WAC, the waste may be further reviewed for acceptance through the WAC variance process." (EIS, p. 3-13).

Might wastes that are inappropriate for surface disposal be put into the NSDF?

- "What will go in it"?

CNL says where waste might come from (90 per cent Chalk River, five per cent Whiteshell and other federal facilities, five per cent non-federal) but not what the wastes actually are.

CNL provides few details about the radioactive contents of these wastes.

CNL provides no justification for shipping wastes from across Canada and dumping them next to the Ottawa River.

- "Timeline"?

CNL says "construction begins" next year. It sounds as if a decision was already made.

In September 2015 the Harper government - not known for environmental protection - signed a 10-year contract with CNL that says, "CNL shall seek the fastest, most cost effective way(s) of executing the DWM [Decommissioning and Waste Management] Mission including disposal of all waste."

Bad decisions can and should be revisited.

- Our tax dollars at work?

Although the total dollar amount of CNL's contract is unknown, Parliament appropriated over $500 million in the 2016-17 budget, and again in the 2017-2018 budget, to deal with nuclear decommissioning and waste liabilities.

This is our tax money. Our elected officials should be accountable for how it is spent.

Ole Hendrickson
Concerned Citizens of Renfrew County

Welcome news

As a long-time committed reader of the North Renfrew Times, I was most heartened by the editorial of April 12, "Here to Stay."

Whew! How would I ever get through Wednesdays without my NRT fix? It is how I know what my neighbours are up to!

And under new ownership, the NRT promises to be even better as it invites us all to share what makes this North Renfrew community special to us.

So here goes. Last Saturday I was excited to attend the grand opening of Deep River's latest new business "Ready Set Make" in the former Video Ten location.

> CONTINUED ON PAGE 17

This Week

Items are listed free for non-profit community groups. To have an upcoming event listed, call the NRT at 584-4161 or email <NRT@magma.ca> before 10 am Monday.

Wednesday, April 26

12-8 pm, Free Walk-in Counselling Clinic, no appointment needed, North Renfrew Family Services (for information, call 584-3358) *
10 am - 5 pm & 7-9 pm, "Weaving Past Into Present," exhibition sponsored by the Deep River Library Arts Committee, DR Library program room (show continues until May 20)
12-1 pm, Soup & Sandwich Luncheon, St. Andrew's United Church, Chalk River *
1:15 pm, Social Bridge, sponsored by Friends of the Library, Deep River Library program room *
7:30 pm, Grief Share program, St. Andrew's United Church, Chalk River (for information, call 584-3618) *

Thursday, April 27

12 pm, Deep River and District Hospital Auxiliary annual general meeting, Bear's Den, Hwy 17 Deep River
6:45 pm, Lions bingo, doors open at 6 pm, Chalk River Lions Hall *
7 pm, Al-Anon meeting, for family and friends of alcoholics, Laurentian Hills municipal hall, Point Alexander *
7:30 pm, THEOP presents Pro Arte Danza, Childs Auditorium, Mackenzie Community School

Friday, April 28

10-11:15 am, Coffee morning, everyone welcome, Deep River Community Church *
1:30 pm, Seniors Friendship Club movie afternoon: "Genius," North Renfrew Long Term Care Centre, Ridge Road
7-9 pm, Friends of the Library Giant Book Sale, DR Library program room
8 pm, Alcoholics Anonymous meeting, Laurentian Hills municipal hall, Point Alexander *

Saturday, April 29

10 am - 12 pm, Friends of the Library Giant Book Sale, DR Library program room
7:30 pm, Deep River Symphony Orchestra concert, featuring Beethoven's Fifth Symphony, Childs Auditorium, Mackenzie Community School
8 pm, Community Dance, hosted by the Knights of Columbus, music by Off Road, Deep River Legion

Sunday, April 30

Monday, May 1

10 am - 1 pm, Deep River and Area Food Bank open (except holidays), at the Deep River and District Hospital (for more information, phone 584-2484) *
1 pm, Golden Oldies Euchre Club, CR Legion *
1:30 pm, Grief Share program, 118 Frontenac Cres, Deep River (for information, call 584-3618) *
7 pm, RBWM Historical Society regular monthly meeting, Schoolhouse Museum, Hwy 17 at Meilleur's Bay
7:30 pm, Deep River Choral Group, Childs Auditorium, MCS *
8 pm, Alcoholics Anonymous meeting, Laurentian Hills municipal hall, Point Alexander *

Tuesday, May 2

1 pm, 49ers euchre, Deep River Legion *
7 pm, Duplicate Bridge Club meets, DR Library program room *

Laurentian Hills

Proposed waste site is not a dump, says CNL

By Denise Walker

Laurentian Hills council heard from a delegation from Canadian Nuclear Laboratories (CNL) last week.

President and CEO Mark Lesinski, together with corporate communication director, Pat Quinn, environmental authority, George Dolinar, and project director, Jim Buckley, came to explain their plans for a large nuclear disposal facility at the Chalk River Laboratories.

Lesinski began by telling council "we are going through big changes at the site."

"We have moved to the GoCo model (government owned, contractor operated). I preside over the site right now and all the good things we are doing."

He continued, "it's all about revitalization."

"We have $800 million (federal funds) to invest in new buildings. We are actively thinking about new missions, new research into nuclear and science technologies."

He said the company would build on the past.

"The laboratories and AECL (Atomic Energy of Canada) had a good reputation for nuclear research, but that reputation had gone down a bit. We are going to build that back up," he promised.

As to how that ties in to the need for a waste disposal site, Lesinski explained that 128 buildings on the Chalk River site "have outlived their life."

The buildings will be demolished and the demolition debris plus contaminated soil will be removed and put in the proposed disposal facility.

Eventually new buildings will be built, although Lesinsky acknowledged there will be a lot fewer of them.

In addition to future new buildings, CNL is putting in natural gas, water lines, and roads as "all of this will enable us to do the work of nuclear technology and science for the next 50 years," said Lesinski.

The disposal site will be a Near Surface Disposal Facility (in this case an engineered mound) or NSDF.

Lesinski said the site would be for materials with low levels of radioactive contamination.

"It's for the demolition waste but also for waste from our future operations," he told council.

The site will have the capacity to hold one million cubic metres of waste.

According to Lesinski, 90 per cent will be waste from Chalk River Laboratories. Of that, 15 per cent will be for future wastes from the site.

The rest is waste from "other AECL liabilities," such as Whiteshell (Manitoba), Douglas Point (Ontario), and Gentilly 1 (Quebec), as well as waste from existing contracts with universities, hospitals and sign production using tritium.

Although primarily aimed at low level nuclear waste, the disposal site will also be used for some intermediate level nuclear waste (waste that has higher levels of more long lived radionuclides).

Defence in depth

Lesinski told council that this type of waste would only account for one per cent of the total waste.

"It is only just above the level of low level waste," he said, adding that the company was being open and transparent in including this waste, as "some small quantity of intermediate level isotopes are present in the demolition debris."

He added, "the vast majority is low level, building materials, lab materials, soil, and debris."

Lesinski said the facility was designed "with defence in depth."

It will have various layers of containment, including a synthetic clay liner, high-tech membranes, and natural materials of clay and rocks.

The facility will be "impervious to water," he claimed, but just in case there is any discharge, the water will be collected and treated at a waste water treatment plant.

The plant will be built at the disposal site.

Lesinski stated that the proposed site for the facility is at the Chalk River Laboratories, one kilometre from the Ottawa River with drainage towards Perch Lake.

At the end of its life, the facility will be grassed over.

Lesinski said the facility would look like a "grassy knoll" that would not be visible from either the river or Highway 17.

He claimed that similar sites existed around the world, and said a similar site was being built at Port Hope, Ontario (although that facility is not a disposal facility, it is licensed as a long-term managed storage facility).

Lesinski tackled some of the recent media reports.

He took issue with some press reports that call the facility "a waste dump."

"That's inaccurate," he said. "It's not like you picture a waste dump with seagulls and bears. It will be fenced and monitored. It is not a dump, it is a waste facility."

He said reports that the facility would be used for nuclear fuel were wrong.

"It's for low level waste and a sliver of intermediate waste only," he said.

Lesinski said he was aware that "the idea is out there that we will come in and leave a mess."

This too was wrong. He pointed out the work will be done by local people, and that AECL is the long-term steward of the site.

In addition, the Canadian Nuclear Safety Commission regulates the site.

Lesinski ended by telling council the facility will be safe.

"The reason we can say it's safe is because we have done the analysis of the isotopes that we have. We've taken samples and made up waste acceptance criteria.

"Any waste going in there has to meet these criteria, and we'll sample everything that goes in.

"It will be safe in normal operating conditions and in upset conditions like fires, earthquakes and climate change," he said.

Comments

He told council "this is the time to submit comments to the CNSC."

"We want to engage, and we encourage people to put forward their questions.

"If we have shown you this is safe, we need your support. We need support because this is very important to the continuation of the laboratories."

(CNL is holding a series of open house information sessions about the NSDF and the proposed closure plans for the NPD reactor site at Rolphton. Meetings have been held in Deep River, Stonecliffe and Chalk River. Sessions are planned for tonight in Rapides des Joachims and Monday in Petawawa.)

Councillors did have some questions for CNL.

Bruce Boucher asked if the facility would include NPD (located in Rolphton).

Lesinski replied that the plan for NPD was to grout up the remains of the reactor site at its present location.

> CONTINUED ON PAGE 20

Safety commission to hold open house

The Canadian Nuclear Safety Commission (CNSC) will hold an open house in Deep River to provide information on how it regulates the nuclear sector.

Come find out how Canada's nuclear regulator ensures that nuclear activities and facilities are safe, and talk with CNSC staff about how environmental assessments are conducted.

You will also learn about CNSC-licensed facilities and projects in the area and hear more about the CNSC's upcoming public Commission proceedings.

The open house will be held today, Wednesday, April 26, from 2 to 4 pm and 6 to 8 pm at the Deep River Legion, 50 McElligott Drive.

CNSC staff will be on hand to provide information and answer questions about:

- how they regulate the nuclear sector
- the environmental assessment process for the proposed Near Surface Disposal Facility Project
- public participation in the licensing process for the proposed licence renewal of the Chalk River site
- how they conduct safety checks, inspect, and take samples to ensure communities and the environment remain safe.

For more information, call 1-800-668-5284.

Laurentian Hills: proposed waste site

CONTINUED FROM PAGE 4

"We don't need the facility for NPD. We will be grouting it in place."

Councillor Brenda Blimkie wanted to know about future wastes.

"If you get a licence, can you take waste from other places than those you talk about in the plan?" she asked.

Jim Buckley replied that he did not think the licence would be specific as to the origin of the waste.

But, he said, "we have made it clear in the project description that it is only the wastes we have identified. We are not taking waste from anywhere else."

Blimkie explained that "it's one of the biggest concerns for our residents."

Blimkie also asked about the site location.

"Doesn't Perch Lake have a creek that flows into the Ottawa River?" she asked.

Lesinski agreed that it did, but said that any run-off would be intercepted and treated.

Mayor Jed Reinwald asked if the waste would be in containers.

Buckley responded that some would be "pre-packaged" in drums or metal containers.

He acknowledged that the containers would not, however, last "hundreds of years."

The majority of the waste would be in bulk form. He explained the bulk waste would be plastic wrapped to prevent equipment contamination in transporting the waste.

He also added that, although there was no intention to retrieve the waste, all waste will be mapped and could be removed if needed.

He added that all material coming to the facility will be "put into disposal-ready condition" at source. There will be no processing at the facility itself.

Strategic plan

Back in March, council held a special meeting with staff to begin work on a strategic plan. They were assisted by Penny Sharman of Sharman Municipal Consultants.

At the March meeting, staff and council looked at what items or actions should be included in a strategic plan.

Last week, Sharman returned to council to report back on the outcome of that meeting and to look at what decisions still need to be made.

Sharman reported that there were five top focus areas that emerged from the March discussions.

These were: Capital Projects, Emergency Management, General Governance, Public Works, and Waste Management.

They will form the basis of a draft strategic plan for the municipality.

Sharman identified several areas that needed clarification from council.

These include issues around bylaw enforcement options, set fines for bylaw infringement, staff training, and municipal liability.

To all of these, Mayor Reinwald said council would need more time to decide how they wanted to proceed.

Council agreed that once the draft plan was ready, council will consult with the public.

Mayor Reinwald said "I'd like to get public input into the plan, but I think we need to get the draft plan done first."

Budget workshop

Budget 2017 has moved much closer. Council held its budget workshop last week, getting a first look at income and spending for 2017.

A preliminary budget will make its way to the finance and personnel committee in May.

Laurentian Hills joined the town of Deep River last week in officially imposing new rules for residential garbage disposal and pick up.

From May 1, residential households will be allowed two bags of garbage per week. Any extra bags put out must have a bag tag attached. Extra tags will cost $2 each and can be purchased from the town office.

(Although, as of last week, neither Deep River nor Laurentian Hills actually had any tags yet).

Any bags taken to the landfill must also have tags. Untagged bags will cost $2 each.

Previously residents were allowed to take two garbage bags per visit to the landfill without charge.

As to what size a garbage bag is, CAO Sherry Batten explained that whether it is a bin or a bag, or combination of the two, residents are allowed a combined total of 154 litres capacity each week.

She assured councillors that flyers will be sent out explaining the program to residents.

As in Deep River, at present, the new restrictions only apply to residential properties.

Starting in June, there will be an audit program to see how well the program is working.

NEWS LOCAL

County council supports Deep River on NSDF site at Chalk River

By Sean Chase, The Daily Observer
Thursday, April 27, 2017 9:19:39 EDT AM

Illustration courtesy Canadian Nuclear Laboratories/Pembroke Daily Observer/Postmedia Network An artistic depiction of the proposed Near Surface Disposal Facility, to be located on the Chalk River Labs property.

Renfrew County council has lent its support to Deep River as the host of Chalk River's proposed disposal site.

On Wednesday, councillors also backed Canadian Nuclear Laboratories (CNL) who are submitting a draft Environmental Impact Statemer to the Canadian Nuclear Safety Commission (CNSC) for the Near Surface Disposal Facility (NSDF) and is asking the regulatory body to extend the 60-day commenting period which expires on May 17. Addressing his colleagues, Deep River Reeve Glenn Doncaster

said the facility is in keeping with CNL's mandate to deal with Canada's legacy nuclear waste as a result of the Atomic Energy of Canada Limited (AECL) operations over the past 60 years.

"This waste comes from the years of innovated projects that AECL has been involved with that have benefited all Canadians and the worlc one way or another," he said.

In order for CNL to revitalize and move this site to an updated state-of-the-art facility, the corporation needs to remove all the older structure to make room for the new facilities. This includes having a place to safely put the debris from the more than 100 buildings and structures at the Chalk River site which are to be demolished to make way for new facilities.

Once the one million cubic metre site is completed, the NSDF will have the capacity to hold up to one million cubic metres of low to mediur level radioactive material, 90 per cent of it will be mainly demolition waste and contaminated soil generated right on site, legacy waste fron 65 years of operation which is stored on site, and waste from future research and operations activities. The rest will come from other AECL properties such as Whiteshell, Douglas Point and Gentilly-1 prototype reactors, and waste from ongoing commitments to health care institutions and universities.

Conducting their due diligence, Doncaster explained that Deep River town council recently hired James Ayres, a certified specialist in environmental law and has extensive experience with the environmental assessment process and environmental projects, and Dr. William Kupferschmidt, an experienced specialist in the area of nuclear waste management, to conduct a peer review of the Environmental Impact Statement submitted by CNL.

"The Town of Deep River is the proud home of Canadian Nuclear Laboratories and takes its role as Host Community very seriously," remarked Doncaster. "As the Host Community, Deep River also recognizes its responsibility and obligation to work with CNL, local and stakeholder residents and neighbouring communities to ensure that the legacy of Atomic Energy of Canada Limited and of Canadian Nuclear Laboratories remains a positive one for today, tomorrow and for future generations."

Meanwhile, CNL will be hosting seven public information sessions to cover the area on both sides of the Ottawa River from Stonecliffe to Pembroke, in which those in charge of designing, building and operating the Near Surface Disposal Facility will be available to answer questions and address concerns about the project. Warden Jennifer Murphy said there is a lot of public discussion about the project and many questions that CNL needs to address.

"We need to sort out the fact from the fiction," she said.

Laurentian Hills Mayor John Reinwald assured his colleagues that regulators will be very thorough before anything is finally approved.

"It takes a lot to get through the CNSC," he said. "It takes a lot of hurdles to jump."

The next public information sessions are on Monday, May 1 at the Petawawa Civic Centre Rotary Room, Tuesday, May 2 at the Municipal Hall in Sheenboro and Wednesday, May 3 at Pembroke Best Western Copeland Room. All session are from 6 p.m. to 8 p.m.

SChase@postmedia.com

http://ici.radio-canada.ca/premiere/emissions/les-annees-lumiere/segments/reportage/22331/depotoir-nucleaire-chalk-river-radioactivite-dangers

ICI RADIO-CANADA .ca

Le projet risqué de site d'enfouissement nucléaire à Chalk River

La construction imminente d'un dépotoir pour déchets nucléaires à quelques centaines de mètres de la rivière des Outaouais inquiète des intervenants du milieu scientifique canadien, révèle un reportage de Chantal Srivastava. Patrick Nadeau, de Sentinelle de la rivière des Outaouais, mentionne, entre autres, que le manque de précédents est une source d'inquiétude et de risques pour l'environnement et la santé humaine.

Le dépotoir, ou « installation de gestion des déchets près de la surface », selon le jargon officiel, sera construit à proximité des laboratoires de recherche de Chalk River, à 180 km à l'ouest d'Ottawa. Il sera graduellement rempli jusqu'en 2070, puis scellé. Le monticule d'une hauteur de 25 mètres contiendra 1 million de mètres cubes de déchets, selon Annie Morin, biologiste à Laboratoires nucléaires canadiens (LNC), l'entreprise privée chargée du projet. Elle ajoute que seulement 1 % des déchets auront une activité radioactive moyenne, les autres étant de faible activité.

Le journaliste à la retraite Gilles Provost met en garde la population : ces déchets d'activité moyenne sont très dangereux. « Ces 10 000 m3 de déchets [peuvent produire assez d'énergie au mètre cube] pour faire bouillir de l'eau. Il faut les déplacer à distance tellement ils sont dangereux. […] C'est radioactif au point où les radiations pourraient détruire la membrane. »

Un plan de coupe montrant la constitution du dépotoir, de la surface gazonnée au déchets radioactifs variés Photo : Rapport de Laboratoires nucléaires canadiens

Une première au Canada

L'installation de gestion des déchets près de la surface est une technologie éprouvée, affirme Annie Morin. Différents scénarios prenant en compte les conditions météorologiques et environnementales de la région ont été testés et seront considérés lors de la conception et de l'installation, sans compter un programme complet de surveillance environnementale de la qualité de l'eau et de l'air.

Ces propos sont mis en doute par Patrick Nadeau, qui estime que les précédents, ailleurs dans le monde, sont incomparables. Un tel dépotoir dans l'État de Washington, par exemple, se trouve dans une contrée désertique, tandis qu'un autre, en France, traite des déchets complètement différents. Selon le biologiste, cette technologie est éprouvée… dans le cas de dépotoirs municipaux.

Risque de contamination de l'eau

La proximité d'un affluent qui abreuve la capitale canadienne et la Région métropolitaine de Montréal mérite d'être mentionnée. « À partir du moment où une contamination atteint la rivière, on parle de risques pour tous les gens en aval », estime Patrick Nadeau. Filtrer ces eaux est extrêmement complexe, puisque des éléments, comme le tritium, peuvent « passer tout droit ». C'est sans parler de la difficulté que présente la captation de l'entièreté de ces eaux.
Notre responsabilité envers le public, c'est de [nous] assurer que le site et la méthode utilisée présentent le moins de risques possibles, et je ne peux pas vous affirmer ça au moment où [nous nous] parlons. - Patrick Nadeau

Un dossier complexe et difficile d'accès

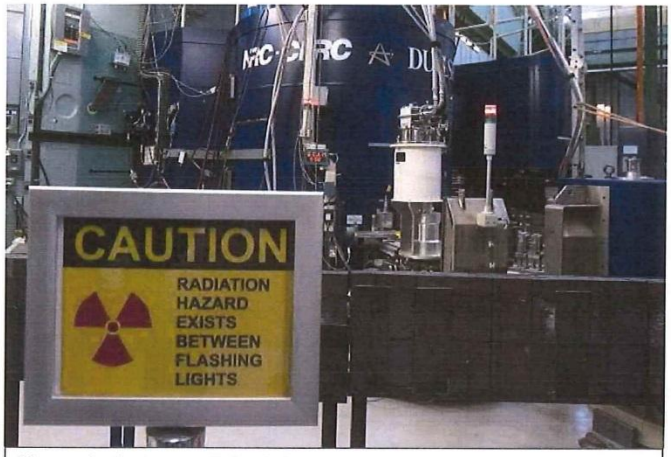
La population a jusqu'au 17 mai pour réagir à un rapport de 990 pages – sans compter les annexes – au sujet du dépotoir, publié uniquement en anglais par LNC et diffusé sur le site de la Commission canadienne de sûreté nucléaire (CCSN). Caroline Ducros, directrice de la Division de l'évaluation environnementale de la CCSN, affirme qu'une traduction française est en chantier du côté de LNC, mais n'en connaît pas encore la date de publication. Elle admet qu'il pourrait être nécessaire d'allonger le délai d'étude pour la population et les groupes environnementaux, sans toutefois le confirmer.

Malgré le rapport en français à venir, Gilles Provost croit que le dossier demeure extrêmement complexe pour le public. « Ça m'a pris une semaine complète pour le comprendre, et je suis allé d'incrédulité en incrédulité. » Il réitère que, selon lui, dans sa forme actuelle, le dépotoir serait un projet irresponsable de la part du gouvernement fédéral.

On va avoir la traduction en français, [nous allons alors] pouvoir lire par nous-mêmes tout ce [que le gouvernement] va faire d'irresponsable.
Gilles Provost

Publié le 01 mai 2017 à 23h29 | Mis à jour le 01 mai 2017 à 23h29

Chalk River: Choquette réclame toujours une enquête du CLO



Vue sur le réacteur nucléaire de la centrale de Chalk River, en Ontario, en décembre 2007.
Archives, La Presse canadienne

Paul Gaboury
Le Droit

Malgré la volte-face de la Commission canadienne de la sûreté nucléaire (CCSN), le député néo-démocrate François Choquette réclame toujours une enquête de la Commissaire aux langues officielles sur les documents unilingues déposés par le promoteur Les Laboratoires nucléaires canadiens dans le cadre du projet de dépotoir de déchets radioactifs de Chalk River.

Selon M. Choquette, l'enquête de la commissaire doit se poursuivre afin de savoir réellement pourquoi la CCSN avait d'abord indiqué qu'elle ne pouvait contraindre le promoteur à traduire le document d'analyse d'impact en français sous prétexte qu'il s'agissait d'une « tierce partie ».

Dans une plainte déposée auprès du CLO, le député disait que la CCSN n'avait pas respecté ses obligations linguistiques prévues à la Loi sur les langues officielles en n'offrant pas en même temps la documentation dans les deux langues officielles.

Le député Choquette souhaite aussi que la ministre de Patrimoine canadien, Mélanie Joly, agisse afin qu'une telle situation ne se répète pas.

« Il va de soi que la traduction en français du document d'impact environnemental de ce projet est une bonne nouvelle. Maintenant, il faut agir afin que cette situation ne se reproduise plus. La ministre Mélanie Joly doit exercer son leadership afin de faire respecter la Loi sur les langues officielles. On veut un engagement clair de sa part en ce sens », a indiqué le député Choquette.

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EDITORIAL

NORTH RENFREW TIMES

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PO Box 310, Deep River, ON K0J 1P0

Be prepared

It happens so fast. Fire can engulf your home in a matter of minutes. That's what happened Monday night as a local family lost everything in a fire in McKee subdivision. Dan and Laura Schryer and their children Jessica and Patrick escaped unharmed but watched helplessly as flames consumed their Pinewood Place home. While the four family members are safe and sound, it's a sobering reminder of how quickly and remorselessly fire spreads. "I was just working in there an hour ago," Dan said Monday night of the blaze that began in the family's garage, as Laurentian Hills firefighters doused the last of the flames.

The Ontario Association of Fire Chiefs offers the following advice to make sure your family is ready:

- Make an escape plan. Draw a floor plan of your home, marking two ways out of every room - especially sleeping areas. Discuss the escape routes with every member of your household. Agree on a meeting place outside your home where every member of the household will gather to wait for the fire department. Practice your escape plan at least twice a year.

- Be prepared. Make sure everyone in the household can unlock all doors and windows quickly, even in the dark. Windows or doors with security bars need to be equipped with quick-release devices and everyone in the household should know how to use them.

- Test doors before opening them. While kneeling or crouching at the door, reach up as high as you can and touch the door, the knob and the space between the door and its frame with the back of your hand. If the door is hot, use another escape route. If the door is cool, open it with caution.

- Get out fast. In case of fire, do not stop for anything. Go directly to your meeting place and then call the fire department from a neighbour's phone. Every member of your household should know how to call the fire department.

- Crawl low under smoke. Smoke contains deadly gases and heat rises. During a fire, cleaner air will be near the floor. If you must exit through smoke, crawl on your hands and knees keeping your head 12 to 24 inches (30 to 60 cm) above the floor.

-Play it safe. More than half of all fatal home fires happen at night while people are asleep. Smoke alarms are set off when a fire starts, alerting people before they are trapped or overcome by smoke. Install smoke alarms outside every sleeping area and on every level of your home, including the basement. Test smoke alarms monthly. Change all smoke alarm batteries at least once a year. If your smoke alarm is more than 10 years old, replace it.

For more, visit <www.oafc.on.ca>.

If fire strikes, you have only minutes. Make sure you and your family are ready.

TM

Ottawa Tulip Festival Photo: Alison Chiasson (12)

LETTERS TO THE EDITOR

Oversight or incompetence?

Re: "Commission extends comments on radioactive waste site," NRT May 17.

So the time period for submission of public comments on the draft Environmental Impact Statement (EIS) has now been extended to who knows what date. Initially it was to be a deadline of May 17.

The EIS document is submitted for approval to the Canadian Nuclear Safety Commission (CNSC) by Golders Associates - on behalf of the Canadian Nuclear Laboratories (CNL) - for the development of a Near Surface Disposal Facility (NSDF) at the Chalk River Laboratories site.

I have had already made my submission of comments (electronically) on the draft EIS document some time back - keeping within the initial deadline announced.

As I understand it, this extension period is required due to the need for having the draft EIS document translated into our second Canadian official language (French) - and not because of the request made by the Deep River council or area citizens for such an extension.

A revised notice will be issued once the translated version of the EIS is available, and CNSC will provide further details on the dates of the public comment period.

OK - so it is understandable that the document needs to be in both official languages, but what is not comprehended is why the CNSC did not know about this need at the beginning.

It is a simple rule - known by the Canadian establishment for a long time.

Does it indicate some gap in the competency of our Canadian Nuclear Safety Commission (CNSC)? or was it just an oversight, and not a fumble by the CNSC.

Thus it may pose a question. If the CNSC cannot carry out this simple administrative requirement (of having the document in our two official languages) at an early stage of the process - how do we get confidence/assurance that the regulatory body will have the professional ability and competence to look at the myriad of complex technical, societal and environmental issues related to the development of such an important disposal facility.

While I am fully in favour, in principle, of the development of such a facility at the Canadian Nuclear Laboratories (CNL) site, it behooves the regulator to assure the public that the proposed development meets the whole spectrum of safety requirements - and as reviewed by renowned/ competent/ professional experts.

The devil is in the details.

Pravin Shah

Softwood lumber

In the US, forest lands were taken from the native tribes and sold by the federal government.

In Canada, forest lands were taken from First Nations and held as "Crown lands."

It appears that the Irving empire managed to buy vast tracts of New Brunswick forest land and in other parts of Canada large areas of forest were leased to lumber companies that created the lumber barons. In Ontario, lumber companies bid on harvesting rights on Crown land.

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EDITORIAL

North Renfrew Times

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Change & renewal

Canadian Nuclear Laboratories laid out a long-term plan last week for what it hopes to achieve over the next 10 years. No, that's not fair - it's more than "hopes." The plan sets out specific goals and targets and the dates by which they will be reached. While it may grow and evolve, it's a plan that in many respects can be measured and tracked - a commitment to its stakeholders, employees and the community.

Overall, the plan sets out the vision for future decommissioning work at the Chalk River site, infrastructure renewal, and science and technology development based on specific areas - things like reactor life extension work, advanced fuels research, the development of small modular reactors, hydrogen research, new "alpha therapy" cancer treatment, and nuclear security. And while a plan may be just that - a plan, not yet a reality - the evidence suggests this one is backed by our federal government in concrete terms. Federal funding for CNL through Atomic Energy of Canada has been just shy of $1 billion the last two years, including a commitment of $800 million in capital funding over five years. And AECL's approved corporate plan identifies sustained federal funding through the year 2020-21, a total of more than $4.6 billion over the same time period.

This is not to say the future is rosy - sit back, don't worry, everything will be taken care of for us all. On the contrary. This is still just the beginning of a period of transition and transformation for CNL. It will take tremendous work, skill and ingenuity to achieve the kind of success we all wish to see for our area's largest employer. But if there is one thing that should give area residents some comfort, it's the consistency of the vision and the message, from the beginning of the restructuring of AECL in 2009, through the years under the leadership of Dr. Bob Walker as president, to the awarding of the GoCo model contract coming up to almost two years ago now, to the strategy released by CNL last week. It's a vision of change, modernization, revitalization and renewal - one that, as the government said at the beginning of the process, at least has the potential to set the course for the Chalk River labs for the next generation and more.

More than 30 years ago in the world of parenting advice, a woman named Barbara Colorosso coined a phrase that applies not just to parenting but to life in a much more general sense: "Say what you mean, mean what you say, do what you say you're going to do." Whether CNL's long-term plan is the right plan, whether it's realistic and sustainable - those are still open questions. But one thing that is not in question is that so far, they seem to be doing what they've always said they would do.

TM

Always a sure sign of spring, these two male Hooded Mergansers were spotted on the Chalk River recently. When they raise their crests during courtship, the large white patches on either side of their heads are particularly striking. Photo: Tony McLaughlin

Letter to the Editor

Who knows?

Ole Hendrickson ("Our tax dollars at work," letter NRT April 26) wrote, "What will go in it?", referring to the proposed Near Surface Disposal Facility.

I applied for and was awarded funding as part of the Participant Funding Contribution Agreement that the CNSC offered, which stated, "This contribution agreement pertains specifically to the following matter: Canadian Nuclear Laboratories Near Surface Disposal Facility Project."

My application for funding included the following:

"My proposal is to review Canadian Nuclear Laboratories' radwaste management system (its inventory database and procedures) to:

- determine CNL's ability to maintain chain of command on waste items,
- ensure that wastes are properly tracked from point of origin to endpoint,
- assess waste characterization and waste classification, and
- assess segregation and routing to ensure that only qualified wastes will be emplaced in the NSDF."

On March 21, I requested a copy of CNL's Integrated Waste Strategy (IWS) document.

The IWS is a CNL cornerstone for waste management and it, I hope, provides details about the four bullet points listed above.

As of April 27, I had not received the document and, therefore, I have not yet been able to assess how CNL proposes to control the NSDF inventory.

Currently, the document with my comments on the Environmental Impact Statement (EIS) is over 50 pages long and my focus was principally on "what will be put into the NSDF and how will the inventory be controlled."

In the context of Ole's question, some of my comments are:

- An impact statement without a delineation of what is being assessed for its impact is, in my view, odd to say the least.
- The NSDF as described appears to be a black box regarding what it will actually contain.
- In the EIS and document 232-509240-ASD-001, details of the inventory projection are limited and details of how the inventory will be controlled are essentially absent. These appear to be major weaknesses for the NSDF project.

My answer to Ole's question, at this point is, "Who knows what will go into the NSDF?"

Regarding Ole's comment, "(EIS)... that uses 'safe' 70 times", my comments on that issue follow:

While I agree with "in accordance with current licence conditions," to my knowledge AECL/CNL has never assessed that its wastes are safely stored in the context of the Indicator of Sustainable Development for Radioactive Waste Management (ISD-RW, Guidance for Calculating the Indicator of Sustainable Development for Radioactive Waste Management), which was developed by the IAEA at the request of the United Nations.

For me, CNL should not justify its move to disposal based on a practice to safely store waste without actually assessing that practice.

> CONTINUED ON PAGE 20

Proud past, bright future

CONTINUED FROM PAGE 7

- Providing global sustainable energy solutions, including the extension of reactor operating lifetimes, hydrogen energy technologies, and fuel development for the reactor designs of tomorrow
- Demonstrating the commercial viability of advanced reactors, including the small and very small modular reactor (SMR)
- Continuing support of radiochemical therapies, including collaboratively pioneering new alpha therapies
- Protecting Canada's environment by removing and responsibly managing nuclear liabilities.

Life beyond NRU

Over the past 60 years, the National Research Universal (NRU) reactor at Chalk River has been one of the largest and most versatile high-flux research reactors in the world.

It has been used to irradiate materials to produce medical and industrial radio-isotopes; generate neutron beams for science and technology applications; and test nuclear fuels and reactor materials to support current and advanced nuclear reactor designs.

The NRU will cease operation on March 31, 2018, ending its three main missions of isotope production, fuel testing and materials research, including its standby production capability of molybdenum-99.

Approximately 30 NRU-related ancillary buildings and structures, along with the main reactor facility will be turned over to Decommissioning & Waste Management under Storage With Surveillance by March 31, 2021.

To offset the NRU closure, CNL's strategy includes expanding its advanced fuels manufacturing capabilities to leverage and refocus fuels and molybdenum-99 target fabrication capabilities in support of other reactor operators and isotope suppliers.

These additional capabilities will support the development, licensing and commercialization of advanced reactor technologies to support Canada's energy decarbonization goals.

This will also enable CNL to supply Low-Enriched Uranium molybdenum-99 targets to global markets to support the government's non-proliferation goals, especially the reduction or elimination of the global need to use Highly Enriched Uranium.

Retooling CNL'S S&T capabilities

Through careful management and strategic development over the next 10 years, CNL will build on its historical and current nuclear leadership role to transform the nuclear future of Canada.

CNL must renew and grow its Science & Technology (S&T) capabilities, as well as extend its global reach.

CNL's approach will begin with its current strategic advantage comprising the globally recognized technical experience of its people, its licenced nuclear site, and the specialized facilities and infrastructure, as well as Canada's science-informed regulatory framework that is receptive to new technologies.

CNL will position itself as a national laboratory that serves federal departments and agencies, with the flexibility to engage with and compete in commercial markets.

This flexibility is required to sustain state-of-the-art infrastructure, which will attract revenue from domestic and international commercial customers.

The combined insight from federal programs with national and global commercial businesses will place CNL in a position for innovation in the global nuclear arena, as well as being a trusted advisor to the government of Canada....

A global nuclear asset

CNL is embarking on a new chapter in its long and proud history.

With a safe and permanent reduction of the site nuclear liability legacy already underway and the imminent closure of the NRU in 2018, the Chalk River site will be consolidated and modernized over the next 10 years to support the evolving science and technology needs of the Canadian and global nuclear industries.

This journey of business transformation and growth has begun with this long-term plan.

Strategy and scope will grow in clarity as opportunities are identified, explored and subsequently realized or abandoned.

The utilization of modern best practices to optimize the strategic investment provided by the Canadian government and commercial opportunities won with innovative ideas will build on this national icon with global reputation for nuclear innovation.

CNL's versatile, state-of-the-art campus will attract top-calibre scientific talent, partners and users from across the globe.

In particular, it is anticipated that CNL's Advanced Nuclear Materials Research Centre will be a significant draw.

This state-of-the-art facility will house highly sought after capabilities in the handling, testing, characterization, examination and analysis of irradiated fuels and materials.

CNL's facilities and approach will attract and maintain a diverse, vibrant and dynamic workforce, energized by the innovative capacity of new graduates, and underpinned by world-renown senior experts.

Across Canada, CNL will have remediated targeted historic low-level waste, leaving future generations of Canadians a cleaner environment.

CNL will become a globally recognized brand and household name within the local communities in which it works.

Letter: who knows

CONTINUED FROM PAGE 6

For me, CNL needs to move to disposal as soon as it can for various reasons, such as to enable the remediation of contaminated lands AND to move from un-assessed storage practices to disposal.

As Ole stated, repeated use of the word "safe" does not make something safe; it has to be demonstrated to be safe.

I am a huge Apple computer fan and it irritates me to watch product announcements and hear the word "amazing" over and over again - saying something is amazing does not make it amazing; it has to be inherently amazing.

My full comments will be submitted to the CNSC before May 17 and, as I understand, will become part of the public record.

Greg Csullog

Sudoku solution

5	4	9	7	3	2	1	6	8
6	3	1	8	4	5	7	9	2
2	8	7	6	9	1	3	4	5
1	6	5	3	8	4	9	2	7
9	2	8	5	6	7	4	1	3
4	7	3	1	2	9	5	8	6
7	1	6	9	5	8	2	3	4
8	5	4	2	1	3	6	7	9
3	9	2	4	7	6	8	5	1

Crossword

		A	R	M		O	L	A	O		T	H	I	S
		O	O	E	S		L	I	V	E		A	U	O	E
A	V	A	S	T		A	N	O	N		A	L	O	E
L	A	M	P		O	R	E	M		P	S	A	L	M
E	L	S	E		R	A	M		B	A	H			
			C	O	Y		A	G	E	D		Y	A	K
M	A	L	T	A			N	E	S	T		O	B	I
A	R	A		T	E	A		M	A	P		G	E	T
T	I	M		A	P	T		O	X	I	D	E		
T	A	B		O	R	E	O		A	D	E			
			V	A	N		N	A	Y		R	I	G	A
T	A	P	E	R		R	I	S	E		O	M	A	N
A	B	E	L		G	I	G	S		E	X	A	L	T
G	U	R	U		A	C	H	E		V	E	G	A	
S	T	E	M		S	E	T	T		S	O	O		

CNL lays out plan

CONTINUED FROM PAGE 3

McCarthy said the move to off-site reactor time "won't be easy."

"But based on the preliminary discussions and options we've looked at, we believe it is do-able," she said.

Questioned about the longer term, McCarthy said that in "Kathy's perfect world," CNL will demonstrate the need for a new research reactor sometime in the future.

"But it's not going to be now."

McCarthy said the decision to shut down NRU was a "government decision."

"I agree it's unfortunate but that decision is made. The train is going down that track," she said.

"The bottom line on NRU is that NRU will cease operations at the end of March (2018).

"We have to figure out how that's going to work."

McCarthy said that looking at the plans for the Chalk River site, with all the money being invested in new facilities and infrastructure, it's all about science and technology (S&T).

"S&T is the future of the site," she said.

"The decommissioning that's going on will reduce as S&T grows."

But AECL retiree Tom Holden wondered what will attract future generations to Chalk River once NRU is gone.

Holden said that in his time, people came from "all over the world" for the chance to work at the labs.

"What's the exciting thing that's going to bring them here (now)?" he wondered.

McCarthy said she believes there are and will be many opportunities at CNL.

"There is a lot of potential but we've got a ways to go, no doubt," she said.

"I do think there are a lot of exciting things going on. Will there be a big project (like NRU)? I don't know. But we have that possibility."

McCarthy said that on a personal level, she came to CNL from the Idaho National Laboratory in the US because of the quality of the people at Chalk River.

She said the workforce is already "far more diverse" both in age and background than it was at Idaho.

"It is exciting here. I see this as an opportunity to do something really great," she said.

County backs delay on nuclear waste site comments

Deep River seeks expert help

By Vance Gutzman

Deep River is asking the Canadian Nuclear Safety Commission (CNSC) to extend the 60-day comment period on the Near Surface Disposal Facility (NSDF) planned for construction at Chalk River.

Canadian Nuclear Laboratories released a draft "environmental impact statement" (EIS) for the NSDF project back in March. Public comments to the CNSC will be accepted until May 17.

Reeve Glenn Doncaster told county council last week that's too short a timeframe.

Since CNL made its first presentation to Deep River about the NSDF, the reeve said, town council has been working to "gain a better understanding of how the decommissioning of existing facilities and the commissioning of a 1 million cubic metre Near Surface Disposal Facility will integrate into the existing fabric of the community and the natural environment."

"It became apparent," Doncaster said, "that the town of Deep River required more experience and extensive knowledge relating to this approval process, and enhanced capacity to make sound, educated and informed representations to the Canadian Nuclear Safety Commission."

Peer review

To that end, town council decided recently to engage the services of James Ayres to assist with the municipality's representation to the CNSC.

Ayres is a specialist in environmental law and is experienced with environmental assessment processes, specifically as they pertain to landfill sites.

The town has also brought on board Dr. William Kupferschmidt, a former executive with Atomic Energy of Canada and a specialist in the area of nuclear waste management, to peer review the environmental impact statement submitted to the CNSC.

Doncaster asked for and received the approval of county council in support of the town's request for an extension to the 60-day commenting period, in order that the peer review on the merits of CNL's environmental impact statement can be completed and a subsequent submission can be made to the CNSC.

"We want to make clear that support (of CNL) is not just blanket support. We will hold them accountable," Doncaster told his fellow reeves and mayors.

"We don't think the CNSC will give us an extension but it's prudent to ask."

But while county council threw its support behind Deep River's request for more time to comment on CNL's environmental impact statement, it also endorsed a request from CNL for a letter of support for that same EIS.

The endorsement came despite concerns raised by a local lobby group. The Concerned Citizens of Renfrew County and Area (CCRCA) urged county councillors to consider the concerns of area residents as well as "independent scientists" before voting on the issue.

The Canadian Environmental Law Association, Ottawa Riverkeeper, Northwatch and Nuclear Waste Watch are four citizens groups that have contracted independent scientists to review the EIS for the site.

CCRCA researcher Dr. Ole Hendrickson says that the group recognizes the need to clean up existing radioactive wastes at Chalk River, but "the proposed approach creates serious risks for workers, the public, and the environment."

"A better designed facility in a safer location would create more local jobs and could build CNL's reputation as a leader in addressing radioactive waste challenges," he said.

Concerns

CCRCA says serious concerns flagged by reviewers include the following:

- The landfill-type design of the proposed facility does not conform to International Atomic Energy Agency guidelines or to government of Canada policies on disposal of low level radioactive wastes. Both call for radioactive wastes to remain isolated from the environment.
- Radioactive materials would leak from the facility into the air and surrounding wetlands and into the Ottawa River during operation and after closure of the facility.
- The proposed facility would be only 1 km from the Ottawa River, a major source of drinking water for millions of Canadians.
- The facility would contain materials requiring shielding during emplacement.
- According to the draft EIS, the facility would contain large amounts of very long-lived radioactive materials, including fissile materials such as plutonium-239 and uranium-235.

The CCRCA says retired scientists with expertise in radioactive waste management from AECL have also voiced concerns about the NSDF.

"Based on the serious concerns that have already arisen, and that reviews are still underway, CCRCA would like county council to wait until the second public comment period, beginning November 1, to formally consider its views on the NSDF.

"This would allow councillors to listen to the public and to review comments posted on the CEAA (Canadian Environmental Assessment Agency) NSDF page. It would also allow an opportunity to consider CNL's revised EIS," Hendrickson said.

County council's endorsement of the NSDF project came without a great deal of discussion.

Head, Clara and Maria Mayor Jim Gibson suggested at one point that critics of the project should find other environmental fish to fry.

"The city of Ottawa just flushed millions of gallons of raw sewage into the Ottawa River," Gibson said.

"I would suggest we focus our attention elsewhere."

http://aptnnews.ca/2017/05/03/chiefs-of-ontario-join-opposition-to-transport-and-burial-of-nuclear-waste-near-ottawa-river/

Chiefs of Ontario join opposition to transport and burial of nuclear waste near Ottawa River

National News | May 3, 2017 by Todd Lamirande Attributed to: | 1 Comment

Todd Lamirande

APTN National News

The Chiefs of Ontario have added their voices to the Iroquois caucus in opposition to the transport of nuclear waste.

Canadian Nuclear Laboratories in Chalk River, Ont. wants to ship liquid radioactive waste to the United States.

It also wants to bury low and medium level waste in a site near the Ottawa River.

The chiefs say now is the time to take a united stand.

tlamirande@aptn.ca

https://tworowtimes.com/news/local/indigenous-leaders-unify-transport-radioactive-waste/

Indigenous leaders unify against transport of radioactive waste

by Nahnda Garlow May 3, 2017

LAC LEAMY, QC — Two governing councils that oversee the Anishnabek communities and the Iroquois communities elected councils in Ontario are unifying to oppose the transportation of highly radioactive liquid material across their territories.

Anishinabek Nation Grand Council Chief Patrick Madahbee and Chief Clinton Phillips, on behalf of the Iroquois Caucus and Kahnawà:ke Grand Chief Joseph Tokwiro Norton, jointly declared their opposition and concerns at the Chiefs of Ontario – Special Chiefs Assembly Tuesday.

"We, the Anishinabek Nation and Iroquois Caucus, have jurisdiction over the Great Lake and St. Lawrence River Basins as a result of Aboriginal titles, and the treaties that have been entered into by First Nations and the Crown," stated Grand Chief Madahbee.

The two leaders say the transportation and abandonment of nuclear waste within the territories has the potential to adversely affect indigenous rights, lands and activities.

The pair asserted the potential for long-lived contamination to the environment and to all living entities is "too great"

"Many projects are being proposed, decided upon, and initiated in our territories without consulting our First Nation communities," stated Chief Clinton Phillips. "A joint letter to Prime Minister Justin Trudeau was sent on April 21, 2017, advising Canada of our concerns on these matters and we expect a prompt reply."

"We are continuing to build consensus with our Nations. The Treaties are evidence of our inherent rights and authorities," said Ontario Regional Chief Isadore Day. "The joint declaration states we must consider the future generations. As the leaders of today, it is our duty to preserve and protect Mother Earth. We cannot risk the long term, irreversible destruction of our lands and waters, which are life-giving for all beings."

The Assembly of the First Nation of Quebec and Labrador (AFNQL) and Bawating Water Protectors are also now standing united with the Iroquois Caucus and the Anishinabek Nation in the opposition of the transportation and abandonment of radioactive waste in their territories.

"AFNQL Chiefs have made it crystal clear: nuclear waste storage and transportation is not an option for current generations, nor for future ones. Health, social and environmental costs would be too high. Only industries would benefit from such projects, leaving the population living with the impacts of their activities. We cannot afford to risk yet another disaster, as we believe in our responsibility as stewards of our lands," said the Chief of the AFNQL, Ghislain Picard.

http://www.whitewaternews.ca/letters/

Canadian Nuclear Laboratories not telling whole story about radioactive waste facility
May 4 2017
Dear Editor:
Renfrew County residents have received a two-page mail-out from the Canadian Nuclear Laboratories (CNL) entitled "Near Surface Disposal Facility - a safe solution." It does not tell the whole story.
"What?"
What CNL calls an "engineered containment mound" for "low-level and other suitable waste" would basically be a radioactive waste landfill alongside Perch Creek on the Chalk River Laboratories property. This creek flows into the Ottawa River only about one kilometre away.
"Waste water treatment plant removes contaminants"?
During heavy rains or snow melt, radioactive contaminants would run off into ponds and could overflow into the Perch Creek wetlands. The treatment plant would not remove all contaminants. Tritium - radioactive heavy water - would not be removed at all.
"What will go in it"?
The mail-out says where wastes would come from but not what they would be. CNL officials talk about building demolition wastes. The 990-page draft Environmental Impact Statement (EIS) mentions tanks, drums, process equipment, piping, spent ion-exchange resins, immobilized liquids (p. 3-8); and large quantities of man-made radioactive elements such as americium and plutonium with half-lives of many thousands of years (p. 5-513).
"Proven technology"?
CNL says that "proven technology" means that "effectiveness for disposal- has been demonstrated through similar facilities currently in operation globally." (EIS, p. 2-24)
"Effectiveness for disposal" could just mean "getting rid of" waste.
"Similar facilities" in the U.S. are located in the desert. They have operated for only a few years - not the many thousands of years that these wastes will remain dangerous.
"Federal agencies set regulations and provide oversight"?
The Canadian Nuclear Safety Commission (the lead federal agency on nuclear matters) has never set regulations for permanent disposal or abandonment of radioactive waste.

"Waste Acceptance Criteria"?
CNL will propose its own Waste Acceptance Criteria (WAC) for what goes in the landfill. It hasn't done so yet. These criteria may be "quantitative or qualitative." (EIS, p. 13-8)
"Waste that does not meet the criteria will not be accepted"?
The EIS says (p. 3-13) "In the rare occasion that wastes that do not meet the WAC, the waste may be further reviewed for acceptance through the WAC variance process."
"Timeline"?
The mail-out says "construction begins" next year. In September 2015 the Harper Government signed a 10-year contract with CNL that says, "CNL shall seek the fastest, most cost effective way(s) of executing the DWM Mission including disposal of all waste."
Our tax dollars at work?
The 2017-2018 federal budget contains over $500 million to deal with nuclear decommissioning and waste liabilities. CNL's Near Surface Disposal Facility project is only a proposal that is still undergoing an environmental assessment.
Is a fancy two-page mail-out promoting this project an appropriate use of our tax dollars?
Ole Hendrickson,
Chapeau, Quebec

http://www.newswire.ca/fr/news-releases/depotoir-nucleaire-a-chalk-river---martine-ouellet-se-rejouit-que-le-parti-quebecois-appuie-sa-demande-de-bape-621334313.html

Dépotoir nucléaire à Chalk River - Martine Ouellet se réjouit que le Parti Québécois appuie sa demande de BAPE

QUÉBEC, le 4 mai 2017 /CNW Telbec/ - À la suite de la période de questions à l'Assemblée nationale du Québec, ce matin, la députée de Vachon et chef du Bloc Québécois, Martine Ouellet, a manifesté sa satisfaction de voir que le Parti Québécois, par l'intermédiaire de son porte-parole en matière d'environnement, demande au ministre David Heurtel de faire un BAPE sur le projet de dépotoir nucléaire à 1 kilomètre de la rivière Outaouais.

'' Lors de l'étude des crédits en Environnement, hier, j'ai eu l'occasion de questionner le ministre Heurtel sur le dossier du dépotoir nucléaire que prévoit la compagnie Laboratoires nucléaires canadiens (LCN). Je ne suis pas convaincue qu'il saisisse l'ampleur du risque pour tout le Québec. Il parle de préparation d'un plan d'urgence. Avant de se préparer à toute catastrophe, il faudrait plutôt éviter la catastrophe. Avec toutes les inondations qu'on voit en ce moment, par exemple, les risques de contamination radioactive des eaux souterraines et de la rivière des Outaouais sont extrêmement grands, d'ailleurs probablement trop grand pour prendre le risque'', a expliqué la députée de Vachon.

Le dépotoir projeté par LCN inclurait 1 million de mètres cubes de déchets, s'étendrait sur 16 hectares et serait actif jusqu'en 2070. L'entreprise souhaite démarrer ses activités en 2020.

'' Je pense que même si l'emplacement est situé à l'extérieur du Québec, le ministre de l'Environnement du Québec devrait exiger un BAPE, poursuit Martine Ouellet. Il s'est dit ''préoccupé'' par le projet qui ''suscite énormément de questions''. Il est impératif de questionner l'opportunité d'un tel projet AVANT qu'il ne soit autorisé. Pour le moment, il n'y a qu'une étude d'impact environnemental de la Commission canadienne de sûreté nucléaire (CCSN) mais les 900 pages ne sont disponibles qu'en anglais.''

À la fois député à l'Assemblée nationale et chef du Bloc Québécois, Martine Ouellet entend mettre de l'avant le travail transparlementaire qu'elle peut ainsi effectuer.

''Mes questions en étude des crédits au ministre québécois de l'environnement ont permis d'apprendre qu'il était préoccupé mais pas très proactif et cela a alimenté le Parti Québécois afin qu'il demande à son tour la tenue d'un BAPE sur cette importante question qui préoccupe la population. Du côté du Bloc Québécois, nous questionnerons Justin Trudeausur ce dossier et défendrons sans relâche la sécurité des Québécois et de leur eau potable et de leur environnement'' a conclu Martine Ouellet.

SOURCE Députés indépendants

LE DEVOIR
LIBRE DE PENSER

Dépotoir nucléaire en Ontario: Québec prépare un plan d'urgence

4 mai 2017 | Isabelle Porter *à Québec* | Actualités sur l'environnement

Photo: Sean Kilpatrick La Presse canadienne
Le gouvernement du Québec a l'intention de se faire entendre dans le dossier, a assuré le ministre David Heurtel.

Le ministère du Développement durable est en train d'élaborer un plan d'urgence en prévision de la réalisation du projet ontarien de dépotoir de déchets nucléaires près de la rivière des Outaouais.

Le ministère du Développement durable travaille sur *« un plan d'urgence nucléaire »* détaillant les *« procédures à appliquer en cas d'émissions radiologiques »*, a déclaré le ministre David Heurtel lors de l'étude des crédits mercredi.

« Advenant un incident impliquant une relâche dans l'atmosphère ou la relâche d'un liquide dans l'eau, le ministère de l'Environnement est prêt à intervenir rapidement », a aussi signalé le ministre.

La députée indépendante Martine Ouellet le questionnait pour savoir si le gouvernement allait s'opposer au projet de dépotoir de Laboratoires nucléaires canadiens (LCN). Le site est à 1 kilomètre de la rivière des Outaouais, et des organisations locales craignent non seulement pour la rivière, mais également pour le fleuve.

« Avant de se préparer à toute catastrophe, il faudrait évaluer si ce site-là est approprié, a réagi la députée. *On se rend compte qu'avec toutes les inondations qu'on voit les risques de contamination des eaux souterraines et de la rivière des Outaouais sont extrêmement grands. »*

« On va suivre ça de près »

La députée indépendante souhaite que le Québec rejette d'emblée les visées de LCN. Or le ministre estime que c'est prématuré. Le projet, dit-il, n'a pas encore démarré et est à l'étape de la consultation. *« On n'est pas là encore, le projet n'a même pas encore été autorisé. »*

LCN doit en effet soumettre son projet à l'Agence canadienne d'évaluation environnementale. Sinon, la Commission canadienne de sûreté nucléaire (CCSN) a aussi réalisé une première étude d'impact environnemental de 900 pages que la population a jusqu'au 17 mai pour commenter.

Le gouvernement du Québec a l'intention de se faire entendre dans le dossier, a assuré le ministre. *« Le ministère est déjà à pied d'oeuvre dans ce dossier-là »*, a-t-il dit. *« On va suivre ça de près. »*

M. Heurtel s'est dit en outre préoccupé par le dossier, mais n'a toutefois pas voulu définir sa position sur le projet. *« C'est un projet qui en effet suscite énormément de questions »*, a-t-il dit.

Le dépotoir projeté par LCN inclurait 1 million de mètres cubes de déchets, s'étendrait sur 16 hectares et serait actif jusqu'en 2070. L'entreprise souhaite démarrer ses activités en 2020.

Les laboratoires de recherche LCN sont nés l'an dernier de ce qui restait de l'entreprise de production d'isotopes médicaux Chalk River. Cette dernière avait fait les manchettes en 2009 lors de la pénurie des isotopes médicaux.

Située à Deep River, à 180 km d'Ottawa, LCN est gérée par un consortium d'entreprises dont fait partie SNC-Lavalin.

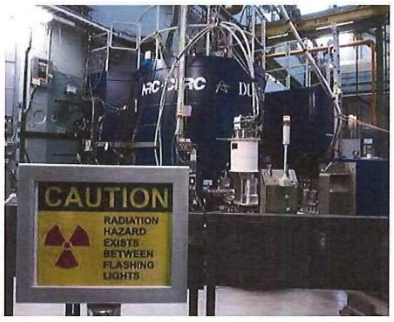
ANALYSIS

Carr keeps hands off nuclear waste

By: Dave Taylor
Posted: **05/4/2017 4:00 AM**

Stephen Colbert's recent late-night spoof of our natural resources minister focused on his lack of tenacity in dealing with the Trump regime's approach to trade with Canada. This depiction of Jim Carr is not far off the mark, especially considering his milquetoast approach to the cleanup of nuclear sites here and across the country.

Carr has inherited the liability that comes from 60 years of nuclear experiments. His portfolio makes him the point man for both the Crown corporation whose facilities are located on some of the most contaminated lands in the country, Atomic Energy of Canada Ltd. (AECL), and its regulator, the Canadian Nuclear Safety Commission.



Fred Chartrand / The Canadian Press Files
A warning sign is pictured outside of the nuclear reactor at the Atomic Energy Canada Limited plant in Chalk River, Ont.

Since AECL is no longer in the obsolete business of selling reactors, it is now repositioning itself as co-ordinator of nuclear waste cleanup. Ironically, this is the same Crown corporation that created the radioactive rubbish in the first place, finagling billions of tax dollars in the process.

Just a few decades ago, primitive practices by these labs included the burial of nuclear waste in unlined trenches and management of accidents and mishaps with the release of radioactive elements into air and water. On top of that, two of the facilities encase the rotting hulks of defunct reactors contaminated by a host of components that remain highly radioactive.

Communities nearby are now faced with the reality that these labs are on the road to becoming de facto nuclear waste dumps. Sadly, both properties drain into notable and highly treasured Canadian rivers: the Whiteshell lab in Manitoba sits on the Winnipeg River, and the Chalk River lab overlooks the Ottawa River.

This is where the hot potato comes in. Carr has deftly passed off what should have been AECL's long-term responsibility to a private consortium whose primary objective is to turn a profit, which it no doubt will do. This year's federal allocation of $529.8 million for decommissioning and waste management is just the start of what is estimated to cost taxpayers billions of dollars over the next few years.

Carr refers to the arrangement as GoCo (government owned, contractor operated), and has effectively handed over the reins for the remediation of these Crown lands. The contract went to Canadian Nuclear Labs (CNL), which includes SNC Lavalin and Rolls Royce Canada; their first move was to cut corners on the cleanup process, changing the long-term direction that AECL had promised the public. Under Carr, it's hands-off but full speed ahead.

The difficulty the public has in reconciling this shell game is that the short-term, rapid-fire plans and changes CNL is making involve keeping long-enduring radionuclides safely isolated from people and the environment. In other, words a contractor with a six-year agreement is making plans for high-level nuclear waste with half-lives of hundreds of thousands of years.

The long-term checks, balances and surveillance necessary to prevent these poisons from entering adjacent lands and rivers are significantly compromised by this myopic strategy. What's more, the role of proponent for environmental assessments of these projects has been given to the contractor, CNL, even though the projects are being carried out on AECL's Crown lands. All this under the nose of the minister who is both negotiating the contracts and regulating them for safety.

EDITORIAL

NORTH RENFREW TIMES

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It's that time of the year

It's that time of the year when any one of us can and should consider attending one or more of the many Annual General Meetings (AGM) being held throughout North Renfrew. If you have always wanted to have a say in an organization which supports a hobby of yours or you would like to work with some friends or neighbours on a special project over the next year or two – now is the time to get out and put your name forward. Consider joining a service club and running for an executive position or perhaps you would like to participate on a committee of interest to you.

While there are the big leagues out there, federal or provincial politics for example, the truly grassroots essence of our community includes people just like you. The success of our community rests with everyday people getting involved in the committee and executive structures of our tens of community organizations, sports and service clubs.

The Legions in North Renfrew are seeking new blood for their executives. The Deep River Legion recently held their elections, and the Chalk River Legion is holding theirs on May 17. The Deep River and District Community Foundation (DRDCF) is holding its AGM in the North Renfrew Long Term Care Centre at 7:30 pm on May 18, while the Skating Club is having their AGM on May 15. Adding to the mix, the hospital is asking those who desire to join their board of directors to apply before 4 pm today.

Some clubs and organizations have already held their AGM, but there is always the opportunity to join a club or organization and participate on a committee or simply attend to become aware of how the group operates and learn about what position you would like to run for next year. Indeed, the Deep River and District Hospital Foundation (DRDHF) is currently still seeking members of the community to get involved with them and help raise funds to purchase important medical equipment for our local hospital.

Consider that with the experience you receive from joining a local club, you could get 25 of your friends to sign your nomination papers for the next municipal election which will be held October 22, 2018. And if you want to go big and not be bothered with the small council stuff, the provincial election will be held in June 2018.

With all this wild weather, epic rain and snow, you may think that you missed spring and that Winter's Comin'. But relax, you haven't missed blackfly season. However, if you don't get in gear you will miss out on enriching yourself and invigorating your community by joining a local community group. Now get up off the couch and get involved in North Renfrew!

DT

Early May blooms were in for a surprise Saturday, as the area received a late wet snowfall. After a cold start to the week and some more flurries Monday, temperatures are expected to be a little more seasonal through the weekend. Photo: Bill Bishop

LETTERS TO THE EDITOR

If it walks like a duck...

In a report on CNL's request for the support of Laurentian Hills council, the NRT, April 26 quotes Mark Lesinski: "Proposed waste site is not a dump, says CNL" in large bold text.

Ole Hendrickson then notes in the same NRT edition on the same Near Surface Disposal Facility (NSDF) topic that: "repeating words over and over does not make them true."

So, with maple syrup season now over, I spent some time perusing the formidable (NSDF) Draft Environmental Impact Statement (EIS) report online.

Thanks to Bill Gates and company, no less than 33 references to Mr. Lesinski's non-existent "dump" are instantly found. Fourteen of these refer to the "dump road."

To be fair, this term is historically inherited nomenclature, although only employees and former employees would likely be aware of that.

But, moving forward, the astute observer will also find no less than 10 identical references to the phrase, "dump operations are suspended when wind speeds exceed the specified criterion."

To further confuse the good council members of Laurentian Hills and their constituents, a whole suite of NSDF equipment is then described: "dump trucks, dump trailers, highway semi-dump trailers, tandem dump trucks and dump ramps."

Refuse is also mentioned numerous times. Unfortunately the report glossary does not define this technical term as it is used by the waste management community.

The EIS's erudite research reference to "Use of a garbage dump by brown bears in Alaska," is a good read, but perhaps was inserted mischievously by Golder and Associates, to see if anyone at CNL actually read the EIS?

I did, for a while though, have confidence in Mr. Lesinski's quoted assertion that press reports (not in the NRT of course) stating the NSDF will become a home for nuclear fuel are false.

Then, I discovered, amongst the so-called "bounding" inventory list of radionuclides permitted to be placed in the NSDF, that 1,000 tonnes of uranium is quoted.

This confidence-destroying limit is noted without explanation in the EIS, obscured as it is by using units incomprehensible to the layperson.

If it talks like a dump, obfuscates like a dump, and can't be seen from the Ottawa River or Highway 17, whatever could it be?

Dave Winfield, Point Alexander

Long term plan

When I wrote a letter to the NRT late December, 2016, it decried that the CNL website had no statement of vision or mission, and had no mention of Small Modular Reactors.

They now have all three items expressed in the 10-year plan and allude to it in further releases, and, if you can sift through the verbiage, you can find some definitive statements.

> CONTINUED ON PAGE 21

Letters: plan

CONTINUED FROM PAGE 8

Whether I agree with the details or not, I have to admit there is now a strategic plan. So maybe there is some progress.

In the latest "exciting" release CNL also claims:

"Canadian Nuclear Laboratories is a world leader in nuclear science and technology offering unique capabilities and solutions across a wide range of industries."

Certainly one could say this of CRNL in the past, but so many scientists have been purged since then.

In its new incarnation I think CNL management should treat this as a goal rather than an accomplishment in a "success story."

Michael B Carver

Fish to fry

I am a bit disturbed by the statements of Mayor Jim Gibson (Head, Clara and Maria) summarized by Vance Gutzman at the end of his article "County backs delay on nuclear waste site comments" (NRT, May 3).

Apparently "County council's endorsement of the NSDF project came without a great deal of discussion."

The lack of discussion in itself is somewhat problematic. The Environmental Impact Statement (EIS), including its appendices, is over 1,600 pages long and was released Friday, March 17.

A hard copy of that report was not made available until a little over a week later. (No comment required for that delay.)

So, unless county council had nothing else to do, and devoted all its time to reading all those pages over the six or so weeks since its release, it's doubtful that "county council's endorsement" is an informed decision.

Let's not worry too much about that endorsement. It was likely done for reasons other than whether the proposed undertaking is (as asserted by CNL) "safe", "proven" or "environmentally sound."

As I stated above, it is Mr. Gibson's comments that I find disturbing.

Why did I find his statements troubling? Because I am one of those "critics" to which Mr. Gibson referred.

A little background may be relevant here. I retired from AECL a few years ago, after about 24 years of service, in the environmental protection, quality assurance, environmental assessment and strategic planning areas.

For those of you who have read my previous letters to the editor, you may have surmised that.

You will also have concluded that I am not a fan of what CNL is proposing.

OK, that's done. Let's get back to what bothered me.

From the article: "Mayor Jim Gibson suggested at one point that critics of the project should find other environmental fish to fry.

"'The city of Ottawa just flushed millions of gallons of raw sewage into the Ottawa River.' Gibson said.

"'I would suggest we focus our attention elsewhere'."

I wonder whether Mr. Gibson had even bothered to peruse the EIS report.

Here are several observations that require little technical knowledge. All of these I find disturbing.

- CNL likes to refer to their proposed undertaking as a "Near Surface Disposal Facility."

As depicted in their recent two page ad in the NRT, this is a mound that is 18 metres high. Even in the EIS, the facility is described as a mound.

Sorry, but a mound is not "near surface." It is "above surface."

- Not a single figure in the EIS report or the appendices depict a mound that is 18 metres high.

(See also my letter to the editor "How high is a tree?" NRT April 19.)

- Page 10-1 is missing both from the hard copy and the electronic copy that can be download from the Canadian Environmental Assessment Agency website.

- Appendix 4.1 is missing from both the hard and electronic copies.

This is the part of the document in which the EIS authors state: "Comments received, the responses prepared, and the degree to which these comments are considered resolved are also presented in Appendix 4.1."

Funny that. If you are interested in comments by those "critics" to which Mr. Gibson refers, you will find them on the agency website.

- In the executive summary, the EIS authors state: "the maximum dose to human receptors resulting from inadvertent human intrusion from living and farming on top of the waste is 5.0 millisieverts per year, occurring approximately in the year 66,000 following the end of the Institutional Control period."

Hmm, what? After 66,000 years a resident will receive a radiation dose five times the regulatory dose limit?

What could possibly be the radiological content in the wastes which are to be disposed of in this mound that would result in that high a dose 66,000 years after the site is abandoned?

- Other statements by the EIS authors in the executive summary include: "the implementation of the NSDF Project is not likely to result in significant residual adverse effects on most environmental components."

"For bats and Blanding's turtle, significant adverse effects are related to the existing conditions for these species and not due to the NSDF Project; the NSDF Project will contribute a small increment to existing significant adverse cumulative effect on these species."

So, as long as the additional adverse impact from the project to these species is small, the EIS authors conclude it is OK.

Somehow that conclusion is not convincing.

- On Page 3-47 of the EIS (which describes "Waste Placement by Waste Type"), the EIS authors state that they could use Type 1 wastes (that is, "Soil and Soil-Like Waste") "as berm material for berm containment areas used to contain Type 3, 4 and 5 wastes."

I am not sure how wastes can be used as containment materials for the wastes within the mound.

This leads me to conclude that the disposal facility (which includes the berm) has been designed to fail before it is even constructed.

- The EIS authors state that the design life of the facility is 500 years, yet they also state that the cover will fail in 300 years as a "result of natural evolution."

Hmm, not sure about that one.

- The EIS authors also state that "fissile materials" will be included in the wastes.

The EIS authors must be taking the quantity of "fissile materials" seriously since in the EIS, they include an assessment of potential criticality events. The term "criticality" occurs 34 times in the EIS.

This last bullet is the one that really bothers me. I guess I can concede that one may need some technical knowledge to understand what that actually means.

From Wikipedia: "In nuclear engineering, fissile material is material capable of sustaining a nuclear fission chain reaction."

In nuclear reactors, it's this chain reaction that produces the heat. A criticality event is a malfunction in which the chain reaction is out of control.

So, depending on the quantity of "fissile materials" that CNL wishes to dispose of in their proposed mound, maybe we can use the nuclear fission chain reaction as a heat source to fry those "other environmental fish" that Mr. Gibson suggests we "critics" focus on.

Feel free to come to our "Fish Fry on the Mound," Mr. Gibson. But don't forget to bring your own radiation protection equipment.

Why? CNL states that the facility is "safe", "proven", and "environmentally sound", thus they won't see the need to supply any.

W. Turner (one of those "critics")

Yard and garden waste

The Fall and Winter 2016-17 issue of the Deep River information bulletin contained a significant and long-overdue change in waste management services.

Under the section labelled "Reminder," it stated "Yard waste is not accepted in garbage collection services."

We say long-overdue because most jurisdictions have had this rule in effect for more than 15 years. Deep River was an exception.

Unfortunately this statement was not included in the Spring and Summer 2017 issue of the bulletin and many residents may not be aware of it.

What then is one to do with garden wastes, which includes grass clippings?

I can think of at least three options. The first is to compost. Composting means in a composter of the resident's choice on their own property.

It does not mean dumping garden wastes and grass clippings in the green spaces in town.

At least two stands of beautiful Pink Ladies Slippers have been completely smothered by householders dumping their wastes behind their properties.

A second option is to take garden wastes to the composting area of the Baggs Road landfill.

If this is done before the bottoms of the recyclable bags have rotted out, the bags can even be emptied and reused. I normally get two to three cycles out of mine.

A third option, which some of us have used for several years but which the town has refused to advertise, is to take modest amounts of garden wastes, typically one to three bags, and to deposit them in the dumpster located just outside the public works yard near Lamure Beach.

The next town truck going to the Baggs Road landfill partly empty will then take these materials.

It makes environmental sense to have one vehicle make the trip with 20-30 bags rather than 10 vehicles each with one or two bags.

A number of us served on a waste management working party several years ago and the present public works director assured us that the volume of the dumpster(s) located at the public works yard gate would be expanded if the need arose.

Jim Ungrin

SUDOKU SOLUTION

• FROM PAGE 15

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CROSSWORD

• FROM PAGE 15

http://www.ledevoir.com/politique/quebec/498847/le-depotoir-nucleaire-de-chalk-river-une-menace-pour-les-quebecois-dit-ouellet?utm_campaign=Autopost&utm_medium=Social&utm_source=Twitter%20-%20link_time=1494863046

LE DEVOIR

LIBRE DE PENSER

Le dépotoir nucléaire de Chalk River, une menace pour les Québécois, dit Ouellet

15 mai 2017 | Mylène Crête - La Presse canadienne à Ottawa | Québec

Le dépotoir projeté par Laboratoires nucléaires Canada serait situé à Chalk River, en Ontario, à un kilomètre de la rivière des Outaouais.

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Le Bloc québécois s'oppose à l'aménagement d'un nouveau dépotoir de déchets nucléaires sur le site des Laboratoires de Chalk River.

Ce projet « insensé » constitue une « grave menace » pour l'environnement et les Québécois qui dépendent de l'eau potable de la rivière des Outaouais, selon la chef du parti, Martine Ouellet.

Le dépotoir projeté par Laboratoires nucléaires Canada serait situé en Ontario, à un kilomètre de la rivière des Outaouais. Il pourrait accueillir environ un million de mètres cubes de déchets radioactifs jusqu'en 2070.

Martine Ouellet doute que ce dépotoir soit sécuritaire particulièrement en cas d'inondations comme celles de la semaine dernière. Elle craint une fuite de déchets radioactifs qui pourrait contaminer l'eau potable de millions de Québécois.

« Ce site-là se retrouve dans un marais, donc ce n'est pas très haut. Imaginez qu'il y ait une inondation concernant le site de déchets nucléaires, on parle alors à ce moment-là de contamination radioactive de la rivière des Outaouais », a affirmé Martine Ouellet.

« La rivière des Outaouais se jette dans la rivière des Mille-Îles, elle se jette dans le fleuve Saint-Laurent », a-t-elle ajouté.

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Le Bloc québécois entend soumettre un mémoire à la Commission canadienne de sûreté nucléaire. Il a jusqu'au 17 mai pour le faire.

Martine Ouellet, qui est également députée indépendante à l'Assemblée nationale, a souligné

que son parti allait se faire entendre autant à Ottawa qu'à Québec.
« J'ai eu l'occasion de questionner le ministre [de l'Environnement du Québec] David Heurtel concernant le dossier du dépotoir de déchets nucléaires, a-t-elle indiqué. Ce qu'il nous a dit, c'est qu'il était déjà en préparation d'un plan d'urgence en cas de catastrophe.»
« Mais je pense qu'avant de préparer un plan d'urgence en cas de catastrophe, il faudrait s'assurer que ce site-là ne soit pas à cet endroit-là. C'est l'un des pires endroits, près d'une source d'eau potable, pour installer un site de déchets nucléaires. »
Un rapport sur les impacts environnementaux préparé pour les Laboratoires de Chalk River identifie un faible risque pour les eaux de surface et les eaux souterraines.
Les audiences publiques dans le cadre de l'évaluation environnementale doivent avoir lieu en janvier 2018. La construction du dépotoir débuterait dès que les autorisations seraient émises pour qu'il puisse être utilisé dès 2020.

leSoleil
http://www.lapresse.ca/le-soleil/actualites/environnement/201705/25/01-5101454-depotoir-nucleaire-a-chalk-river-heurtel-est-inquiet.php
Publié le 25 mai 2017 à 21h53 | Mis à jour le 26 mai 2017 à 07h15

Dépotoir nucléaire à Chalk River: Heurtel est inquiet

Jean-Marc Salvet
Le Soleil

(Québec) Le ministre de l'Environnement du Québec s'inquiète plus qu'il ne l'a dit publiquement jusqu'ici du projet d'installation d'un site de «gestion de déchets» nucléaires à Chalk River, en Ontario, selon ce qu'a pu apprendre *Le Soleil*.

«Ce projet soulève de grandes inquiétudes quant aux risques de contamination des eaux de la rivière des Outaouais, laquelle alimente en eau potable plusieurs municipalités du Québec», écrit le ministre David Heurtel dans une lettre au ministre fédéral des Ressources naturelles, James Gordon Carr. La missive est datée du 18 mai.

Dans cette lettre, M. Heurtel précise être préoccupé par «l'impact potentiel d'une contamination sur toute une zone allant jusqu'à Montréal et au fleuve Saint-Laurent». Les récentes inondations ajoutent à ses inquiétudes.

Elles démontrent à tout le moins qu'il faudra prendre des «précautions particulières» si le projet devait aller de l'avant. Celui-ci vise à enfouir sur une période de 50 ans «un volume total de l'ordre de 1 million de mètres cubes de déchets radioactifs» à moins d'un kilomètre de la rivière des Outaouais.

Le ministre québécois rappelle qu'advenant une contamination des eaux de surface ou souterraines, «il sera de la responsabilité du Québec de déployer les mesures d'urgence nécessaires».

Analyse provinciale

David Heurtel annonce que son gouvernement effectuera sa propre analyse afin de documenter les risques potentiels. Il exhorte dans la foulée le gouvernement fédéral à prendre en compte les résultats de l'analyse québécoise pour «l'ensemble des décisions et travaux liés à la réalisation du projet».

C'est cependant la Commission canadienne de sûreté nucléaire qui l'évaluera formellement. Elle le fera sous l'égide de la Loi canadienne sur l'évaluation environnementale.

Même si le projet doit voir le jour sur le territoire ontarien, la Commission canadienne de sûreté nucléaire doit permettre le plus possible aux Québécois de participer aux consultations publiques à venir, «notamment par l'entremise d'audiences organisées» au Québec. Pour ce faire, toutes les informations et les données pertinentes devront pouvoir être consultées en français, dit encore David Heurtel.

La veille de l'envoi de cette lettre, l'Assemblée nationale avait débattu du projet de Chalk River, porté par les Laboratoires canadiens nucléaires, une filiale d'Énergie atomique du Canada.

Le gouvernement de Philippe Couillard avait repoussé une motion de la députée indépendante et chef du Bloc québécois, Martine Ouellet, qui demandait à l'Assemblée nationale de faire part à la Commission canadienne de sûreté nucléaire «de son opposition quant à l'emplacement de ce dépotoir de déchets nucléaires».

Le ministre David Heurtel avait plaidé le fait qu'il est trop tôt pour se prononcer définitivement, et que son gouvernement entendait suivre les étapes du processus d'évaluation et de consultation. C'est toujours ce qu'il a l'intention de faire.

Il avait ajouté qu'il faudrait bien finir par trouver une solution. Car un fait demeure et demeurera : l'Ontario a des déchets nucléaires et elle devra en disposer, que cela plaise ou non. «On ne peut pas les volatiliser. Il faut trouver une solution», avait-il déclaré.

Le péquiste Sylvain Gaudreault réclame que le ministre Heurtel confie au Bureau d'audiences publiques sur l'environnement, un organisme québécois, le mandat de tenir des consultations au Québec sur ce projet.

Au gouvernement Couillard, un interlocuteur s'est demandé s'il n'y a pas un aspect politique dans l'opposition virulente du Parti québécois et de Martine Ouellet. Il note qu'ils dénoncent le projet de Chalk River alors que des déchets nucléaires sont entreposés sur le site de la centrale Gentilly-2, à Bécancour, aux abords du fleuve Saint-Laurent - centrale fermée par le gouvernement de Pauline Marois en 2012. Il faut savoir qu'il existe différents types d'entreposage pour différents types de déchets radioactifs.

leDroit

http://www.lapresse.ca/le-droit/actualites/actualites-regionales/201705/15/01-5098331-depotoir-nucleaire-de-chalk-river-ouellet-denonce-une-grave-menace.php

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LETTERS TO THE EDITOR

CNL must do better

Old Fort William Cottagers' Association (OFWCA) has been doing research and has been listening to what the experts are saying about CNL's draft environmental impact statement (EIS).

There are some very serious problems and concerns about CNL's proposal for a Near Surface Disposal Facility (NSDF) at Chalk River.

First, CNL wants to bring radioactive waste to Chalk River from several places around the country - about 100,000 cubic metres of it.

OFWCA said no to this last July in a resolution. And since then the municipalities of Sheenboro, Clarendon, Bristol, Campbell's Bay, Canton de Lochaber, and the Township of Alfred and Plantagenet have also passed resolutions opposing this plan.

The proposed mound where CNL will put all the radioactive waste would be massive.

The footprint of the mound will be about 16 hectares (40 acres) and 20-25 metres high (about 6-7 storeys).

According to the plan, it will hold one million cubic metres (35 million cubic feet) of waste by 2070.

There has never been a disposal site for radioactive waste in Canada. Canada doesn't even have regulations for this dump.

Bear in mind that disposal is not storage - it is permanent and forever, meaning if something goes wrong there really isn't much you can do about it and, if there were, it would be enormously expensive.

There are big problems with the site CNL has chosen. First, it is adjacent to the Ottawa River (just one km away and less than 100 metres from Perch Creek which drains into the River).

The site for this mound is surrounded by wetlands - swamps that are already quite contaminated from a long history of accidents and leaks.

Another problem is that CNL tells everyone in ads and in interviews that this engineered containment mound is proven and safe.

Actually, this is not true. There is no other mound in the world that we can find for disposal of radioactive waste.

It is really the technology for a municipal dump, and you do not put really hazardous radioactive waste in a municipal dump. One doesn't even put batteries and paint in a dump.

The International Atomic Energy Agency (IAEA) states that only very low-level radioactive waste could be placed in such a mound.

CNL seems to go out of its way to hide what it plans to dispose of in this mound.

CNL tells us that only 1% of the waste will be intermediate-level waste; and it says it's a small amount.

This is not true; that 1% is 10,000 cubic metres.

But there is also another 10,000 cubic metres of radioactive mixed wastes (which can be contaminated with arsenic, mercury and PCBs).

Putting intermediate-level radioactive waste in a mound like this is against all international standards.

Some major confusion stems from the fact that CNL's EIS completely disregards IAEA classifications. This makes it difficult to figure out what will actually go in this mound.

CNL tells us repeatedly that the intermediate-level waste will not have long half-lives and that most of the waste will be demolition debris, from some torn down old buildings.

CNL hopes that we will go on thinking that all is perfect and safe.

Experts are now discovering in the EIS that, in fact, CNL plans to dispose of some very hazardous and long-lived radionuclides in this mound.

> CONTINUED ON PAGE 21

THIS WEEK

Items are listed free for non-profit community groups. To have an upcoming event listed, call the NRT at 584-4161 or email <NRT@magma.ca> before 10 am Monday.

WEDNESDAY, MAY 17

12-8 pm, Free Walk-in Counselling Clinic, no appointment needed, North Renfrew Family Services (for information, call 584-3358) *
10 am - 4 pm, Canadian Clock Museum fall/winter hours (Tuesday to Saturday - confirm at 584-9687), 60 James St., Deep River *
10 am - 5 pm & 7-9 pm, Photography by Varley Sears, plus work by Valley Artisans Co-op and Deep River Potters Guild & "Weaving Past Into Present," exhibition sponsored by the Deep River Library Arts Committee, DR Library program room (show continues until May 20)
6:15 pm, Rotary Club hosts presentation by Community Living Upper Ottawa Valley, everyone welcome, Bear's Den, Hwy 17 Deep River
7:15 pm, Deep River Toastmasters meet, North Renfrew Long-Term Care Centre, Ridge Rd *
7:30 pm, Grief Share program, St. Andrew's United Church, Chalk River (for information, call 584-3618) *
7:30 pm, Royal Canadian Legion Branch 562 general meeting & elections, followed by wine & cheese, Chalk River Legion

THURSDAY, MAY 18

6:45 pm, Lions bingo, doors open at 6 pm, Chalk River Lions Hall *
7 pm, Al-Anon meeting, for family and friends of alcoholics, Laurentian Hills municipal hall, Point Alexander *
7:30 pm, Deep River and District Community Foundation annual general meeting, with guest speaker Michael Stephens, chair of the Society for the Preservation of Canada's Nuclear Heritage, everyone welcome, North Renfrew Long-Term Care Centre, Ridge Rd

FRIDAY, MAY 19

10-11:15 am, Coffee morning, everyone welcome, Deep River Community Church *
8 pm, Alcoholics Anonymous meeting, Laurentian Hills municipal hall, Point Alexander *

SATURDAY, MAY 20

SUNDAY, MAY 21

MONDAY, MAY 22

10 am - 1 pm, Deep River and Area Food Bank open (except holidays), at the Deep River and District Hospital (for more information, phone 584-2484) *
1 pm, Golden Oldies Euchre Club, CR Legion *
1:30 pm, Grief Share program, 118 Frontenac Cres, Deep River (for information, call 584-3618) *
7:30 pm, Deep River Choral Group, Childs Auditorium, MCS *
8 pm, Alcoholics Anonymous meeting, Laurentian Hills municipal hall, Point Alexander *

TUESDAY, MAY 23

1 pm, 49ers euchre, Deep River Legion *
7 pm, Duplicate Bridge Club meets, Deep River Library program room *
7:30 pm, Christian meditation, everyone welcome, 1 Hammond Ct, Deep River (for information, call 584-9192) *

An asterisk (*) indicates weekly events.

Letter: CNL must do better

CONTINUED FROM PAGE 9

There is also a long list in the EIS of radioactive and some fissile materials that will be hazardous for hundreds of thousands of years - some for millions of years.

Plutonium and uranium are on that list. This is the worst of a lot of bad stuff.

There is no way this mound can survive even a tiny fraction of the time those materials will. So into the river and into the air those radioactive contaminants will go.

Either CNL is deceiving us or they do not know themselves what they are putting in this mound, and of course neither is good.

Another major problem is that leaks from this mound will eventually and inevitably end up in our river.

There are many ways leaks will happen. The radioactive waste will not be protected from rain and snow.

Yes, the water that gets on the waste will be collected and treated. The treatment will remove radioactive contaminants from it; but certain things cannot be removed, like tritium, which is harmful to health if the concentration is too high.

Furthermore, it is unclear what CNL will do with the contaminants that are removed from the water; are they put back into the dump or where?

But what if there is a storm - lots of rain like in April-May? This rain water will overwhelm the system.

The radioactive contaminants in that rain water will end up going into the wetlands, lake, stream and into the river.

Eventually, in about 2070, when the mound is full to capacity, CNL will cover the dump, but these covers and the bottom liners won't last forever.

With time they will corrode and break down and then there will be serious problems with contaminants leaking into the river.

If there are tears in the top liner, the whole mound could fill up with water like a bathtub and overflow.

A tear could even be created by an animal. CNL admits this in its draft environmental impact statement.

So many things can happen that could create a leak - some simple (like a breakdown in a pump or a power failure), others more dramatic, like storms, etc.

CNL tries to tell us that all is proven and safe, but there is no comparable disposal facility in the world, so these comments from CNL are deceptive.

The location is wrong: no disposal facility for radioactive waste should ever be placed next to a major body of water and certainly not in wetlands where the water works its way into the river.

Hazardous radioactive waste with long half-lives is wrong for this facility; it needs to be isolated from the environment and people. It cannot end up in a river.

Location, design, concept, and what they are putting in it is all wrong. CNL's ads are deceptive.

CNL has to do better. Alternatives for disposal or storage must be investigated.

The radioactive waste at Chalk River needs to be secured and needs a good solution. A different site must be found at least 25 km from the river on federally owned lands.

More employees may be needed. The environment is hugely important.

New companies, young people and tourists must want to come to the Valley. They will not come if the environment is not healthy and safe.

Johanna Echlin,
Old Fort William Cottagers' Association

SUDOKU SOLUTION

• FROM PAGE 14

7	5	4	3	1	9	2	8	6
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CROSSWORD

• FROM PAGE 14

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More time needed

Copy of a letter to AECL communications.

Dear sirs,

I have just been watching the webcast of the AECL public meeting that was held in Deep River this evening, (Monday) May 8, and I am very annoyed that insufficient time was allowed for all questions to be heard and answered during the webcast.

Planning a public meeting of this nature for one hour resulting in only 15 minutes remaining for questions is ridiculous.

This soon became apparent when proceedings were allowed to continue for 19 minutes overtime before shutting down both meeting and webcast, leaving further questions unanswered publicly.

It is not enough to know that questions could be answered after the meeting, or that those who sent in questions would receive written replies.

It is necessary for those at the meeting and those who took advantage of the webcast, to know the details of all questions and the answers that would be given to them.

I feel cheated, and any trust that might be expected from me towards AECL and/or CNL, following this meeting, has been seriously eroded.

Joyce Winfield

THE CORPORATION OF THE TOWN OF DEEP RIVER
P.O. BOX 400, 100 DEEP RIVER RD, DEEP RIVER, ON K0J 1P0
Telephone: (613) 584-2000 • www.deepriver.c

NOTICE OF APPLICATION AND PUBLIC MEETING

In the matter of Section 34 of the Planning Act, the Town of Deep River hereby gives NOTICE OF THE FOLLOWING:

i) Application to amend the Zoning By-law 24-96 of the Town of Deep River.
ii) A public meeting regarding an application for an amendment to Zoning By-law 24-96 of the Town of Deep River.

SUBJECT LANDS This is a general amendment to the Town of Deep River Zoning By-law and affects all lands therefore no key map has been provided.

PUBLIC MEETING A public meeting to inform the public of the proposed Zoning By-law amendment will be held on June 7, 2017, at 6:00 p.m. at the municipal office of the Town of Deep River.

Proposed Zoning By-law Amendment

The purpose of the amendment is to add a new section to the General Provisions of the Zoning By-law. The effect of the amendment would be to provide exemption to public uses and agencies from restrictions on the use of land in the by-law (i.e. Town of Deep River, County of Renfrew, School Boards, Provincial Ministries, Public Utilities). All other provisions of the Zoning By-law would continue to apply.

Additional information regarding the Zoning By-law amendment is available for inspection at the Town of Deep River Municipal Office during regular office hours.

If you wish to be notified of the decision of the Town of Deep River on the proposed zoning by-law amendment, you must make a written request to Ric McGee, CAO/Clerk, Town of Deep River, P.O. Box 400, 100 Deep River Road, Deep River, ON K0J 1P0.

If a person or public body does not make oral submissions at a public meeting or make written submissions to the Town of Deep River before the by-law is passed by the Town of Deep River, the person or public body is not entitled to appeal the decision of the Town of Deep River, to the Ontario Municipal Board.

If a person or public body does not make oral submissions at a public meeting, or make written submissions to the Town of Deep River before the by-law is passed by the Town, the person or public body may not be added as a party to the hearing of an appeal before the Ontario Municipal Board unless, in the opinion of the Board, there are reasonable grounds to do so.

NOTE: One of the purposes of the Planning Act is to provide for planning processes that are open, accessible, timely and efficient. Accordingly, all written submissions, documents, correspondence, e-mails or other communications (including your name and address) form part of the public record and will be disclosed/made available by the Municipality to such persons as the Municipality sees fit, including anyone requesting such information. Accordingly, in providing such information, you shall be deemed to have consented to its use and disclosure as part of the planning process.

Dated at the County of Renfrew this 8th day of May, 2017.

Bruce Howarth, MCIP, RPP
Senior Planner
County of Renfrew
9 International Drive
Pembroke, ON K8A 6W5

Commission extends comments on radioactive waste site

Near Surface Disposal Facility

Area residents, concerned citizens, and critics near and far will have an extra three months to submit their comments on a proposed low-level radioactive waste site at the Chalk River labs.

Canadian Nuclear Laboratories (CNL) released a draft "environmental impact statement" for the Near Surface Disposal Facility (NSDF) project in March.

Full copies of the document are available through the CNL website, the Canadian Nuclear Safety Commission, or the Canadian Environmental Assessment Registry.

The deadline for public comments on the project was originally set for today, Wednesday, May 17.

However, the Canadian Nuclear Safety Commission (CNSC) announced Monday that the comment period has been extended until at least August 16, and possibly longer.

In a statement late Monday afternoon, the CNSC said CNL "has committed to and is currently translating the draft environmental impact statement (EIS) into French."

"The draft EIS provides an analysis of the potential environmental effects of the project and measures to mitigate those impacts.

"From the time the French version of the draft EIS is made available to the public, the Canadian Nuclear Safety Commission (CNSC) will relaunch the public comment period for 60 days to allow all Canadians to comment on the project in the official language of their choice."

"The public comment period will be open until at least August 16, 2017."

Following the public comment period, CNSC staff "will consider all submissions received in making its determination on whether the EIS is satisfactory" or whether "further information is required," the notice stated.

"Should further information be required, the proponent will be requested to submit the necessary information until CNSC staff are satisfied with a final EIS.

"In addition, CNSC staff will provide responses to all comments received from members of the public and Indigenous groups."

Once the EIS has been massaged into its final form, CNSC will complete a final environmental assessment (EA) report on the project and the commission will hold a public hearing on the issue.

"The EA report will be available to the public and Indigenous groups 60 days prior to the commission's EA public hearing.

"Public participation will be offered through the submission of written and/or oral interventions."

Serious concerns

The extra time will be good news for those following the controversial NSDF project.

According to the executive summary of the draft EIS, the NSDF is "rooted in the requirements established by Atomic Energy of Canada Limited, on behalf of the government of Canada, to substantially reduce the risks associated with the CNL legacy wastes, liabilities, and to create the conditions for the revitalization of the CRL property."

The site would be built as an "engineered containment mound" and would receive up to 1 million cubic metres of radioactive waste over an operating life of about 50 years.

The site would be closed over about 30 years, from 2070 to 2100, and then monitored for another 300.

Overall, the draft EIS says the NSDF is "not likely to result in significant residual adverse effects on most environmental components," and could actually leave things in better shape.

"The NSDF project would enable the remediation of contaminated lands and legacy waste management areas, and decommissioning of outdated infrastructure at the CRL property and CNL's other business locations," it states.

"Residual effects on Ottawa River water quality are determined to be negligible during operations and post-closure phases and may even result in the net reduction due to remediation of legacy waste storage areas."

However, groups like the Concerned Citizens of Renfrew County and Area (CCRCA) say there are "serious concerns" with the proposed facility.

CCRCA researcher Dr. Ole Hendrickson says that the group recognizes the need to clean up existing radioactive wastes at Chalk River, but "the proposed approach creates serious risks for workers, the public, and the environment."

"A better designed facility in a safer location would create more local jobs and could build CNL's reputation as a leader in addressing radioactive waste challenges," he said.

Deep River Reeve Glenn Doncaster told members of Renfrew County council recently that the original comment period for the NDSF project was too short.

"We want to make clear that support (of CNL) is not just blanket support. We will hold them accountable," Doncaster told his fellow reeves and mayors.

L'actualité

http://lactualite.com/sante-et-science/2017/05/24/faut-il-avoir-peur-du-depotoir-nucleaire-de-chalk-river/

Faut-il avoir peur… du dépotoir nucléaire de Chalk River ?

Le risque zéro n'existe pas lorsqu'il s'agit de stocker des déchets nucléaires. Ce sera à la Commission canadienne de sûreté nucléaire de décider si le projet de Chalk River répond aux normes… ou dépasse les bornes.

Valérie Borde24 mai 20171 commentaire

Sans tambour ni trompette, la Commission canadienne de sûreté nucléaire a invité, en mars, la population à participer à une consultation sur la construction d'un site de stockage de déchets nucléaires à Chalk River, en Ontario, à 200 km au nord-ouest d'Ottawa. Les Canadiens avaient 60 jours, soit jusqu'au 17 mai, pour commenter l'étude d'impact environnemental, une brique de 990 pages (attention, gros pdf!), sans compter les annexes.

Les chiens de garde du nucléaire ont vite réagi, constatant dans un premier temps que le document de consultation n'avait été publié qu'en anglais. La Commission a donc accepté de faire traduire le document en français et annoncé, le 15 mai, que la période de consultation est prolongée au moins jusqu'au 16 août.

Selon ses opposants, ce projet de dépotoir le long de la rivière des Outaouais est un véritable danger public. D'une part, il pourrait être facilement submergé par des inondations. D'autre part, on s'apprêterait à cacher dans cette installation à rabais — dont la technologie est mal maîtrisée — des déchets dangereux parmi les résidus plus inoffensifs. Martine Ouellet, chef du Bloc québécois, y voit un projet insensé et une grave menace pour des millions de Québécois. Mais est-ce si fou que ça? Voici quelques éléments pour mieux comprendre.

Il faut avant tout préciser que les déchets dont il est ici question ne sont pas des résidus du combustible hautement radioactif qui produit l'énergie des centrales nucléaires. Ce sont, dans le jargon du nucléaire, des déchets de faible et moyenne activité constitués essentiellement de matériel de laboratoire, de matériaux de construction ayant été exposés à de la radioactivité et de la couche de sol sur laquelle des produits radioactifs ont été manutentionnés.

La classification des déchets dans ces deux catégories correspond à la définition de l'Agence internationale de l'énergie atomique (AIEA). Cette agence, créée par l'ONU, veille à la sûreté des installations nucléaires civiles dans le monde. Elle compte 158 pays membres, dont le Canada.

Les installations de stockage prévues à Chalk River doivent recevoir un million de mètres cubes de déchets, dont 99 % de faible activité et 1 % de moyenne activité.

Selon l'AIEA, le stockage en surface de déchets nucléaires de faible et moyenne activité est une option parfaitement recevable. Plusieurs installations de stockage en surface (par opposition au stockage en profondeur dans la roche, plus sécuritaire mais infiniment plus coûteux) existent déjà dans le monde.

Généralement, les déchets de moyenne activité sont stockés dans des installations bétonnées, alors que les déchets de faible activité peuvent être simplement empilés pour former des monticules qui sont ensuite recouverts. Mais ce n'est pas une règle absolue: dans la mesure

où le promoteur parvient à faire la démonstration que son installation est assez résistante, un monticule pourrait éventuellement abriter des déchets de moyenne activité. Dans le cas de Chalk River, le promoteur, la Canadian National Energy Alliance, est un consortium d'entreprises privées comprenant notamment SNC-Lavalin et Rolls Royce.

Quand on parle de dépotoir, bien des gens s'imaginent un tas de déchets volant au vent et des oiseaux tournant tout autour. Rassurez-vous: ce qu'on envisage est plus sécuritaire.

Les déchets seraient stockés sur un lit imperméable constitué de plusieurs couches de divers matériaux et de membranes géoplastiques de 1,85 m d'épaisseur. Environ 600 000 m^3 de matériaux seraient nécessaires pour en imperméabiliser le fond.

Le site de stockage serait divisé en 10 cellules isolées les unes des autres et qui seraient remplies tour à tour. Une fois pleine, après environ 5 ans, chacune serait recouverte d'une couche de 50 cm de sol puis d'une géomembrane de plastique. Du sable serait aussi versé pour combler les espaces entre les déchets. Après 50 ans de remplissage progressif, tout le site serait couvert de deux mètres d'épaisseur de divers matériaux, comme l'argile, d'une autre membrane plastique et de terre.

Une usine de traitement de l'eau doit aussi être construite pour décontaminer les eaux de pluie qui mouilleront le site tant qu'il ne sera pas recouvert, ainsi que les eaux de surface des environs. Là encore, il ne s'agit pas d'une simple station d'épuration comme en sont équipées les villes, mais d'une installation conçue pour éliminer les résidus de radioéléments par un ensemble de techniques, dont des résines échangeuses d'ions. C'est la manière habituelle de procéder pour ce genre d'installation.

Est-ce suffisant pour éviter tout risque de contamination de la rivière des Outaouais, qui passe à un kilomètre de là? Non, car le risque nul n'existe pas. Mais le risque est-il suffisamment important pour qu'il faille modifier le projet? C'est ce que devra examiner la Commission canadienne de sûreté nucléaire pendant ses audiences prévues en janvier prochain, à l'issue de la période de consultation.

Dans son document de consultation, le promoteur examine des technologies de stockage et des sites de rechange selon plusieurs critères, dont la gestion des risques, les impacts environnementaux et les coûts (section 2.5, page 62 du document de consultation). Il en déduit que la solution envisagée représente le meilleur compromis.

La construction des installations de stockage coûterait 250 millions de dollars, somme à laquelle il faudrait ajouter 580 millions de dollars pour exploiter le site pendant 50 ans, le temps d'y placer les déchets, et assurer sa maintenance dans les 30 années suivantes. Sans être nécessairement beaucoup plus sécuritaire, une installation de béton coûterait 3,4 milliards de dollars, selon le promoteur. Elle occuperait jusqu'à deux fois plus d'espace et aurait un impact environnemental bien plus important, notamment à cause de la quantité de béton à fabriquer et à transporter. Est-ce vraiment mieux?

Mais le promoteur étant une société privée, il a évidemment tout à gagner à diminuer les coûts. Pourrait-on placer les déchets plus loin des humains, comme le réclame Martine Ouellet? Oui. Il ne faut cependant pas oublier que 90 % des déchets qui doivent être stockés sont pour l'instant… à Chalk River, où ils ont été produits depuis que ce centre de recherche sur le

nucléaire et de production d'isotopes médicaux est entré en service en 1957.
Transporter un million de mètres cubes de déchets radioactifs sur les routes ou les rails, en plus de représenter d'importants risques pour l'environnement et une nuisance pour le voisinage, n'est pas sans danger. Il est en outre bien plus facile de surveiller un seul site que des camions circulant sur des routes isolées, où des accidents pourraient passer inaperçus aux yeux du public.
Pourrait-on bonifier le projet en prévoyant, par exemple, de confiner dans du béton les seuls déchets de moyenne intensité, qui ne représentent que 1 % du volume? C'est le genre de question qu'il faudra poser à la Commission canadienne de sûreté nucléaire.
Chose certaine, ces déchets ne disparaîtront pas comme par magie et aucune solution ne sera jamais sécuritaire à 100 %.

http://www.bulletinaylmer.com/pontiac-mp-william-amos-addresses-chalk-river-nuclear-waste-proposal
LETTER
2017, May 31

Pontiac MP William Amos addresses Chalk River Nuclear Waste Proposal

I take seriously my responsibility to enhance public dialogue regarding the proposed "Near Surface Disposal Facility" (NSDF), which is part of a private-sector plan to deal with the legacy waste at the Chalk River Nuclear Site. There is no doubt this is a file of significant regional and national interest. It merits our sustained focus and an effort to tone down the rhetoric.

For over a year, I have engaged directly and extensively with stakeholders (cottagers, environmental groups), mayors and councillors, indigenous communities, the project proponent (Canadian Nuclear Laboratories - CNL), my Parliamentary colleagues, and Canada's independent and expert regulator, the CNSC. If there is agreement on one aspect, it is that we have no choice but to achieve world-class management of the radioactive liability that Chalk River represents.

To be clear, it is not the job of a Member of Parliament to evaluate the technical merits of the CNL proposal or to determine whether the long-term storage of low- and intermediate-level radioactive materials will "likely cause significant adverse environmental impacts", as required under the Canadian Environmental Assessment Act, 2012. This is the Commission's responsibility, whose team of expert public servants is legally-mandated to analyze every public safety and environmental concern. From flood and earthquake considerations, to terrorist threats and multi-generational impacts, this independent federal regulator will examine the entire picture.

The Commission is undertaking a transparent public process that allows citizens to voice their opinions and preoccupations. Pursuant to applications for participant funding, groups such as Ottawa Riverkeeper, the Canadian Environmental Law Association, and indigenous organizations, such as the Algonquin Anishinabeg Nation Tribal Council have sought and obtained a portion of the $100,000 dedicated to ensure that technical evidence may be advanced by non-governmental entities. The deadline for public comment on CNL's draft

environmental impact statement has been extended until August 16, to account for the need to translate all project information into French.

My job is to encourage all interested Canadians to share their views on the proposed project through this official process. All comments are posted on the Canadian Environmental Assessment Registry for public review. All observations, including those related to the adequacy of the information presented by the proponent, will be considered and addressed by the Commission. Should it be determined that further information is required, the backer will be requested to re-submit until federal officials are satisfied with a final environmental impact statement.

Following receipt of a final environmental impact statement, commission staff will prepare an environmental assessment report (made public 60 days prior to the public hearing process) to inform the decision process. Public participation in the public hearings will be offered through the submission of written and/or oral interventions.

So, let's get the facts on the table and build a critical and open dialogue through the official process. It's the best way to responsibly address the many health, safety and environmental concerns that ultimately stem from an historic nuclear waste problem we cannot ignore.

William Amos

http://www.thedailyobserver.ca/2017/06/09/concerned-about-cnls-new-project

Concerned about CNL's new project

By Stephen Uhler, The Daily Observer
Monday, June 12, 2017 11:41:30 EDT AM

The NSDF, if approved, is being built to contain low level to medium level radioactive waste, the vast majority of it legacy materials generated from Chalk River Labs. Most of this will be debris generated by the anticipated demolition of more than 100 buildings on site.

The buildings, especially the labs, are expected to be radioactive, but not strongly so. About five per cent of the site will be used to dispose of waste coming from other former AECL sites such as Whiteshell, the rest from commercial sources. No highly radioactive materials such as fuel rods or parts of decommissioned reactors will be stored there.

Both the CCRCA and the Old Fort William Cottagers' Association (OFWCA), which represents a number of communities on the Quebec side of the Ottawa River, have both come out opposed to the NSDF, fearing both groundwater contamination and putting the Ottawa River at risk.

Both the CCRCA and OFWCA state they feel the proposed site is unsuitable for a dump given its proximity to the Ottawa River, a source of 1drinking water for millions of Canadians. They also say the site is near a major fault line, and on top of fractured and porous bedrock through which groundwater flows rapidly into the Ottawa River.

March, who is studying to become an environmental lawyer, said despite what the public has been told, the technology has not been proven as not enough time has passed yet to see if it holds up.

"This dump is to be lined with geomembranes, which are known to leak or be punctured," March said. She stated CNL isn't trying to stop leaks, but instead is ready to contain and treat the leachate expected to seep from the NSDF, driven by rain and snow. The leachate itself will be radioactive.

"Within a few hundred years, this mound will disintegrate," she said, with the consortium running CNL under a 10-year contract long gone from the scene, leaving the residents to deal with it for a long time afterwards.

"These materials need to be disposed of properly, and not in the way CNL is proposing, in a

landfill," March said, which seems to be the plan, to get this done in the cheapest, fastest way possible.

She ended her presentation by appealing to city council to draft a resolution, much like other Quebec municipalities have done, calling on CNL to stop working on the NSDF and instead focus on disposing of the materials in a stable way, within a sealed, underground facility located well away from the Ottawa River and surrounding wetlands.

"Don't sell Pembroke and the Ottawa River short by going along with a leaking, radioactive mess," March said.

Council members said the group has given them a lot to think about.

"This has certainly given me food for thought," Coun. Les Scott said, stating he would like to get more information about this and other alternatives.

Mayor Michael LeMay agreed, saying what he appreciated about the presentation is howe they did present alternatives, rather than just try to shut everything down.

City council will deal with this matter at a later date, once they have a suitable motion drafted and gathered more information.

The public comment period on Canadian Nuclear Laboratories' draft environmental impact statement about the NSDF project, which was tohave wrapped up in May, has been extended to at least August 16, 2017.

Written comments can be sent to:

Nicole Frigault, Environmental Assessment Specialist, Canadian Nuclear Safety Commission, P.O. Box 1046 Station B, 280 Slater Street,

Ottawa (ON) K1P 5S9. Telephone: 613-995-7948 or 1-800-668-5284. Fax: 613-995-5086. Email: cnsc.ea-ee.ccsn@canada.ca

The CNSC will be holding a hearing in January 2018 is for the relicensing of the Chalk River Laboratories (CRL) site only. The Commission will not accept any submission or make any decision related to the proposed Near Surface Disposal Facility (NSDF) at that time.

The Commission will schedule a separate public hearing for the NSDF proposal at a later date.

SUhler@postmedia.com

Comment period re-opens on proposed waste site

BY TERRY MYERS

Members of the public will have another 60 days or so to submit their comments on a proposed radioactive waste site at the Chalk River labs.

The Canadian Nuclear Safety Commission (CNSC) announced Monday that the comment period has been re-opened on the Near Surface Disposal Facility (NSDF) planned at Chalk River.

Canadian Nuclear Laboratories (CNL) released a draft "environmental impact statement" for the NSDF project in March.

Full copies of the document are available through the CNL website, the CNSC, or the Canadian Environmental Assessment Agency.

The deadline for public comments on the project was originally set for May 17, but was extended last month while CNL had the environmental impact statement (EIS) into French.

The CNSC announced Monday that the translated version is now available to the public and the comment period will be re-opened until August 16.

"The draft EIS provides an analysis of the potential environmental effects of the project and measures to mitigate those impacts," the notice states.

"This comment period gives members of the public, Indigenous groups, and government departments and agencies an opportunity to submit their views in writing to the CNSC on the adequacy of the information presented in the EIS."

Following the public comment period, CNSC staff "will consider all submissions received in making its determination on whether the EIS is satisfactory" or whether "further information is required," the commission has previously stated.

"Should further information be required, the proponent will be requested to submit the necessary information until CNSC staff are satisfied with a final EIS.

"In addition, CNSC staff will provide responses to all comments received from members of the public and Indigenous groups."

Once the EIS has been massaged into its final form, the CNSC will complete a final environmental assessment (EA) report on the project and the commission will hold a public hearing on the issue.

"CANADA'S REPUTATION AT STAKE"

At least 65 comments have been received on the project so far and posted to the Canadian Environmental Assessment Agency website.

While many of the comments provide detailed technical analyses, they also include a simple plea from a British peer.

Sir Patrick and Lady Gillam have written to the CNSC as summer residents of an island in the Ottawa River "in the tax jurisdiction of Petawawa, Ontario."

"Our main residence is in Great Britain but we have been regular summer visitors for 50 years."

"As British citizens with a great admiration and affection for Canada," they say, "we are entirely perplexed by a proposal to place a million cubic metres of nuclear waste, seven stories high, adjacent to the Ottawa River which descends past many rural communities to the cities of Ottawa and Montreal and then disgorges into the St. Lawrence (sic) River...

"Looking at a map, this splendid river is in a position to contaminate the water of more than a third of Canada at its most populous and as far as we can ascertain this decision to imperil Canada has not been taken by any neutral and scientifically informed body.

"Canada's hitherto excellent reputation is at stake here. Even a minor mishap will shock the world.

"We urge you to go back to the drawing board and not be seduced by the promises of commercial interests and the presence of a convenient but entirely unsuitable location before it is too late."

According to the executive summary of the draft EIS, the NSDF is "rooted in the requirements established by Atomic Energy of Canada Limited, on behalf of the government of Canada, to substantially reduce the risks associated with the CNL legacy wastes, liabilities, and to create the conditions for the revitalization of the CRL property."

Canadian Environmental Law Association
EQUITY. JUSTICE. HEALTH.

http://www.cela.ca/newsevents/media-release/citizens-seek-AG-probe-of-plan-radioactive-waste-beside-Ottawa-R

Citizens ask Auditor-General to probe origins of plan to create a giant mound of radioactive waste beside Ottawa River

Jun 26 2017

(Ottawa) A petition to the federal environment commissioner Julie Gelfand, filed on June 20 with the Office of the Auditor-General, seeks the commissioner's help in probing the origins of the radioactive waste dump proposal that has been ringing alarm bells for citizens' groups, business owners and residents of Quebec and Ontario since the environmental impact statement for it was released in March, 2017.

According to critics, the proposed radioactive landfill, the so-called "Near Surface Disposal Facility", is on a fast track to approval despite the fact that it does not meet safety standards established by the International Atomic Energy Agency. Critics of the plan include a number of retired scientists from Atomic Energy of Canada Limited (AECL).

A former Director of Safety Engineering and Licensing at AECL notes that problems with the plan include an unsuitable location next to wetlands that drain into the Ottawa River and inadequate technology. Other scientists point out that the disposal facility would contain materials such as plutonium that will be radioactive for more than 100,000 years. After a period of "institutional control", the wastes would be abandoned and the mound would deteriorate, leaking contaminants into the environment and the Ottawa River essentially for eternity.

Citizens groups want to know how such a flawed proposal could have emerged after the federal government spent $1.15 billion between 2006 and 2015 on a program to clean up its "legacy" radioactive wastes. At the time, it was estimated that $10 billion was needed to clean up Canada's nuclear legacy liabilities, including contaminated waste areas, buildings and plutonium left over from Canada's role in Cold War nuclear weapons production. A disposal facility was expected to be operational by 2035, reflecting the lengthy process required for characterizing wastes, selecting appropriate technologies, choosing a site, and licensing an environmentally acceptable facility.

Johanna Echlin, of the Old Fort William Cottagers' Association, notes that an abrupt U-turn took place when the previous conservative government privatized Canada's nuclear facilities, set up Canadian Nuclear Labs, and awarded a 6-year contract to a multinational, private-sector consortium to manage Canada's federally-owned nuclear business and radioactive wastes in September 2015.

"We are very concerned that the contract negotiated with SNC Lavalin and others, emphasizes low cost, disposal of all wastes, and completion of a facility within six years," Echlin said. "It appears the consortium may have won the bid to manage Canadian Nuclear Labs by proposing a quick and dirty approach to dealing with Canada's nuclear wastes that reduced the cost of "cleanup" from $10 billion to $600 million. We want to know who said it was okay to ignore over a billion dollars worth of work on the previous cleanup plan."

Echlin questions the former conservative government's decision to privatize AECL and says that citizens' groups see it as an abdication of responsibility by the Government of Canada to look after its radioactive wastes properly.

Dr. Ole Hendrickson, researcher for Concerned Citizens of Renfrew County and Area says "It appears that annual expenditures for AECL more than doubled to almost one billion dollars after privatization. We are asking the Minister of Natural Resources to account for this increase".

The petition to the environment commissioner was co-signed by Concerned Citizens of Renfrew County and Area and the Canadian Environmental Law Association.

Theresa McClenaghan, Executive Director and Counsel for the Canadian Environmental Law Association, notes the petition is aimed at ensuring that funding has been appropriately allocated towards safely and efficiently reducing risks to Canadians. McClenaghan states, "If the proposed facility fails to meet regulatory requirements for health, safety and protection of the environment, a great deal of money, time and effort will have been wasted in a misguided effort to accelerate the reduction of the nuclear legacy liabilities currently on the balance sheet of the Government of Canada".

The petition presents a series of 15 questions for the Minister of Natural Resources Canada, James Carr. The Minister is required to respond to the questions within 120 days of receiving them from the Office of the Auditor-General.

- 30 -

Contact:

Dr. Ole Hendrickson, Researcher, Concerned Citizens of Renfrew County and Area 613-234-0578

Theresa McClenaghan, Executive Director and Counsel, Canadian Environmental Law Association 416-662-8341

leDroit
http://www.lapresse.ca/le-droit/actualites/actualites-regionales/201706/26/01-5111031-dechets-radioactifs-a-chalk-river-une-petition-a-la-commissaire-a-lenvironnement.php
Publié le 26 juin 2017 à 21h48 | Mis à jour le 26 juin 2017 à 21h48

Déchets radioactifs à Chalk River: une pétition à la commissaire à l'environnement

Paul Gaboury
Le Droit

Dans une pétition acheminée à la commissaire fédérale à l'environnement, Julie Gelfand, des groupes de citoyens demandent son aide pour retracer les origines du projet de dépotoir pour déchets radioactifs de Chalk River.

Dans un communiqué, Johanna Echlin, de l'Association des propriétaires de chalets d'Old Fort William, note qu'il y a eu une abrupte volte-face dans ce dossier en 2015 quand le gouvernement Harper a privatisé les installations nucléaires canadiennes, mis sur pied les Laboratoires nucléaires canadiens, et accordé un contrat de 6 ans à un consortium multinational du secteur public pour gérer l'industrie nucléaire et les déchets radioactifs. «Nous sommes préoccupés que le contrat négocié par le gouvernement Harper avec SNC Lavalin et d'autres multinationales mette l'accent sur la disposition à faible coût de tous les déchets et qu'une installation soit terminée en l'espace de six ans. Nous voulons savoir qui a dit que c'était acceptable d'ignorer le travail de plus d'un milliard de dollars déjà engagé pour réaliser le plan d'origine», souligne Mme Echlin.

THE GLOBE AND MAIL
https://beta.theglobeandmail.com/news/politics/scientists-decry-plan-for-ontario-nuclear-waste-site/article35482638/?ref=http://www.theglobeandmail.com&
June 27, 2017

Scientists decry plan for Ontario nuclear-waste site

By SHAWN McCARTHY
Globe and Mail Update

Former Atomic Energy of Canada workers worry project is being rushed and doesn't meet regulatory requirements with respect to human safety, environmental protections

Former AECL scientists are condemning a plan to build a nuclear waste facility at the Chalk River site on the Ottawa River, saying it would be ill-equipped to handle the level of radioactive material planned for it.

The government-owned, private sector-operated Canadian Nuclear Laboratories (CNL) is proposing to build a $325-million facility to dispose of a large quantity of low- and intermediate-level waste generated from the demolition of aging buildings and other contaminated material generated over the past 65 years.

But several former senior scientists who worked there say the CNL proposal is seriously flawed and represents a threat to human health and the environment.

In 2015, the Canadian National Energy Alliance consortium won a contract to manage the Chalk River laboratories. The group includes SNC-Lavalin Group Inc. and U.S. engineering giants, CH2M Hill Inc. and Fluor Corp.

The former Conservative government split up the country's nuclear flagship, Atomic Energy of Canada Ltd., selling its commercial business to SNC-Lavalin and retaining its research operations, including Chalk River, in CNL.

Ottawa is financing a $1.2-billion, 10-year effort to transform the aging Chalk River site, where the Candu reactor was developed. CNL is constructing some new facilities and demolishing older buildings. The company is also managing the site's longer-term decommissioning.

The Canadian Nuclear Safety Commission (CNSC) is currently reviewing CNL's plan for the nuclear waste disposal facility that would be a five-storey-high, dome-like structure and would hold one million cubic metres of low- and intermediate-level radioactive waste. The material is generated and stored on site, and the new facility is meant to provide permanent disposal.

David Winfield, a former senior scientist in safety management at AECL, said international standards suggest permanent disposal of intermediate-level radioactive waste should be done in vaults built deep underground in impermeable rock.

"The proposed design seems not to be appropriate to handle that level of waste," Mr. Winfield said in an interview Tuesday. In addition to his role at AECL, Mr. Winfield has done consulting work on safety issues for the International Atomic Energy Agency.

He also worries CNL is locating the disposal facility in a swampy area of the sprawling Chalk River site, which could cause material to leach from it.

Another former AECL senior scientist, William Turner, said the new management appears to be

rushing the plan in order to have it operational by 2020, and worries they are driven by financial considerations, including performance bonuses. "If this isn't done right, they will walk away with pockets full of money and Canadians will be left with an enormous bill," Mr. Turner said in an interview.

In a submission to the regulator last month, a former AECL director of safety engineering and licensing said CNL's proposal "employs inadequate technology and is problematically located." "The proposal does not meet regulatory requirements with respect to the health and safety of persons and the protection of the environment," Dr. Robert Walker said in a lengthy critique of the plan.

CNL president Mark Lesinski defended the company's proposal, saying the near-surface facility will provide "safe and permanent disposal" of radioactive materials.

In a statement provided to The Globe and Mail, Mr. Lesinski said the company carried out extensive geotechnical and hydro-geological tests to ensure the location was the best place to put it.

The site will primarily contain low-level radioactive waste – which requires no shielding for exposure – while more dangerous intermediate-level waste will represent no more than 1 per cent of the total material, he said.

"As proponent/licensee, CNL must demonstrate to the regulator (CNSC) that inclusion of these limited quantities of [intermediate level waste] is safe," Mr. Lesinski said.

Laurentian Hills clears business in speedy meeting

BY DENISE WALKER

Laurentian Hills held a speedy council meeting last week, getting through the agenda and adjourning in 30 minutes.

Despite its brevity, council was able to get some outstanding business cleared away.

Council passed two planning bylaws.

The first was a site plan control agreement with Richard Gendron and Elizabeth King. The site plan will enable the couple to move ahead with the addition of a garage to their waterfront property.

The second bylaw amended the town's Comprehensive Zoning Bylaw to allow the expansion of a mineral aggregate pit on the Wylie Road.

In order to expand the pit, the town had to agree to reduce the setbacks required by the zoning bylaw.

The town held a public meeting in April at which no objections were raised.

Council also set its summer schedule. It approved a motion for a summer break in the month of August.

Councillor Brenda Blimkie was quick to reassure residents that they were not being abandoned.

"If we need to, for any reason, we can always hold a special meeting," she said.

As July 1 and Canada's 150th anniversary gets closer, Mayor Jed Reinwald invited all members of council to join him at the June 28 meeting of Renfrew County council.

Reinwald explained that, as part of the Canada 150 celebrations, county council would be bringing together rocks collected from every municipality in Renfrew County.

The rocks will be placed in a time capsule along with other municipal artifacts to give future residents a snapshot of Renfrew County in 2017.

Laurentian Hills contributions will include business cards and a town pin.

Council also got a short update on the new restrictions for garbage collection.

Earlier in the month, public works committee chair, Bruce Boucher, reported that since the introduction of a two garbage bag limit, the amount of garbage had been reduced by one truckload per collection period.

While councillors were glad to hear it, there were questions about where that garbage was going.

CAO Sherry Batten explained last week that reports from waste contractor, Beauman, showed a significant increase in the amount of materials put out for recycling.

Councillor Blimkie told council "that's very encouraging news."

Mayor Jed Reinwald agreed. He has been doing some detecting of his own, and told council that his travels on his ATV along the by ways of Laurentian Hills, have not revealed large amounts of garbage being dumped.

"I've seen no evidence of any increase in waste dumping," he said.

HIGHWAY 17

Motorists can expect delays on Highway 17 in the local area this summer.

Mayor Reinwald explained that Smith's Construction had alerted council that they would be undertaking major construction work, including culvert installations, along Highway 17.

The work will begin about 1.5 km east of Chalk River and continue up to Landry Crossing.

"The work starts on June 29 and continues until the end of October," Reinwald explained.

With masterful understatement he added, "it's going to make the trip to Pembroke a little tricky."

Work on the highway across the Petawawa plains last summer sometimes resulted in hours-long traffic delays.

The Ministry of Transportation says it has learned from last year's problems, however.

In a letter to the county earlier this spring, MTO project manager Ron Witjes said the ministry has adjusted the language in highway contracts to address issues of concern.

"By adjusting the allowable lane closure restrictions and completing work outside the peak commute times, should alleviate motorist frustration, lengthy traffic queues, motorist wait times, and resulting speeding by motorists."

"MTO will continue to work with the contractor to ensure the flagging operation during the temporary land closure remains effective and efficient."

SEPTIC SYSTEMS

Still the mayor was quite pleased with the province this month.

He cheered the changes to the OPP billing model saying "it looks as if it will save us about $5,000 a year."

He was also pleased by the news that the Ministry of Municipal Affairs has abandoned proposed changes to the building code with regard to septic systems.

The changes related to inspections and record keeping of septic tanks and provoked fierce opposition.

Locally, Head, Clara and Maria Mayor Jim Gibson led the charge.

The proposed regulations would have required rural homeowners to pump out their septic systems at least every five years.

Homeowners would also be required to keep records of the cleanout to be submitted to a municipality's building inspector on request.

Gibson had been leading the fight against the proposal after Head, Clara, Maria council passed a resolution opposing the move, saying the majority of homeowners already pump out their septic tanks on a regular basis "whether regulated to or not."

The townships also said the change would place new administrative burdens on municipalities and legislation already exists to "correct malfunctioning systems."

"There are many more important issues on which to spend taxpayers' money than 'enhancing' maintenance on existing functioning systems," the resolution said.

Reinwald told council "it's thanks to all the municipalities that took this on, that these proposals have been pushed back."

RADIOACTIVE WASTE FACILITY

Canadian Nuclear Laboratories (CNL) has asked area municipalities to send letters of support to the Canadian Nuclear Safety Commission (CNSC) for CNL's proposed Near Surface Disposal Facility (NSDF).

CNL proposes to build the facility at the Chalk River site.

It is designed to be an engineered mound housing both low level and intermediate level radioactive waste from the Chalk River site and other sites in Canada.

As part of the environmental assessment of the project, CNL has prepared a voluminous 1,800 page document called the Environmental Impact Statement (EIS).

The public is invited to provide comments to the CNSC on the document until August 16.

Last week, Laurentian Hills council agreed to support the project.

Deputy Mayor Anne Giardini kicked off the brief discussion by stating, "I think we need to endorse this."

She was supported by Councillor John Hoyle, who told council "I've seen the waste facility at Port Hope."

"I went down there for work. It's the same facility that they will build here and it's safe. There are others like it.

"We need it for our own work here - our waste needs to go somewhere."

Councillor Brenda Blimkie sounded a note of caution.

> CONTINUED ON PAGE 23

Service held for Sergeant Robert James Dynerowicz

A memorial service was held Monday for Sergeant Robert James Dynerowicz, of the Royal Canadian Dragoons.

Sgt Dynerowicz died Tuesday, April 25, 2017, following a training incident at CFB Wainwright.

His family paid tribute to Dynerowicz in a written statement.

"It is with much grief and sadness that we pay tribute today to Sergeant Robert 'Bobby' James Dynerowicz.

"He was a beloved husband, cherished son, loving brother, and proud uncle," the family said.

"We also remember a dedicated soldier. Bobby wore his uniform with pride and was honoured to call the Royal Canadian Dragoons his regimental family.

"Bobby made an impression on people wherever he went. While we are all saddened by our loss, we will find strength in each other to celebrate his life knowing his memory will forever remain with us, in our hearts."

Laurentian Hills: NSDF

CONTINUED FROM PAGE 5

"I'm not sure I agree," she said. "I don't feel I have have enough information at this point."

Blimkie made it clear that she was not taking a NIMBY (not in my backyard) stance.

"I am speaking for myself and I am not totally opposed to the project," she told council, adding "I would like to see the request come back at a later date when we have more information."

Blimkie pointed out that the town had not yet seen all of the environmental documents.

In addition, she said she had not been fully satisfied in CNL's responses to her questions.

Blimkie had asked several questions following a presentation to council by CNL in April.

"I didn't get the answer I was hoping for, on what future waste could be brought here from off site.

"They said they could not guarantee that there would be no other off-site wastes brought here other than those already identified," she said.

Hoyle countered that the early phase of the project would only involve Chalk River waste.

In any event, he said, wherever it came from, "it's all CNL waste."

Editorial note:

The waste facility being built at Port Hope is not a radioactive waste disposal facility.

The Port Hope facility is licensed by the CNSC as a long-term waste management facility for the storage of 1.2 million cubic metres of low-level radioactive waste (see www.phai.ca).

Since it is not a disposal facility, safety and licensing standards are applied on the basis that the storage facility is not a final solution.

OSPCA Renfrew County

PET OF THE WEEK

Mews flash! All Adult Cats are $25 until June 30! All cats come with six weeks of free pet insurance, neuter/spay, first core vaccination's, food and so much more.

The Renfrew County branch of the OSPCA is located at 387 Paquette Road off Highway 17 in Petawawa. For more information, call 613-588-4508.

Sudoku solution

• FROM PAGE 15

2	6	3	9	4	8	7	1	5
9	5	1	6	7	3	2	8	4
4	8	7	5	1	2	9	6	3
5	7	6	1	8	9	3	4	2
8	3	2	4	5	6	1	7	9
1	4	9	3	2	7	8	5	6
3	2	8	7	6	4	5	9	1
7	1	4	2	9	5	6	3	8
6	9	5	8	3	1	4	2	7

Crossword

• FROM PAGE 15

■	M	A	A	M	■	S	E	R	B	■	O	E	A	F
H	I	N	O	U	■	E	T	U	I	■	A	C	M	E
A	L	T	O	S	■	L	A	N	E	■	P	L	O	T
S	K	I	■	K	I	L	L	E	R	W	H	A	L	E
■	■	T	E	R	N	■	■	■	A	N	T	E	S	■
H	E	R	E	I	A	N	O	T	H	E	R	E	■	■
A	D	U	L	T	■	W	H	O	O	P	■	P	I	G
L	I	S	■	■	A	A	R	O	N	■	■	E	O	O
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■	■	■	P	R	O	F	E	S	S	I	O	N	A	L
A	S	S	A	I	■	■	■	U	G	L	Y	■	■	■
F	A	L	L	E	N	A	N	G	E	L	■	W	A	S
T	R	U	E	■	O	G	E	E	■	E	V	I	C	T
E	G	G	S	■	A	R	A	L	■	T	E	S	T	Y
R	E	S	T	■	H	A	R	T	■	S	E	E	S	■

Citizens ask Auditor-General to probe giant mound of radioactive waste beside Ottawa River

A petition to the federal environment commissioner Julie Gelfand, filed on June 20 with the Office of the Auditor-General, seeks the commissioner's help in probing the origins of the radioactive waste dump proposal that has been ringing alarm bells for citizens' groups, business owners and residents of Quebec and Ontario since the environmental impact statement for it was released in March 2017.

According to critics, the proposed radioactive landfill, the so-called "Near Surface Disposal Facility", is on a fast track to approval despite the fact that it does not meet safety standards established by the International Atomic Energy Agency. Critics of the plan include a number of retired scientists from Atomic Energy of Canada Limited (AECL).

A former Director of Safety Engineering and Licensing at AECL notes that problems with the plan include an unsuitable location next to wetlands that drain into the Ottawa River and inadequate technology. Other scientists point out that the disposal facility would contain materials such as plutonium that will be radioactive for more than 100,000 years. After a period of "institutional control", the wastes would be abandoned and the mound would deteriorate, leaking contaminants into the environment and the Ottawa River, essentially for eternity.

Citizens groups want to know how such a flawed proposal could have emerged after the federal government spent $1.15 billion between 2006 and 2015 on a program to clean up its "legacy" radioactive wastes. At the time, it was estimated that $10 billion was needed to clean up Canada's nuclear legacy liabilities, including contaminated waste areas, buildings and plutonium left over from Canada's role in Cold War nuclear weapons production. A disposal facility was expected to be operational by 2035, reflecting the lengthy process required for characterizing wastes, selecting appropriate technologies, choosing a site, and licensing an environmentally acceptable facility.

Johanna Echlin, of the Old Fort William Cottagers' Association, notes that an abrupt U-turn took place when the previous conservative government privatized Canada's nuclear facilities, set up Canadian Nuclear Labs, and awarded a 6-year contract to a multinational, private-sector consortium to manage Canada's federally-owned nuclear business and radioactive wastes in September 2015.

"We are very concerned that the contract negotiated with SNC Lavalin and others, emphasizes low cost, disposal of all wastes, and completion of a facility within six years," Echlin said. "It appears the consortium may have won the bid to manage Canadian Nuclear Labs by proposing a quick and dirty approach to dealing with Canada's nuclear wastes that reduced the cost of 'cleanup' from $10 billion to $600 million. We want to know who said it was okay to ignore over a billion dollars worth of work on the previous cleanup plan."

Echlin questions the former conservative government's decision to privatize AECL and says that citizens' groups see it as an abdication of responsibility by the Government of Canada to look after its radioactive wastes properly.

It appears that annual expenditures for AECL more than doubled to almost one billion dollars after privatization. We are asking the Minister of Natural Resources to account for this increase.

The petition to the environment commissioner was co-signed by Concerned Citizens of Renfrew County and Area and the Canadian Environmental Law Association.

The petition is aimed at ensuring that funding has been appropriately allocated towards safely and efficiently reducing risks to Canadians. If the proposed facility fails to meet regulatory requirements for health, safety and protection of the environment, a great deal of money, time and effort will have been wasted in a misguided effort to accelerate the reduction of the nuclear legacy liabilities currently on the balance sheet of the Government of Canada.

The petition presents a series of 15 questions for the Minister of Natural Resources Canada, James Carr. The Minister is required to respond to the questions within 120 days of receiving them from the Office of the Auditor-General.

Dr. Ole Hendrickson, Researcher, Concerned Citizens of Renfrew County and Area
Theresa McClenaghan, Executive Director and Counsel, Canadian Environmental Law Association
Ottawa

Response to letter from Andy George

Your comments are so unbelievable! Ca country in the world! You don't have to cel birthday, but why are you living in Canad attitude?

Bird-watching alo Brewery Creek

On July 15, a hike along the Brewery Cre activity, is planned by the Club des ornitho (COO) in collaboration with the Ville de various city sectors, these animation activ highlight our natural heritage with all ou acquainted with a section of the surprising lives in the very heart of our city, while o fauna and plants in their urban environme

Hosts are well aware of this route's secret trip, pretty easy walking down the bike Rendez-vous : 8am on École secondaire de sector). Duration: the morning. Your Mélodie Courchesne.

Visit also the fascinating "Brewery Cree http://ruisseau-brasserie.blogspot.ca/. For about our activities (mostly open to every www.coo.qc.ca .

C

Good news about the CBC

Regarding the independence of the CBC Trudeau government has announced that to ensure that future appointments to CBC President and CEO – are made indepe patronage as well as merit-based.

POINT OF VIEW

Near Surface Disposal Facility: a waste solution

BY MARK LESINSKI

Your paper has taken an interest in one of the projects that is underway at Chalk River Laboratories, and I would like to provide you with more, factual, information.

Canadian Nuclear Laboratories – or CNL – is revitalizing and modernizing the facilities at Chalk River Laboratories to create a world-class, national nuclear science and technology laboratory that will sustain and create jobs in our community for many years to come.

We are doing this in a safe, secure and environmentally responsible way under the stringent regulations of the Canadian Nuclear Safety Commission.

One element of this renewal is the Near Surface Disposal Facility – or NSDF – which we are planning to build on the property of Chalk River Laboratories.

The NSDF will provide a permanent solution for the waste that has been generated over the past 65 years and is already stored here, and operational waste that will be generated here in the coming years.

The NSDF will also be used to dispose of building materials and debris as we transform Chalk River Laboratories into a globally recognized centre of excellence and innovation.

We have heard concerns that some of the materials that will go into the NSDF will come from other places. This is true.

We will continue the decades-long practice of receiving waste from hospitals and universities.

We also plan to receive waste from other Government of Canada owned nuclear facilities, such as Whiteshell Laboratories in Manitoba.

This "waste from away" would be one 10th of the facility's total volume.

Be assured, this material will be transported to Chalk River safely and securely, as usual, under the strict oversight of Transport Canada and the Canadian Nuclear Safety Commission.

Some people say the NSDF is too close to the Ottawa River.

The carefully chosen site for the NSDF at Chalk River Laboratories is approximately 1 km from the Ottawa River.

CNL knows the exact make-up of the 10,000 acres of our Chalk River site. In fact, some say that our site is one of the most studied pieces of land in the world.

In identifying the ideal setting for the NSDF, we examined potential locations even more rigorously.

The geotechnical and hydrogeological tests that we carried out confirmed that the chosen site is truly the most suitable place to put this kind of facility.

CNL's Environmental Protection Program maintains a comprehensive effluent and environmental monitoring regime, which involves taking hundreds of samples each year and conducting tens of thousands analyses.

CNL's Environmental Protection Program provides an added degree of insurance in the very unlikely event of an incident.

The 2,800 people that work at CNL and Chalk River Laboratories are your neighbours.

Our families – some for many generations – have grown up here in the Ottawa Valley enjoying the river for swimming, fishing and boating.

The people who are designing and who will build and operate the NSDF are just as concerned about protecting our environment, including the Ottawa River, as anyone else in our community.

It is understandable that some may have concerns, but, the NSDF is a proactive initiative that will enable us to clean up our site and dispose of the waste in a safe and responsible manner.

It is also a key step in our journey towards a bright future at Chalk River Laboratories.

We are not just taking care of the legacy waste that is here, we are building a brighter future.

But, don't just take our word – or anyone else's – at face value.

Ask questions, read the scientific and technical documents that are publicly available and find out more. Many of these resources are available at www.CNL.ca/NSDF.

It's our shared environment, and all of us have a say in how we want to improve the situation.

(Mark Lesinski is president and CEO of Canadian Nuclear Laboratories, a Petawawa resident and "Ottawa River enthusiast.")

EDITORIAL BOARD

Editorials in the North Renfrew Times are written by members of the paper's community-based editorial board. Current members of the board are: Amy Cahoon (AC), Michelle Coy (MC), Douglas Tennant (DT), Bruce Wilkin (BW), and editor Terry Myers (TM).

Membership on the editorial board is open to area residents who demonstrate an interest in local issues and an ability to express their thoughts in writing.

For more information on joining the editorial board, email NRT@magma.ca.

THIS WEEK

Items are listed free for non-profit community groups. To have an upcoming event listed, call the NRT at 584-4161 or email <NRT@magma.ca> before 10 am Monday.

WEDNESDAY, JULY 12

12-8 pm, Free Walk-in Counselling Clinic, no appointment needed, North Renfrew Family Services (for information, call 584-3358) *
10 am - 4 pm, Canadian Clock Museum summer hours (Monday to Saturday, plus 1-4 pm Sundays - confirm at 584-9687), 60 James St., Deep River *
6:30 pm, 45th annual Deep River 6x1 Relay Race, Centennial Terrace
7 pm, Petawawa Legion Community Band free concert, Deep River Yacht and Tennis Club
7 pm, Al-Anon meeting, for family and friends of alcoholics, Laurentian Hills municipal hall, Point Alexander *
7:15 pm, Deep River Toastmasters meet, North Renfrew Long-Term Care Centre, Ridge Rd *

THURSDAY, JULY 13

10 am - 4 pm, Schoolhouse Museum open for summer, Highway 17 at Meilleur's Bay *
6:45 pm, Lions bingo, doors open at 6 pm, Chalk River Lions Hall *
7 pm, Summer Social Bridge, Deep River Lawn Bowling Club *
7:30 pm, "501" Pun Darts, Deep River Legion *

FRIDAY, JULY 14

10-11:15 am, Coffee morning, everyone welcome, Deep River Community Church *
10 am - 4 pm, Schoolhouse Museum open for summer, Highway 17 at Meilleur's Bay *
7 pm, Alcoholics Anonymous meeting, Laurentian Hills municipal hall, Point Alexander *
8 pm, Deep River 150 "Dance Thru the Ages," sponsored by the Seniors Friendship Club, Deep River Yacht and Tennis Club

SATURDAY, JULY 15

10 am - 4 pm, Schoolhouse Museum open for summer, Highway 17 at Meilleur's Bay *
8:30 am - 12 pm, "Christmas in Colombia" Yard Sale, Real Hope Christian Assembly, Hwy 17 Deep River

SUNDAY, JULY 16

10 am - 4 pm, Schoolhouse Museum open for summer, Highway 17 at Meilleur's Bay *
1-3 pm, Deep River and Area Horticultural Society presentation: "How to Grow the Best Berries," 34630 Hwy 17 in Point Alexander

MONDAY, JULY 17

10 am - 1 pm, Deep River and Area Food Bank open (except holidays), at the Deep River and District Hospital (for more information, phone 584-2484) *
10 am - 4 pm, Schoolhouse Museum open for summer, Highway 17 at Meilleur's Bay *
7 pm, Alcoholics Anonymous meeting, Laurentian Hills municipal hall, Point Alexander *

TUESDAY, JULY 18

7:30 pm, Christian meditation, everyone welcome, 1 Hammond Ct, Deep River (for information, call 584-9192) *

An asterisk (*) indicates weekly events.

Previous Story Next Story

Article rank | *13 Jul 2017* | *The Daily Observer* | *STEPHEN UHLER* | *DAILY OBSERVER*

Meeting about NSDF in Ft. William

This Saturday, Canadian Nuclear Laboratories is reaching across the river to explain what its Near Surface Disposal Facility (NSDF) is all about.

On July 15, at 9:30 a.m. the Hotel Pontiac in Fort William, Que. will be the site of a public meeting in which the controversial project, plus details on the decommissioning of Rolphton's NPD (Nuclear Power Demonstration) reactor, will be discussed.

The meeting is being sponsored by The Old Fort William Cottagers' Association, which along with the Concerned Citizens of Renfrew County and Area (CCRCA) has expressed concerns about the NSDF project.

According to CNL, the NSDF is to be used for the disposal of mostly low-level waste and a small amount of intermediate-level waste, mainly building debris resulting from the decommissioning and demolition of more than 100 buildings and structures at the Chalk River site – a necessary part of revitalizing the site – and to provide a safe and permanent disposal for waste from 65 years of science and technology and the laboratories' continuing operations.

The majority of the NSDF's contents, some 90 per cent, is already stored, or would be produced, out of activities at the Chalk River site. Of the remainder, about five per cent would be waste originating from the Whiteshell Laboratories, in Manitoba and other AECL sites, such as the prototype reactors (Douglas Point and Gentilly-1); and less than five per cent would be commercial sourced inventories for example from Canadian hospitals and universities, a service that has been underway for decades.

The NPD reactor and all fuel elements have been shut down and removed since 1988, leaving behind the building and other support structures. All this is to be leveled and pushed into the underground portion of the facility, which contains the reactor chamber, that will be sealed up with grouting, lined with an engineered barrier, then capped with concrete.

Those objecting to the NSDF have stated they feel it is too risky, its design not proven to be safe over a long period of time, is located too close to the Ottawa River and is being rushed ahead unnecessarily to meet a 2020 completion deadline. What the CCRCA would like to see is the current process stopped, and a more elaborate geologic waste management facility constructed in its place, one which would take longer and be a lot more expensive to do, but in the end would be a lot more secure. The group would also like it relocated to a site further away from the river and significant wetlands to a more geologically stable site.

The public has until Aug. 16 to comment on CNL's draft environmental impact statement (EIS) regarding the disposal facility. If approved by the Canadian Nuclear Safety Commission, construction would begin in 2018.

To date, no public hearing has been scheduled to deal with the application for approval, which is part of the process, but one is expected to be set up sometime in 2018.

Previous Story Next Story

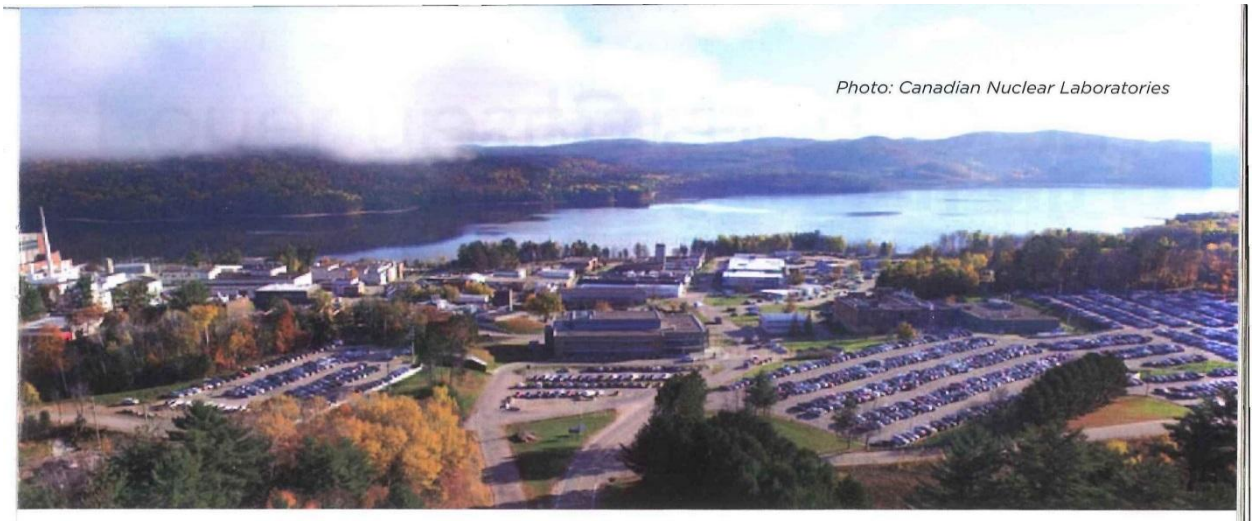

Photo: Canadian Nuclear Laboratories

Proposal to store nuclear waste along Ottawa River arouses concern

CHALK RIVER - A disposal facility for radioactive waste a kilometre from the Ottawa River could see the day within a couple years. The project was proposed by Canadian Nuclear Laboratories (CNL), which operates Chalk River Laboratories (CRL), just across the river from the upper Pontiac.

Last spring, CNL, a consortium of five corporations, proposed a "Near Surface Disposal Facility" project, the NSDF, to the Canadian Environmental Assessment Agency (CEAA) and the Canadian Nuclear Safety Commission (CNSC), triggering an environmental assessment. An NSDF is an "engineered disposal facility" for radioactive waste. The facility will cover about 34 hectares and stand about 18 meters high -- an 'engineered mound' at near-surface level on the Chalk River site. The facility will operate for at least 50 years, although radioactive materials have a much longer lifespan.

"About 95% of the waste is already here (in Chalk River). We have accumulated material over decades. That's what will go into the Near Surface Disposal Facility (NSDF). We are considering demolishing over 100 structures, and the demolition waste . . . will go here, too," said Patrick Quinn, CNL spokesperson.

APPROVALS NEEDED

The target for construction is 2020, but needs Safety Commission (CNSC) approvals. Official information on the project is basically unavailable except via websites. The CNSC has seven appointed members, and did not answer *Cottage Living* calls. The agent handling the site project has also been unavailable. The Assessment Agency, CEAA, also did not return calls nor did its communications officer, Tom Smith. The Agency's website contains some information; the Safety Commission is the federal authority on this project.

The government states that "an environmental assessment conducted under the Canadian Environmental Assessment Act, 2012, is required, and an EA decision affirming that the proposed activities will not cause significant adverse environmental effects is required before the CNSC can make a licensing decision."

LOCAL ORGANIZATIONS CONCERNED

That CNSC decision is due in January, 2018, said Dr. Ole Hendrickson, researcher for Concerned Citizens of Renfrew County and Area; he considers it potentially "precedent-setting."

"This is the first project in Canada to involve permanent abandonment disposal of radioactive waste -- with no intent to retrieve or monitor it at least after the initial 50-year period of operation," he told the *Cottage Living*. The Old Fort-William Cottagers Association (OFWCA)'s Johanna Echlin, is also speaking out.

Dr. Hendrickson said, having dealt with the CNSC in the past, he's wary of its objectivity. "(We believe) the CNSC is closely tied to the nuclear industry. The CNSC and the CNL public affairs will cooperate to decide what information will be released," he said, suggesting project information is limited on purpose.

"The sentence 'The NSDF Project may also accept a very small amount of intermediate-level waste (ILW) and mixed wastes' is inadequate to provide a clear understanding of the proposal. Details of wastes proposed for disposal must be included in the environmental assessment," wrote Hendrickson. Specifically, he asked if radioactive wastes with long half-lives, or non-radioactive hazardous wastes (such as mercury), will be included.

Laurent Robillard-Cardinal & Allyson Beauregard
(abridged)

http://www.thedailyobserver.ca/2017/07/17/concerns-about-cnl-project-aired

Concerns about CNL project aired

By Stephen Uhler, The Daily Observer
Monday, July 17, 2017 8:57:46 EDT AM

FORT WILLIAM, QC – Cottagers and residents alike packed the Hotel Pontiac Saturday morning to voice their concerns about Canadian Nuclear Laboratories' proposed Near Surface Disposal Facility (NSDF).

The meeting was organized by the Old Fort William Cottagers' Association.

Despite assurances from CNL officials the NSDF design is a safe and proven technology which would be used to mainly store low and intermediate-level waste generated at the Chalk River site, few people seemed convinced it was a good idea in the first place to locate a waste facility anywhere near the Ottawa River.

Property owner Mark Jennings said it just makes sense one would want to avoid being near the water.

"It should be clear that being next to a fast moving river is the last place one would want to locate a nuclear dump," he said.

Marvin Flood voiced the same question, wondering why, since Atomic Energy of Canada Ltd. owned 10,000 acres on its Chalk River site, did CNL pick a handful of acres which were located so close to the river.

Algonquin elder Gilles Dupuis questioned the wisdom of locating the NSDF below the hydroelectric dams on the Ottawa River, which historically had flooded the area. He wasn't assured by talk the site would be monitored regularly over the long term to ensure any potential problems would be detected quickly and fixed.

"We don't want to monitor the bad event, we want to prevent it from happening in the first place," he said.

Others said they were confused by the definitions of "low" and "intermediate" waste, and wanted an accounting of exactly what would be stored there, the amount of radiation it was emitting and how long would it remain that way. Some commented on wanting to know how the NSDF's contents would impact their health and their family's health over the long term.

Several brought up the question of liability in case the facility failed, and several times the

design itself was criticized.
Kurt Kehler, CNL's vice-president of decommissioning and waste management, said the design is sound and in use at facilities around the world. It is based on multiple layers of defence including waterproof liners to prevent it from leaking into the ground, plus having a water treatment plant on site to deal with any water which has worked through the engineered containment mound to reach that base liner.
He said what would be allowed into the mound would be strictly controlled and will not contain anything highly radioactive, such as spent fuel.
“That will not be going into the NSDF,” Kehler said, which is being built and operated specifically to protect people and the environment.
He said the project has gone through a risk analysis to ensure it can survive intact from anything – earthquake, tornadoes, floods and the like. The site itself is elevated well above the historic flood plain, and a lot of analysis and study has gone into the decision to locate it at the best possible site.
“This property is probably the most studied tract of land in Canada,” he said. “We believe if you look at all of the aspects of it, you will find this is the best site for the NSDF.”
Kehler said CNL is not making any money off of this disposal site; instead, they are spending money to take care of legacy wastes by cleaning up and disposing of them safely. He said that is in the employees best interest, too, that they do this to the best of their ability, as they also live and play and use the water of the Ottawa River.
As for liability, Kehler said the property and all issues related to it remains in the hands of AECL and the government of Canada. CNL - a consortium of four companies - is contracted to operate it. He said if something went wrong, the Canadian government would go after CNL for redress, but the main liability is owned by Canada.
Kehler said their proposal is so technically sound “there is no Plan B,” as they don't think any would be necessary. The ultimate ruler on this would be the Canadian Nuclear Safety Commission (CNSC), who will need to approve and licence the project. That agency will also monitor and ensure compliance with it.
Pat Quinn, CNL's director of corporate communications, said a lot of the more detailed technical information people were seeking is spelled out in their Environmental Impact Statement, which details the project. It is submitted to the CNSC as part of the approval process, and is available online.
According to CNL, the NSDF is to be used for the disposal of mostly low-level waste and a small amount of intermediate-level waste, mainly contaminated soil and building debris resulting from the decommissioning and demolition of more than 100 buildings and structures at the Chalk River site – a necessary part of revitalizing the site – and to provide a safe and permanent disposal for waste from 65 years of science and technology and the laboratories’ continuing operations.
The majority of the NSDF's contents, some 90 per cent, is already stored, or would be produced, out of activities at the Chalk River site. Of the remainder, about five per cent would be waste originating from the Whiteshell Laboratories, in Manitoba and other AECL sites, such

as the prototype reactors Douglas Point and Gentilly-1; and less than five per cent would be commercial sourced inventories for example from Canadian hospitals and universities, a service that has been underway for decades.
It will be built to operate for 50 years, after which it will be capped and effectively sealed off.
The site will continue to be monitored for at least the next 300 years after it has ceased operations, or longer if government regulators determine that time period needs to be extended.
Those objecting to the NSDF have stated they feel it is too risky, its design not proven to be safe over a long period of time, is located too close to the Ottawa River and is being rushed ahead unnecessarily to meet a 2020 completion deadline.

The public has until August 16 to comment on CNL's draft environmental impact statement (EIS) regarding the disposal facility. If approved by the Canadian Nuclear Safety Commission, construction would begin in 2018.
To date, no public hearing has been scheduled to deal with the application for approval, which is part of the process, but one is expected to be set up sometime in 2018.
SUhler@postmedia.com

THE HILL TIMES

http://www.hilltimes.com/2017/07/17/taxpayers-getting-bad-deal-residents-protest-proposed-nuclear-waste-disposal-site-north-ottawa/113624?mc_cid=34bf2bd4ff&mc_eid=bcf174e5a2

'Taxpayers are getting a bad deal,' residents protest proposed nuclear waste disposal site north of Ottawa

The proposed 'near surface disposal facility' at Chalk River nuclear site sparks petition to Canada's federal Auditor General Michael Ferguson.

by: Iain Sherriff-scott

Residents of a small community in Eastern Ontario and West Quebec are banding together to fight a plan to store nuclear waste along the banks of the Ottawa River over concerns lapse safety protections could spill highly radioactive deposits into the ecologically sensitive waterway.

The Concerned Citizens of Renfrew County and Area and the Old Fort William Cottagers' Association, which takes in both Ontario and Quebec, has submitted a petition asking Auditor General Michael Ferguson to intervene and scrutinize plans by Crown corporation Canadian Nuclear Laboratories to construct an 11 hectares-wide near-surface disposal facility (NSDF) alongside the decades-old Chalk River nuclear reactor and atomic research facility, located about two hours north of Ottawa.

Theresa McClenaghan, a co-author of the petition and executive director and counsel for the Canadian Environmental Law Association, told The Hill Times the disposal facility is an "inappropriate solution" for the nuclear waste legacy Chalk River has left behind, describing the proposal as "exactly the same thing" as a standard landfill.

"In our discussions during the site tour they acknowledged it would eventually leak, as do all landfill sites designed like that," she said.

The petition, dated June 20, asks the federal government 15 pointed questions on the safety, environmental impact, and financial health of the project. Under the Auditor General Act, the petition must be answered by the relevant department, Natural Resources Canada, within 120 days of receiving it from the Office of the Auditor General.

As currently planned, the waste disposal facility will be 25 metres high and store up to one million cubic metres of radioactive waste.

It will be constructed as a mound with 10 waste disposal sites and feature a multi-layer base liner and cover system to prevent leaks. The waste will be covered as each disposal cell is filled.

Dr. Ole Hendrickson, an environmental scientist and another petition co-author, said the proposed waste mound would start to deteriorate "fairly quickly" in the event of a major rainstorm, sending pollution into the waters of the Ottawa River, exactly like what happened at

a similar CNL facility in Port Hope, Ont., earlier this summer. In that instance, heavy rainfall pushed untreated low-level radioactive wastewater to overflow into Lake Ontario.
While federal authorities deemed environmental impacts from the Port Hope leak negligible, Dr. Hendrickson said it should be taken as a cautionary example of how radioactive contaminants can be affected by severe weather, as the NSDF would be filled with "much more highly radioactive materials" than the Port Hope mound.
The overflow at Port Hope is one of three emergency events to happen since the start of this year at CNL facilities regarding containment problems of low-level radioactive waste.
To prevent leaks, CNL says the base liner of the NSDF will be 1.5 metres thick, while the cover system will be approximately two metres thick. It also promises that the design will include features to enable inspection of the system and to allow for repairs if necessary, and the facility will be surrounded by an "array" of environmental monitoring systems."

DISPATCHES FROM THE 148

BY FRED RYAN PUBLISHER EMERITUS

There's a nuclear dump planned for OUR future

There's a nuclear dump coming 'outside our door', and is it because authorities think we aren't paying attention? Canadian Nuclear Laboratories (now American-owned) announced a year ago their proposal to build a very large above-ground dump for nuclear wastes, near a fault-line, in Chalk River not far from the Ottawa River, up-stream from the Pontiac and our nation's capital. Apart from local newspapers, this project has received little attention, even less from our political leaders. What does their silence tell us?

According to my sources – which are no more watertight than a plastic membrane protecting us from radioactive waste – our region's federal reps have made very little comment and the provincial deputy even less (except for the CAQ and PQ). CBC and the TV giants? The "national" newspapers? One MP, formerly an environmental lawyer, has written to local media, basically, expressing his faith in the good intentions, professionalism, and caution of the bureaucrats, engineers, and corporate leaders who are stick-handling (and benefiting from) this project.

This is democracy's checks-and-balances at work? Why this silence from our leadership? Where is the media, speaking "truth to power"?

Citizens groups and scientists have raised concerns. There are municipal elections this fall – especially for our first elected MRC warden — shouldn't we hear from each candidate on this danger to our region?

Where's the Precautionary Principle?

As I read the CNL's material, this multiple-football-field size, membrane-enveloped, above-ground (five-story high) dump will contain mostly construction waste, equipment, clothing, etc., all radioactively contaminated to varying levels. Crucial to notice: the specs note that a small percentage will come from Gentilly in Quebec and from Manitoba and "may" contain high-risk radioactive materials, with a life of thousands of years. Infinitely longer than the life of any corporation claiming to be monitoring the site.

One might expect, dealing with radioactive materials with half-lives of thousands of years, that the Precautionary Principle be the number one guide – better safe than sorry. Question one: why not?

So, here's my splendid proposal. Since this nuclear dump is much, much safer than it appears to be, according to officials, the nuclear "repository" should actually be located in downtown Ottawa.

Benefits: shorter, efficient transportation links, access to more trained professionals, closer emergency, hospital and police services. Energy and communication sources more reliable, top-level decision makers nearby, etc. What an opportunity for scientific displays on the safety of nuclear energy!

Safe in Chalk River, not safe in Ottawa?

Anyone who doesn't take this Ottawa proposal seriously must answer why it is OK to put this "safe" depot near thousands of rural people (plus, eventually, Ottawa itself). Do they think rural people are timid? Are we bumpkins who can be bought off with a few jobs and pats on the back? Humour us, Dear Honourables, and explain why "rural", and why not Ottawa? No joke.

And doesn't this Ottawa proposal reveal that, yes, there are two classes of Canadians: the important folks (government) and rural "expendables"? There's no way Ottawa would ever be considered! Doesn't that tell us the authorities see us rural people as less intelligent, less involved, and assertive of our rights? That Pontiac's so starved for jobs we'll accept a project that conceivable could generate one of history's great disasters: how many thousands of lives are we willing to put at risk, per job?

All this suggests the project is not safe. There are safer alternatives; Finland and the US have impressive storage sites, but they are expensive. With this project, we save CNL money. Is that the bottom line?

Those concerned have pointed out that the plan does not detail the wastes and how they'll be checked; where's the realistic, long-term monitoring and decommissioning schedule and the post-closure safeguards? How does it propose how to react to a major break, or even an abandonment of the pile, if CNL goes bankrupt at some point? Does the clean-up go on our tax bill - after we've suffered a radioactive spill? Too many big questions!

Info:*https://sites.google.com/site/concernedcitizensrea/*

To comment: type 'CEAA NSDF' in your browser; also write to your local papers.

Our children are under threat, Pontiac!

Pole — *from p. 11*

"We cannot continue gambling our lives on this road," said Lori Perry, an area resident.

According to Perry, two not plan to do any maintenance before construction begins. "Since this project involves complete roadway rehabilitation and is sched-

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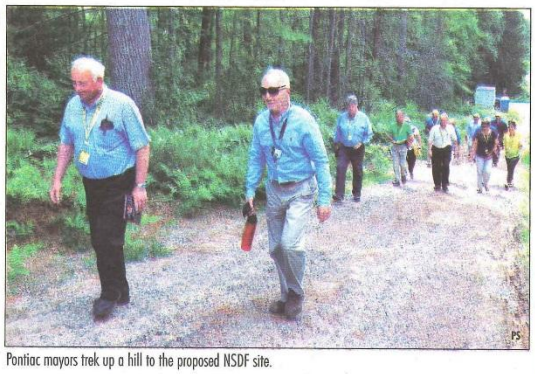
Pontiac mayors visit proposed nuclear disposal site near Ottawa River



Pontiac mayors trek up a hill to the proposed NSDF site.

PETER L. SMITH

CHALK RIVER – Mayors, councillors, MRC employees, and local media met at Chalk River's Nuclear Laboratories, July 11, for a tour of the site and information about the proposed Near Surface Disposal Facility (NSDF) and the decommissioning of the Nuclear Power Demonstration Reactor (NPD).

Safety concerns of the long-term disposal site were foremost. Mark Lesinski, President and CEO of CNL, acknowledged these concerns of Pontiac residents: "The NSDF is a proactive initiative that will enable us to safely and securely clean up our site and dispose of waste that has been generated and stored here over the past 65 years." Some waste from other radioactive sites across Canada will also be stored here, with its transportation under the oversight of Transport Canada and the Canadian Nuclear Safety Commission, he added.

Jim Buckley, responsible for the project, said high-level waste like used fuel will not be stored here; demolition waste from over 100 old buildings, contaminated soils, waste already on site, and commercial waste from hospitals, universities, and other sites will make up most of the waste. All of it is radioactive at varying levels. He said the Ottawa River and other waterways will be monitored. Plumes of discharge from Chalk River into the river are already being measured. Mr Buckley did not discuss the earthquake fracture running nearby.

The nuclear waste site is a 33-hectare landfill-type dump, on East Mattawa Road, about one kilometer from the Ottawa River, on higher elevation. It adjoins a marsh and creek. The mound will be about 16 hectares in size, about five storeys high; the toxic waste will be protected by a technical membrane. All discharge will be purified. According to CNL, if the disposal site is not built, waste will remain where it is, defying CNL's mandate to clean-up and protect the environment.

"Results from many scientific studies prove this site will not be harmful to the environment. Our website provides many details on the project," said Kurt Kehler, Vice-President, Decommissioning and Waste Management. Retired Chalk River scientists and community activists dispute this claim, noting that a landfill-type site has never been used for radioactive waste, which can remain toxic for thousands of years, nor has any membrane been shown to remain intact for these time-spans.

The group was then bused to the Nuclear Power Demonstration Reactor, which is being decommissioned. The Reactor hasn't been operational since 1998, but the site still houses structures, including the main reactor building. Decommissioning is expected to be complete by 2020. The ventilation stack structure, used by Chimney Swifts, will remain in place.

(See also, Dispatches from the 148, by Fred Ryan, page 23)

LETTER TO THE EDITOR

Where is the "more, factual, information"?

Maybe it is just me, but I am confused by Mr. (Mark) Lesinski's "Point of View – Near Surface Disposal Facility: a waste solution" that appeared in the July 12, 2017 edition of the NRT.

To quote his first paragraph, Mr. Lesinski states, "Your paper has taken an interest in one of the projects that is underway at Chalk River Laboratories, and I would like to provide you with more, factual, information."

Let us parse the last three words in this statement.

I find his use of the word "more" puzzling. There are two meanings associated with this word, one addresses quantity and the other addresses value.

In its "quantity" sense, "more" means additional.

Does Mr. Lesinski present any additional facts or information? Sorry, but I could not find any.

What if Mr. Lesinski intended the word to be used in its "value" sense?

If this is the sense that he is using when evaluating the comments and concerns raised by those opposed to the proposal, then he should know better.

Suggesting these questions and/or concerns are not as valuable as that provided by CNL is very disturbing.

Moreover, I expect that Mr. Lesinski knows that this type of intervention during a review process is not acceptable.

Further, he probably knows that until the review period is over, and all comments have been dispositioned to the satisfaction of the reviewers, he must keep his value opinions to himself.

Thus, I have to conclude, that intruding into the review process suggesting that the comments have less value is not what he meant.

Therefore, he must be suggesting that all the information CNL has presented over the last year on this project in all those information sessions, all those advertisements, and the Environmental Impact Statement (EIS) itself is less valuable than it should be.

However, in his article, I could find nothing that addresses the value gap in CNL's information.

Conclusion: Mr. Lesinski is not using the "more" word in its value sense.

Thus my confusion. In his article, Mr. Lesinski did not use the word "more" in either its quantity or value sense.

However, there is still a positive. His "Point of View" is not a complete letdown.

In the second to last paragraph, Mr. Lesinski states, "Ask questions, read the scientific and technical documents that are publicly available and find out more."

Just in case Mr. Lesinski is not aware, that is exactly what I have done since CNL announced this initiative back in March 2016.

The problem is that I have yet to receive any responses from CNL to any of my submitted questions or comments.

These include questions/comments raised at the four open houses scheduled in Deep River and Chalk River on the project description, and the additional open house held for the EIS.

Now is the time for Mr. Lesinski to intervene and ensure that CNL provides responses that include "more, factual, information", to all those who have asked questions, provided comments and/or raised concerns during those public information sessions.

W. Turner

CLARIFICATION

In W. Turner's last letter, "Accountability" (NRT July 5), it was stated that: "Council focused on the single issue that DR policing is too expensive."

The letter should have read "some members of council."

The NRT apologizes for any confusion or misunderstanding this may have caused.

EMAIL NRT@MAGMA.CA

CLASSIFIED

Concerns about the new nuclear waste site

Dear Editor:

Last week the people of the Old Fort William Cottagers' Association in Quebec and the Concerned Citizens of Renfrew County and Area held an information session with Canadian Nuclear Laboratory (CNL) officials at Old Fort William across the Ottawa River from Chalk River. The topic was the 11 hectares-wide near-surface disposal facility (NSDF) (aka "nuclear dump") the CNL has planned alongside the Ottawa River beside the old nuclear reactor at Chalk River.

A good turn out of concerned citizens from all over Ontario and Quebec showed up to listen to CNL's half hour presentation and to ask direct questions of the CNL for an hour and a half. Nearly all were greatly concerned about the minimal budget devoted to dealing with so much nuclear waste right by the river. The standing-room only audience were very upset with the VP of CNL dismissing health concerns for children and grandchildren due to the continually growing local cancer rates with the statement: "…. cancer is a result of lifestyle choices, not radiation".

It does take a certain belief system to be able to make that kind of statement, yet it is that kind of belief system that enables people to work for, and profit from, the nuclear industry. There are many local former workers (and family members) at Chalk River and other nuclear facilities that no longer hold that belief system, since they have experienced the debilitating facts of radiation first hand.

Theresa McClenaghan of the Canadian Environmental Law Association told The *Hill Times* in Ottawa she recently had a tour of the site with CNL officials and they admitted it would eventually leak, as do all landfill sites designed like that. A clear example of this is the radioactive wastewater leak that happened this summer at a similar CNL facility in Port Hope earlier this summer.

The title of the July 17th article in The *Hill Times* is: "Taxpayers are getting a bad deal." The article goes on to explain in great detail why this is so.

The public still has until August 15 to comment to the Canadian Nuclear Safety Commission (CNSC) about this proposed dump. There are also efforts in motion to have government agencies other than the CNSC do environmental impact reviews of the proposed dump.

For those who would like to know more about this topic, there will be a presentation and discussion about it at The Killaloe Fair by Ole Hendrickson and Mycle Schneider (highly regarded nuclear expert from Paris, France) from 1 to 2 p.m. on Saturday, August 12th.

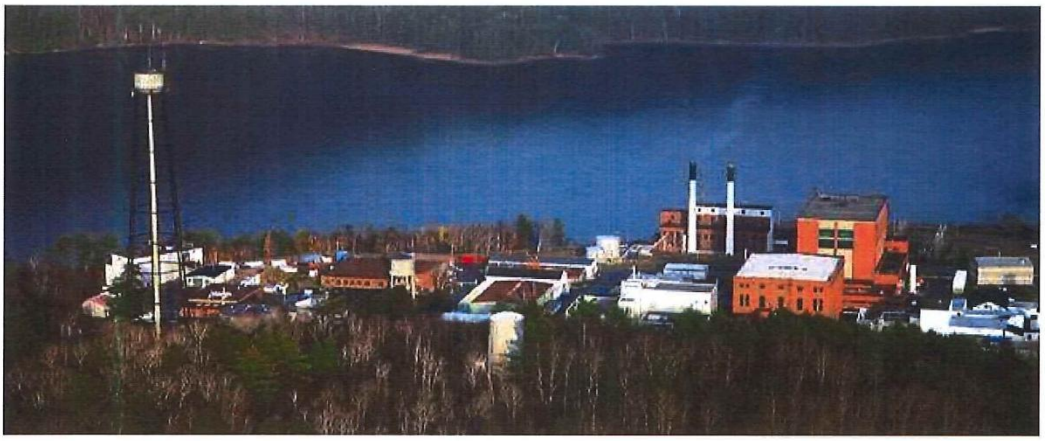
See you at the fair!

Robbie Anderman,
Killaloe

NEWS LOCAL

On-water protest planned Aug. 6

By Stephen Uhler, The Daily Observer
Friday, July 28, 2017 9:59:09 EDT AM



Canadian Nuclear Laboratories in Chalk River, near Petawawa

Protests against a proposed Chalk River waste disposal facility are heading up the river.
Next weekend, the Old Fort William Cottagers' Association (OFWCA) is organizing a flotilla to express their opposition to a proposed near surface disposal facility (NSDF) which is to be located a kilometer from the Ottawa River.
Boaters are to gather at the wharf at Fort William, located near the Hotel Pontiac, by noon on Sunday, Aug. 6 (Rain date is noon, Monday, Au 7) and travel up-river to convene in front of Canadian Nuclear Laboratories (CNL) on the river at 1 p.m., where several speakers will briefly address the boaters.
All are welcome to join the flotilla of boats, canoes, kayaks and paddle boards. Kayakers and paddlers may wish to plan their own schedules order to assure being at CNL by 1 p.m.

Joann McCann, who with Jason Phelps and Rick Bradshaw are organizing the flotilla, said all are welcome to boat from Fort William to the middle of the river in front of CNL.
The three are members of a sub-committee of the OFWCA studying the proposal, which also includes Johann Echlin, Michele Kaulbach and Craig Robinson.

"We want to celebrate the Kitchessippi or Ottawa River and what an important resource to us while protesting CNL's proposed NSDF to be situated one kilometre from the Ottawa River," McCann said. "We also want to be clear that we realize that the in situ waste has to be remediated, but we are calling for proper assessment of the alternatives for disposal using guidance provided by the International Atomic Energy Agency."
The OFWCA, along with the Concerned Citizens of Renfrew County and Area, have been actively opposing the CNL project as time ticks do for public input about it.
The public has until August 16 to comment on CNL's draft environmental impact statement (EIS) regarding the disposal facility. If approved b the Canadian Nuclear Safety Commission, construction would begin in 2018.

A public meeting held July 15 at Fort William's Hotel Pontiac with CNL representatives did little to convince residents and cottage owners to support the NSDF.
Despite assurances from CNL officials the NSDF design is a safe and proven technology which would be used to mainly store low and intermediate-level waste generated at the Chalk River site, few people seemed convinced it was a good idea in the first place to locate a was facility anywhere near the Ottawa River.

For other details please see OFWCA Radioactive Wastewatch on Facebook: www.facebook.com/OFWCARadioactive/
For further information concerning the protest flotilla, please contact Jason Phelps info@jphelps.ca, Joann McCann at jpmccann@rogers.cor or Rick Bradshaw at rickbradshaw902@gmail.com.
SUhler@postmedia.com

THE HILL TIMES
Monday, July 31, 2017

Canadian Nuclear Laboratories responsible for safe, secure operation of sites

PUBLISHED : Monday, July 31, 2017 12:00 AM

I am disappointed that *The Hill Times* reporter who wrote the story, "'Taxpayers are getting a bad deal,' residents protest proposed nuclear waste disposal site north of Ottawa," did not contact the Canadian Nuclear Laboratories before publication. If he had, several errors would not have made it into print. First, Canadian Nuclear Laboratories is not a Crown corporation. It is a private sector organization that manages and operates Atomic Energy of Canada Limited's sites under a Government-owned, Contractor-operated model.

Atomic Energy of Canada Limited continues to own all assets, facilities, intellectual property and all liabilities, whereas Canadian Nuclear Laboratories is responsible for the safe and secure operation of the sites.

The Near Surface Disposal Facility is designed for permanent, safe disposal of low level radioactive waste, and one per cent intermediate-level waste. Most of this material is already present at Chalk River Laboratories, and is the result of 65 years of operations and the decommissioning of buildings as we renew the site. No high level waste, such as spent fuel, will be permitted. The Near Surface Disposal Facility design is not "exactly the same" as a landfill. Nor would anyone at Canadian Nuclear Laboratories say that the facility "will eventually leak," as was reported.

It is an engineered facility that has been designed to collect rainwater or snow melt for treatment during operations (we are building a water treatment plant for the facility) and will release only the treated water which is safe for the environment. When the facility is full, the final cap and cover system will deflect any water away from the facility and the multi-barrier system will contain the waste from below. This facility is being built to exacting standards to withstand extreme weather events, floods and earthquakes. It is subject to strict regulatory oversight by the Canadian Nuclear

Safety Commission. The facility will be closely monitored to ensure it performs as designed both during operations and for centuries after it is capped and closed. As you can see, this is not a landfill operation.

Comparison to recent events at Port Hope is not accurate. Events at the Port Hope environmental remediation site were the result of the limited capacity of 1970s era treatment ponds that are currently used to contain the overflow water on the site. This is an excellent illustration of why remediation is crucial. These ponds will be removed as part of the Port Hope Area Initiative, a project currently underway by Canadian Nuclear Laboratories on behalf of Atomic Energy of Canada Limited.

Similarly, the Near Surface Disposal Facility project at Chalk River is about remediation and improving protection of the environment. Ten years ago, Canada's auditor general called for "the replacement of AECL's aging facilities at Chalk River … to address fire and building code deficiencies as well as licensing, health, safety, and security issues."

The Near Surface Disposal Facility is a key element of Atomic Energy of Canada Limited's response to those findings—the best solution to ensuring the safe disposal of contaminated materials arising from the demolition of those buildings and as a first step in revitalizing Chalk River Laboratories. We cannot make the Near Surface Disposal Facility a reality until the Canadian Nuclear Safety Commission approves our plan. This open and transparent process is now underway. We welcome comment on this important project, it helps us shape our plans. However, please, make sure it is well informed.

Mark Lesinski

President and CEO Canadian Nuclear Laboratories

Chalk River, Ont.

http://www.hilltimes.com/2017/07/31/114539/114539

Appendix G – Technical Discussion January 19 2017

	Agenda │ Questions and Answers	Presenter
10:00 a.m.	**Welcome and safety moment**	Pat Quinn
10:05 – 10:15 a.m.	**Introductions**	John Vincett
10:15 – 10:25 a.m.	**Overview of the Nuclear Power Demonstration (NPD) Closure Project**	Pat Daly
10:25 – 10:35 a.m.	**NPD Closure Project - Source Terms**	Meggan Vickerd

10:35 – 10:50 a.m.

Question & Answer (Q&A)

Question (Q). During the surveillance phase of decommissioning, have there been any contamination issues with groundwater, etc.? When you grout the underground [reactor] area, will you grout all areas; for instance, will things like pipes be grouted?

Answer (A). No, during storage with surveillance phase there have been no contamination issues with the groundwater. We are also completing a site characterization campaign which will include groundwater sampling. We are not going to grout pipes. There is one space where we are evaluating two scenarios for grouting to assess if there is a better safety margin. The first is that we are looking at not grouting the reactor vault, to see what that would look like and the second is to grout the reactor vault. Once the two scenarios are evaluated we will do whichever scenario [enables] lower [levels of radioactivity].

Q. Could this site be used for a future reactor?

A. There is a small area that would be fenced and restricted for re-use purposes after grouting has been completed, but the remainder of the site would be available for re-use as AECL determines.

Q. Common approach right now is retrievability. Will this [in-situ decommissioning] take retrievability away?

A. It limits it, but it does not take [retrieving nuclear materials] off the table. It would cost money and significant effort to do this, but it would be possible.

Q. But the project does not plan to ever retrieve material?

A. Correct, the project does not intend on retrieving the grouted material.

Q. Site specific release and clean up criteria for the rest of the site? What is criteria for free release?

A. This is the exclusion area and we're completing environmental sampling. With the intent of demonstrating that operation of NPD had limited impact on the rest of the site.

10:50 – 11:00 a.m.	**NPD Closure Project – Long Term Safety Case**	Meggan Vickerd

11:00 – 11:20 a.m.

Q&A

Q. Why is flooding not assessed?

A. We do assess flooding, it is one disruptive scenario assessed under disruptive scenarios.

Q. The public have a hard time believing the science, ie. Whiteshell presentation – cows eat dirt, and dirt isn't taken into account in the model; when glaciation occurs soil will be in Pittsburgh. How can you build confidence in public that you can model something over 100,000 years? What about climate change? Severe drought will impact this area.

A. Climate change will change the geosphere and biosphere. The process used to identify the scenarios is systematic to ensure our scenarios bound any examples the public may identify, including disruptive scenarios.

Q. One scenario involves removal of calandria, according to the [decommissioning] contract, demolition is part of it, demolishing structures or removal.

A. We will talk about this when we talk about alternative means, this is a definition in the contract.

Q. Studies indicate there could be more than one glaciation in the next 100,000 years. Each glaciation could move rock. It would seem to me that a couple glaciations could completely expose calandria. Then it is dispersed and diluted. Have you thought of repeated glaciations? Will you include natural analogues?

A. We are required to address natural analogues in our safety case. In terms of glaciation, we will use scenarios that are aligned with rest of industry. What we are doing is the same as how the rest of industry is describing what will happen during glaciation(s).

Q. What is the difference between post-closure and institutional control?

A. No physical difference [it is an] administrative difference. During institutional control the site will still be under a CNSC License and CNL will conduct monitoring and maintenance activities. The post-closure period covers the period of time after institutional-controls [or

11:20 – 11:27 a.m.	**Alternative Means**	Kristan Schruder

11:27 – 11:35 a.m.

Q&A

Q. For alternative means, has there been any assessment on feasibility for putting tools into vault to dismantle the reactor?

A. Everything is below grade, we do have hatches that allow for access. One reason [for in-situ decommissioning is its] lower risks. There are no hatches into reactor vault; therefore, we would need to cut up flooring to reach the calandria. A lot of work for partial or full dismantling would involve cutting. We have not been focused on tooling, but we do have expertise in that area, internal to CNL.

Q. Quantitative or qualitative assessment for alternative means?

A. Qualitative.

Q. Any quantitative?

A. Other reports and assessments have been quantitative yes, but not as part of alternative means.

Q. Summary of relative risk is health risk, but I am interested in effects on Indigenous people. Column three has light blue up arrow for effects on Indigenous people. I'm thinking reuse of land, the NPD land that is non-impacted by the plant. So I'm thinking there are social benefits of complete dismantling and removal. Non-nuclear modelling factors can end up scuppering a project and delaying it for decades.

A. We did look at hunting, fishing, gathering uses. Risks goes down after decommissioning, after land is released for reuse. [Property is around] 1000 acres, less than 10 acres will be fenced off. Therefore, the rest of land will be able for whatever use. The alternative means does look at socio-economics for the surrounding area – from a qualitative standpoint.

Q. Good answer, logical answer with reference to area of land. But, if material is removed, [it could] go from some impacted land to zero impacted land. From point of view of emotion and intensity of First Nations' interest in this area [this technique could be looked on more favourably].

A. Thank you, good point.

11:35 a.m. – 12:00 p.m.	**Why in-situ decommissioning for NPD?**	Meggan Vickerd

12:00 – 12:15 p.m.

Q&A

Q. Steel corrosion can cause concrete to crack. Have you done structural studies?

A. We have only done structural studies on the [ventilation] stack, but also plan to complete some assessment for the facility. But it is assumed in the long term safety case that [all structures] will fail.

Q. For the birds, how long will [the ventilation stack] be supervised/maintained?

A. We have assessed the stack for 50 years. Work we've done with Chimney Swift experts seems to say that the Chimney Swift will have recovered in 50 years and no longer be at risk.

Q. What about radioactivity within stack? What will you do with it?

A. There are very low levels of radioactivity, with the exception of the base of the stack which will be grouted. We will be doing characterization to confirm.

Q. What if inadvertently the stack comes down?

A. We have done analysis of stack failure in our safety assessment and the levels are low, [therefore], the hazard is low.

Q. Slide 26, when will concrete cap and engineered barrier be put in place?

A. Immediately following construction.

Q. Start date and cost?

A. Early 2018 [is the start date], [we] expect to be complete by spring of 2020. Total cost is estimated to be between $40-60 million.

Encourage collaboration with other waste disposal sites in order to help you succeed.

Excellent expertise. How do we win and get good projects going? I've always been a nerd, loved math, an engineer, waste management scientist… Don't underestimate ability and importance of keeping it in good, understandable terms so we don't get undermined in one person's minutiae.

I don't see agreement between all parties involved, about decisions… When it comes to safety case… alternatives, thresholds, etc.

NPD [Closure Project] is easier than NSDF. Source term is easier to deal with. I'd rather be working on the NPD project than NSDF. Personally, I think the NPD project should go ahead. The only caveat is where does the source terms lie in terms of the safety case? Marginally, borderline?

[It feels] like coming back home with the NPD project. NPD compared to a lot of other sites has a very low, very low inventory. What does that represent when compared to other sites when you look at total inventory? [In-situ decommissioning is] not [a solution] for everybody. There is very seldom 100 per cent agreement on all of these projects.

Had some experience with waste disposal. These two projects are much more thorough then we used to do. Other point is to do with regulations. There is a reassessment of some of these regulations. The linear, non-threshold model is not right and has been known to not be right for a long time. Limits you put on based on that, are not very sensible. Because, we know that that procedure is in error. There is evidence that a bit higher levels of radiation would reduce cancer rates. During evolution there was a higher level or radiation. Regulations don't take this into account.

[My] experience comes from operations and decommissioning. When I started, I heard it was going to be Whiteshell. I'm in favour of what's being discussed here. Canada needs this. I think the CNSC has to be involved, see what you're doing, see what you're talking about, in order to build that understanding. We need this, not to rush it, but to put it in place. And we need to be cautious, with the levels that we are talking about, be safe. Again, I only live four kilometres downstream.

There has been some talk about the [Alternative Means] risk chart, should maybe be looked at as NPD was built to demonstrate the CANDU concept. If we were to do a demonstration

Summary of Questions

- Importance of the project as it will build practice and experience
- Consensus that the source term and safety case for NPD Closure Project may be easier than for NSDF project
- A need for consistent definitions and wording (institutional control/post-closure vs. after construction and how inventory is characterized)

Make criteria explicit, define qualitative and quantitative, sensitivity analysis

- Certainty of numbers: degrees of confidence should be more explicit
- Context order or magnitude
- Explicit about modelling numbers and actual measurement and how they are combined
- A number of points about above ground storage and relative vulnerability
- Some see more value in total removal option than was expressed in presentation
- Everyday language is important

1:00 – 1:15 p.m.

- Public knowledge is poor and that is a real issue because opposition does not understand nuclear science well
- Social responsibility to municipality
- More science will not deal with the problem of public concerns or distrust of science
- Monitoring and research needs to continue
- Species impact should be made clearer
- Seismic events/ glaciation/ natural disasters, flooding, implications for above ground and near surface, glaciation are all important issues to address
- Long term use of site
- Local views important
- Indigenous' perspectives and engagement are vital
- Collaboration at high level between the range of disposal sites under consideration
- Need to pool knowledge
- Share consistency in approaches among CNL projects
- Enhance public confidence

1:15 – 1:40 p.m.	**Overview of the Near Surface Disposal Facility (NSDF)** *No questions were raised for the general description and overview.*	Jim Buckley

	Integrated Waste Strategy (IWS)	
	Q. Processing is required, processing has been done already on some of these waste. I am concerned that this [diagram in presentation] is not concerned with processing of the liquid wastes?	
	A. This slide is a very condensed version of an example waste management lifecycle, there are recognized processing needs [for some wastes and not for other wastes] as part of CNL's Integrated Waste Strategy [IWS]. The CNL IWS is more detailed and recognizes all wastes, however that was not the intent of this slide.	
	Q. It looks like there is processing before storage and after storage; what are these diagrams telling me?	
	A. We are looking at both in terms of options [at different times for different wastes].	
	.	
1:40 – 2:00 p.m.	Q. Construction will generate waste. What about waste from construction that will be non-NSDF [not meet the waste criteria for the NSDF]? When are you going to talk about the portion of waste that won't be suitable for disposal in the NSDF?	Jerome Besner
	A. We don't have all the solutions at this time. For example, we don't currently have characterization data on all of the buildings and content. We will be developing that over time and that will inform the appropriate treatment/ storage/ future disposal routes. IWS is a road map or framework about understanding where these gaps are – and narrowing these gaps and the waste disposition paths.	
	Q. You implied NSDF would only take waste until 2070? It is not within the scope of the NSDF to take all the waste, right?	
	A. Yes. There was a statement in the project description that this would support site closure, and a public comment interpreted closure of the Chalk River Laboratories site. This is not the case, though, as we don't know for sure when the Chalk River site will be closed. The NSDF will accept waste between 2020 and 2070, as long as there is capacity.	
	A. In the latter phase wastes would include primarily waste from environmental remediation and future structures.	

Waste Inventory & Nuclide Inventory Basis

Q. How do you build conservatism into data?

A. First step for analysis, the way we ensure we are in the safety envelope, is by actually characterizing waste as it comes in – during operations. That is the real measure for ensuring the actual safety envelop

Q. The nuclides are the usual suspects, but, I notice Strontium 90 isn't there.

A. Agreed. Strontium 90 is more mobile and it is not listed on this slide and is present. By the time long term issues become significant [Strontium 90 will have] largely decayed.

Q. I have a question about Slide 18. I wonder about three examples of proven technology because they are different from examples given in the project description. Why are examples changing? Are you suggesting the examples given in the contract or the Project Description are not good examples?

A. The examples in this slide refer to those disposing of similar wastes. Each presentation may have a different purpose and the examples cited are relevant to this context [or the radionuclide inventory].

Q. In June, there were three examples in the discussion, only one of these is in the Project Description, one was Fernald. Now you are changing it again. [This] makes it seem like the "proven" technology is shifting.

2:00 – 2:38 p.m.

Mark Gerchikov/Jim Buckley

A. I take your point. It is a reasonable criticism, I take that. But, as we have discussed before, there is a different context of discussion here, than was used in the Project Description.

Q. I am wondering why you don't have cavern disposal? If you can do it with NPD, why can't you do it here?

A. Good point. It ultimately depends on volume. Whether the disposal facility can accept a

Q. [With respect to] slide 29, based on what characterization data, do we find that 99 per cent of material in [Shielded Modular Above Ground Storage (SMAGS)] is okay for the NSDF?

A. We based it on the assessment of records where characterization data was adequate – [Waste Identification Program (WIDP)].

Q. [With respect to] slide 25, [Canadian Standards Association (CSA)] guidelines are average 400 Bq/g. You've raised it by a factor of 10.

A. [Canadian Standards Association (CSA)] guidelines allows for up to 4,000 Bq/g for individual packages.

Q. Say hypothetically, it is mixed alpha gamma. You've got a whole mix of radionuclides that are going to bugger up your sum of fractions. You can't pick a nuclide for sum of fractions.

A. What this is meant to do, is to help us classify waste. Emphasize performance assessment as a boundary, then the sum of fractions helps us.

Q. Are these real packages?

A. No, hypothetical.

Q. Amount?

A. Scenarios drive understandings of waste… That's where detail is coming in and something that is still being developed.

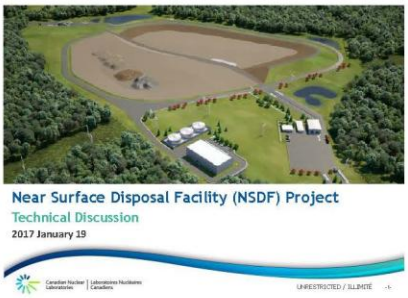
A. [It is] more binary and relative in how you challenge performance assessment.

Q. Are you using [Environmental Protection Agency (EPA)] guidance for [Data Quality Objectives (DQO)]?

3:22 – 3:35 p.m.	**Hazardous Substances and Mixed Wastes Overview** C. When ash was being incinerated… Is there some kind of indication how much lead will be in all the waste? Because of ash. Hydro had same problem. Turned into hazardous waste. A. Good, thank you. Q. You can't sample exchange resin, so you don't know what to do with it. I suggest you put it into a hot cell to store, build it into decommissioning facilities. A. Thank you, these are being recorded. Q. [It is] complicated wastes. [CNL] should consider developing radiological lab to characterize wastes on site. Some onus would still be on the waste generator. This should be part of process. C. In recent years there have been increased capabilities to characterize nuclear materials. C. We are moving towards a more centralized, organized approach.	Martin Klukas

	Roundtable Q&A| Summary of questions	
	At the end of day, we'd like to see [the Chalk River site] move forward with the disposal facility. So, I would like to be helpful. We did not talk about waste from elsewhere and that is a discussion that needs to occur. We need to look at the Environmental Assessment path from the [deep geological repository (DGR)]. How will you confirm what you say is going on. Need to show what you say is going in there, is going in there. Have to put that definitive logic forward. That will be what it comes down to. You may find it may not be worth the bother to put all [wastes currently categorized as acceptable for disposal] in NSDF. The [Integrated Waste Strategy (IWS)] is an important angle because they will ask what you will do with other stuff.	
	Thank you. It has been interesting and valuable for the projects I am working on.	
	We're asking too much of the NSDF. We do not have the national capacity to dispose of [these kinds of wastes].	
3:35 – 3:45 p.m.	Disposal site is essential. So many times we have been shut down. Any input today is useful; don't consider it criticism. Collectively, we have the technology to do it in Canada and get this thing on the road.	
	I had fun today. [There are two steps necessary to achieve this project.] First, we have the decommissioning waste [from construction]. Second, we will characterize one by one. Don't plan for it. Say once we get the characterization down… Then we'll consider disposing of other waste. When Bill said we need characterization facility, I wanted to hug him.	
	Very concerned with respect to characterization. Very concerned with scope. With respect to Slide 16's proven technology. Low level waste in UK is different because UK waste is pre-treated. Look seriously at volume reduction.	
232-513400-REPT-001 2017/11/28	Thanks to all speakers. Job well done. When I was in DWM… "Know thy wastes" was a saying from Hanford. [Whole characterization is vital for waste disposal facilities].	

Technical Discussion - 2017 January 19



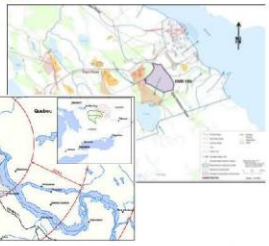
Near Surface Disposal Facility (NSDF) Project
Technical Discussion
2017 January 19

Meeting Agenda

- Introductions
- Canadian Nuclear Laboratories (CNL) Presentation
  - Recap of Project Approach (Information & Design Progress)
  - Radionuclide Inventory & Performance Assessment (PA)
  - Waste Acceptance Criteria (WAC)
  - Hazardous Constituents of Concern (Chemical Toxicity)
- Questions and Answers
- Wrap-Up including Actions/Clarifications

Project Location

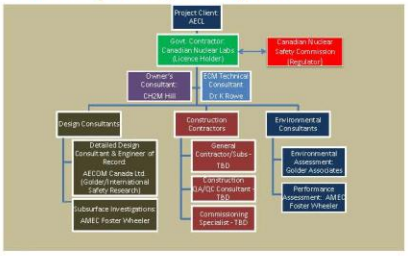
- Chalk River Laboratories
- East Mattawa Road
- 33 hectares
- 1 km from CRL main campus



NSDF Project Goal:

Design, Licence and Construct a new NSDF and complete Inactive commissioning and turnover to Waste Operations by 2020 March 31

NSDF Project Key Participants



NSDF Waste Project Parameters, Requirements & Guidance

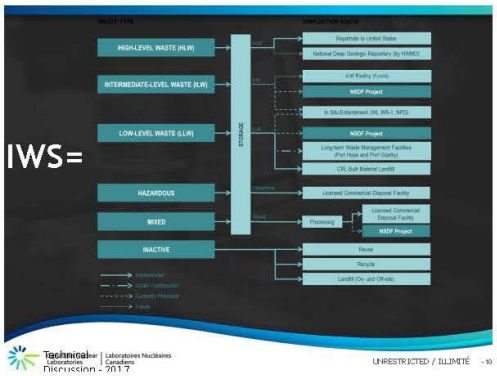
Some Relevant Regulations, Standards & Guidance

- CNSC G320 Assessing the Long Term Safety of Radioactive Waste Management
- IAEA SSG-23 Assessing the Long Term Safety of Radioactive Waste Management
- IAEA SSR-5 Disposal of Radioactive Waste
- IAEA SSG-29 Near Surface Disposal facilities for Radioactive Waste
- IAEA GSG-1 Classification of Radioactive Waste
- CSA N292.0-14 General principles for the management of radioactive waste and irradiated fuel
- Provincial standards for hazardous substances & wastes, e.g.
  - Asbestos (Ont. Reg. 490)
  - Lead (Ont. Reg. 490)
  - Mercury (Ont. Reg. 490)
  - Leachate toxic, reactive, ignitable, biological wastes (R.R.O 1990, Reg. 347)
  - Polychlorinated Biphenyl (PCB) waste (R.R.O 1990, Reg. 362 and Federal regulations)

Integrated Waste Strategy - Overview

CNL Integrated Waste Strategy Definition

- Concise strategy detailing "cradle to grave" pathways for all CNL waste from generation to final disposition.
- Provides a business-wide baseline strategy that describes existing waste routes and processes.
- Based on waste inventory and forecast data and reflects principles of waste avoidance, minimization and re-use.



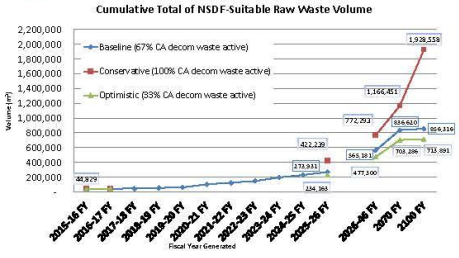
CNL Integrated Waste Strategy
Purpose

- Provides an easy to understand methodology for describing and communicating life-cycle waste processes for all CNL wastes.
- Answers key waste management questions:
  - Where are we today?
  - Where do we want to get to and when?
  - What actions are needed to get there?
- Identifies challenges and gaps in the pathways (e.g. storage) and captures these in integrated planning for all missions.
- Provides a mechanism for evaluating opportunities and managing and recording improvements and optimization.

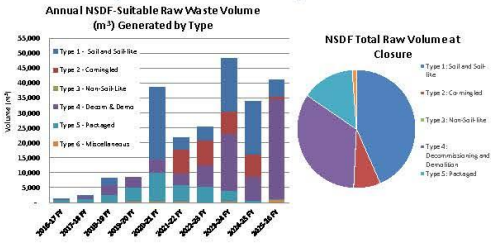
Waste Inventory and Nuclide Inventory Basis

Nuclide Inventory Topic Part 1

Inventory Volume Forecast for CNL & NSDF



Inventory Forecast - snapshots



Nuclide Inventory Definition - Objectives

- Define Inventory for:
  - Performance Assessment
  - Environmental Assessment
  - Safety Analysis
  - Design
- Ensure the overall safety objectives can be met

Performance Assessment (PA)

- Assessed bounding waste inventory for a comprehensive set of post-closure scenarios:
  - Normal Evolution and
  - Disruptive
- Evaluated doses to humans
- Evaluated doses to non-human biota
- Demonstrated that Safety Criteria can be met
- Established a bounding set of parameters, including:
  - Limits on total radionuclide inventory
  - Limits on radionuclide concentrations
  - Operational constraints

Overall Approach

- Include Bulk Waste:
  - Remediation
  - Decommissioning
  - Low Activity Stored Waste
- Exclude:
  - High-Level Waste
  - Any ILW not meeting Safety Objectives
- For "Challenging Streams":
  - Screen vs. predefined criteria
  - Use of averages for initial screening
  - Apply concentration limits to remove outliers

Evaluation Criteria

- **Meeting PA Safety Objectives**
- **Criticality Safety**
- Ability to Meet Environmental Requirements
- External Dose Rates
- **Proven Technology**
  - Clive, UT: Bulk Waste
  - Andrews, TX: Waste Control Specialists
  - UK – Low-Level Waste Repository
- Cost comparison between
  - Near-surface disposal
  - Long-term storage and deep geologic disposal

Inventory Extrapolation to 1 million m³

- Used Inventory Database for Waste Management Area waste streams, including:
  - Shielded Modular Above Ground Storage (SMAGS)
    Modular Above Ground Storage (MAGS)
  - Bunkers
  - Other operational waste
- Very conservative, bounding estimate:
  - Based on conservative estimates in inventory database
  - Based on operational waste data; known to have higher activities than bulk of decommissioning &remediation waste
  - Very high weighting factors for extrapolation assigned to high activity streams (SMAGS and Bunkers)
  - Will characterize and apply WAC

Limiting Nuclides (Based on PA)

- C-14 – mobile, long lived
- Cl-36 – mobile, long lived
- I-129 – mobile, long lived
- Tc-99 – mobile, long lived
- Cs-137 – High inventory, intrusion scenario at year 2400
- Ra-226 – mobile, long lived, radiotoxic progeny
- U-234, 235, 238 - long lived, radiotoxic progeny

Special case:

H-3 – based on environmental concentrations during operations

Nuclide Inventory - Orientation to Limits Development

Nuclide Inventory Topic Part 2

Waste Nuclide Inventory

Key Elements - Waste Classification Definitions

International Atomic Energy Agency: GSG-1: "Waste that is above clearance levels, but with limited amounts of long lived radionuclides. Such waste requires robust isolation and containment for periods of up to a few hundred years and is suitable for disposal in engineered near surface facilities. This class covers a very broad range of waste. Low-Level Waste may include short lived radionuclides at higher levels of activity concentration, and also long lived radionuclides, but only at relatively low levels of activity concentration".

Canadian Standards Association: N292.0-14: "Low-level waste contains material with radionuclide content above established clearance levels and exemption quantities, but generally has limited amounts of long-lived activity. For orientation purposes only, a limit of 400 Bq/g on the average (and up to 4 000 Bq/g for individual packages) for long lived alpha emitting radionuclides can be considered in the classification process. For long lived beta and/or gamma emitting radionuclides, such as C-14, Ni-63, Zr-93, Nb-94, Tc-99, and I-129, the allowable average activity concentrations can be considerably higher (up to tens of kBq/g) and can be specific to the site and disposal facility. Low-Level Waste does not generally require significant shielding during handling and interim storage".

Waste Nuclide Inventory

Key Elements - Waste Placement Protocol - Waste Type application

- **Waste Types 1 through 4** (bulk wastes) – Waste emplaced directly into the disposal cell, generally without packaging or rigid containers.
- **Waste Type 5** (packaged) – Waste that is packaged in standard steel containers i.e. drums, B-25 boxes and International Organization for Standardization (ISO) containers.
- **Waste Type 5** (stabilized) – A structurally stable waste form that will generally maintain its physical dimensions and its form under the expected disposal conditions such as weight of overburden and compaction equipment, the presence of moisture, microbial activity, and internal factors such as radiation effects and chemical changes. Structural stability can be provided by the waste form itself, processing the waste to a stable form, or placing the waste in a disposal container or structure that provides stability after disposal.
- **Waste Type 6** – Waste packaging requirements set by radionuclide concentration, shielding requirements, or waste form (e.g. empty tank).

NSDF Nuclide Concentration Limits

Industry experience and CSA guidance were used to benchmark the Interim Waste Acceptance Criteria which:

- Informs Integrated Waste Strategy (IWS)
- Provides waste characterization guidance
- Provides a method to identify waste streams that require special handling & packaging or treatment for emplacement in the NSDF

Reference : CSA N292.0-14 *General principles for the management of radioactive waste and irradiated fuel*

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NSDF Nuclide Concentration Limits

Development of Waste Acceptance Limits by Type

Radionuclide Concentration Limit for Bulk Waste (Types 1 through 4)	Alpha Emitters - 4.0E+2 Bq/g Long Lived Beta-Gamma Emitters ($t_{1/2}$> 30y) - 1.0E+3 Bq/g Short Lived Beta-Gamma Emitters ($t_{1/2}$≤ 30y) - 1.0E+5 Bq/g
Radionuclide Concentration Limit for Packaged Waste (Type 5)	Alpha Emitters - 1.0E+3 Bq/g Long Lived Beta-Gamma Emitters ($t_{1/2}$> 30y) - 1.0E+4 Bq/g Short Lived Beta-Gamma Emitters ($t_{1/2}$≤ 30y) - 1.0E+6 Bq/g
Radionuclide Concentration Limit for Stabilized Waste (Type 5)	Alpha Emitters - 4.0E+3 Bq/g Long Lived Beta-Gamma Emitters ($t_{1/2}$> 30y) - 1.0E+5 Bq/g Short Lived Beta-Gamma Emitters ($t_{1/2}$≤ 30y) - 1.0E+7 Bq/g

The WAC limits are generally centered around current guidance with the additional provision of limits for short-lived beta gamma emitters

Sum of Fractions

"Sum of Fractions" is a term used to describe an analytical process that compares each radionuclide's concentration in a fingerprint to its corresponding concentration limit in terms of a fraction of the limit (a unit-less number). The fractions are then summed to provide a measure of compliance to the limit. Unity represents compliance.

$$\sum_{i=\infty}^{\infty} \frac{\text{Concentration of Radionuclide i}}{\text{Limit for Radionuclide i}} \leq 1$$

specific radioactivity by WAC nuclide type	Bq/g	fn1	Packaged	Stabilized
α emitters	9.55E+01	2.38E-03	9.55E-04	2.38E-04
long lived βγ emitters	2.25E+01	2.25E-02	2.25E-03	2.25E-04
short lived βγ emitters	8.37E+01	8.37E-04	8.37E-05	8.37E-06
	Sum of Fractions	2.55E-02	3.26E-03	4.69E-04

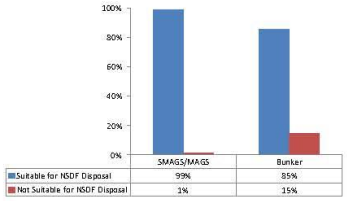
Performance Assessment (PA)

Waste Volume

Conservative estimate of the PA Inventory distributed against the NSDF Interim WAC classes, reveals :

- The majority (~80%) of the waste will be Bulk Demolition Debris and Environmental Remediation wastes that bear very low levels of radioactivity.
- The large majority of PA radioactivity is found in stabilized waste packages that provide an extra measure of containment.

CNL Storage Inventory Comparison to Interim NSDF WAC (rad)



	SMAGS/MAGS	Bunker
Suitable for NSDF Disposal	99%	85%
Not Suitable for NSDF Disposal	1%	15%

A characterization campaign required to confirm initial assessments & waste form

CNL "legacy" wastes previously classed as "ILW" determined acceptable for disposal at the NSDF

A few examples:

1. An Am-241 sealed source with activity of 3 000 Bq/g
   - Interim NSDF WAC limit (stabilized package) for alpha emitting radionuclides is 4,000 Bq/g, sum of fractions is 0.75
2. Waste package with contact exposure rate of 25 mSv/hr
   - Classification of package results in sum of fractions of 0.77, contact exposure rate driven by Cs-137 concentration
3. A package of waste generated 15 years ago is dominated by Co-60 radioactivity and classified as "ILW". When the package is decay-corrected and re-classified against the NSDF WAC concentrations, the resulting sum of fractions is 0.40 and suitable for disposal at the NSDF.

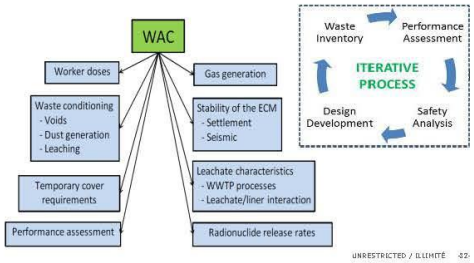
Application of Interim WAC implementing the PA / Safety Case – Sum of Fractions

Waste Acceptance Criteria - Overview

Interim NSDF Waste Acceptance Criteria

Waste Acceptance Criteria Development

Progression Integrated with the Detailed Design, Safety Analysis, & PA



Interim Waste Acceptance Criteria (WAC) Objectives

The intent of the WAC & Waste Characterization is to:

- Establish and communicate requirements thru expectations for data quality.
- Provide for standard waste stream information capture via Waste Profile record.
- Provide adequate information for operational, worker and long term safety review.
- To ensure that only waste appropriate for the NSDF (as bounded by the PA Inventory) is accepted.
- To ensure that the leachate can be effectively treated and Waste Water Treatment plant process solids will meet the NSDF WAC.

Interim NSDF WAC Sections

- **Waste packaging guidance**
  - Acceptable waste packages
- **Radiological properties**
  - Radionuclide distribution or "fingerprint"
  - Surface contamination of waste material
  - Exposure / Dose rate
  - Fissile Content in Waste Packages
- **Physical properties**
  - Waste form and Type (1,2,3,4,5 or 6)
  - Residual liquids management (use of absorbents, cementation)
  - Gas generation or potential for decomposition
- **Chemical properties- associated with "Mixed Wastes"**
  - Hazardous wastes & Land Disposal Restrictions - (Ontario Provincial Reg. 347)
  - Hazardous Substances - Asbestos (Ontario Provincial Reg. 490)
  - Compatibility Chemical and liner
  - Prohibited: i.e. compressed gases, solids with corrosives properties, explosives
- **Operational Controls required that could affect Worker Safety**

Waste Characterization

Methods and Techniques for Radiological Characterization

Waste Characterization - Identification of Fingerprint

- The quality of waste characterization is the cornerstone of compliance with the WAC requirements and enables efficient, accurate waste classification.
- The sampling/characterization plan utilizes a standardized set of analyses driven by waste acceptance requirements through the Data Quality Objective (DQO) process.
- Radionuclide identification and concentration are documented through the Waste Profile process.

Waste Characterization

Methods and Techniques for Radiological Characterization

Aids to understanding sampling and analysis protocol

- Sampling/Characterization Plans provide sampling method and provide "representativeness" requirements for waste samples.
- Detailed laboratory specifications ensure analytes, limits of detection and quality controls return data for the entire compliment of radionuclides required to demonstrate the WAC compliance. Some of the required analyses include radionuclides that are difficult to detect in the field. Examples of difficult to detect radionuclides include:
  - Alpha emitters such as Am, Pu, U and Th
  - Beta-Gamma emitters such as C, Cl, H, I, Ni, Sr, and Tc

Waste Characterization

Methods and Techniques for Radiological Characterization

Aids to understanding sampling and analysis protocol

- Laboratory data is organized to create fingerprint "scaling factors" that provide each radionuclide's ratio to a predominant gamma emitting radionuclide that is easy to measure in the field. Usually Cs-137.
- Gamma modelling is a technique that associates waste stream fingerprint with a measured external exposure rate and provides its source term for classification.

Hazardous Substances & Mixed Wastes Overview

Chemical Toxicity Discussion Topic

Hazardous Substances and Wastes

NSDF will accept mixed wastes - as defined in the WAC radioactive wastes that contain hazardous substances

- Hazardous substances that may be present in CNL wastes include:
  - Heavy metals (arsenic, lead, trace quantities of mercury)
  - Organic substances (trace quantities of solvents, PCB's, dioxins, furans)
  - Petroleum contamination, bitumen and Asbestos
- Mixed wastes will be acceptable for disposal at the NSDF if:
  - The wastes meet the intent of land disposal and leachable requirements (specified in Ontario Regulation 347, General Waste Management).
  - **OR**
  - Inventory/concentration levels can be shown to be protective of humans and the environment.

Hazardous Substances - Assessment

Assessment Methodology - Operations

- Concentrations of hazardous substances in leachate have been estimated from:
  - Maximum concentrations observed in groundwater at CRL Waste Management Areas
  - Concentrations of Constituents of Concern at similar disposal sites (EMWMF)
  - POLLUTE model applied to CNL inventory –
  - Developed leachate simulant (non-active) for bench-scale and pilot testing
- Leachate (contact water) generation and treatment
  - Leachate transferred via pipe to NSDF Wastewater Treatment Plant
  - Treated leachate monitored and meets CNL effluent quality requirements
  - Treated leachate will be discharged to infiltration area in Perch Lake basin

Assessment Methodology - Post Closure

- Assume failure of engineered barriers, contamination migration to Perch Creek
- Assess impacts of leachate on surface water quality and aquatic biota

Questions

NSDF Summary

- Nuclide inventory envelope described as to what is "in" and what is "out"
- The PA inventory developed from known CNL legacy wastes & preliminary results are suitable for Near Surface Disposal
- Interim Waste Acceptance Criteria in use, "final" issued April '17
- Characterization required to satisfy our Data Quality Objectives
- CoC assessments for Operational and Post Closure periods will be available in the Environmental Impact Statement.

Appendix H – Deep River Town Council January 25 2017

2017/08/30

CNL Major Projects Update

Deep River Council

2017 January 25| Kurt Kehler, Vice-President, Decommissioning and Waste Management

UNRESTRICTED / ILLIMITÉ -1-

Overview

- Nuclear Power Demonstration (NPD) Closure Project
- Near Surface Disposal Facility (NSDF)

CNL has one overarching priority: the protection of people and the environment. Every project activity will be overseen by Canada's nuclear regulator.

UNRESTRICTED / ILLIMITÉ -2-

Timeline: 2016 - 2020

Activity	2016	2017*	2018	2019	2020
Decommissioning Planning					
EA and Licensing					
Decommissioning Execution					

*2017 September EIS and licence submission

2020 May – To Be Determined

- Nuclear Power Demonstration (NPD) site closure followed by institutional control subject to regulatory approval

UNRESTRICTED / ILLIMITÉ -3-

Overview: Project Objectives

- Protect public safety
- Protect the environment (including species at risk habitat)
- Ensure employee and contractor safety (target no lost time incidents)
- Accelerate NPD decommissioning using available technologies with target completion May 2020
- Reduce Canadian legacy long-term liabilities and the burden on the Canadian tax payer

UNRESTRICTED / ILLIMITÉ -4-

Near Surface Disposal Facility (NSDF)

- Why?
- Schedule
- Project Plan
- Design, Engineering and Construction
- Waste: What will the NSDF hold?
- Environmental

UNRESTRICTED / ILLIMITÉ -5-

NSDF - Why

The proposed NSDF is a crucial element in the **revitalization of Chalk River Laboratories**. It will allow the **safe and permanent disposal of:**

- waste from 65 years of AECL/CNL operations, and provide containment of materials from decommissioning. This also includes environmental remediation required to transform the Chalk River Laboratories site into a 21st century centre for nuclear research and innovation. This is the vast majority of material for Phase One (525 thousand cubic metres).
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- waste from future decommissioning activities undertaken by CNL to address other liabilities owned by Atomic Energy of Canada Limited, for example the Whiteshell closure project and prototype reactor sites. We expect overall volumes to be low and represent a small fraction of the total volume of the NSDF.
- Phase Two volumes depend on activities many decades into the future

Suitable waste materials must qualify for disposal via the NSDF Waste Acceptance Criteria

UNRESTRICTED / ILLIMITÉ -6-

2017/08/30

Schedule: 2016 - 2018

Activities	2015	2016	2017	2018	2019	2020
Project Management & Administration						
Design and Engineering						
EA and Licensing for Construction Approval						
Procurement of Construction Services						
Site Prep, Construction, Inactive Commissioning						
Licensing for Operation Approval						
Active Commissioning and Operation						

Scheduled progress through 2017 March
- Detailed Design complete
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- Licensing Application
- Construction Procurement Planning

Upcoming Activities for 2016/17
- Pre-qualification of suppliers

Next Fiscal Year 2017/18
- Construction Request For Proposal / Contract Award
- Canadian Nuclear Safety Commission Public Hearings: Environmental Assessment and Licensing Decisions

UNRESTRICTED / ILLIMITÉ -9-

Project Plan Overview

ILLIMITÉ -10-

Design: Components of the NSDF

Waste: What will the NSDF hold?

- The Waste Acceptance Criteria (WAC) will have physical, chemical and radiological parameters
- Waste Acceptance Protocol and Placement Plan (WAPPP)
  - Planned acceptance protocols and placement practices by waste type
- Design consultant will progress Waste Acceptance Criteria and Waste Acceptance Protocol and Placement Plan as design deliverables
  - Linked to Performance Assessment and Safety Case
  - Ensure public safety through a safety case which is subject to regulatory approval
- Waste Acceptance Criteria will be available 2017 March

UNRESTRICTED / ILLIMITÉ -12-

Waste: What will the NSDF hold?

1	Soil and Soil-like Waste contaminated soils and other waste materials with characteristics similar to soil that can easily be placed within the mound with little to no handling	4	Decommissioning and Demolition Waste materials used in construction such as concrete, asphalt, brick, lumber, structural steel, process equipment, piping
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Bulk Decommissioning Debris

Bulk Mixed Waste

Containerized

UNRESTRICTED / ILLIMITÉ -13-

Environmental: Progress on Environmental Assessment

Submittals for Environmental Assessment process are advancing:

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- CNL preparing application for Species at Risk Permit
- Geotechnical site characterization studies completed in December, Groundwater monitoring activities are ongoing
- Canadian Nuclear Safety Commission and Environment and Climate Change Canada meetings and tours of East Mattawa Road Site

UNRESTRICTED / ILLIMITÉ -14-

Environmental: Site Selection

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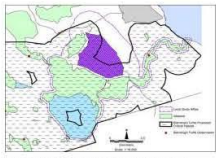

Proposed Critical Habitat for Blanding's Turtles

Samples of graphite and cobble/pebble scatter

UNRESTRICTED / ILLIMITÉ -15-

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UNRESTRICTED / ILLIMITÉ -16-

Appendix I

Renfrew County Council January 25 2017

2017/08/30

Canadian Nuclear Laboratories - One Year In

Chalk River Laboratories

2017 January 25| Kurt Kehler, Vice-President, Decommissioning and Waste Management

CNL Major Projects Update

- Nuclear Power Demonstration (NPD) Closure Project
- Near Surface Disposal Facility (NSDF)

CNL has one overarching priority: the protection of people and the environment.

Near Surface Disposal Facility (NSDF)

- Why?
- Schedule
- Project Plan
- Design, Engineering and Construction
- Waste: What will the NSDF hold?
- Environmental

NSDF - Why

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- waste from 65 years of AECL/CNL operations, and provide containment of materials from decommissioning. This also includes environmental remediation required to transform the Chalk River Laboratories site into a 21st century centre for nuclear research and innovation. This is the vast majority of material for Phase One (525 thousand cubic metres).
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- Phase Two volumes depend on activities many decades into the future

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UNRESTRICTED / ILLIMITÉ -7-

Project Plan Overview

ILLIMITÉ -8-

Design: Components of the NSDF

Waste: What will the NSDF hold?

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UNRESTRICTED / ILLIMITÉ -10-

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Bulk Decommissioning Debris

Bulk Mixed Waste

Containerized

UNRESTRICTED / ILLIMITÉ -11-

Environmental: Progress on Environmental Assessment

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UNRESTRICTED / ILLIMITÉ -12-

2017/08/30

Environmental: Site Selection

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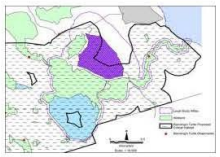

Proposed Critical Habitat for Blanding's Turtles

Samples of graphite and cobble/pebble scatter

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UNRESTRICTED / ILLIMITÉ -14-

Appendix J

Ottawa Valley Chamber of Commerce January 27 2017

2017/08/30

Appendix K

EOWC January 31 2017

2017/08/30

Canadian Nuclear Laboratories - One Year In

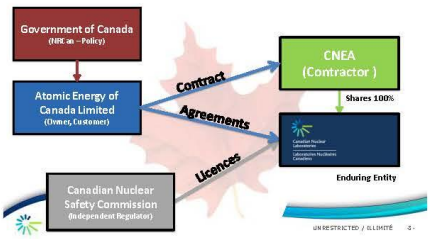
Update to the Eastern Ontario Wardens' Caucus

2017 January 31| Mark Lesinski, President and CEO

The single largest science and technology laboratory in Canada

- ~9,000 acres in size, ~200 acres lab complex
- 17 nuclear facilities, 70 major buildings
- ~2,900 employees (second largest employer in Renfrew County)
  - 1,600 engineering, scientific, and technical staff, >300 skilled trades people
- ~120 employees Port Hope Area Initiative
- CNL's annual purchase commitments of goods and services ~$350 and $400 M

GoCo Model



One Year In

Gaining momentum!

Science & Technology / Commercial

- Science Advisory Board
- Capabilities Assessment across S&T
- Integrated Team: Material Retrieval and Analysis
- Commercial sales well ahead of target for the year
- Continue to explore opportunities for Small Modular Reactors / Advanced Reactors

Operations

- Capital Plan Execution
- Nuclear Fuel Fabrication Facility - Plate Fuel
- Shielded Facilities Refurbishment / Commercial Work
- Progress on NRU Loops
- Site transition work to support revitalization

2017/08/30

Decommissioning & Waste Mgmt

- Decommissioned and demolished 20 plus buildings / structures at Chalk River including a significant clean-up
- Commissioned Fuel Packaging and Storage system and moved 10 plus tile holes to date
- Repatriated shipments of HEU to Savannah River
- Began operation of Port Granby facilities

Community & Communications

- Launched social media
- Series of open houses on key projects
- Continued our Education & Outreach (school) program
- Key sponsorships: Paddlefest, Git Er' Done Mud Run, Kitchisippi Run, Summerfest, Arnprior Dragon Boat Festival, Ottawa Riverkeeper Gala
- Renfrew County United Way: $110,000 raised

Looking Forward: 5 & 10 Year Strategy

Infrastructure Investments

$800 million investment in Canada's largest S&T complex

Harriet Brooks Building (Materials)

Building 215 Tritium Facility

Infrastructure Investments

$800 million investment in Canada's largest S&T complex

Advanced Nuclear Materials Research Centre

Office Building

Maintenance Building

Infrastructure Investments

$800 million investment in Canada's largest S&T complex

Logistics Building

Natural gas, switchyard, domestic water, wastewater treatment facility

5

- vSMR / Advanced Reactors
- Alpha Therapies
- Hydrogen
- Advanced Fuels
- Life Extension

CNL Major Projects Update

- Nuclear Power Demonstration (NPD) Closure Project
- Near Surface Disposal Facility (NSDF)

CNL has one overarching priority: the protection of people and the environment.

NPD Closure Project

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EA and Licensing		■	■		
Decommissioning Execution				■	■

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Overview: Project Objectives

- Protect public safety
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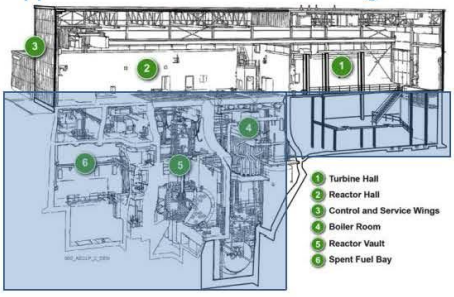
- Ensure employee and contractor safety (target no lost time incidents)
- Accelerate NPD decommissioning using available technologies with target completion May 2020
- Reduce Canadian legacy long-term liabilities and the burden on the Canadian tax payer

Approach for Safe Decommissioning: NPD



Proposed End State

- The reactor, associated systems and below grade structures grouted in place
- Above grade structures demolished and used for backfill
- The grouted area will be covered with an engineered barrier
- Long-term care and maintenance activities will be subject to regulatory approval for a set performance period
- Ensure public safety through a safety case which is subject to regulatory approval
- Future of non-impacted land (approximately 380 hectares) to be decided by site owner - Atomic Energy of Canada Limited
- Ensure Chimney Swift habitat is protected

UNRESTRICTED / ILLIMITÉ -19-

Why In-situ Decommissioning?

In-situ decommissioning offers the safest approach:

- Reduces worker risk, radiological risk, and industrial accident risk
- Reduces the risk of public / environment exposure during transportation
- Eliminates multiple handling of waste packages
- Effective reduction of the liability (e.g. eliminates interim waste storage at Chalk River Laboratories)

Alternative means considered:

- Removal of some or all source term for shipment to Chalk River for storage and in-situ decommissioning (ISD)

Conclusion to be supported through the Environmental Impact Statement

UNRESTRICTED / ILLIMITÉ -20-

Near Surface Disposal Facility (NSDF)

UNRESTRICTED / ILLIMITÉ -21-

NSDF - Why

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Suitable waste materials must qualify for disposal via the NSDF Waste Acceptance Criteria

UNRESTRICTED / ILLIMITÉ -22-

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

UNRESTRICTED / ILLIMITÉ -23-

Schedule: 2016 - 2018

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UNRESTRICTED / ILLIMITÉ -25-

Design: Components of the NSDF

Waste: What will the NSDF hold?

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Bulk Decommissioning Debris

Bulk Mixed Waste

Containerized

UNRESTRICTED / ILLIMITÉ -27-

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UNRESTRICTED / ILLIMITÉ -28-

Environmental: Site Selection

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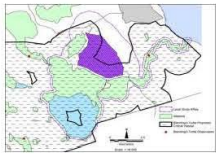

Proposed Critical Habitat for Blanding's Turtles

Samples of graphite and cobble/pebble scatter

UNRESTRICTED / ILLIMITÉ -29-

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UNRESTRICTED / ILLIMITÉ -30-

Appendix L

United Counties of Prescott Russell February 8 2017

2017/08/30

Decommissioning & Waste Mgmt

- Decommissioned and demolished 20 plus buildings / structures at Chalk River including a significant clean-up
- Commissioned Fuel Packaging and Storage system and moved 10 plus tile holes to date
- Repatriated shipments of HEU to Savannah River
- Began operation of Port Granby facilities

Community & Communications

- Launched social media
- Series of open houses on key projects
- Continued our Education & Outreach (school) program
- Key sponsorships: Paddlefest, Git Er' Done Mud Run, Kitchisippi Run, Summerfest, Arnprior Dragon Boat Festival, Ottawa Riverkeeper Gala
- Renfrew County United Way: $110,000 raised

Looking Forward: 5 & 10 Year Strategy

Infrastructure Investments

$800 million investment in Canada's largest S&T complex

Harriet Brooks Building (Materials)

Building 215 Tritium Facility

Infrastructure Investments

$800 million investment in Canada's largest S&T complex

Advanced Nuclear Materials Research Centre

Office Building

Maintenance Building

Infrastructure Investments

$800 million investment in Canada's largest S&T complex

Logistics Building

Natural gas, switchyard, domestic water, wastewater treatment facility

2017/08/30

5

- vSMR / Advanced Reactors
- Alpha Therapies
- Hydrogen
- Advanced Fuels
- Life Extension

CNL Major Projects Update

- Nuclear Power Demonstration (NPD) Closure Project
- Near Surface Disposal Facility (NSDF)

CNL has one overarching priority: the protection of people and the environment.

NPD Closure Project

Timeline: 2016 - 2020

Activity	2016	2017*	2018	2019	2020
Decommissioning Planning					
EA and Licensing					
Decommissioning Execution					

*2017 September EIS and licence submission

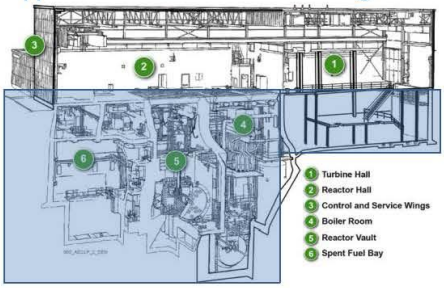
2020 May – To Be Determined

- Nuclear Power Demonstration (NPD) site closure followed by institutional control subject to regulatory approval

Overview: Project Objectives

- Protect public safety
- Protect the environment (including species at risk habitat)
- Ensure employee and contractor safety (target no lost time incidents)
- Accelerate NPD decommissioning using available technologies with target completion May 2020
- Reduce Canadian legacy long-term liabilities and the burden on the Canadian tax payer

Approach for Safe Decommissioning: NPD



Proposed End State

- The reactor, associated systems and below grade structures grouted in place
- Above grade structures demolished and used for backfill
- The grouted area will be covered with an engineered barrier
- Long-term care and maintenance activities will be subject to regulatory approval for a set performance period
- Ensure public safety through a safety case which is subject to regulatory approval
- Future of non-impacted land (approximately 380 hectares) to be decided by site owner - Atomic Energy of Canada Limited
- Ensure Chimney Swift habitat is protected

UNRESTRICTED / ILLIMITÉ -19-

Why In-situ Decommissioning?

In-situ decommissioning offers the safest approach:

- Reduces worker risk, radiological risk, and industrial accident risk
- Reduces the risk of public / environment exposure during transportation
- Eliminates multiple handling of waste packages
- Effective reduction of the liability (e.g. eliminates interim waste storage at Chalk River Laboratories)

Alternative means considered:

- Removal of some or all source term for shipment to Chalk River for storage and in-situ decommissioning (ISD)

Conclusion to be supported through the Environmental Impact Statement

UNRESTRICTED / ILLIMITÉ -20-

Near Surface Disposal Facility (NSDF)

UNRESTRICTED / ILLIMITÉ -21-

NSDF - Why

The proposed NSDF is a crucial element in the **revitalization of Chalk River Laboratories**. It will allow the **safe and permanent disposal of:**

- waste from 65 years of AECL/CNL operations, and provide containment of materials from decommissioning. This also includes environmental remediation required to transform the Chalk River Laboratories site into a 21st century centre for nuclear research and innovation. This is the vast majority of material for Phase One (525 thousand cubic metres).
- future Chalk River Laboratories operational waste materials as they are generated
- materials received through commercial arrangements as have been for decades (hospitals, universities, research entities, and industry clients), and
- waste from future decommissioning activities undertaken by CNL to address other liabilities owned by Atomic Energy of Canada Limited, for example the Whiteshell closure project and prototype reactor sites. We expect overall volumes to be low and represent a small fraction of the total volume of the NSDF.
- Phase Two volumes depend on activities many decades into the future

Suitable waste materials must qualify for disposal via the NSDF Waste Acceptance Criteria

UNRESTRICTED / ILLIMITÉ -22-

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UNRESTRICTED / ILLIMITÉ -23-

Schedule: 2016 - 2018

Activities	2015	2016	2017	2018	2019	2020
Project Management & Administration						
Design and Engineering						
EA and Licensing for Construction Approval						
Procurement of Construction Services						
Site Prep, Construction, Inactive Commissioning						
Licensing for Operation Approval						
Active Commissioning and Operation						

Scheduled progress through 2017 March
- Detailed Design complete
- Environmental Assessment Application
- Licensing Application
- Construction Procurement Planning

Upcoming Activities for 2016/17
- Pre-qualification of suppliers

Next Fiscal Year 2017/18
- Construction Request For Proposal / Contract Award
- Canadian Nuclear Safety Commission Public Hearings: Environmental Assessment and Licensing Decisions

UNRESTRICTED / ILLIMITÉ -25-

Design: Components of the NSDF

Waste: What will the NSDF hold?

1	**Soil and Soil-like Waste** contaminated soils and other waste materials with characteristics similar to soil that can easily be placed within the mound with little to no handling	4	**Decommissioning and Demolition Waste** materials used in construction such as concrete, asphalt, brick, lumber, structural steel, process equipment, piping
2	**Comingled Debris** with Soil or Soil-like Waste wastes that are anticipated to be at least 50 % soil or soil-like in nature, but will also contain varying amounts of radioactive wastes that require additional handling procedures	5	**Packaged Waste** a variety of containerized wastes such as wastes contained in large shipping containers, B-25 containers, drums, buckets, and pails. These wastes typically require special handling procedures and protocols
3	**Non-soil-like Waste** materials that can be excavated and handled as a bulk material, but do not have the physical characteristics of soil and soil-like materials; e.g., vegetation, trees	6	**Miscellaneous Waste** waste that does not fall within the definition of Waste Types 1 through 5 but otherwise meet the WAC

Bulk Decommissioning Debris

Bulk Mixed Waste

Containerized

UNRESTRICTED / ILLIMITÉ -27-

Environmental: Progress on Environmental Assessment

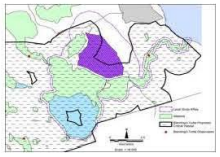
Submittals for Environmental Assessment process are advancing:

- Final Environmental Impact Statement to be submitted to the Canadian Nuclear Safety Commission 2017 March and will be made available for public review
- CNL preparing application for Species at Risk Permit
- Geotechnical site characterization studies completed in December, Groundwater monitoring activities are ongoing
- Canadian Nuclear Safety Commission and Environment and Climate Change Canada meetings and tours of East Mattawa Road Site

UNRESTRICTED / ILLIMITÉ -28-

Environmental: Site Selection

NSDF site selection process has concluded
- Archaeological assessment
  - Diffuse lithic scatter in 3.7% of 9000 test pits; artifacts not of high significance
  - No graves or burial sites
- Biodiversity studies
  - Some Species at Risk (SAR) or critical habitat for SAR found on or near East Mattawa Road site;
  - Mitigation measures identified:
    - Wetland setbacks, bat box installation, sub-surface fencing to keep turtles out
- East Mattawa Road preferable to Alternate Site for NSDF development
- Site Development Notice issued for East Mattawa Road by Chalk River Laboratories Site Master Planner



Proposed Critical Habitat for Blanding's Turtles

Samples of graphite and cobble/pebble scatter

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Appendix M

Update to Pontiac MP February 9 2017

2017/08/30

Near Surface Disposal Facility (NSDF)

- Why?
- Schedule
- Project Plan
- Design, Engineering and Construction
- Waste: What will the NSDF hold?
- Environmental
- Regulatory Affairs

Why? Site Revitalisation

Schedule: 2016 - 2018

Activities	2015	2016	2017	2018	2019	2020
Project Management & Administration						
Design and Engineering						
EA and Licensing for Construction Approval						
Procurement of Construction Services						
Site Prep, Construction, Inactive Commissioning						
Operational Approval						
Active Commissioning and Operation						

Progress through 2017 March

- Detailed Design
- Environmental Assessment Application
- Licensing Application
- Construction Procurement Planning

Next Fiscal Year 2017/18

- Construction RFP/Contract Award
- CNSC Public Hearings: Anticipated EA and Licensing Decisions

Upcoming Activities

- Pre-qualification of suppliers

Schedule: Progress Highlights & Outlook

Design and Engineering

- 60% design submittal completed
- 100% design on track (2017 March)
- Site selection confirmed

Waste Acceptance Criteria (WAC)

- Waste inventory being confirmed
- Waste handling types defined
- Purpose of WAC documented
- WAC maturing (part of the design contract)

Construction

- Procurement planning well underway
- Industry Day – November 2016
- Prequalification of suppliers

Regulatory Approvals

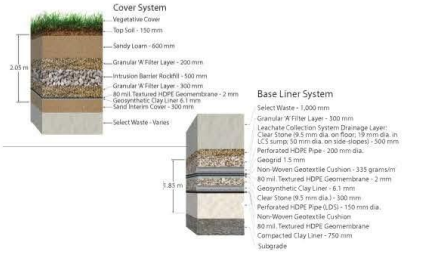
- Active oversight
- Working Group meetings continuing
- Environmental Impact Statement (EIS) on track – ~65 per cent draft
- Response to CNSC - Intermediate Level Waste
- Project Description, Rev. 1 submitted to CNSC
- Meetings and tours hosted with CNSC/ECCC representatives in September and November
- Ongoing Indigenous engagement
- Ongoing community engagement

NSDF: Project Plan Overview

Design: Components of the NSDF

2017/08/30

Design: ECM Base Liner and Cover Systems



UNRESTRICTED / ILLIMITÉ -7-

Design: Waste Water Treatment Plant (WWTP)

- WWTP will treat leachate, contact water, operational waste water
- Equalization tanks will mix and pH-adjust feed to WWTP process
- Lab-scale testing for WWTP process completed in September
- Pilot-scale testing for WWTP process is in progress
- Three stage process is being tested:
  1. Precipitation with membrane filtration
  2. Ion exchange
  3. Polishing

-8-

Construction: Procurement Planning

- November 7 - Industry Day
  - More than 50 companies, general and subcontractors, material suppliers (local and non-local)
- Pre-qualification of suppliers commences 2016 December
- Feedback from supply chain will help shape Request for Proposal for construction services
- Request For Proposal expected to be issued in late Spring

-9-

Waste: What will the NSDF hold?

- The Waste Acceptance Criteria (WAC) will have physical, chemical and radiological parameters
- Waste Acceptance Protocol and Placement Plan (WAPPP)
  - Planned acceptance protocols & placement practices by waste type
- Design consultant will progress WAC and WAPPP as design deliverables
  - Linked to Performance Assessment and Safety Case
- WAC will be available 2017 March

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Waste: What will the NSDF hold?

1	**Soil and Soil-like Waste** contaminated soils and other waste materials with characteristics similar to soil that can easily be placed within the mound with little to no handling	4	**Decommissioning and Demolition Waste** materials used in construction such as concrete, asphalt, brick, lumber, structural steel, process equipment, piping
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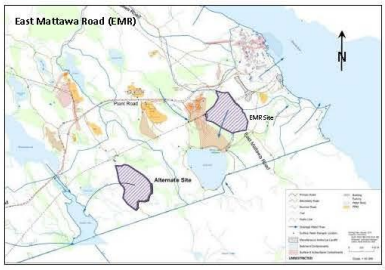
Decommissioning Debris

Bulk Mixed Waste

Containerized

UNRESTRICTED / ILLIMITÉ -11-

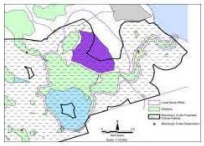
Environmental: Site Selection



UNRESTRICTED / ILLIMITÉ -12-

Environmental: Site Selection

- NSDF site selection process has concluded
- Archaeological assessment
  - Diffuse lithic scatter in 9000 test pits; artifacts not of high significance
  - No graves or burial sites
- Biodiversity studies
  - Some Species at Risk (SAR) or critical habitat for SAR found on or near EMR site
  - Mitigation measures identified (wetland setbacks, bat box installation, sub-surface fencing to keep turtles out)
- EMR preferable to Alternate Site for NSDF development
- Site Development Notice issued



Proposed Critical Habitat for Blanding's Turtles

Samples of graphite and cobble/pebble scatter

Environmental: Alternative Means

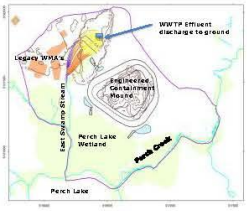
Above Ground Concrete Vaults versus Engineered Containment Mound

- Above Ground Concrete Vaults are a type of near surface disposal facility employing engineered multi-barrier concrete structures set partially into the ground.
- El Cabril Facility Spain – example of above ground vaults for LLW and ILW waste
- All wastes packaged and grouted in place
- Large fraction of CNL waste is building rubble & contaminated soil
- Disposal in Above Ground Vaults would require additional handling and packaging of these wastes – increased risk to workers

Environmental: Groundwater Modelling

- Developed 3D numerical groundwater (GW) flow model for Lower Perch Lake Basin including NSDF Site
- Assess impact of NSDF on Groundwater flow regime for various operations and post-closure scenarios
  - Impact on groundwater flow regime
  - Groundwater transit time estimates
- Operations – leachate collection and discharge to infiltration area
- Post Closure
  - Engineered cover intact
  - Failure of engineered cover

Environmental: Groundwater Modelling



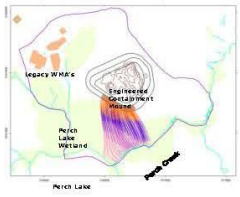
Preliminary Results – Normal Operations

Predicted groundwater flow path from Waste Water Treatment Effluent discharge to East Swamp Stream

Transit time from discharge area to East Swamp Stream ranges from one to five years

Current predictions show CNL meeting discharge limits to groundwater

Environmental: Groundwater Modelling



Preliminary Results – Failure scenario modelling of engineered cover

Model simulates if infiltration through cover and waste to base liner were to occur:

- Modelled results indicate occurrence of bathtub effect, with spill over into aquifer
- Ground water transit time from mound to Perch Creek is estimated at ~10 years
- Transit time is used in the performance assessment modelling

Regulatory Affairs: NSDF

NSDF is anticipated to be a Class 1B Nuclear Facility

2017/08/30

Engagement Activities

Engagement Activities

- Environmental Stewardship Council
- Two rounds of public information sessions in seven host communities
- Indigenous communities
- Site tours
- Community events
- Project specific webpages
- Social Media
  - Facebook
  - Twitter
  - YouTube

Engagement Activities

From our local and indigenous communities

- Many comments are similar for both projects:
  - Environmental monitoring
  - Institutional control
  - Greater degree of detail on technical information
- **NSDF:**
  - A lot of interest in what will be disposed of in the NSDF
  - Questions with respect to natural disasters and climate change
- **NPD Closure Project:**
  - A lot of interest in the end use of the land
  - Questions around international practices for in-situ decommissioning

Engagement: next steps...

Continue to provide greater clarity, answer questions and offer opportunities for public and indigenous feedback through:

- Third round of public information sessions in 2017
- Updated web content as more information becomes available
- Meetings (e.g., ESC – 2017 March)
- Presentations/Technical Discussion
- Site visits (Indigenous communities)
- Outreach through local government (factsheets & feedback forms at municipalities)
- Ongoing opportunity to reach projects via online feedback form, email, telephone, social media

Appendix N

MRC Pontiac Meeting February 14 2017

2017/08/30

Canadian Nuclear Laboratories - One Year In
Update to the MRC Pontiac
2017 February 14| Mark Lesinski, President and CEO

Near Surface Disposal Facility (NSDF)

NSDF - Why

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2017/08/30

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Bulk Mixed Waste

Containerized

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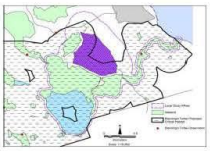

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Appendix O

ESC Meeting March 23 2017
Environmental Stewardship Council (ESC)

AGENDA FOR MEETING #33 (DRAFT UNTIL ACCEPTED)
Thursday, March 23, 2017 – Best Western Pembroke Inn
List of Participants noted on page 2

9:15 – 9:30 AM	Refreshments	
9:30 AM	Safety briefing, welcome and introductions	Pat Quinn
9:40 – 9:50 AM	Review of actions, previous meeting record and new business	John Vincett
9:50 – 10:20 AM	CNL Business Update	Mark Lesinski
10:20 – 11:00 AM	The Linear No Threshold (LNT) Assumption	Dmitry Klokov
11:00 – 11:15 AM	Bio break	
11:15 – 11:45 PM	Quarterly Environmental Performance Report	Christine Gallagher
11:45 – 12:15 PM	Decommissioning & Waste Management Update	Kurt Kehler
12:15 – 1:15 PM	Lunch	
1:15 – 1:45 PM	Near Surface Disposal Facility (NSDF) Update	Jim Buckley/Christine Fahey
1:45 – 2:15 PM	Nuclear Power Demonstration (NPD) Closure Project Update	Meggan Vickerd
2:15 – 2:30 PM	Bio break	
2:30 – 3:00 PM	ESC Webpage and Discussion	Pat Quinn

3:00 – 3:15 PM	In the Community	Nicole LeBlanc
3:15 – 3:30 PM	Recap | Review of Actions | Dates for 2017 meetings	John Vincett

ESC Participants:

Peter Arbour, Petawawa Research Forest
Bruce Bigham, Deep River Horticultural Society
James Gibson, Municipalité régionale de comté de Pontiac
Ole Hendrickson, Concerned Citizens of Renfrew County
Meghan Hendry, Garrison Petawawa
Bob MacKenzie, Upper Ottawa Valley Ducks Unlimited
John McKay, Four Seasons Conservancy
Jed Reinwald, Town of Laurentian Hills
Craig Robinson, Old Fort William Cottagers' Association
Theresa Sabourin, Councillor, Town of Petawawa
Walter Stack, Renfrew County Council

ESC Alternates: Ron Desrochers, Town of Deep River
John Muff, Pembroke Area Field Naturalists

CNL:

Shaun Cotnam, Senior Director, Compliance
Kevin Daniels, Vice President, Health, Safety, Security and Environment (HSSE)
Kurt Kehler, Vice President Decommissioning and Waste Management
Nicole LeBlanc, Communications Officer, Corporate Communications
Mark Lesinski, President and CEO
Pat Quinn, Director, Corporate Communications
TBD, Director, DWM Science & Technology Transition Advisor
TBD, Environmental Scientist, Environmental Technologies

Invited Observers:

Wasif Islam, CRL Compliance and Licensing Division, Canadian Nuclear Safety Commission
Jean LeClair, Canadian Nuclear Safety Commission
John Osborne, Atomic Energy of Canada Limited

Facilitator: John Vincett, Public Dialogue Alternatives
Invited Guests: Jim Buckley, CNL
Christine Fahey, CNL

Christine Gallagher, CNL
Dmitry Klokov, CNL
Meggan Vickerd, CNL

Absent: Meredith Brown, Ottawa Riverkeeper
George Dolinar, Environmental Program Authority
Ron Gervais, City of Pembroke
Ken Hooles, Pembroke Area Field Naturalists
Marc Laurin, Métis Nation of Ontario, North Bay
Joan Lougheed, Town of Deep River
Jim Meness, Algonquins of Pikwàkanagàn

Near Surface Disposal Facility (NSDF) Project Overview

Update for the Environmental Stewardship Council

2017 March 23 | Jim Buckley | Director, NSDF Project

NSDF Progress Report and Update

- Key Engagement Milestone Achieved
  - Environmental Impact Statement
- Design Progress and Next Steps
- Inventory & Waste Acceptance Criteria (handout)
- Questions

Key Milestone
Environmental Impact Statement

Regulatory Approvals - Two Decisions

Submittals	Process	Outcomes	Action Enabled
1. Environmental Impact Statement	CNSC Public Hearing	Environmental Assessment (EA) Decision	Site Preparation
2. Licensing Application (Design, Safety Case)	CNSC Public Hearing	Licensing Decision	Facility Construction

Environmental Impact Statement

Engagement Activities

- ❑ Engagement is a key component of the environmental assessment process.
- ❑ CNL's Public Information Program is our key mechanism for facilitating engagements and capture of communications.
- ❑ Basis for of communications efforts with stakeholders, First Nation and Métis communities and establishment of long-term mutually beneficial working relationships.

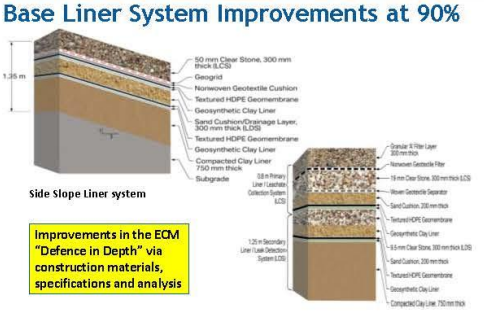
Access to the full EIS is available on the CEAA website and a link is available on the CNL website:
http://www.cnl.ca/en/home/environmental-stewardship/nsdf/eis.aspx

Environmental Impact Statement

Project Related Sections

- ❑ Project description is a comprehensive review of the overall approach for the NSDF including :
  - Construction Phase (including Site Preparation)
  - NSDF Operations Phase
  - Design & Regulatory Requirements
  - Closure, Post Closure, and Institutional Control Phases
- ❑ Accidents and Malfunctions
- ❑ Effect of the Environment on the Project

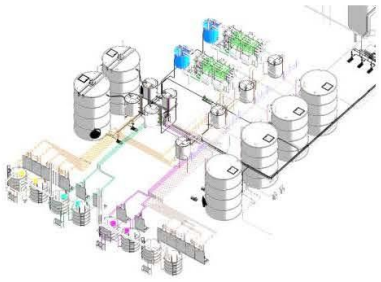
Base Liner System Improvements at 90%



Side Slope Liner system

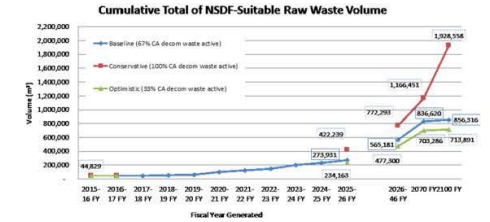
Improvements in the ECM "Defence in Depth" via construction materials, specifications and analysis

Waste Water Treatment Plant Design - 90%



Waste Inventory & Waste Acceptance Criteria

Raw Waste Volume Forecast for NSDF



Decommissioning Waste | Waste in Interim Storage | Environmental Remediation Waste | Future Operating Waste | Commercial Waste

Waste Inventory Sources

- ❑ The majority of the waste (~90%) is sourced from CRL building debris, environmental remediation and operational wastes. The NSDF will enable the CRL site cleanup and revitalization.
- ❑ Approximately 5% would be waste from Whiteshell Laboratories and other AECL sites such as prototype reactors (Gentilly 1 and Douglas Point)
- ❑ Less than 5% would be commercial sourced inventories from Canadian hospitals, universities, research entities and industry clients. This represents existing arrangements.

Wrap-Up

Environmental Impact Statement

Alternatives Means: Qualitative Assessment

The Evaluation Criteria include:

- ❑ Technical Feasibility,
- ❑ Economic Feasibility,
- ❑ Environmental Effects

Alternatives assessed include:

1) Facility Type - Near Surface or Deep Geologic
2) Facility Design - Engineered Containment Mound or Concrete Vaults
3) Facility Location - On-site at CRL or Off-Site CNL locations
4) Site Selection – East Mattawa Road or Alternate Site
5) Water Treatment – New or Existing Facility

Environmental Impact Statement

Environmental Assessments

- ❑ Atmospheric
- ❑ Geology and Hydrogeology
- ❑ Surface Water
- ❑ Aquatic Biodiversity
- ❑ Terrestrial Biodiversity
- ❑ Ambient Radioactivity & Ecological Health
- ❑ Human Health
- ❑ Land and Resource Use
- ❑ Socio-Economic Environment

The EIS concludes that the only significant adverse environmental effect is to Blanding's turtles and bats; this is largely driven by the existing conditions with only negligible impact from NSDF. Mitigation measures will be applied to further reduce this impact.

Design & Engineering Progress
Key Documents and Activities

Design & Engineering - Next Steps

Engineered Containment Mound (ECM) | Waste Water Treatment Plant (WWTP) | Support Facilities | NSDF Site Infrastructure

Design Consultant Scope Summary:

NSDF Detailed Design

- ✓ Planning – August 1, 2016
- ✓ 30% - September 30, 2016
- ✓ 60% - November 30, 2016
- ✓ 90% - January 31, 2017
- • 100% - March 31, 2017

- Plans, Reports
- Studies, Calculations
- Cost Estimate, Schedule
- Drawings
- Specifications

NSDF General Site Layout

1. Entrances
2. Kiosks
3. Weigh Scales
4. Administration Building
5. Operations Support Centre
6. Vehicle Decontamination Facility
7. WWTP
8. ECM
9. Stormwater Ponds

Engineered Containment Mound

Phase 1 Development:
- Cells 1-6
- 525,000 m³
- Build 2018 - 2020
- Operate 2020-2045

Phase 2 Development:
- Cells 7 -10
- 475,000 m³
- Build 2040-45
- Operate 2045-2070

Project Schedule Overview

Fast-tracked Implementation

Work In Progress through 2017 March:
- Detailed Design
- Environmental Assessment and Licensing Applications
- Construction Procurement Planning

Work Planned for Remainder of 2017
- Construction RFP/Contract Award
- Pre-Site Mobilization

CNSC Public Hearings
- 2018 January

Communication & Engagement

Main focus in our next engagement
- EIS and Licence submittal
- Public outreach is local, regional, national and international
- First Nations and Metis communities are identified and engaged per regulatory framework

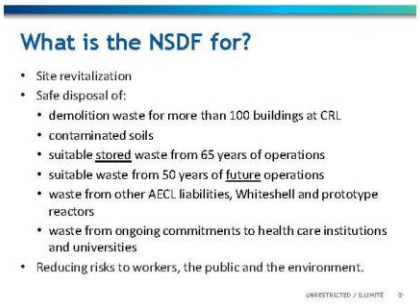
Engagement activities will include meetings, presentations, open houses, and site visits.

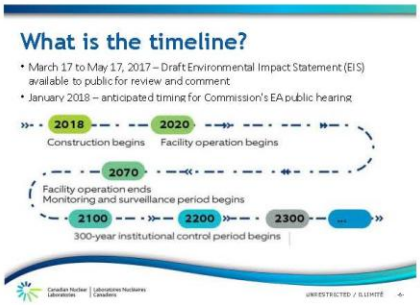
Thank You

Questions?

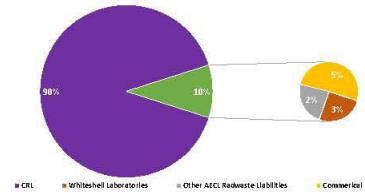
Appendix P

All Staff March 28 2017





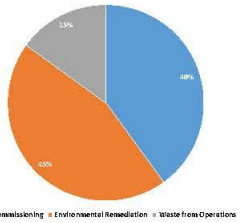
What will go in it?



- Approximately 90% of all waste disposed at NSDF will originate from CRL.
- An estimated 5% will come from other CNL sites (e.g. Whiteshell Laboratories, prototype reactors sites) and the management of other AECL liabilities.
- Less than 5% from existing commercial (e.g. waste from hospitals, universities and industry clients).

What is the 90%?

- Building decommissioning and demolition debris (40%)
- Soils and related materials resulting from remediation (45%)
- Legacy waste from 65 years of operation, stored on site and waste from future research and operations activities (15%)



Waste Acceptance Criteria

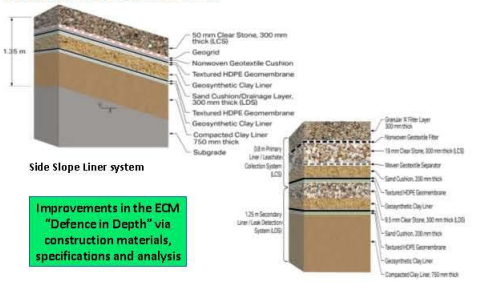
The Waste Acceptance Criteria sets limits on physical, chemical and radiological characteristics of the waste.

- Wastes must be characterized and certified to meet the Waste Acceptance Criteria.
- Characterization methods and analytical requirements are documented and approved.
- Generators must:
  - Demonstrate sufficient knowledge of waste
  - Have an accredited Quality Assurance system

Will it be safe?

- The NSDF will be built to protect people and the environment
- Designed for disruptive scenarios – flood, earthquake, tornado, glaciation, climate change
- Fully contains the waste preventing release of contaminants to the environment
- Long term environmental monitoring
- CNSC oversight

Waste containment



Side Slope Liner system

Improvements in the ECM "Defence in Depth" via construction materials, specifications and analysis

Base Liner System Improvements at 90%

Who are we talking to about this?

- Public outreach is local, regional, national and international
- First Nations and Métis communities are identified and engaged per regulatory framework
- Engagement activities include meetings, presentations, public information sessions, and site visits
  - 14 Public Information Session held to date
  - 12 additional engagements held to date
  - 4 CRL based sessions
- Ongoing public and Indigenous community engagements

Upcoming Public Information Sessions

NSDF & NPD

Town	Dates (2017)
Deep River	Thursday, April 20
Stonecliffe	Monday, April 24
Chalk River	Tuesday, April 25
Rapides-des-Joachims	Wednesday, April 26
Petawawa	Monday, May 01
Sheenboro	Tuesday, May 02
Pembroke	Wednesday, May 03

How can I learn more?

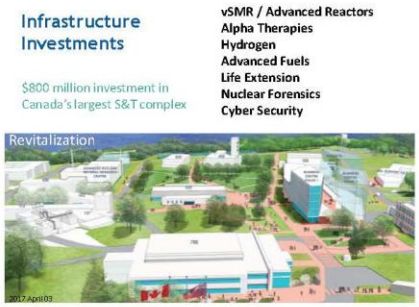
www.cnl.ca/NSDF
@CanadianNuclearLaboratories
@CNL_LNC
communications@cnl.ca
Ask a colleague who is working on the project

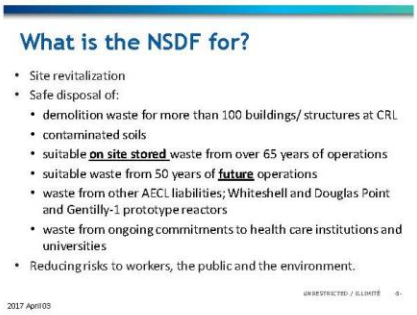
How do I get involved?

- Share your thoughts on the draft Environmental Impact Statement by contacting the Canadian Nuclear Safety Commission at cnsc.ea-ee.ccsn@canada.ca.
- For more information on how to participate visit www.cnl.ca/nsdf-eis.

Appendix Q

Regional Updates April 2017





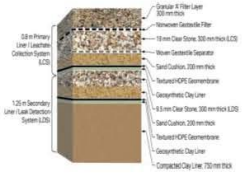
Where will it be?

2017 April 03

Waste containment barriers

Final cap & cover system

Base Liner System



Design Improvements for ECM "Defence in Depth" via construction materials, specifications and analysis

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2017 April 03

What is the timeline?

- March 17 to May 17, 2017 – Draft Environmental Impact Statement (EIS) available to public for review and comment
- January 2018 – anticipated timing for Commission's EA public hearing

2018 Construction begins
2020 Facility operation begins
2070 Facility operation ends, Monitoring and surveillance period begins
2100 2200 2300 ... 300-year institutional control period begins

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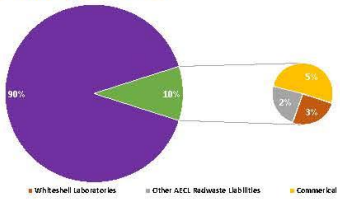
2017 April 03

What will go in it?



- Approximately 90% of all waste disposed at NSDF will originate from CRL.
- An estimated 5% will come from other CNL sites (e.g. Whiteshell Laboratories, Douglas Point and G-1 prototype reactors sites).
- Less than 5% from existing commercial (e.g. waste from hospitals, universities and industry clients).

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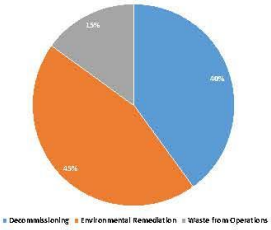
2017 April 03

What is the 90%?

- Building decommissioning and demolition debris (40%)
- Soils and related materials resulting from remediation (45%)
- Legacy waste from 65 years of operation, stored on site and waste from future research and operations activities (15%)



UNRESTRICTED / ILLIMITÉ -11-

2017 April 03

Waste Acceptance Criteria

The Waste Acceptance Criteria sets limits on physical, chemical and radiological characteristics of the waste.

- Wastes must be characterized and certified to meet the Waste Acceptance Criteria.
- Characterization methods and analytical requirements are documented and approved.
- Generators must:
  - Demonstrate sufficient knowledge of waste
  - Have an accredited Quality Assurance system

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2017 April 03

Will it be safe?

- The NSDF will be built to protect people and the environment
- Designed to be safe in disruptive scenarios – flood, earthquake, tornado, climate change
- Once closed the mound will fully contain the waste preventing release of contaminants to the environment
- Long term environmental monitoring
- Canadian Nuclear Safety Commission (CNSC) oversight

What will it look like at closure?

How can I learn more?

Attend a Public Information Session

Town	Dates (2017)
Deep River	Thursday, April 20
Stonecliffe	Monday, April 24
Chalk River	Tuesday, April 25
Rapides-des-Joachims	Wednesday, April 26
Petawawa	Monday, May 01
Sheenboro	Tuesday, May 02
Pembroke	Wednesday, May 03

How can I stay up to date?

www.cnl.ca/NSDF
@CanadianNuclearLaboratories
@CNL_LNC
communications@cnl.ca

How do I get involved?

- Share your thoughts on the draft Environmental Impact Statement by contacting the **Canadian Nuclear Safety Commission** at cnsc.ea-ee.ccsn@canada.ca.
- For more information on how to participate visit www.cnl.ca/nsdf-eis.

Appendix R

ESC Meeting June 22 2017

Environmental Stewardship Council (ESC)

AGENDA FOR MEETING #34 (DRAFT UNTIL ACCEPTED)
Thursday, June 22, 2017 – Clarion Hotel, Pembroke, Ontario
List of Participants noted on page 2

9:15 – 9:30 AM	Refreshments	
9:30 AM	Safety briefing, welcome and introductions	Pat Quinn
9:40 – 9:50 AM	Review of actions, previous meeting record and new business	John Vincett
9:50 – 10:30 AM	CNL Business Update	Mark Lesinski
10:30 – 10:45 AM	Quarterly Environmental Performance Report	George Dolinar
10:45 – 11:00 AM	Bio break	
11:00 – 11:45 AM	Decommissioning & Waste Management Update	Andy Drom/Javed Anderson
11:45 – 12:30 PM	Lunch	
12:30 – 1:00 PM	Nuclear Power Demonstration (NPD) Closure Project Update	Meggan Vickerd
1:00 – 1:30 PM	Near Surface Disposal Facility (NSDF) Update	Jim Buckley
1:30 – 2:00 PM	Concerned Citizens of Renfrew County Update	Ole Hendrickson
2:00 – 2:15 PM	Bio break	
2:15 – 3:00 PM	Near Surface Disposal Facility Waste Acceptance Criteria	Andy Drom

3:00 – 3:15 PM	In the Community	Nicole LeBlanc
3:15 – 3:30 PM	Recap | Review of Actions | Next meeting: 2017 October 26	John Vincett

ESC Participants:

Bruce Bigham, Deep River Horticultural Society
Meredith Brown, Ottawa Riverkeeper
Ron Gervais, City of Pembroke
James Gibson, Municipalité régionale de comté de Pontiac
Ole Hendrickson, Concerned Citizens of Renfrew County
Ken Hooles, Pembroke Area Field Naturalists
Bob MacKenzie, Upper Ottawa Valley Ducks Unlimited
John McKay, Four Seasons Conservancy
Craig Robinson, Old Fort William Cottagers' Association
Theresa Sabourin, Councillor, Town of Petawawa
Walter Stack, Renfrew County Council

ESC Alternates: Glenn Doncaster, Town of Deep River
Michelle Perry, Garrison Petawawa
Murray Rutz, Town of Petawawa
Melissa Vekeman, Petawawa Research Forest
Cynthia Williams, Deputy Vice President, Health, Safety, Security and Environment (HSSE)

CNL: Shaun Cotnam, Senior Director, Compliance
George Dolinar, Environmental Program Authority
Nicole LeBlanc, Communications Officer, Corporate Communications
Mark Lesinski, President and CEO
Pat Quinn, Director, Corporate Communications
TBD, Director, DWM Science & Technology Transition Advisor
TBD, Environmental Scientist, Environmental Technologies

Invited Observers: Lisa Donnelly, Canadian Nuclear Safety Commission
Mohamed Gacem, Canadian Nuclear Safety Commission
Maude-Émilie Pagé, Atomic Energy of Canada Limited

Facilitator: John Vincett, Public Dialogue Alternatives

Invited Guests: Javed Anderson, CNL
Jim Buckley, CNL

Andy Drom, CNL
Mike Giardini, CNL
Kari Richardson, Municipalité régionale de comté de Pontiac
Meggan Vickerd, CNL

Absent: Peter Arbour, Petawawa Research Forest
Kevin Daniels, Vice President, Health, Safety, Security and Environment (HSSE)
Meghan Hendry, Garrison Petawawa
Wasif Islam, CRL Compliance and Licensing Division, Canadian Nuclear Safety Commission
Kurt Kehler, Vice President Decommissioning and Waste Management
Marc Laurin, Métis Nation of Ontario, North Bay
Joan Lougheed, Town of Deep River
Jim Meness, Algonquins of Pikwàkanagàn
Jed Reinwald, Town of Laurentian Hills

Near Surface Disposal Facility (NSDF) Project Overview

Environmental Stewardship Council

2017 June 22 | Jim Buckley | Director, NSDF Project

What is the NSDF for?

- Site revitalization
- Safe disposal of potentially contaminated materials:
  - demolition waste for more than 100 buildings/ structures at CRL
  - contaminated soils
  - suitable on site stored waste from over 65 years of operations
  - suitable waste from future operations
  - waste from other AECL liabilities; Whiteshell and Douglas Point and Gentilly-1 prototype reactors
  - waste from ongoing commitments to health care institutions and universities
- Reducing risks to workers, the public, and the environment.

NSDF Progress Report and Update

- CNSC/ CNL Administrative Protocol update
  - EIS public comment period extended to 2017 August 16
  - Key milestone achieved – Regulatory submissions
- Review of Alternative Means
- Benchmarking – Operational learning from experience
- Biodiversity and Archeological field activities
- Public Comment to date and engagements

Project Schedule Overview

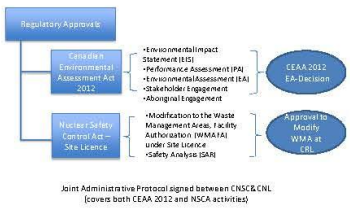
Activity	2016	2017	2018	2019	2020	2021
Design and Engineering						
EA and Licensing for Construction Approval						
Procurement of Construction Services						
Site Prep, Construction, Inactive Commissioning						
Active Commissioning and Operation						

Work progressed through 2017 June:
- Detailed Design (complete)
- Environmental Assessment and Licensing Application Comments
- Construction Procurement Planning

Work planned for remainder of 2017/18:
- Environmental Impact Statement
- Public & Indigenous Engagements
- Construction Services Request for Proposal

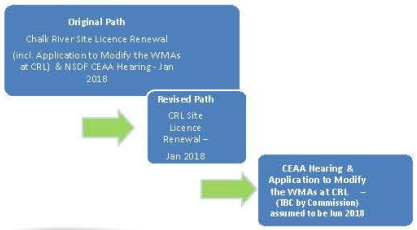
CNSC Public Hearing
- 2018 June (date to be confirmed)

Regulatory Approvals (Acts)



Joint Administrative Protocol signed between CNSC& CNL (covers both CEAA 2012 and NSCA activities)

Licensing Timeline Update & NSDF Project



Biodiversity Update


Installation of Bat Boxes and Turtle Fencing

Environmental Impact Statement

Alternatives Means: Qualitative Assessment

The Evaluation Criteria include:

- ❑ Technical Feasibility
- ❑ Economic Feasibility
- ❑ Environmental Effects

Alternatives assessed include:

1. Facility Type – Near Surface or Deep Geologic
2. Facility Design – Engineered Containment Mound or Concrete Vaults
3. Facility Location – On-site at CRL or Off-site CNL locations
4. Site Selection – East Mattawa Road or Alternate Site
5. Water Treatment – New or Existing Facility

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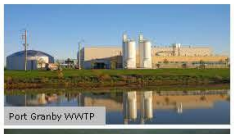
Benchmarking Visits - Operating Facilities


Port Granby WWTP


EMWMF

- Port Hope Area Initiative - Port Granby & Port Hope, ON
- Energy*Solutions* - Clive, UT
- Environmental Management Waste Management Facility (EMWMF) - Oak Ridge, TN
- Environmental Restoration Disposal Facility - Hanford, WA
- Energy*Solutions* - Barnwell, SC

Additional information shares

- Centre de l'Aube - France
  - Near surface concrete vault system
- El Cabril Facility - Spain

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Communication & Engagement

Main focus in our ongoing engagements

- Environmental Impact Statement dialogue and presentations
- Public outreach is local, regional, national and international
- First Nations and Metis communities
- Engagement activities include meetings, presentations, public information sessions, and site visits

Recent engagement activities

- Third round of Public Information Sessions (22 in total as of May 9)
- Municipalities and community meetings, presentations

Upcoming activities

- Participation at summer events (OFWCA)
- Presentations to stakeholder groups
- August 12 Open House – tour at NSDF
- Ongoing Indigenous engagement

How can I stay up to date?

www.cnl.ca/NSDF
@CanadianNuclearLaboratories
@CNL_LNC
communications@cnl.ca

How do I get involved?

- Share your thoughts on the draft Environmental Impact Statement by contacting the **Canadian Nuclear Safety Commission** via the CEAA registry at www.ceaa.gc.ca/050/details-eng.cfm?evaluation=80122
- For more information on how to participate visit www.cnl.ca/nsdf-eis.

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Thank you.

Questions?

www.cnl.ca

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Appendix S

MRC Pontiac Site Visit July 11 2017

Agenda for MRC Pontiac Site Visit
Councillors and MRC Pontiac Staff
July 11, 2017 – CNL Chalk River Laboratories

List of Participants noted on page 2

NOTE TIMINGS ARE SUBJECT TO LEVEL OF DISCUSSION etc.

10:00 – 10:30	Visitor arrival at Outer Gate - Chalk River Laboratories – met by Corporate Communications (Van) *(Note: visitors may want access to their own vehicle to travel to NPD – arrangements will be made for parking near Outer Gate)*	
10:30 – 10:45	Building 700, Room 201 - Safety briefing, Welcome and Introductions	Pat Quinn
10:45 – 11:00	CNL Overview	Pat Quinn
11:00 – 11:20	Radiation and Nuclear Waste Management 101	Kurt Kehler
11:20 – 11:30	Environmental Monitoring and Environmental Assessments	Martin Klukas
11:30 – 12:00	Small Modular Reactors	Bronwyn Hyland
12:00 – 12:45	Lunch and discussion	
12:45 – 1:30	Near Surface Disposal Facility (NSDF) Update	Jim Buckley
1:30 – 1:45	Health break and refreshments – Board bus	
1:45 – 2:30	NSDF - East Mattawa Road Site	Jim Buckley
2:30 – 3:00	Depart CRL - Drive to NPD *(Note: visitors may want access to their own vehicle to travel to NPD – arrangements will be made for parking near Outer Gate)*	

3:00 – 3:45	NPD Closure Project Overview	Patrick Daly/ Meggan Vickerd
3:45 – 4:00	Depart site	Pat Quinn

MRC Pontiac:

Alain Gagnon, MRC Pontiac Council
Winston Sunstrum, MRC Pontiac Council
Lynn Cameron, MRC Pontiac Council
Terrance Murdock, MRC Pontiac Council
Jacques Céré, MRC Pontiac Council
William Stewart, MRC Pontiac Council
Danielle Belec, MRC Pontiac Council
Neil Maloney, MRC Pontiac Council
James Gibson, MRC Pontiac Council
Doris Venasse Ranger, MRC Pontiac Council
Kari Richardson, MRC Pontiac, Environmental Coordinator
Bernard Roy, MRC Pontiac Council
Peter Smith, The Pontiac Journal
Caleb Nickerson, The Equity

CNL Participants:

Pat Quinn, Corporate Communications
Kurt Kehler, Vice-President, Decommissioning and Waste Management
Mike Giardini, Decommissioning and Waste Management Communications
Martin Klukas, NSDF Project/ Environmental Protection
Annie Morin, Environmental Protection
Bronwyn Hyland, Research and Development
Jim Buckley, NSDF Project
Patrick Daly, NPD Closure Project
Nicole LeBlanc, Corporate Communications
Margot Thompson, Corporate Communications
Meggan Vickerd, NPD Closure Project

MRC Pontiac 2017/08/30

Strategic S&T Initiatives

- vSMR / Advanced Reactors
- Alpha Therapies
- Hydrogen
- Advanced Fuels
- Life Extension
- Nuclear Forensics
- Cyber Security

Questions?

Decommissioning & Waste Management

- Radiation and Nuclear Waste Management
- Environmental Monitoring and Environmental Assessments
- Near Surface Disposal Facility (NSDF)
- Nuclear Power Demonstration (NPD) Closure Project

Radiation and Nuclear Waste Management

Radiation

Radioactive Waste

From the Canadian Nuclear Association (www.cna.ca)

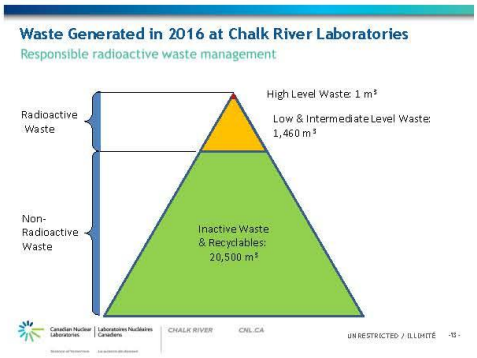
Contamination is the presence of radioactive substances on surfaces or within solids, liquids or gases (including the human body), where their presence is unintended or undesirable.

Low-level waste includes items – such as mop heads, cloths, floor sweepings, wood pallets, gloves, coveralls and other protective clothing – that may be have been contaminated by contact or exposure while being used in workplaces where radioactive substances are used. Most radioactive waste in Canada is low-level waste.

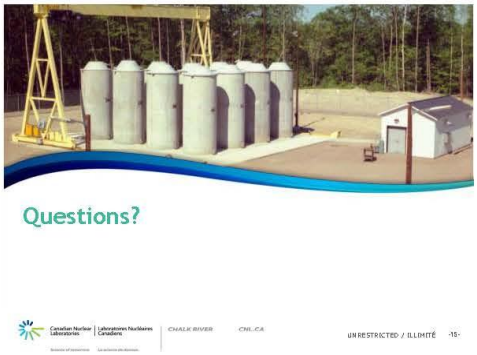
Intermediate-level waste has slightly more radioactivity than low-level waste and includes items that have had more direct contact with radioactive substances; these include filters used to keep systems clean in a nuclear reactor, or used reactor components that have been replaced.*

High-level waste is used fuel. It is generated from nuclear reactors at power plants and is still thermally hot, highly radioactive, and potentially harmful. Used fuel bundles contain uranium pellets that enable the nuclear reaction that generates power. High-level wastewill not be placed in the NSDF.

*The intermediate-level waste that CNL plans to dispose of in the NSDF is at the lowest edge of intermediate-level waste. It is suitable stored waste and fixed contamination waste, which is just slightly above the threshold for low-level waste.


Waste Generated in 2016 at Chalk River Laboratories
Responsible radioactive waste management
Radioactive Waste
Non-Radioactive Waste
High Level Waste: 1 m³
Low & Intermediate Level Waste: 1,460 m³
Inactive Waste & Recyclables: 20,500 m³
CHALK RIVER
CNL.CA
UNRESTRICTED / ILLIMITÉ
-15-


Chalk River Laboratories Waste Management Areas


Questions?
CHALK RIVER
CNL.CA
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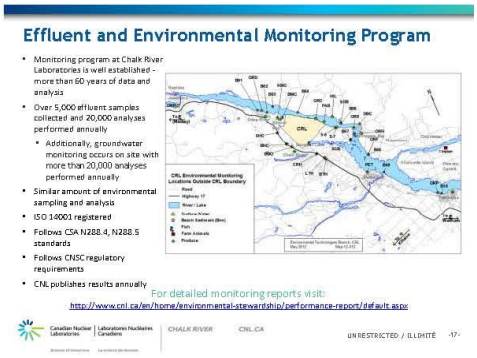
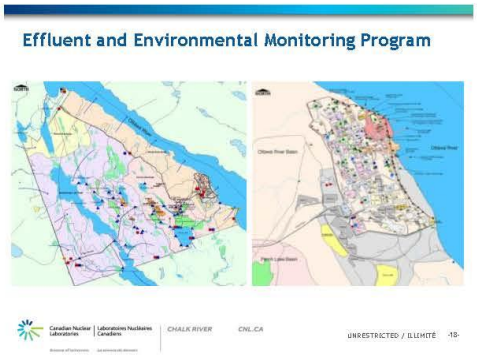
Environmental Monitoring and Environmental Assessments
CHALK RIVER
CNL.CA
UNRESTRICTED / ILLIMITÉ
-16-


Effluent and Environmental Monitoring Program
Monitoring program at Chalk River Laboratories is well established - more than 60 years of data and analysis
Over 5,000 effluent samples collected and 20,000 analyses performed annually
Additionally, groundwater monitoring occurs on site with more than 20,000 analyses performed annually
Similar amount of environmental sampling and analysis
ISO 14001 registered
Follows CSA N288.4, N288.5 standards
Follows CNSC regulatory requirements
CNL publishes results annually
For detailed monitoring reports visit:
http://www.cnl.ca/en/home/environmental-stewardship/performance-report/default.aspx
CHALK RIVER
CNL.CA
UNRESTRICTED / ILLIMITÉ
-17-


Effluent and Environmental Monitoring Program
CHALK RIVER
CNL.CA
UNRESTRICTED / ILLIMITÉ
-18-

Environmental Assessment

- To identify the possible adverse environmental effects of a proposed project
- To determine mitigation measures to minimize adverse environmental effects
- To engage with Indigenous communities and organizations as defined by: *CNSC REGDOC 3.2.2 Aboriginal Engagement*
- To ensure that opportunities are provided for meaningful participation

Questions?

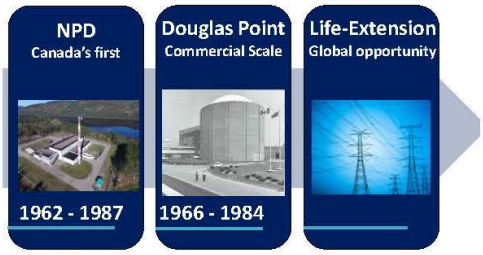
Small Modular Reactors (SMR)

Update to the MRC Pontiac

Bronwyn Hyland, Manager, SMR Program

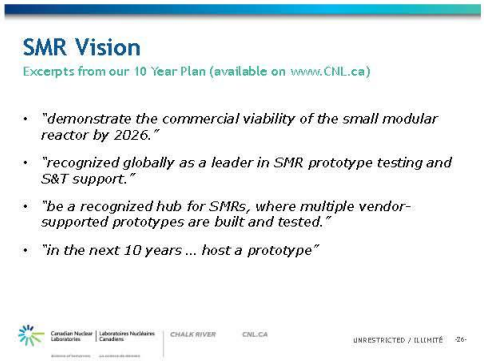
ENERGY: Research Reactors

ENERGY: Research Reactors

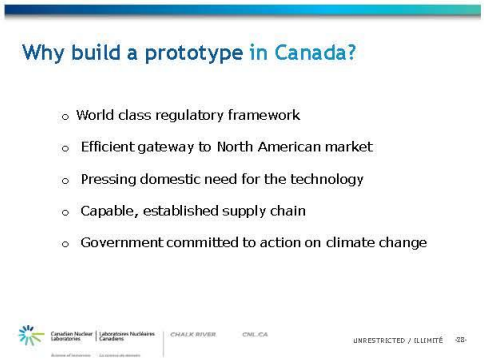


ENERGY: Power Reactors

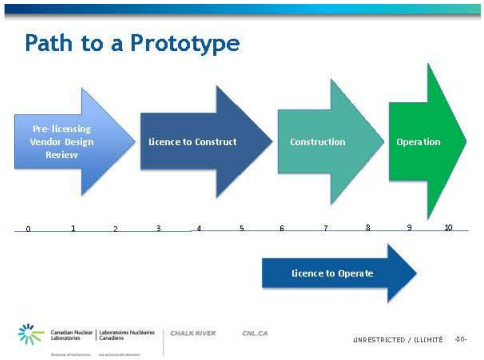

Revitalized Site
Risk-Informed Regulatory Framework
Domestic Pull
World-class R&D Team
SMR
A hub for Canada!
2017
ENERGY: Small Modular Reactors
UNRESTRICTED / ILLIMITÉ -25-


SMR Vision
Excerpts from our 10 Year Plan (available on www.CNL.ca)
"demonstrate the commercial viability of the small modular reactor by 2026."
"recognized globally as a leader in SMR prototype testing and S&T support."
"be a recognized hub for SMRs, where multiple vendor-supported prototypes are built and tested."
"in the next 10 years ... host a prototype"
CHALK RIVER CNL.CA
UNRESTRICTED / ILLIMITÉ -26-


What is an "SMR"
Power output: ~1.5 MW to 300 MW
Option for grid/non-grid connection
Modular approach to construction and deployment
Cost-competitive
Designs vary globally
Molten Salt
High Temperature Gas
Sodium cooled
Lead cooled
Advances in safety and efficiency
Electricity production or other applications


Why build a prototype in Canada?
World class regulatory framework
Efficient gateway to North American market
Pressing domestic need for the technology
Capable, established supply chain
Government committed to action on climate change
CHALK RIVER CNL.CA
UNRESTRICTED / ILLIMITÉ -28-


Why build a prototype in Canada at CNL?
Existing and broad site licence
Several nuclear reactors have been built and operated
Supporting infrastructure and services already in place
Co-located with world-class research facilities and scientists to solve key technology challenges
Integrated fuel manufacturing, testing and examination
Waste solutions
Well characterized sites with multiple siting opportunities
CHALK RIVER CNL.CA
UNRESTRICTED / ILLIMITÉ -29-


Path to a Prototype
Pre-licensing Vendor Design Review
Licence to Construct
Construction
Operation
Licence to Operate
0 1 2 3 4 5 6 7 8 9 10
CHALK RIVER CNL.CA
UNRESTRICTED / ILLIMITÉ -30-

Current Canadian SMR Status:
Vendors in or approaching design review

- (Canada/USA) Terrestrial Energy Molten Salt (200 MW)
- (USA) UltraSafe Nuclear High Temperature Gas (5 MW)
- (Canada) LeadCold Nuclear Molten Lead (3 – 10 MW)
- (Canada/USA) StarCore Nuclear High Temperature Gas (10 MW)
- (USA) Advanced Reactor Concepts Molten Sodium (100 MW)
- (UK) UBattery Gas Cooled, TRISO fuel (8 MW) –
- (UK) Moltex Energy – Molten Salt (~250MWe modules)

Requests for Expressions of Interest
June 1 to July 31

- Understand vendor readiness: financial, technical, etc
- Understand vendor needs in R&D facilities, expertise and services
- Obtain information to guide the development of our SMR program
  - *CNL to begin generic siting activities this year*
- Engage with broader community of governments, funders, host locations and potential end-users
- Understand the potential opportunities for new prototype and demonstration reactors
- Measure respondent interest in constructing a prototype or demonstration reactor on a CNL site

Questions?

Near Surface Disposal Facility (NSDF)

What is the NSDF for?

- Site revitalization
- Safe disposal of potentially contaminated materials:
  - demolition waste for more than 100 buildings/ structures at Chalk River Laboratories
  - contaminated soils
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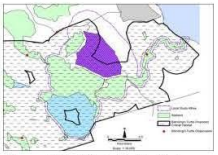

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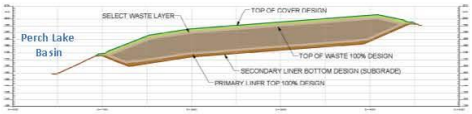
Where will it be?

Where will it be?

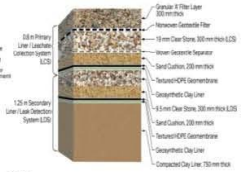


Near Surface Disposal Facility

Waste containment barriers

Final cap & cover system

Base Liner System



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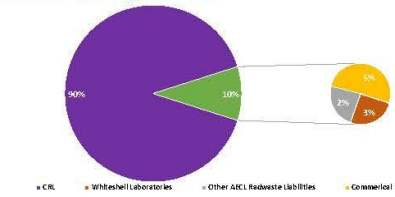

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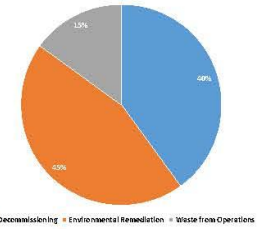

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Waste Acceptance Criteria is submitted to the Canadian Nuclear Safety Commission meet requirement of the Nuclear Safety and Control Act.

Waste Acceptance Criteria specify limits and/or requirements on:

- Physical properties
- Radioactivity
- Prohibited materials
- Liquids
- Packaging
- Hazardous substances and contaminants.

Waste Limits and Requirements

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- Pyrophoric
- Shock sensitive or explosives
- Strong oxidizing agents
- Ozone Depleting Substances
- Chelating agents
- Corrosive Materials
- Majority of intermediate-level waste
- High-level waste

Radiological Limits

Waste Acceptance Criteria

Additional concentration and activity levels are specified for certain radionuclides, as required to ensure long-term safety.

To assure worker safety, there are additional constraints for:

- External dose rates
- Surface contamination levels
- Control of industrial hazards

The NSDF Waste Acceptance Criteria will be available on CNL.ca. Elements of the report have been redacted as they are sensitive from a commercial or security perspective.

Disposal Material Examples


Demolition debris


Soil clean up


Lab materials


Demolition debris


Soil remediation


Personal protective equipment

Will it be safe?

- The NSDF will be built to protect people and the environment
- The mound will fully contain the waste, preventing release of contaminants to the environment
- Waste water treatment effluent is monitored
- Designed and assessed to be safe in extreme natural events (i.e., flood, earthquake, tornado, climate change, etc.) and human intrusion
- Present day monitoring and additional integrated environmental monitoring from construction to long-term institutional control
- Canadian Nuclear Safety Commission (CNSC) regulatory approval and continuing regulatory oversight
- Subject to other federal and provincial regulations

What is the timeline?

- Dialogue with stakeholders first initiated in 2015
- March 17 to August 16, 2017 – Draft Environmental Impact Statement (EIS) available to public for review and comment
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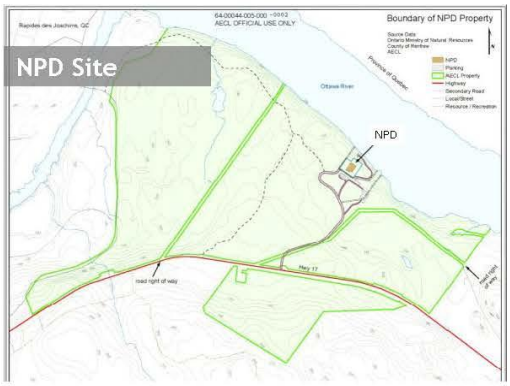
2018 – Construction begins
2020 – Facility operation begins
2070 – Facility operation ends, Monitoring and surveillance period begins
2100
2200
2300
...
300-year institutional control period begins

Questions?

NPD Closure Project



Overview: Project Objectives

- Protect public safety
- Protect the environment (including species at risk habitat)
- Ensure employee and contractor safety (target no lost time incidents)
- Accelerate NPD decommissioning using available technologies with target completion May 2020
- Reduce Canadian legacy long-term liabilities and the burden on the Canadian tax payer

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

UNRESTRICTED / ILLIMITÉ -56-

History: 1957 - 2016

- First nuclear reactor to contribute electricity to the power grid in Canada
- 25 years in service
- CANdu personnel from all over the province, nation and world were trained at NPD
- 1988: fuel, heavy water and power generating equipment removed
- Ontario Hydro transferred the responsibility of monitoring and licencing of NPD to Atomic Energy of Canada Limited (AECL)
- It is considered in a storage with surveillance (SWS) phase of decommissioning, re-licensed with a CNSC Decommissioning Waste Facility Licence in 2014
- Now, CNL has responsibility to decommission NPD as a part of Canada's commitment to reduce nuclear legacy liabilities

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

UNRESTRICTED / ILLIMITÉ -57-

NPD Layout

Why In-situ Decommissioning?

In-situ decommissioning offers the safest approach:

- Reduces worker risk, radiological risk, and industrial accident risk
- Reduces the risk of public / environment exposure during transportation
- Eliminates multiple handling of waste packages
- Effective reduction of the liability (e.g. eliminates interim waste storage at Chalk River Laboratories)

Alternative means considered:

- Removal of some or all source term for shipment to Chalk River for storage and in-situ decommissioning (ISD)

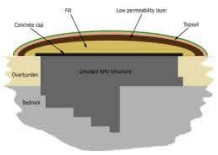
Conclusion to be supported through the Environmental Impact Statement

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

UNRESTRICTED / ILLIMITÉ -59-

Proposed End State

- The reactor, associated systems and below-grade structures grouted in place
- Above-grade structures demolished and used for backfill
- The grouted area will be covered with an engineered barrier
- Long-term care and maintenance activities will be subject to regulatory approval for a set performance period
- Ensure public safety through a safety case which is subject to regulatory approval
- Future of non-impacted land (approximately 380 hectares) to be decided by site owner - Atomic Energy of Canada Limited
- Ensure Chimney Swift habitat is protected



Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

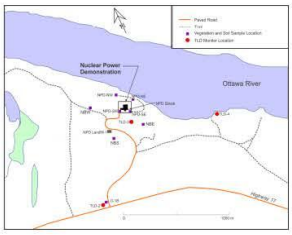
UNRESTRICTED / ILLIMITÉ -60-

Current NPD Site Monitoring

Ambient radiation monitoring stations near NPD
- Dose rates onsite are comparable with offsite background dose rates

Surface water samples from the Ottawa River
- No distinction between upstream and downstream measurements
- <1/10,000 of the regulatory limit

Soil and vegetation samples around the NPD site
- Vegetation at the base of the stack <1/100 of the regulatory limits
- Everywhere else at natural background levels and <1/1,000 of the regulatory limits



Proposed Follow-up Monitoring

Environmental Effect	Mitigation Measure	Follow-up monitoring
Impact to Chimney Swifts (noise, vibration, light)	Timing and proximity of work	Chimney Swift monitoring protocol
Interaction with groundwater	Barriers (grout, cap, cover)	Groundwater monitoring post-closure

Mitigating Impact to Chimney Swifts

- Migratory bird, which is a Species at Risk (SAR)
- NPD's ventilation stack is one of the largest roosts of Chimney Swifts in Canada
  - >2,000 birds observed in one night
- Consulted Chimney Swift Working Group on habitat preservation and decision was made to retain the ventilation stack, which will ensure best chance of the species' survival
- CNL participates in the National Count Nights throughout the summer
  - Data from all over the country is contributed to monitor population of this SAR

NPD Target Timeline

Activity	2016	2017	2018	2019	2020
Decommissioning Planning					
EA and Licensing					
Decommissioning Execution					

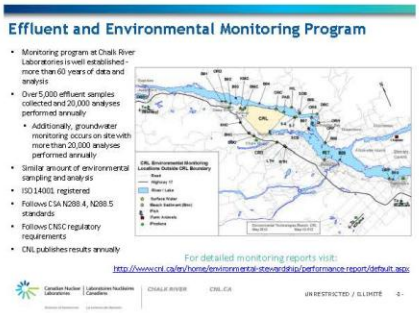
September 2017: French and English EIS submitted to the CNSC

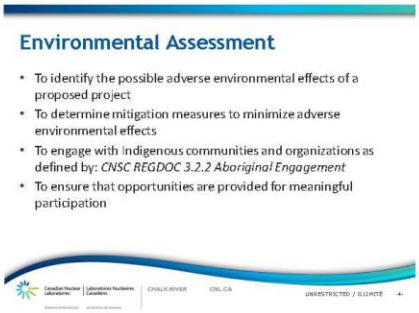
May 2020 – TBD: NPD site closure followed by institutional control, which is subject to regulatory approval. Environmental monitoring will continue under institution control.

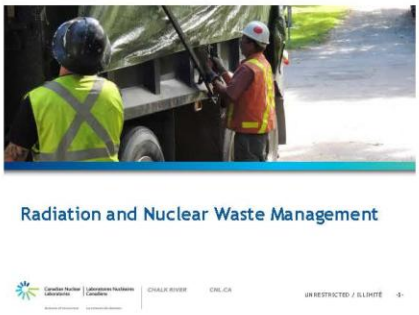
Questions?

Appendix T

OFWCA Meeting July 15 2017







Radioactive Waste

From the Canadian Nuclear Association (www.cna.ca)

Contamination is the presence of radioactive substances on surfaces or within solids, liquids or gases (including the human body), where their presence is unintended or undesirable.

Low-level waste includes items – such as mop heads, cloths, wood pallets, gloves, coveralls and other protective clothing – that may be have been contaminated by contact or exposure while being used in workplaces where radioactive substances are used. Most radioactive waste in Canada is low-level waste.

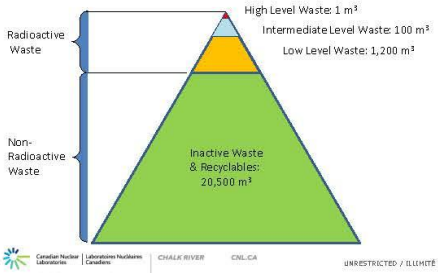
Intermediate-level waste has slightly more radioactivity than low-level waste and includes items that have had more direct contact with radioactive substances; these include filters used to keep systems clean in a nuclear reactor, or used reactor components that have been replaced.*

High-level waste is used fuel. It is generated from nuclear reactors at power plants and is still thermally hot, highly radioactive, and potentially harmful. Used fuel bundles contain uranium pellets that enable the nuclear reaction that generates power. High-level waste will not be placed in the NSDF.

*The intermediate-level waste that CNL plans to dispose of in the NSDF is at the lowest edge of intermediate-level waste. It is suitable stored waste and fixed contamination waste, which is just slightly above the threshold for low-level waste.

Waste Generated in 2016 at Chalk River Laboratories

Responsible radioactive waste management



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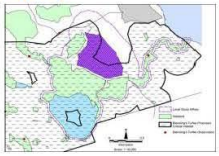

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-14-

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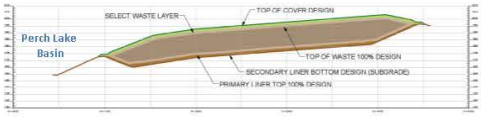

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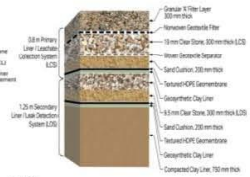

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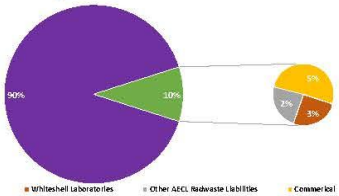

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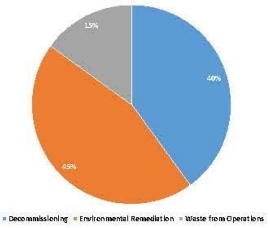

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2100 2200 2300 ...
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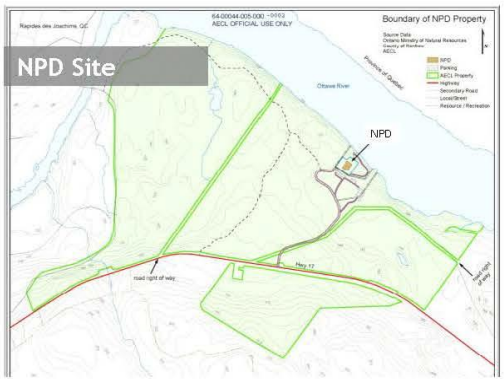

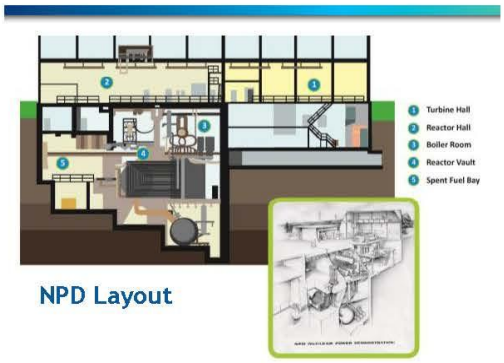

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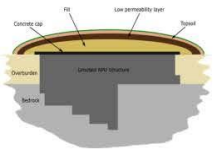
- Future of non-impacted land (approximately 380 hectares) to be decided by site owner - Atomic Energy of Canada Limited
- Ensure Chimney Swift habitat is protected



Appendix U

Notification Email of Draft EIS Submission

From: >Communications
Sent: March-17-17 5:39 PM
To: >Communications
Subject: Public comments invited on draft environmental impact statement for Canadian Nuclear Laboratories' Near Surface Disposal Facility Project

UNRESTRICTED / ILLIMITÉE

Good afternoon,

I am writing to advise you that Canadian Nuclear Laboratories (CNL) has submitted the draft Environmental Impact Statement for the Near Surface Disposal Facility Project. The proposed project is for the siting and construction of the Near Surface Disposal Facility, which would be used for the disposal of mostly, low level radioactive waste and a small amount of intermediate level waste.

The Near Surface Disposal Facility Project
The Near Surface Disposal Facility will enable the decommissioning of more than 100 buildings and structures at the Chalk River Laboratories – a necessary step to revitalize the site – and provide a safe and permanent disposal for waste from 65 years of science and technology and the Laboratories' continuing operations.

The majority (90%) of the waste that would be disposed of in the facility is already stored, or would be produced, out of activities at the Chalk River site. Approximately 5% would be waste originating from the Whiteshell Laboratories, in Manitoba and other AECL sites, such as the prototype reactors (Douglas Point and Gentilly-1); and less than 5% would be commercial sourced inventories for example from Canadian hospitals and universities a service that has been underway for decades.

The Environmental Assessment Process
The submission of the draft Environmental Impact Statement to the Canadian Nuclear Safety Commission is a requirement of the Environmental Assessment process for the Near Surface Disposal Facility Project.
In order for the Near Surface Disposal Facility Project to move forward, the Environmental Assessment, which is carried out under the Canadian Environmental Assessment Act, 2012, and regulated under the authority of the Canadian Nuclear Safety Commission, must be completed.

Ensuring your voice is heard
With our submission of the Near Surface Disposal Facility's Environmental Impact Statement, the Canadian Nuclear Safety Commission will be accepting comments from the public and Indigenous groups for the next 60 days. CNL encourages participation from members of the public and Indigenous

groups in the Environmental Assessment process. The following links are included for your convenience:

- Public Notice
- Environmental Impact Statement Executive Summary
- Environmental Impact Statement (EIS):
    1. Draft EIS for the NSDF
    2. Appendices

If you would like more information, you are welcome to contact me directly at Pat.Quinn@cnl.ca, or visit the Near Surface Disposal Facility's web page – www.cnl.ca/nsdf.

Sincerely,
Patrick Quinn

Patrick Quinn
Director, Corporate Communications
Canadian Nuclear Laboratories

From: >Communications
Sent: June-16-17 2:23 PM
To: >Communications <commaecl@cnl.ca>
Subject: Re: Near Surface Disposal Facility – Update on Public Comment Period for Canadian Nuclear Laboratories' Draft Environmental Impact Statement

UNRESTRICTED / ILLIMITÉE

Good afternoon,

I am writing to advise you that Canadian Nuclear Laboratories (CNL) has translated the draft Environmental Impact Statement (EIS) for the Near Surface Disposal Facility Project into French. The proposed project is for the siting and construction of the Near Surface Disposal Facility, which would be used for the disposal of mostly low-level waste and a small amount of intermediate-level waste.

Ensuring your voice is heard

With our issue of the French Near Surface Disposal Facility's Environmental Impact Statement (EIS), the Canadian Nuclear Safety Commission will be accepting comments from the public and Indigenous groups for the next 60 days. CNL encourages further participation from members of the public and Indigenous groups in the Environmental Assessment process. The following French links are included for your convenience:

- Avis public
- L'ébauche d'étude d'impact environnemental sommaire
- L'ébauche d'étude d'impact environnemental (EIE):
    1. corps de l'EIE (volume 1)
    2. annexes (volume 2)

Sincerely,
Patrick Quinn

Patrick Quinn
Director, Corporate Communications
Canadian Nuclear Laboratories

Appendix V – Notification Email for Internal Information Sessions

From: >CNL Bulletin
Sent: May-09-17 4:13 PM
To: >>CR All Staff <itsbul@cnl.ca>
Subject: Employee Information Sessions: NSDF Project and NPD Closure Project

Employee Information Sessions: NSDF Project and NPD Closure Project

There will be two information sessions held tomorrow, Wednesday May 10, 2017, for CNL employees to learn the latest updates on both the NSDF and the NPD Closure Project. We welcome you to join us at one of these sessions where we will be happy to answer your questions and listen to your feedback. Team members from the NSDF Project, the NPD Closure Project and our Environmental Protection branch will be on hand to discuss your questions and comments on both projects.

Wednesday, 2017 May 10
11:30 a.m. – 12:45 p.m.
B846 Morison Campus, R150
Deep River

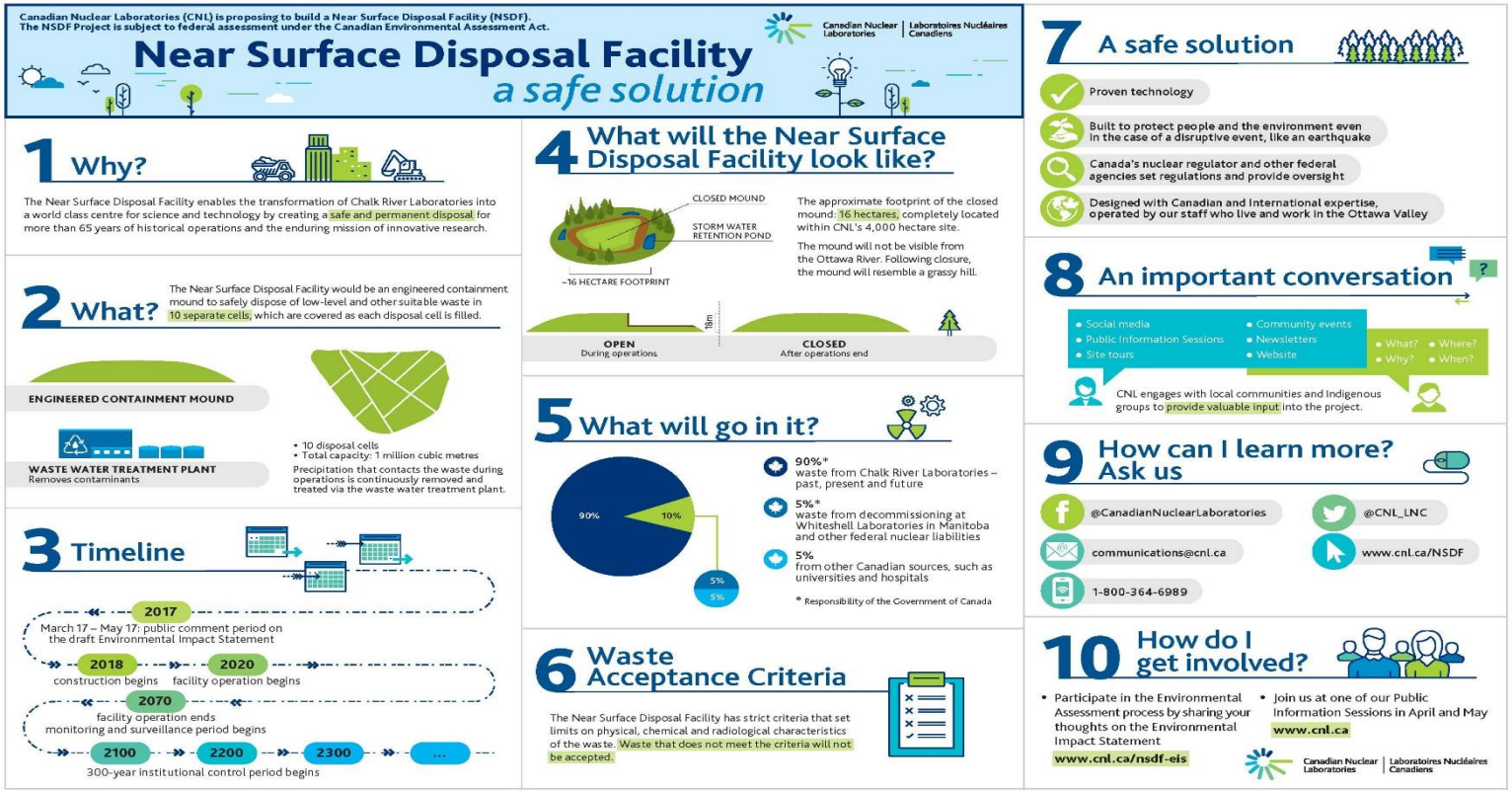
Wednesday, 2017 May 10
3:30 p.m. – 4:45 p.m.
Chalk River Laboratories
B700 Lobby

Thank you and hope to see you there!

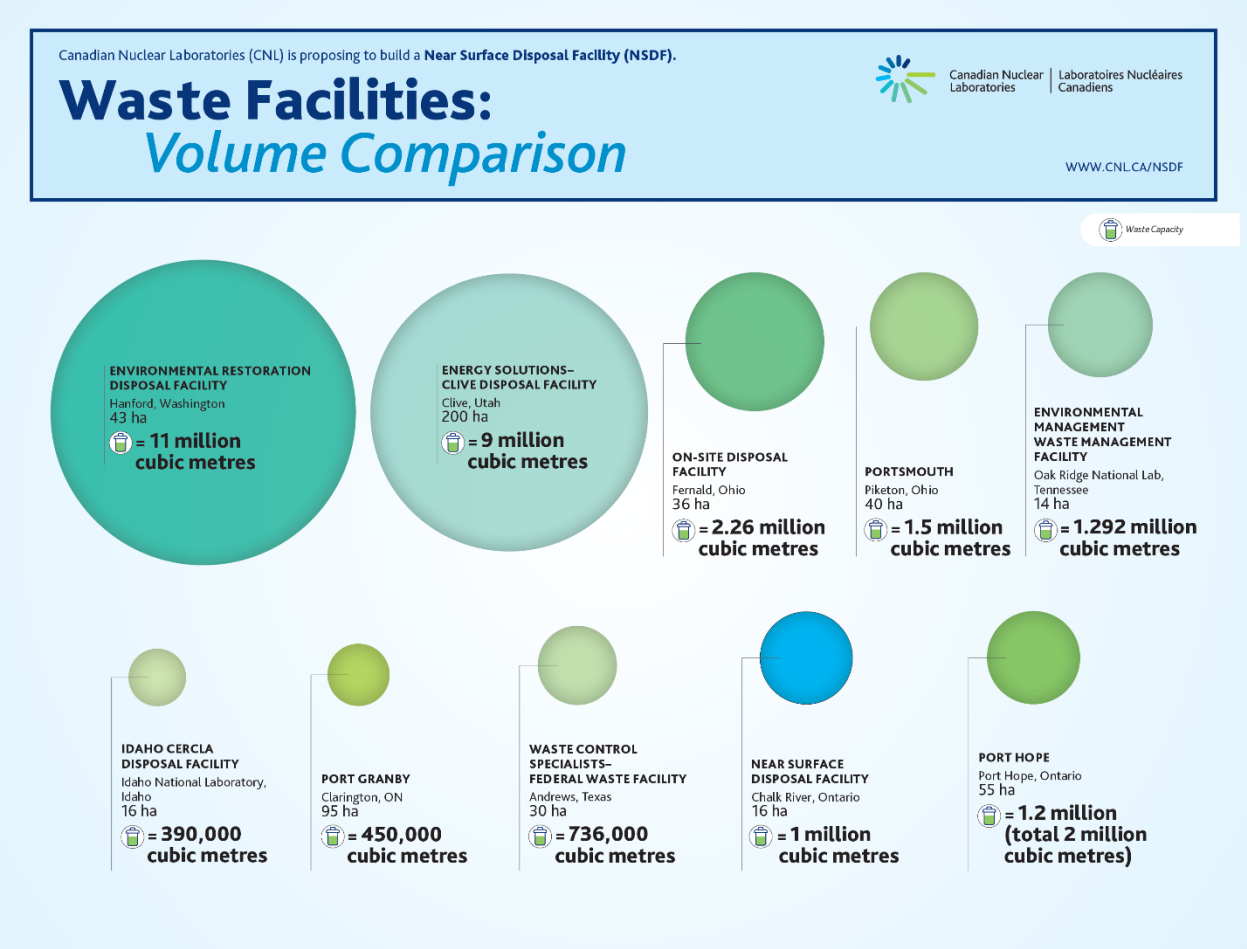
Corporate Communications

Appendix W

Near Surface Disposal Facility Infographic



Appendix X – Waste Facilities: Volume Comparison Infographic



Appendix Y – Informational Posters

Canadian Nuclear Laboratories is changing

Big changes are happening at Canadian Nuclear Laboratories (CNL). We are taking down more than 100 buildings and structures and cleaning up to revitalize our laboratories with new, renovated or repurposed facilities. With modern infrastructure and facilities, our people will be better equipped to innovate and collaborate with industry and government – supporting CNL's commitments to Canada, and generating leading research nationally, and internationally.

Already, the site has begun to transform. A visible example at Chalk River Laboratories is the new laboratory complex (the building seen above) which provides modern and flexible research and offices space.

The vision for transformation

Thanks to an $800 million federal government investment (funding that is in addition to our current operating budget) the transformation of Chalk River Laboratories, will be significant over the next 10 years. Complementing the renewal plan is an integrated strategy for managing waste materials as they are generated. This two-pronged approach will enable us to realize the vision for the Chalk River Laboratories. In strengthening our organization, we are generating new opportunities for CNL and for the Canadian nuclear industry.

The team at CNL will leverage these opportunities to make advances in clean energy, in health, in safe and secure borders and in a clean and healthy environment with strong stewardship. We are building the capabilities to go beyond our traditional market segments, and when we do, the world will be waiting!

For our local communities in the Upper Ottawa Valley, this vision for transformation means we remain a stable, long-term partner and employer. CNL continues to rely on our skilled local workforce and the support of our neighbours in the community and region. The opportunities for our local supply chain will grow as CNL grows.

Integrated Waste Strategy

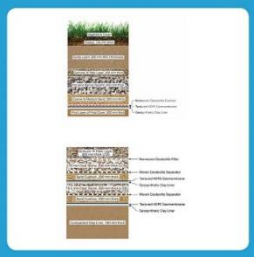
CNL is implementing a new Integrated Waste Strategy (IWS) to enable new development and to responsibly deal with legacy waste, generated from operations over the past 65 years that is currently managed in interim storage facilities. Under this strategy, wastes will be characterized and dispositioned in keeping with our goals to reduce risk to workers, reduce costs, reduce waste liabilities – all while protecting the environment.

One of the top IWS priorities is to establish a pathway for the permanent disposal of the largest fraction of CNL wastes – those that are lightly contaminated. These wastes represent an estimated 95 per cent of CNL's total waste volume - past, present and future - and include materials such as demolition debris, soil and vegetation, laboratory waste and personal protective equipment and clothing, like disposable gloves and shoe covers.

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

Port Granby - waste water treatment plant construction

Chalk River - waste water treatment plant for NSDF



NSDF - cover and liner systems

Planned Lifecycle of the Near Surface Disposal Facility

Design & Permitting	Construction	Operations	Closure	Institutional Control	Post-Institutional Control
2016 - 2018	2018 - 2020	2020 - 2070	2070- 2100	2100 - 2400	2400+
	Pre-Closure Phase			Post-Closure Phase	

Design & Permitting: CNL has engaged experienced consultants to assess and design the NSDF in accordance with federal requirements and international guidelines. Project effects and measures to mitigate potential effects are documented in the Environmental Impact Statement (EIS). The CNSC manages the permitting processes and seeks public and Indigenous participation in the Environmental Assessment process.

Construction: CNL will implement measures to protect Species at Risk, preserve critical habitat, and minimize dust and noise during construction of the engineered containment mound (ECM), waste water treatment plant and supporting facilities and infrastructure. Contractors will be chosen based on their qualifications and high quality standards will be applied.

Operations: CNL will only accept waste that has been certified to meet the NSDF acceptance criteria. NSDF operational processes such as waste placement and effluent treatment will be closely controlled and emissions (liquid and gas) will be verified to be compliant with regulatory release limits before discharge. Monitoring of the environment will be ongoing.

Closure: CNL will monitor the performance of the ECM with its final cover in place. During this period, the slope of the cover will divert precipitation away from the ECM. Moisture in the waste will drain by gravity and continue to be collected and treated at the waste water treatment plant. When the waste has effectively "dried out", the waste water treatment plant and other facilities will be decommissioned.

Post-Closure Phase: The ECM, located at the Chalk River site, will remain under federal institutional control for hundreds of years. During this period there will be active and passive monitoring and control, maintenance of the ECM and continuation of security to prevent unauthorized access.

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

Key Definitions

What is a measurement indicator?
Measurement indicators represent properties of the environment and valued components that, when changed, could result in or contribute to an effect on assessment endpoints. Measurement indicators may be quantitative, such as concentrations of metals in surface water, or qualitative. An example of a qualitative indicator could be the observed movement and behaviour of wildlife from disturbance to habitat.
Measurement indicators also provide the primary factors for discussing the uncertainty of effects on valued components and, subsequently, are key variables for studying potential follow-up and monitoring programs.

What is an assessment endpoint?
Assessment endpoints represent the key properties of a valued component that should be protected for future human generations. For example, if a certain fish species was identified as a valued component for a particular project, an assessment endpoint for this fish species might be a self-sustaining and ecologically effective fish population.

What is an effects assessment?
The effects assessment is essentially a methodology that CNL follows to find out how the project might predictably impact the environment. In other words an effects assessment will include consideration of the predicted changes to the environment as a result of the project being carried out.

What are spatial and temporal boundaries?
Spatial boundary: the geographical extent within which likely or potential environmental effects will be considered. Spatial boundaries will vary depending on the valued component.
Temporal boundary: the timeframe during which project effects are assessed. For the NSDF Project the temporal boundary begins at the start of construction (2020) and extends through to the end of Institutional Control (2400) and continues indefinitely.

What is the difference between a residual effect and a cumulative effect?
Residual effects are changes to the environment after the implementation of mitigation measures. Cumulative effects are changes to the environment that are caused by an action in combination with other past, present and future human actions.

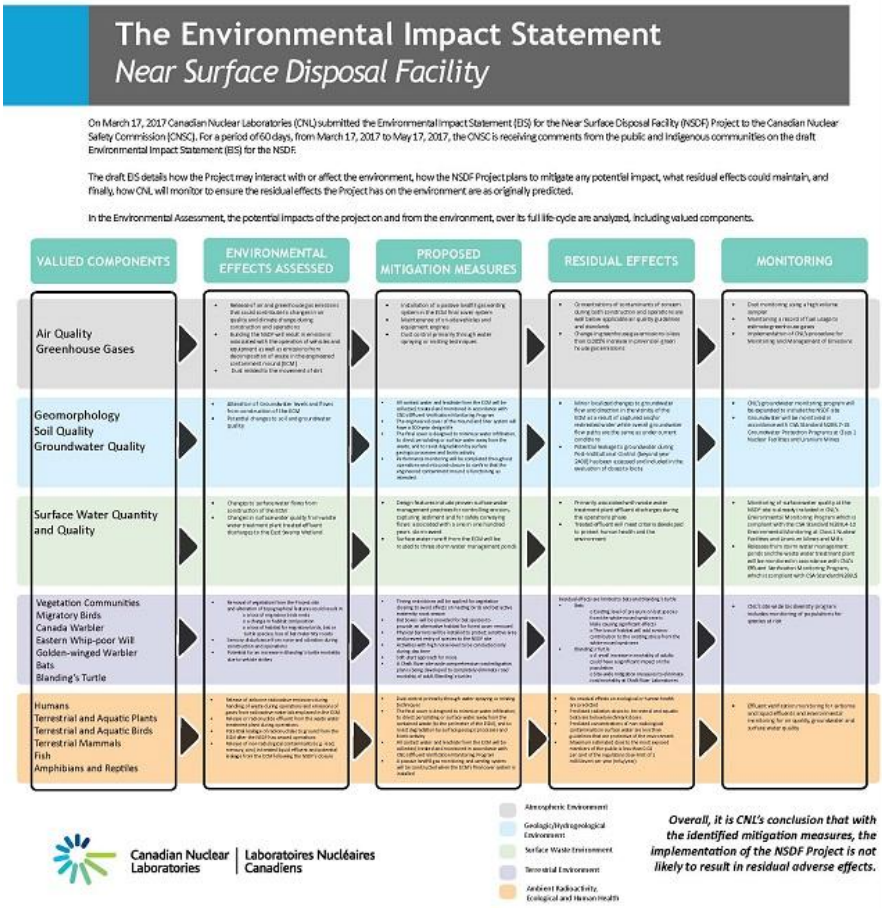
How to get involved

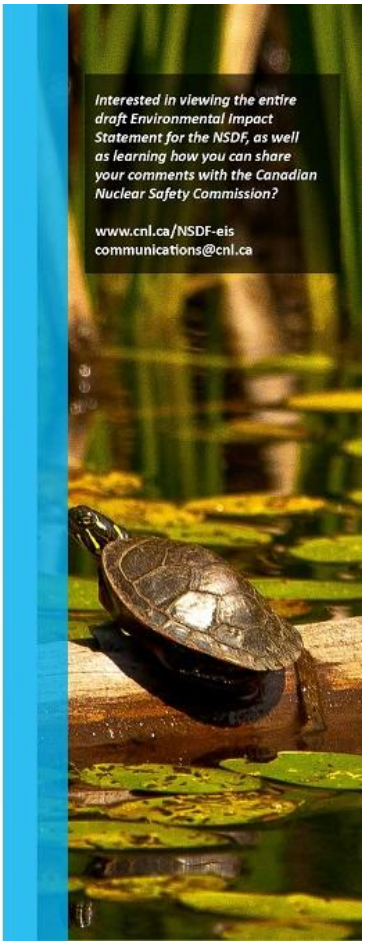
The Canadian Nuclear Safety Commission is seeking public comment on the draft Environmental Impact Statement for the NSDF until May 17, 2017.

CNL encourages you to participate in the Environmental Assessment process by sharing your thoughts with the Canadian Nuclear Safety Commission.

For more information: www.cnl.ca/NSDF-eis

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens


The Environmental Impact Statement
Near Surface Disposal Facility
On March 17, 2017 Canadian Nuclear Laboratories (CNL) submitted the Environmental Impact Statement (EIS) for the Near Surface Disposal Facility (NSDF) Project to the Canadian Nuclear Safety Commission (CNSC). For a period of 60 days, from March 17, 2017 to May 17, 2017, the CNSC is receiving comments from the public and Indigenous communities on the draft Environmental Impact Statement (EIS) for the NSDF.
The draft EIS details how the Project may interact with or affect the environment, how the NSDF Project plans to mitigate any potential impact, what residual effects could maintain, and finally, how CNL will monitor to ensure the residual effects the Project has on the environment are as originally predicted.
In the Environmental Assessment, the potential impacts of the project on and from the environment, over its full life cycle are analyzed, including valued components.
VALUED COMPONENTS
ENVIRONMENTAL EFFECTS ASSESSED
PROPOSED MITIGATION MEASURES
RESIDUAL EFFECTS
MONITORING
Air Quality
Greenhouse Gases
Geomorphology
Soil Quality
Groundwater Quality
Surface Water Quantity
and Quality
Vegetation Communities
Migratory Birds
Canada Warbler
Eastern Whip-poor Will
Golden-winged Warbler
Bats
Blanding's Turtle
Humans
Terrestrial and Aquatic Plants
Terrestrial and Aquatic Birds
Terrestrial Mammals
Fish
Amphibians and Reptiles
Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens
Atmospheric Environment
Geologic/Hydrogeological Environment
Surface Waste Environment
Terrestrial Environment
Ambient Radioactivity, Ecological and Human Health
Overall, it is CNL's conclusion that with the identified mitigation measures, the implementation of the NSDF Project is not likely to result in residual adverse effects.


Interested in viewing the entire draft Environmental Impact Statement for the NSDF, as well as learning how you can share your comments with the Canadian Nuclear Safety Commission?
www.cnl.ca/NSDF-eis
communications@cnl.ca

Appendix Z – Quick Facts

Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

UNRESTRICTED

Near Surface Disposal Facility (NSDF)
Quick Facts

Contents

What is it for?

- It is the crucial first step in the transformation of Chalk River Laboratories site into a centre for world class science and technology innovation.
- The revitalization of Chalk River Laboratories involves the decommissioning of more than 100 buildings that have reached the end of their useful lives – the NSDF will provide safe disposal for the demolition waste.
- It will provide safe and permanent disposal of waste from more than 65 years of operations, which is now in interim storage. As well, it will provide safe and permanent disposal for small quantities of waste from other Government of Canada nuclear decommissioning activities, and from ongoing management of waste from Canadian sources, such as hospitals and universities.
- The NSDF will enable CNL to meet its obligation, as licensee, to responsibly manage the waste liabilities arising from its activities and to reduce risks to workers, the public and the environment.

What exactly is it?

- The NSDF is an engineered containment mound built at the Chalk River Laboratories site to safely dispose of mostly solid, low level radioactive waste.
- The mound will hold 1,000,000 cubic metres of waste and feature 10 waste disposal cells to be built in two phases: six cells in Phase 1; four cells in Phase 2.
- The mound will feature a multi-layer base liner and cover system, with the waste placed in between the liner and the cover system. The waste is covered as each disposal cell is filled.
- The NSDF will also feature a waste water treatment plant to remove contaminants from precipitation that drains through the waste placed in the mound before the cover is installed, as well as waste water from operational activities.

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Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

UNRESTRICTED

Near Surface Disposal Facility (NSDF)
Quick Facts

What is the timeline?

- March 2017 – CNL submitted the draft Environmental Impact Statement (EIS) for the NSDF to the Canadian Nuclear Safety Commission (CNSC)
- May 17, 2017 – last date for the public and Indigenous groups to submit comments on the EIS to the CNSC
- January, 2017 – anticipated timing for CNSC's Environmental Assessment (EA) public hearing

Pending regulatory approvals:

- 2018 – construction begins on Phase 1, to build the first six waste cells
- 2020 – facility operation begins and waste disposal starts
- 2040 – construction begins on Phase 2, to build four additional waste cells
- 2070 – facility operation (waste disposal) end, and monitoring and surveillance period begins
- 2100 – monitoring and surveillance period begins
- 2100 – monitoring and surveillance period ends and 300-year institutional control period begins

What will it look like?

- While in operation the NSDF will physically resemble a municipal landfill with one active waste cell in operation at a time within the engineered containment mound.
- Following its closure, the mound will resemble a grassy outcrop built into an existing hillside, which will be approximately 18 metres tall and the mound will occupy a 16-hectare footprint on the 4,000 hectare CRL site.
- The mound will not be visible from the CRL main campus or the Ottawa River.
- While in operation, the NSDF will have a waste water treatment plant and several support facilities such as an office, change room, weigh scales and a truck wash facility. These will be decommissioned and removed following the end of operations. The site will be permanently fenced and feature roads, utilities and surface water management ponds.

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Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

UNRESTRICTED

Near Surface Disposal Facility (NSDF)
Quick Facts

What will go in it?

- **95%** is CNL-managed waste which is owned by Atomic Energy of Canada Limited.
- Of this, **90%** is radioactive waste which is already stored, or which will be produced out of activities at the Chalk River site. This includes waste resulting from:
    - Building decommissioning and demolition debris including concrete rubble, masonry, structural steel, rebar, wooden supports and structures. By far, building and demolition debris is the largest single source of waste.
    - Remediation of impacted soils and related structures.
    - Legacy waste from 65 years of past operation that is now in interim storage on site.
    - Less than **5%** is radioactive waste originating from decommissioning projects including the Whiteshell Laboratories project, in Manitoba and other AECL sites, such as the prototype reactors (Douglas Point and Gentilly-1).
- Less than **5%** of the total waste is from Canadian hospitals, universities, research entities and industry clients; this activity is aligned with existing commercial arrangements that have been in effect for decades.

What are the Waste Acceptance Criteria (WAC)?

- The WAC are specifications for which waste is acceptable for disposal in the NSDF. The specifications set limits on the physical, chemical and radiological characteristics of the waste, for example:
    - Building demolition debris size and weight will be limited.
    - The WAC will limit the waste form to solid waste; waste with free-flowing liquids will not be permitted.
    - Ozone depleting substances, explosive materials, compressed gases, and biomedical, infectious and pathogenic materials will be prohibited.
    - The WAC will limit the radioactivity and chemical hazards of waste disposed in the NSDF.
    - Limits will be set on the level of radiation on both the package and the waste itself to assure operational worker safety and long term safety performance.
- Waste that doesn't meet the WAC for the NSDF will be managed in interim storage until a final treatment or disposal solution has been established.
- Waste generators must characterize their waste in accordance with CNL requirements as part of the acceptance process for the NSDF. Through a series of tests, the physical, radiological and chemical characteristics of the waste are determined.
- Waste offered for disposal at the NSDF will be assessed against the WAC prior to being accepted for disposal in the NSDF. After waste is accepted and then transferred to the NSDF, a final operations check is made before actual disposal.

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Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

UNRESTRICTED

Near Surface Disposal Facility (NSDF)
Quick Facts

How are we ensuring the safety of workers, the public and the environment?

- The NSDF will be built to protect people and the environment using our decades of waste management experience combined with international best practices.
- The engineered containment mound includes base liner and cover systems that will fully contain the waste and prevent the release of contaminants to the environment.
- The multi-layer base liners, cover system and monitoring are key safety features of the engineered containment mound:
    - The base liner system will be approximately 1.5 metres thick.
    - The cover system (cap) will be approximately two metres thick.
    - The design also includes features to enable inspection of the system performance and to allow for repairs if necessary.
    - Surrounding the NSDF will be an array of environmental monitoring systems that will sample air, water and groundwater quality.
    - The water discharged from the waste water treatment plant will meet discharge criteria and protect the environment, including Chalk River wetlands and the Ottawa River.
- Every step of the process will be overseen by the CNSC.

Who are we talking with about this?

- CNL has held regular briefings with local municipal councils and with CNL's Environmental Stewardship Council (an advisory group of stakeholders and local communities) to provide updates and answer questions on the NSDF project.
- As the project has been ramping up in the last year, CNL is regularly reaching out to the broader community. A series of public information sessions were held in the summer and fall of 2016 to give the public an opportunity to learn more about the NSDF and to gather comments on CNL's plans. Additional public information sessions are planned for spring 2017.
- CNL is also engaging Indigenous communities to discuss the project and is assessing the significance of potential adverse impacts and taking into account asserted rights, historical or traditional practices and land claims.

How can I learn more?

- www.cnl.ca/NSDF
- Ask us: communications@CNL.ca or >Communications

How do I get involved?

- Participate in the Environmental Assessment process by sharing your thoughts: www.cnl.ca/NSDF-eis
- Join us at one of our Public Information Sessions:

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Appendix AA - Advertising

NOUVELLES INFORMATIONS DISPONIBLES

Séances d'information publiques

Projet de fermeture du réacteur NPD
Début de l'EE : le 5 mai 2016
Numéro de référence du RRCE : 80121
www.cnl.ca/NPD

Projet d'installation d'élimination près de la surface
Début de l'EE : le 5 mai 2016
Numéro de référence du RRCE : 80122
www.cnl.ca/NSDF

Les LNC sont heureux de pouvoir s'entretenir avec leurs voisins au sujet des projets mentionnés dans le présent numéro. Ils vous invitent à l'une des séances d'affiches communautaires indiquées ci-dessus afin de fournir des réponses à vos questions.

Pour plus de renseignements immédiats ou pour rester informés sur les activités publiques liées à ces projets importants, veuillez communiquer avec nous à l'adresse de courriel suivante : communications@cnl.ca ou au numéro de téléphone suivant : 1-800-364-6989, ou visitez www.cnl.ca.

Deep River, Ontario
Deep River Arena - Mezzanine
le 20 avril, 18h à 20h.

Stonecliffe, Ontario
Salle municipale
le 24 avril 18h à 20h.

Chalk River, Ontario
Lion's Club Hall
le 25 avril 19h à 21h.

Rapides-des-Joachims, Quebec
Salle municipale
le 26 avril 18h à 20h.

Petawawa, Ontario
Centre Civique
le 01 mai 18h à 20h.

Sheenboro, Quebec
Salle municipale
le 02 mai 18h à 20h.

Pembroke, Ontario
Best Western Pembroke Inn
le 03 mai 18h à 20h.

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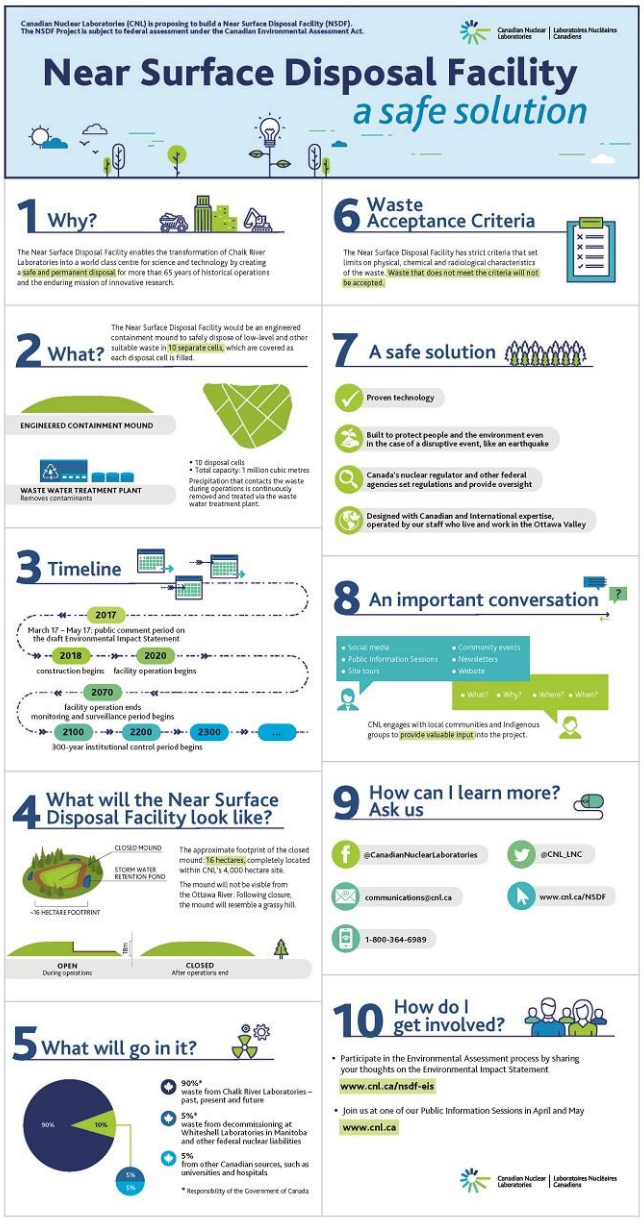
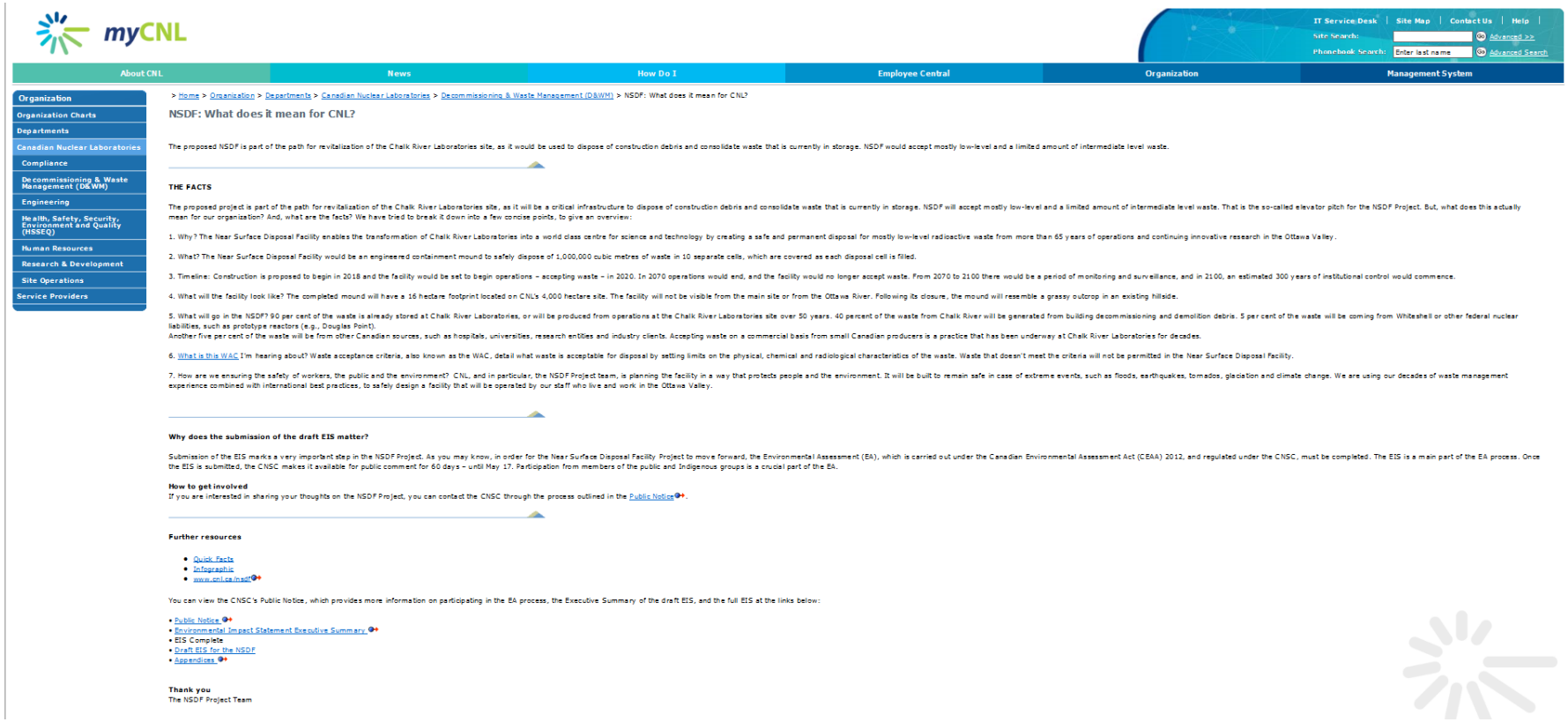

Canadian Nuclear Laboratories (CNL) is proposing to build a Near Surface Disposal Facility (NSDF).
The NSDF Project is subject to federal assessment under the Canadian Environmental Assessment Act.
Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens
Near Surface Disposal Facility
a safe solution
1 Why?
The Near Surface Disposal Facility enables the transformation of Chalk River Laboratories into a world class centre for science and technology by creating a safe and permanent disposal for more than 65 years of historical operations and the enduring mission of innovative research.
2 What?
The Near Surface Disposal Facility would be an engineered containment mound to safely dispose of low-level and other suitable waste in 10 separate cells, which are covered as each disposal cell is filled.
ENGINEERED CONTAINMENT MOUND
WASTE WATER TREATMENT PLANT
Removes contaminants
• 10 disposal cells
• Total capacity: 1 million cubic metres
Precipitation that contacts the waste during operations is continuously removed and treated via the waste water treatment plant.
3 Timeline
2017
March 17 – May 17: public comment period on the draft Environmental Impact Statement
2018
construction begins
2020
facility operation begins
2070
facility operation ends
monitoring and surveillance period begins
2100
2200
2300
...
300-year institutional control period begins
4 What will the Near Surface Disposal Facility look like?
CLOSED MOUND
STORM WATER RETENTION POND
~16 HECTARE FOOTPRINT
The approximate footprint of the closed mound: 16 hectares, completely located within CNL's 4,000 hectare site.
The mound will not be visible from the Ottawa River. Following closure, the mound will resemble a grassy hill.
OPEN
During operations
CLOSED
After operations end
5 What will go in it?
90%
10%
5%
5%
90%* waste from Chalk River Laboratories – past, present and future
5%* waste from decommissioning at Whiteshell Laboratories in Manitoba and other federal nuclear liabilities
5% from other Canadian sources, such as universities and hospitals
* Responsibility of the Government of Canada
6 Waste Acceptance Criteria
The Near Surface Disposal Facility has strict criteria that set limits on physical, chemical and radiological characteristics of the waste. Waste that does not meet the criteria will not be accepted.
7 A safe solution
Proven technology
Built to protect people and the environment even in the case of a disruptive event, like an earthquake
Canada's nuclear regulator and other federal agencies set regulations and provide oversight
Designed with Canadian and International expertise, operated by our staff who live and work in the Ottawa Valley
8 An important conversation
• Social media
• Public Information Sessions
• Site tours
• Community events
• Newsletters
• Website
• What? • Why? • Where? • When?
CNL engages with local communities and Indigenous groups to provide valuable input into the project.
9 How can I learn more? Ask us
@CanadianNuclearLaboratories
@CNL_LNC
communications@cnl.ca
www.cnl.ca/NSDF
1-800-364-6989
10 How do I get involved?
• Participate in the Environmental Assessment process by sharing your thoughts on the Environmental Impact Statement
www.cnl.ca/nsdf-eis
• Join us at one of our Public Information Sessions in April and May
www.cnl.ca
Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

Appendix BB – myCNL articles



myCNL

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Phonebook Search: Enter last name Go Advanced Search

About CNL | News | How Do I | Employee Central | Organization | Management System

- Organization
- Organization Charts
- Departments
- Canadian Nuclear Laboratories
- Compliance
- Decommissioning & Waste Management (D&WM)
- Engineering
- Health, Safety, Security, Environment and Quality (HSSEQ)
- Human Resources
- Research & Development
- Site Operations
- Service Providers

> Home > Organization > Departments > Canadian Nuclear Laboratories > Decommissioning & Waste Management (D&WM) > NSDF: What does it mean for CNL?

NSDF: What does it mean for CNL?

The proposed NSDF is part of the path for revitalization of the Chalk River Laboratories site, as it would be used to dispose of construction debris and consolidate waste that is currently in storage. NSDF would accept mostly low-level and a limited amount of intermediate level waste.

THE FACTS

The proposed project is part of the path for revitalization of the Chalk River Laboratories site, as it will be a critical infrastructure to dispose of construction debris and consolidate waste that is currently in storage. NSDF will accept mostly low-level and a limited amount of intermediate level waste. That is the so-called elevator pitch for the NSDF Project. But, what does this actually mean for our organization? And, what are the facts? We have tried to break it down into a few concise points, to give an overview:

1. Why? The Near Surface Disposal Facility enables the transformation of Chalk River Laboratories into a world class centre for science and technology by creating a safe and permanent disposal for mostly low-level radioactive waste from more than 65 years of operations and continuing innovative research in the Ottawa Valley.

2. What? The Near Surface Disposal Facility would be an engineered containment mound to safely dispose of 1,000,000 cubic metres of waste in 10 separate cells, which are covered as each disposal cell is filled.

3. Timeline: Construction is proposed to begin in 2018 and the facility would be set to begin operations – accepting waste – in 2020. In 2070 operations would end, and the facility would no longer accept waste. From 2070 to 2100 there would be a period of monitoring and surveillance, and in 2100, an estimated 300 years of institutional control would commence.

4. What will the facility look like? The completed mound will have a 16 hectare footprint located on CNL's 4,000 hectare site. The facility will not be visible from the main site or from the Ottawa River. Following its closure, the mound will resemble a grassy outcrop in an existing hillside.

5. What will go in the NSDF? 90 per cent of the waste is already stored at Chalk River Laboratories, or will be produced from operations at the Chalk River Laboratories site over 50 years. 40 percent of the waste from Chalk River will be generated from building decommissioning and demolition debris. 5 per cent of the waste will be coming from Whiteshell or other federal nuclear liabilities, such as prototype reactors (e.g., Douglas Point).
Another five per cent of the waste will be from other Canadian sources, such as hospitals, universities, research entities and industry clients. Accepting waste on a commercial basis from small Canadian producers is a practice that has been underway at Chalk River Laboratories for decades.

6. What is this WAC I'm hearing about? Waste acceptance criteria, also known as the WAC, detail what waste is acceptable for disposal by setting limits on the physical, chemical and radiological characteristics of the waste. Waste that doesn't meet the criteria will not be permitted in the Near Surface Disposal Facility.

7. How are we ensuring the safety of workers, the public and the environment? CNL, and in particular, the NSDF Project team, is planning the facility in a way that protects people and the environment. It will be built to remain safe in case of extreme events, such as floods, earthquakes, tornados, glaciation and climate change. We are using our decades of waste management experience combined with international best practices, to safely design a facility that will be operated by our staff who live and work in the Ottawa Valley.

Why does the submission of the draft EIS matter?

Submission of the EIS marks a very important step in the NSDF Project. As you may know, in order for the Near Surface Disposal Facility Project to move forward, the Environmental Assessment (EA), which is carried out under the Canadian Environmental Assessment Act (CEAA) 2012, and regulated under the CNSC, must be completed. The EIS is a main part of the EA process. Once the EIS is submitted, the CNSC makes it available for public comment for 60 days – until May 17. Participation from members of the public and Indigenous groups is a crucial part of the EA.

How to get involved
If you are interested in sharing your thoughts on the NSDF Project, you can contact the CNSC through the process outlined in the Public Notice.

Further resources

- Quick Facts
- Infographic
- www.cnl.ca/nsdf

You can view the CNSC's Public Notice, which provides more information on participating in the EA process, the Executive Summary of the draft EIS, and the full EIS at the links below:

- Public Notice
- Environmental Impact Statement Executive Summary
- EIS Complete
- Draft EIS for the NSDF
- Appendices

Thank you
The NSDF Project Team

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Can I talk about CNL on Facebook?

Information for CNL Employees

(2017 May 12) Navigating social media etiquette is difficult. It is a new world for all of us, and as we see in the news, our online behaviour can have implications offline. At the March 28 All Staff focused on the Near Surface Disposal Facility (NSDF), Mark Lesinski also fielded a similar question: does an employee respond when they see something on social media related to Canadian Nuclear Laboratories (CNL)?

Lately, CNL has been in the local media more than usual. And, our particular department (Corporate Communications) has had a number of questions from employees about what is ok to say on social media with respect to the NSDF project.

Our answer is consistent. Employees should not feel obligated to defend CNL, and in no way does an individual employee voicing their opinions speak on behalf of the organization. However, if an employee reads something or is discussing CNL with their family, friends, neighbours or whomever, and is motivated to share public information they know to be true, they are most welcome to do so.

The point of this article is twofold. First, we want to make sure that we understand what the code of conduct says about participating in conversations about CNL while we are off duty. Secondly, we want to ensure that the facts about NSDF or other important CNL activities are readily available.

From a Code of Conduct perspective: employees should use their best judgement when posting material that is related to CNL, taking care to ensure that it is neither inappropriate, disrespectful nor unduly harmful to CNL's interests. If something you are posting relates to CNL—e.g., a discussion related to the NSDF Project—please be clear that the posting is purely your own opinion, and is not intended to represent or speak on behalf of the corporation. Remember, be respectful to the opinions of others and act responsibly.

The facts: we have our internal NSDF web page on myCNL where you can find quick facts, our infographic and information on the comment period for the Environmental Assessment process with the Canadian Nuclear Safety Commission (CNSC). Our external site, www.CNL.ca also has an NSDF page with key facts, posters from our Public Information Sessions and more. Anything on the external website is perfectly fine to share in the community.

For more information on business ethics and the Code of Conduct, please contact Dan Sullivan in the Ethics and Disclosure Office: >CNL Disclosures Office.

For more information on the NSDF or media coverage of other CNL activities, visit our website or feel free to reach out to the Communications team: >Communications.

Corporate Communications

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A busy spring for the NSDF project

Information for CNL Employees

(2017 May 17) Over the past four weeks our colleagues working on the Near Surface Disposal Facility (NSDF) Project and the Nuclear Power Demonstration (NPD) Closure Project have been very busy. In addition to their daily work commitments, the projects have been actively engaging with the public and other stakeholders.

Spreading the word about these two high profile projects is not always easy work, but, it is incredibly important work. Both project teams have been instrumental in getting the facts out and putting forth a strong effort to balance the discussion in our communities.

Without counting up the kilometres on the roads of Renfrew County and the Pontiac or adding up the hours spent under the fluorescent lights of town halls, here are a few numbers from the NSDF Project and NPD Closure Project's recent community engagements:

- Public Information Sessions – 8
- Public Information Session attendees – 125
- Households the NSDF infographic was sent to – 33,000
- Presentations to Municipal Councils – 5
- Meetings with Indigenous communities – 3
- Social media posts (Twitter and Facebook) – 41
- Interviews with the media – 11
- Media "hits" – 27 (If you're interested in seeing some of the coverage check out the Pembroke Observer, the Ottawa Citizen and CTV Ottawa)
- NSDF technical documents shared to date – 60

If you want more information on either of the projects, check out the NSDF Project web page at www.cnl.ca/nsdf, the NPD Closure Project web page at www.cnl.ca/npd and follow CNL on social media (YouTube, Facebook and Twitter) for the latest information.

You can also always reach out to Communications at >Communications if you have any questions.

Corporate Communications

NSDF design contract awarded

Information for CNL Employees

(2016 July 08) Yesterday, CNL took a big step towards the achievement of Vision 2026 with the award of the first major contract for the Near Surface Disposal Facility (NSDF) at the Chalk River site. The proposed facility will provide a safe, secure and environmentally sound solution for the permanent disposal of waste arising from CNL operations and decommissioning activities.

AECOM Canada Ltd. has been chosen to prepare the design and to provide engineering and consulting services through procurement, construction and commissioning phases. The design will inform and complement the final site selection, the ongoing federal environmental assessment of the project – which is considering biophysical and socio-economic impacts - as well as the safety case required for licensing the NSDF.

"It is most satisfying to see this milestone achieved" said NSDF Engineering Manager, Rajamani Ponnan, who led the preparation of the Technical Scope of Work and oversaw the technical evaluation of proposals. "We have a lot of work ahead of us and I am pleased that AECOM has put forth a highly experienced design team." AECOM is the engineer of record for CNL's ongoing Port Granby Project, one with many similarities to the NSDF, and has also designed several like facilities in the United States.

The contract award followed a three-month procurement period that began in 2016 March with the pre-qualification of suppliers and culminated in June with the evaluation of proposals and negotiations with the preferred bidder. An integrated project team approach and the timely support provided by Supplier Quality, Engineering, Legal, Technical Services, and Compliance groups enabled the award.

Christine Fahey
Manager, NSDF

Standing: Rajamani Ponnan and Barry Labadie
Seated: Kurt Kehler and Christine Fahey

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Hard working team releases RFP for NSDF

Information for CNL Employees

(2017 July 10) It's out! After months of hard work from many parties, the Request for Proposal (RFP) to provide construction services for the Near Surface Disposal Facility (NSDF) Project was issued on June 29 – an important APWB milestone for the D&WM Mission.

The NSDF Project will establish CNL's first disposal facility for radioactive waste at Chalk River. It is a key enabling project for the many decommissioning efforts and the revitalization of CRL's campus.

The detailed design of the NSDF was initiated one year ago when a contract was awarded to AECOM Canada Ltd. In November, an Industry Day was held to generate interest and awareness of the project among the construction industry. By the end of March, the process to pre-qualify contractors was completed. With the design now 100% complete, CNL is seeking proposals from five (5) companies to build the new facility: AECON, AMEC Foster Wheeler, Bird Construction, Graham Group and Northwind-Sullivan joint venture. Proposals are expected in the early Fall.

In parallel with the procurement, CNL is continuing to pursue the regulatory approvals required to proceed with construction. The Environmental Impact Statement (EIS) and all of the technical submissions have been provided to the CNSC in support of the Environmental Assessment and licensing decisions. Public hearings to consider CNL's applications are anticipated in 2018 June. Should positive decisions result, field construction activities will commence in late summer, 2018.

The RFP comprises procurement, legal, and technical elements and has engaged significant resources throughout the organization, once again showing teamwork equals results. The NSDF project team is grateful for the support it has received from all contributors and reviewers of the RFP.

L-R: Richard Birchall, Nancy Burnett, Barry Labadie, Emilio Villalta, Christine Fahey, Jennifer Grant, Dale Bowslaugh, Rajamani Ponnan, Jessica McQuestion, and Brodie Whitelaw. Missing: Trevor Grant, Kristan Schruder, Jim Buckley and Joliene Hussick

Jim Buckley
Director, LLR Waste Facility

Mark Lesinski speaks up on the NSDF project

Information for CNL Employees

(2017 July 12) *The following article originally appeared in the 2017 July 12 edition of the North Renfrew Times. It has also been sent to other local media outlets.*

==

Your paper has taken an interest in one of the projects that is underway at Chalk River Laboratories, and I would like to provide you with more, factual, information. Canadian Nuclear Laboratories – or CNL – is revitalizing and modernizing the facilities at Chalk River Laboratories to create a world-class, national nuclear science and technology laboratory that will sustain and create jobs in our community for many years to come. We are doing this in a safe, secure and environmentally responsible way under the stringent regulations of the Canadian Nuclear Safety Commission.

One element of this renewal is the Near Surface Disposal Facility – or NSDF – which we are planning to build on the property of Chalk River Laboratories. The NSDF will provide a permanent solution for the waste that has been generated over the past 65 years and is already stored here, and operational waste that will be generated here in the coming years. The NSDF will also be used to dispose of building materials and debris as we transform Chalk River Laboratories into a globally-recognized centre of excellence and innovation.

We have heard concerns that some of the materials that will go into the NSDF will come from other places. This is true. We will continue the decades-long practice of receiving waste from hospitals and universities. We also plan to receive waste from other Government of Canada owned nuclear facilities, such as Whiteshell Laboratories in Manitoba. This "waste from away" would be one tenth of the facility's total volume. Be assured, this material will be transported to Chalk River safely and securely, as usual, under the strict oversight of Transport Canada and the Canadian Nuclear Safety Commission.

Some people say the NSDF is too close to the Ottawa River. The carefully chosen site for the NSDF at Chalk River Laboratories is approximately 1 km from the Ottawa River. CNL knows the exact make-up of the 10,000 acres of our Chalk River site. In fact, some say that our site is one of the most studied pieces of land in the world. In identifying the ideal setting for the NSDF, we examined potential locations even more rigorously. The geotechnical and hydrogeological tests that we carried out confirmed that the chosen site is truly the best place to put this kind of facility. The pathway to the Ottawa River, from a surface and groundwater perspective, is indirect and longer than the pathway from other sites that are geographically further away from the river.

CNL's Environmental Protection Program maintains a comprehensive effluent and environmental monitoring regime, which involves taking hundreds of samples each year and conducting tens of thousands analyses. CNL's Environmental Protection Program provides an added degree of insurance in the very unlikely event of an incident.

The 2,800 people that work at CNL and Chalk River Laboratories are your neighbours. Our families – some for many generations – have grown up here in the Ottawa Valley enjoying the river for swimming, fishing and boating. The people who are designing and who will build and operate the NSDF are just as concerned about protecting our environment, including the Ottawa River, as anyone else in our community.

It is understandable that some may have concerns, but, the NSDF is a proactive initiative that will enable us to clean-up our site and dispose of the waste in a safe and responsible manner. It is also a key step in our journey towards a bright future at Chalk River Laboratories. We are not just taking care of the legacy waste that is here, we are building a brighter future.

But, don't just take our word – or anyone else's – at face value. Ask questions, read the scientific and technical documents that are publicly available and find out more. Many of these resources are available at www.CNL.ca/NSDF.

It's our shared environment, and all of us have a say in how we want to improve the situation.

Mark Lesinski
President and CEO of Canadian Nuclear Laboratories, Petawawa resident and Ottawa River enthusiast

Preliminary Waste Acceptance Criteria Summary for the NSDF

Information for CNL Employees

(2017 June 16)

General requirements

The Waste Acceptance Criteria are specifications for which waste is accepted for disposal in the NSDF. The specifications set limits on the physical, chemical and radiological characteristics of the waste. *Waste Acceptance Criteria were* defined to ensure that accepted waste streams meet the following requirements:

- Design Specifications
- Performance Assessment Safety objectives , and
- Proven technology exists for near-surface disposal and is appropriate.

Prior to acceptance at the NSDF:

- All wastes must be characterized for radiological and chemical constituents and physical properties sufficient to demonstrate that the waste meets the Waste Acceptance Criteria
- The characterization methods and analytical requirements must be documented and approved by the Waste Management organization
- The generator must demonstrate sufficient knowledge of waste history
- The generator must have an accredited Quality Assurance Program

Physical and Chemical

Waste Acceptance Criteria specify limits and/or requirements on:

- Physical properties
- Radioactivity
- Prohibited Material
- Liquids
- Packaging
- Hazardous substances and contaminants

The following requirements shall also apply:

- Hazardous substances will not be accepted, unless as a co-contaminant in mixed radioactive waste
- Waste streams containing mixed waste are subject to the land disposal requirements as specified in the Ontario Environmental Protection Act, Regulation 347, General Waste Management

Waste Acceptance Criteria specify types of wastes which shall not be accepted for disposal in the NSDF. Examples of prohibited wastes:

- Pyrophoric Shock Sensitive or Explosives
- Strong Oxidizing agents Ozone Depleting substances
- Chelating agents Corrosive materials

Radiological

The majority of disposed wastes will be in bulk form with very low levels of contamination. NSDF may accept a small quantity of waste consignments exceeding specific activity limits assigned to bulk waste. Such consignments will require special treatment and/or packaging to ensure long-term stability and isolation of the wastes. The specific activities for such consignments shall not exceed the following values:

The following specific activity limits shall apply:

Bulk Waste	Packaged Waste
· <100 Bq/g for α emitting radionuclides *· 1 kBq/g for long-lived βY emitting radionuclides (half life > 30 years)* *· 10 kBq/g for short-lived βY emitting radionuclides, except Tritium*	*· 4 kBq/g for all α emitting radionuclides.* *· 50 kBq/g for all long-lived βY emitting radionuclides.* *· 100 MBq/g for Cs-137 and Sr-90.*

Additional concentration and activity limits are specified for certain radionuclides, as required to ensure long-term safety.

To assure worker safety, there are additional constraints for:

- External dose rates
- Surface contamination levels
- Control of industrial hazards

The NSDF Preliminary WAC is also available on our internal webpage. Elements of the NSDF Preliminary WAC have been redacted as they are sensitive from a Commercial or Security perspective.

NSDF Project

Appendix CC – Requested Documents

Master List Request for Documents – Review of Draft EIS for Near Surface Disposal Facility

Documents Requested and Released

1. Environmental Risk Assessment – ENVP-509220-REPT-001
2. Subsurface Geotechnical Survey of the Proposed NSDF 232-10180-ASD Rev. 1
3. Environmental Monitoring in 2015 at Chalk River Laboratories CRL-509243-ASR-2015 Rev. 0
4. Environmental Background Limits and Benchmarks for Monitoring Program Design and Risk Assessment and Risk Management Decisions ENVP-509220-REPT-002
5. Performance Assessment for Near Surface Disposal Facility to support EIS, 232-509240-ASD-001 Rev. 0
6. Performance Assessment for Near Surface Disposal Facility to support Environmental Impact Statement (EIS), 232-509240-ASD-001 Rev.0 – updated Table 4-2
7. Golder (Golder Associates Ltd.) 2017. Groundwater Flow Modelling of the NSDF
8. 2016a. Geologic Waste Management Facility Descriptive Site Model report Phase 1 361101-10260-REPT-005
9. AECL. 2013b. Safety analysis basis CRL site characteristics. CRL-03510-SAB-001 Rev. 3
10. Biodiversity Review for the Near Surface Disposal Facility Project, 232-509213-REPT-001, Revision 0, 2016 November
11. CNL. 2016a. Perch Creek Catchment Information. CW-511300-FM-001 Rev. 5
12. CNL 2016g Lifestyle Surveys Preliminary Local Food Fractions Findings ENVP-509200-021-000

13. CNL. 2016. Estimated Upper Limit of NSDF Leachate Characteristics Predicted from CRL Groundwater Monitoring Records
14. CNL.2016b. Conceptual Safety Philosophy for the Near Surface Disposal Facility. 232-508760-SAB-001. Rev. 0
15. CNL.2016d. NSDF Performance Assessment, Radioactive Waste Radionuclide and Hazardous Substances Inventory. 185-508600-TN-003
16. ISR. 2016. Features, Events, Processes. November 2016. NSDF-503230-REPT-004
17. AECOM (AECOM Canada Limited). 2016b. Canadian Nuclear Laboratories Near Surface Disposal Facility Design and Consulting Services: Seismic Criteria and Assessment (232-01040-ASD-001)
18. AECOM (AECOM Canada Limited). 2016c. Canadian Nuclear Laboratories Near Surface Disposal Facility Design and Consulting Services: Seismic Analysis. AECOM Project Number: 60512856
19. CNL (Canadian Nuclear Laboratories). 2016a. Report, General: 2015 Species at Risk Annual Report. CRL-509213-REPT-007. Revision 0. Canadian Nuclear Laboratories, Chalk River, ON. 100 p.C
20. CNL. 2016b. Contaminant Migration from Reactor Pit 2, CRL Legacy Waste Areas, 3613-121221-REPT-003 Revision 0, Canadian Nuclear Laboratories
21. CNL. 2015a. Radiological Contamination in the South Swamp, 1997 to 2011, CRL Waste Management Area's Environmental Remediation, 3611-121250-REPT-005 Revision 0, Canadian Nuclear Laboratories
22. CNL. 2015b. Radiological Contamination in the East Swamp, 2002 to 2012. 3611-121250-REPT-006. Revision 0. March 2015
23. CNL. 2014. Subsurface Radionuclide Migration from the Chemical Pit, CRL Legacy Waste Areas, 3613-121250-REPT-008 Revision 0, Canadian Nuclear Laboratories
24. AECL (Atomic Energy of Canada Limited). 2014a. Preliminary Decommissioning Plan. CPDP-508300-PDP-001. Revision 2. Atomic Energy of Canada Limited, Chalk River, ON. 88 pp
25. AECOM (AECOM Canada Ltd.). 2016b. Contingency Plan for Leachate, Wastewater, Groundwater, Surface Water and Landfill Gas, Canadian Nuclear Laboratories, Near Surface Disposal Facilities Design and Consulting Services. NSDF-508600-PLA-004

26. AECOM, Leachate and Wastewater Characterization (Quantity and Quality) Deliverable 1.25, Revision B, B1551-508600-REPT-001, 2016 November
27. AMEC (AMEC Foster Wheeler). 2017. Multidisciplinary Subsurface Investigation, Phase 2, For the Detailed Design of the Near Surface Disposal Facility Project at Chalk River Laboratories, Chalk River, Ontario, Ref. No. TZ16018 – Phase 2
28. Features, Events and Processes, 232-503230-REPT-004, Revision B, Near Surface Disposal Facility Design and Consulting Services, 2016 September
29. Raven Beck (Raven Beck Environmental Ltd). 1994. Bedrock geological mapping and studies of the Chalk River Laboratories property, Deep River, Ontario, Volume 1 of 2, Siting Task Force Geo-Sci 10, Tech. Bib. No. 338A
30. Sowden, T. and Power, G. 1981. The Icthyofauna of the Chalk River Property of Atomic Energy of Canada Limited. University of Waterloo, Waterloo, Ontario
31. AECOM. Seismic Analysis. Deliverable 2.4, Revision A. November 2016
32. Golder (Golder Associates Ltd). 2016. Subsurface Geotechnical Survey of the Proposed Near Surface Disposal Facility at Chalk River Laboratories, Chalk River, Ontario, 232-10180-ASD Revision 1. June 2016
33. Golder. 2005. Human Health and Safety Considerations Environmental Effects Assessment Report for the Port Hope Project. LLRWMO-03710-ENA-12009. April 2005
34. Golder. 2004. Independent Assessment of Long-Term Management Options for Low and Intermediate Level Wastes at OPG's Western Waste Management Facility. February 2004
35. AMEC. 2016. Multidisciplinary Subsurface Investigation For the Detailed Design of the Near Surface Disposal Facility Project at Chalk River Laboratories, Chalk River, Ontario, Ref. No. TZ16018
36. CNL (Canadian Nuclear Laboratories). 2016. Environmental Assessment (and/or Environmental Effects Review). Project Description: Near Surface Disposal Facility at Chalk River Laboratories. 232-509200-ENA-001. Revision 0. March 2016.
37. CW-508600-PLA-002 Rev. 0, CNL Integrated Waste Strategy
38. CW-508600-041-000 Rev. 1, CNL Waste Flows replaced with CW-508600-PLA-006 Rev. 0
39. Waste Acceptance Criteria – 232-508600-WAC-002 Revision 2

Documents Requested; Not Released

1. Acceptability Criteria for Routine and Non-Routine Discharge of Liquids on the CRL Site,CRL-509200-PRO-638, Revision 2, 2016 June
2. AECOM. Landfill Gas Management Plan, Deliverable 4.3, Revision B, 232-508600-PLA-003, 2016 November
3. CG&S. 1998. An Environmental Study for Waste Management Area "A" at AECL Chalk River Laboratories. Prepared for Atomic Energy of Canada Limited. 85 pp
4. CNL. 2016. Perch Creek catchment annual flow rates downstream of Perch Lake Outlet (PL0CW-511300-PRO-647)
5. Hazard Identification Report on Waste Management Areas, WMA-508770-HZRP-002, Revision 0, 2013 April
6. Killey, D., Strontium-90 Transport Estimate for the Perch Basin Proposed NSDF Footprint, 232-121221-021-000, 2016 March 3
7. Leachate Generation Assessment for Conceptual (15%) Design, Near Surface Disposal Facility, Chalk River Laboratories, 671699-TMEM-003, Revision 0, 2016 May
8. NSDF Consequence of Failure, International Safety Research (ISR), 232-503230-AR-001, 2016
9. Waste Acceptance Criteria Guidelines for Processing, Storage and Disposal of Waste at CRL, Document #146-508630-GL-001, Rev. 3
10. What-If Hazard Analysis Waste Management Areas Consolidated List of Hazards and Generic Initiating Events, WMA-508770-HA-001, Revision 1, 2015 July
11. Yankovich, T.L., Zach, R., King, K.J., Killey, R.W.D., Collins, R., and Dolinar, G.M. 2000. Ecological Risk Assessment for Perch Lake at AECL's Chalk River Laboratories - Present Conditions. Atomic Energy of Canada Limited. Waste Technology Business Unit. Whiteshell Laboratories. Pinawa, Manitoba. Technical Record TR-796
12. Operating Instruction Design for Earthquakes Seismic Qualifications at CRL, AECL 120508120-OI-029, Rev. 1
13. Long-term Seismic Hazard Assessment, 361101-10170-REPT-012, Revision 0, 2015 March
14. NSDF Waste Forecast Analysis, 185-508600-REPT-014, 2016 September
15. Expected Waste Volumes for Near Surface Disposal Facility (NSDF), 232-508120-022000, Revision 0, April 2016
16. Waste Management Areas Source Term, WMA-508770-REPT-003, Revision 0, 2014 March

17. Strategic Waste Acceptance Criteria for the Near Surface Disposal Facility at Chalk River Laboratories, 140-508600-WAC-005, Revision 0, 2016 June
18. Interim NSDF Waste Acceptance Criteria for the Near Surface Disposal Facility at Chalk River Laboratories, 232-508600-WAC-002, Revision 0, 2016 December
19. Waste Placement and Compaction Plans – B1550-508600-PLA-001, Revision B, 2016 December
20. Design Description, 232-503212-REPT-003, Revision A, 2016 November
21. Leachate/Wastewater Collection and Leak Detection Systems Evaluation and Optimization Report Rev. B
22. The reference for the GWMF used for cost comparison in EIS that was not included in the Reference List
23. AECL. 2014. Basis of Cost Estimate: Chalk River Laboratories Decommissioning Liability, 146-508810-REPT-036, 2014 March.
24. AECOM. 2017. Waste Characterization (TSW 232-503212-TSW-001, Revision 5, Table 9
25. Deliverable 1.1, Revision 0, 232-508600-REPT-002, 60% Design
26. CNL 10-year Decommissioning and Waste Management Plan
27. CNL. 2017. NSDF Safety Analysis Report
28. CNL. 2017. NSDF-Acceptable Waste Packaging, Revision 1, 232-508600-430-000