

AGENDA

Mississippi-Rideau Source Protection Committee

Date: November 2, 2017

Time: 1 pm

Location: Rideau Valley Conservation Authority – Monterey Boardroom

3889 Rideau Valley Drive, Manotick

	Welcome and Introductions		
1.0	 a. Agenda Review b. Notice of Proxies c. Adoption of the Agenda (D) d. Declarations of Interest e. Approval of Minutes – February 2, 2017 (D) attached as a separate document f. Correspondence – none 	Pg.	Chair
	Staff Reports, Updates and Presentations		
2.0	Implementation Progress Report – Staff Report attached (I) Status of policy implementation and municipal implementation funding since the Mississippi-Rideau Source Protection Plan came into effect.	1	Bonnie Boyd
3.0	Presentations from Implementing Bodies (I) Risk Management Officials: Agricultural policy work Chemical and fuel policy work City of Ottawa Provincial ministries		Terry Davidson Brian Stratton Tessa Di Iorio Mary Wooding
4.0	Source Protection Program Update – Staff Report attached (I) A summary of some recent developments in the overall source protection program	7	Bonnie Boyd
5.0	Presentation – upcoming Annual Reporting and Workplan (I) – Preparation for upcoming annual reporting in May 2018 and the update workplan for November 2018		Bonnie Boyd
6.0	Risk Management – Staff Report Attached (I) Chemical (DNAPL) Threats Assessment Project update – Presentation and staff report on the recent chemical threats assessment project and next steps	10	Brian Stratton
7.0	Risk Management Agreements – Update on municipal agreements for Part IV Enforcement in several municipalities in the Region and for support of implementation in the City of Ottawa (I)	13	Bonnie Boyd
8.0	Proposed near surface nuclear waste disposal at Chalk River – Staff Report attached (I)	15	Bonnie Boyd
	Other		
9.0	Other Business		Chair
10.0	Member Inquiries		Chair
11.0	Next Meeting – Spring 2018		Chair
12.0	Adjournment		Chair

(I) = Information (D) = Decision

Delegations: If you wish to speak to an item on the Agenda please contact Bonnie Boyd before the meeting (bonnie.boyd@mrsourcewater.ca or 613-692-3571 / 1-800-267-3504 x 1148)

2.0 Source Protection Plan Implementation Progress Report

Date: November 2, 2017

To: Mississippi-Rideau Source Protection Committee

From: Bonnie Boyd, Project Manager

Mississippi-Rideau Source Protection Region

Recommendation:

That the Mississippi-Rideau Source Protection Committee receive for information this report about implementation of the Mississippi-Rideau Source Protection Plan which came into effect on January 1, 2015.

Background

The Mississippi-Rideau Source Protection Plan developed under Ontario's *Clean Water Act*, sets out the policies to keep contaminants out of rivers and underground aquifers that supply municipal drinking water systems in the region. The Plan was developed locally with input from municipalities, provincial ministries, interest groups, local residents and the broader public. The Plan received ministerial approval on August 27, 2014 and came into effect on January 1, 2015.

Implementing Bodies

The policies in the Source Protection Plan will be implemented by these "implementing bodies":

- Municipalities
- Risk Management Staff specially trained and appointed to enforce policies written under Part IV of the Clean Water Act
- Principal Authority approval agency for septic systems Health Unit, municipality or Conservation Authority depending on location
- Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
- Ontario Ministry of Environment and Climate Change (MOECC)
- Ontario Ministry of Natural Resources and Forestry (MNRF)
- Ontario Ministry of Transportation (MTO)
- Ontario Ministry of Government and Consumer Services (MGCS) / Technical Standards and Safety Authority (TSSA)
- Source Protection Authority (SPA) the Conservation Authority in its legislated role under the Clean Water Act

Compliance Dates / Target Completion Dates

Each legally binding policy has a compliance date by which it must be implemented and non-legally binding policies have a target completion date. The dates range from six months from the date the Plan came into effect (June 30, 2015) to five years from the date the Plan came into effect (December 31, 2019).

Monitoring Policies

Each policy also has a corresponding monitoring policy which requires the implementing body to report on implementation progress annually. The monitoring policies will provide valuable information to evaluate the effectiveness of source protection efforts and how to improve the Mississippi-Rideau Source Protection Plan in the future.

Funding

The Ontario government has been providing annual funding to Conservation Authorities to administer the source protection program locally since 2005. The current funding agreement for

source protection staff and the SPC extends until March 31, 2018. It is anticipated that there will be some level of ongoing provincial funding for the local source protection program to ensure that the legislated responsibilities of the SPC and the Conservation Authorities (as Source Protection Authorities) can be fulfilled.

Small municipalities in the Mississippi-Rideau region (i.e. all except the City of Ottawa) qualify for provincial Source Protection Municipal Implementation Funding (SPMIF) to fulfill their responsibilities related to implementation of certain source protection policies. The SPMIF is available to small municipalities until December 4, 2017. Progress reporting is completed by the municipalities to the MOECC periodically (most recently in August 2017), and a final report will be completed by municipalities by December 8, 2017.

Implementation Progress to Date

<u>Implementation progress to date is presented on the attached table.</u>

ote C ot sooned		IN PLACE / ONGOING Screening process with map tool is in place Screening of applications to ensure source protection policies are met will be ongoing	IN PROGRESS Initiated or complete in 11 of 15 municipalities	COMPLETE	COMPLETE	IN PLACE / ONGOING	IN PROGRESS / ONGOING	IN PROGRESS / ONGOING Municipalities promoted Smart About Salt training offered locally in 2015; will continue promotion efforts in future	IN PLACE / ONGOING Educational materials developed, printed,
Ogen Date		January 1, 2015	December 31, 2019	June 30, 2015	December 31, 2015	Initiate by December 31, 2015	December 31, 2015	December 31, 2015	Initiate by
John	0,000	Set up a process to ensure that new Planning and Building applications (and property inquiries) are screened for applicable Source Protection Plan requirements and to ensure <i>Planning Act</i> decisions conform to Source Protection Plan policies	Amend planning documents to conform with Source Protection Plan policies	Require a lot grade and drainage plan as part of Building Permit applications when a septic system is proposed as part of the development (areas with a score of 10 only)	Establish / modify by-law to require connection to municipal sewer services (areas with a score of 10 only)	Amend existing maintenance program to ensure that sewers are monitored as described in the policy (areas with a score of 10 only)	Develop and implement a Salt Management Plan (areas with a score of 10 only)	Promote the "Smart About Salt" program (regionally and coordinated by the Source Protection Authority)	Establish an education program. This is being led by Source Protection staff using provincial funding
ijes Policy Namo or Decription	roiley value of pescription	Administrative policies Policies where <i>Planning Act</i> decisions must conform	Official Plan and Zoning By-Law Conformity	Lot Grade and Drainage Plans	Mandatory Connection to Municipal Services	Sanitary Sewer Maintenance Program	Road Salt Management Plan (legally binding for Perth, Smiths Falls, Carleton Place, North Grenville only)	Smart Salt Practices (legally binding for Perth, Smiths Falls, Carleton Place, North Grenville only)	Living and Working in the Drinking Water Zone
★ Legally Binding Policies	(or short form)	ADMIN-1-LB ADMIN-2-LB ADMIN-4-LB ADMIN-5-LB SEW-9 SEW-9	ADMIN-3-LB	SEW-3-LB	SEW-4-LB	SEW-6-LB	SALT-3-LB	SALT-4-LB	EDU-1-LB

Prog ⊁Leg	Source Frotection Fran Implementation Progress Report to October 2017 ★Legally Binding Policies	stober 2017 es			
Implementing Body	Policy Code (or short form)	Policy Name or Description	Tasks	Compliance Date	Progress to Date
Staff			Existing activities – negotiate Risk Management Plans for existing drinking water threat activities	December 31, 2017	IN PROGRESS Outside of Ottawa – underway City of Ottawa – underway
lanagement	All policy codes with "S57" or "S58" (23 policies)	Policies that prohibit activities under Section 57 of the Clean Water Act and policies that require a Risk Management Plan under Section 58 of the Clean Water Act	Euture activities – have trained, appointed staff in place to review proposals, issue clearance notices or negotiate Risk Management Plans for new development proposals	January 1, 2015	IN PLACE / ONGOING Staff, procedures and administrative materials are in place Review of proposals and issuing of required notices will be ongoing
Risk M			Violations – have trained, appointed staff in place who will follow prescribed measures in the Clean Water Act to address any violations	January 1, 2015	IN PLACE / ONGOING Staff and procedures are in place in the event of a violation No violations to date
ipal orities	SEW-1-LB	On-Site Sewage (Septic) System Maintenance Inspection Program	Conduct inspections of existing septic systems located where they are a significant drinking water threat (there are only two systems in the region)	December 2016 (Mississippi watershed) August 2016 (Rideau watershed)	COMPLETE Systems passed inspection; inspections required again five years from initial inspection
onir q odłuA	SEW-2-LB	Redevelopment / Renovation Proposals	Establish a procedure to ensure review of redevelopment or renovation proposals using existing septic systems uses well-documented technical information to ensure the system is adequate to protect local groundwater	June 30, 2015	IN PLACE / ONGOING Procedures are in place Review of proposals will be ongoing
АЯЗАМО	All policy codes with "PI-MC" that are directed at OMAFRA (4 policies)	Policies that require OMAFRA to manage activities under the <i>Nutrient Management Act</i>	Continue to manage activities through existing requirements (status quo policies recognizing that existing requirements already manage activities so that they are not a significant drinking water threat)	January 1, 2015	IN PLACE / ONGOING Requirements are in place Managing activities through existing requirements will be ongoing
OECC	All policy codes with "PI-MC" that are directed at MOECC	Policies that require MOECC to prohibit or manage activities by not issuing required approvals or attaching appropriate terms and conditions on approvals issued under the	Establish a process to ensure source protection policies are applied to new applications received	January 1, 2015	IN PLACE / ONGOING Standard Operation Policies for new applications are in place Applying policies to new applications ongoing
M	(12 policies)	Environmental Protection Act, Water Resources Act or Safe Drinking Water Act	Review existing approvals to ensure terms and conditions manage activities so that they are not a significant threat to drinking water sources	December 31, 2017	IN PROGRESS Assessment of existing fuel, waste and sewage approvals is underway

Source Protection Plan Implementation Progress Report to October 2017 * Non-Legally Binding Policies

	Progress to Date	IN PROGRESS Complete at the county level	IN PROGRESS / ONGOING Municipalities promoted Smart About Salt training offered locally in 2015; will continue in future	IN PROGRESS Signs have been installed in all except two municipalities	IN PROGRESS List of target businesses has been compiled, existing avenues for delivery have been identified	IN PROGRESS Guidance has been prepared by Conservation Ontario and shared with municipalities	IN PROGRESS In place at one municipality MOECC planning to post a discussion paper	IN PLACE / ONGOING Process is in place Managing activities through existing process will be ongoing	IN PLACE / ONGOING Process is in place Managing activities through existing process will be ongoing	IN PROGRESS Non-legally binding policy review project has been launched	COMPLETE Source protection zones and information have been integrated into provincial spill response	IN PROGRESS Review of Reg. 903 found opportunities to
	Target Completion Date	December 31, 2015	December 31, 2015	December 31, 2016	Initiate by December 31, 2015	December 31, 2015	Initiate by December 31, 2015	December 31, 2015	January 1, 2015	Initiate by December 31, 2015	Initiate by December 31, 2015	Initiate by
	Tasks	Develop and implement a Salt Management Plan	Promote the "Smart About Salt" program	Install signs along municipal roads and waterways to mark drinking water protection zones	Establish an education program targeted at businesses that transport potential contaminants	Update Emergency Response Plans to include information about the location of drinking water protection zones and corresponding contingency measures	Establish new requirements for new earth energy systems when they are proposed in Wellhead Protection Areas	Consider the potential impact on drinking water sources during review of applications related to new waste disposal sites located in the Highly Vulnerable Aquifers	Ensure new approvals and amendments to existing approvals include appropriate terms and conditions to protect drinking water sources	Integrate source water protection information into pesticide inspection and education programs	Update spill response procedures for spills that occur in drinking water protection zones	Undertake an analysis of the compliance program associated with the Wells Regulation (903) in order to
	Policy Name or Description	Road Salt Management Plan	Smart Salt Practices	Signs	Transporting Contaminants Through the Drinking Water Zone	Emergency Response Plan Updates	Oversight of Earth (Geothermal) Energy Systems (municipalities with Wellhead Protection Areas only)	Future Waste Disposal Sites in the Highly Vulnerable Aquifers	Use of Land or Water for Aquaculture – <i>Ontario</i> <i>Water Resources Act</i> Approvals	Pesticide Inspections and Education Programs	Spill Response Procedure Updates	Well Regulations
Toll Edgany Billaning I analog	Policy Code (or short form)	SALT-5-NLB	SALT-6-NLB	EDU-3-NLB EDU-4-NLB	EDU-5-NLB	CORR-1-NLB	PATH-1-NLB	WASTE-5 WASTE-6	AQUA-1	PEST-1-NLB PEST-2-NLB	CORR-2-NLB	PATH-2-NLB
5	Implementing Body			səijili	sdioinu	ıΜ			0	WOEC		

Source Protection Plan Implementation Progress Report to October 2017

★Non-Legally Binding Policies

Implementing Body	Policy Code (or short form)	Policy Name or Description	Tasks	Target Completion Date	Progress to Date
ЯЕ	AQUA-2-NLB	Use of Land or Water for Aquaculture – Fish and Wildlife Conservation Act Approvals	Consider the proximity to and potential impact on drinking water sources during review of applications related to new aquaculture facilities	December 31, 2015	IN PROGRESS A strategy to address source protection policies is under consideration
NM	PATH-3-NLB	Approvals for Pits and Quarries	Implement measures to ensure that new pits and quarries located in Wellhead Protection Areas do not endanger drinking water sources	Initiate by December 31, 2015	IN PROGRESS Process to amend the <i>Aggregate Resources Act</i> is underway
OTM	EDU-2-NLB	Signs Along Provincial Highways	Design and install signs along Provincial Highways within drinking water protection zones	December 31, 2016	COMPLETE Signs have been installed
ASST \ S	FUEL-3-NLB	Fuel (Heating) Oil Recommendations to TSSA	Consider source protection during the next scheduled code review, continue to include information regarding new code requirements and leak resistant technology in communications products and request fuel suppliers promote regular maintenance requirements to their customers	December 31, 2015	IN PROGRESS Source protection staff across the province are being consulted on code reviews as they arise Awaiting response from TSSA regarding specific recommendations
Mec	FUEL-4-NLB	Liquid Fuel at Existing Licensed Facilities	Continue to manage activities through existing requirements (status quo policies recognizing that existing requirements already manage activities so that they are not a significant threat to drinking water sources)	January 1, 2015	IN PLACE / ONGOING Requirements are in place Managing activities through existing requirements will be ongoing
EC	WASTE-6-NLB	Future Waste Disposal Sites in the Highly Vulnerable Aquifers	Consider the potential impact on drinking water sources during review of applications related to new waste disposal sites located in the Highly Vulnerable Aquifers	December 31, 2015	IN PROGRESS MOECC have designated staff to work with Federal agencies
AGS	EDU-6-NLB	Protecting Regional Groundwater Education Program	Develop educational materials about the highly vulnerable nature of the region's aquifers and actions that would help protect them	December 31, 2015	IN PROGRESS

Risk Management Staff – specially trained and appointed to enforce policies written under Part IV of the Clean Water Act
Principal Authority – approval agency for septic systems – the Health Unit, municipality or Conservation Authority depending on location
OMAFRA – Ministry of Agriculture, Food and Rural Affairs
MOECC – Ministry of Environment and Climate Change
MMTP – Ministry of Natural Resources and Foresty
MTO – Ministry of Transportation
MGCS / TSSA - Ministry of Consumer Services / Technical Standards and Safety Authority
SPA – Source Protection Authority (Conservation Authority)

4.0 Source Protection Program Update

Date: November 2, 2017

To: Mississippi-Rideau Source Protection Committee

From: Bonnie Boyd, Project Manager

Mississippi-Rideau Source Protection Region

Recommendation:

That the Mississippi-Rideau Source Protection Committee receive for information this update on the Source Protection Program.

Background

The source protection program, under the Ontario *Clean Water Act*, accomplished many things between 2007 and 2014 in the Mississippi-Rideau region. Major milestones include the formation of the Source Protection Committee, preparation of the Terms of Reference, completion of the technical Assessment Reports (to fully understand the regions' municipal drinking water sources as well as regional scale water budget and characterization studies) and the development of the Source Protection Plan (the policies to protect the drinking water sources).

On January 1, 2015, the Mississippi-Rideau Source Protection Plan came into effect. Now the Plan is being implemented, monitored and periodically updated. The program continues to evolve in response to emerging issues, stakeholder input and local needs as well as to adapt to the current stage in the process.

Upcoming Milestones

Each year, implementing bodies (e.g., municipalities, provincial ministries, those responsible for Part IV) report to the Source Protection Authority on their progress and any challenges they face implementing the policies in the Source Protection Plan. Over the next year, these progress reports will be put together into a report to the Ministry of the Environment and Climate Change and used to assist in developing a work plan for updates.

- February 1, 2018: Implementing bodies and the Risk Management Officials report to the Source Protection Authority
- May 1, 2018: The Source Protection Authority reports to the Ministry of the Environment and Climate Change, and posts a public facing report summarizing progress and highlighting any challenges
 - MOECC provided forms and framework are to be used, including detailed reportables, performance measures and a public facing document
 - o The first report covers the first three years of Source Protection Plan implementation
 - o SPC will have a key role in preparing the annual report and workplan
 - SPC directs staff to begin consulting with stakeholders and preparing information for the update workplan
- May 1, 2018 November 30, 2018: Review of policy progress, the Source Protection Plan, the Assessment Reports, and consultation with implementing bodies, municipalities and the Source Protection Committee

 November 30, 2018: The Source Protection Authority submits a workplan to the MOECC for changes or updates to the Source Protection Plan and Assessment Reports resulting from the review



Program Vision and Regulatory Changes

The MOECC is committed to an effective, sustainable source water protection program to ensure quality and long-term sustainability of sources of drinking water across Ontario. They are looking to ensure that the framework remains consistent and relevant.

There are currently several regulatory changes under consideration. These include changes to the technical framework (clarify rules, simplify processes, address road salt methodology challenges), working to ensure new or amended municipal residential systems are included and protected by the *Clean Water Act* expediently, and reducing the administrative burden of some Source Protection Plan amendment requirements. There will be a posting to the Environmental Registry discussing the proposed changes.

The Ministry is working on several regulatory and technical changes, at varying stages of review. These include proposed alternative approach to assessing road salt threats, a modernization of the brownfields initiative, and proposed amendments to the Records of Site Condition regulation.

Technical Changes

The review of the technical framework which guided the work contained in the Assessment Reports is ongoing. The MOECC is tackling this review by dividing the changes into two types:

- Phase 1 (short term) quick fixes that do not require consultation or a change to the regulations were completed as of March 2017
- Phase 2 (long term) more significant changes that will require research and/or consultation with stakeholders

The Technical changes range from simply adding wording for clarification to allowing alternative approaches, to adding or removing Technical Rules and adding new sub-threats. The changes will be made in consultation with a provincial working group made up of representatives from Source Protection Authorities, Risk Management Officials, Municipalities and subject matter experts from

the MOECC. There is also opportunity for public input through postings / public comment periods on Ontario's Environmental Registry. The changes are meant to address regulatory gaps, alignment with existing regulations, and to address gaps and challenges in implementation.

The technical changes are meant to be "enabling" meaning they allow for, but do not require, modifications to existing technical work. Phase 1 final proposed changes were posted on the Environmental Registry in early 2017. Phase 2 consultation is ongoing through 6 established working groups made up of ministry subject experts, Source Protection staff, and Municipal staff. The working groups discuss and provide comments on draft proposals developed by the MOECC.

Several threats are under review, including:

- Pesticides
- Dense non-aqueous phase liquids and organic solvents
- Sewage works
- Stormwater management facilities
- Waste disposal sites
- Biosolids, hauled sewage and non-agricultural source material

Mississippi-Rideau Source Protection Committee

In February 2017, Ken Graham was announced as the chair through the end of 2019. This will take the committee past milestones including the first annual progress report to the MOECC and the fall 2018 workplan for the review of the SPP and the AR.

In May 2017, the Source Protection Authorities approved the membership plan for the expiry of the committee members and to reduce the overall size of the committee from 15 members across three sectors, to 12 members. This maintains an even balance in the sectors, and accounts for current vacancies on the committee. The expiries will begin in 2018, and current members are eligible to apply to be renewed for a term up to 5 years. This plan was endorsed by the Source Protection Committee in February 2017.

6.0 Risk Management Update - Chemical (DNAPL) Threats

Assessment Project Report

Date: November 2, 2017

To: Mississippi-Rideau Source Protection Committee

From: Brian Stratton, Co-Project Manager

Mississippi-Rideau Source Protection Region

Recommendation:

That the Mississippi-Rideau Source Protection Committee receive for information the Project Report for the Chemical (DNAPL) Threats Assessment project.

Background

In September 2016, additional threats verification work was initiated to develop a better understanding of how and where certain chemicals (Dense Non-Aqueous Phase Liquids or DNAPLs and Organic Solvents) are being used near the municipal wells for Mississippi Mills, Kemptville, Merrickville and Westport. The work reflects the potential high environmental and economic cost of a DNAPL spill in a Wellhead Protection Area (WHPA), where they are considered a significant threat within the WHPA-A, B and C (also known at the DNAPL zone). DNAPLs are persistent in the environment and have been known to cause long term contamination of groundwater.

Original DNAPL threats identification in the Mississippi-Rideau Region focused on traditional industries associated with DNAPL use such as dry cleaning. In July 2016, the Source Water Protection Branch of the Ministry of the Environment and Climate Change (MOECC) issued the document, 'Understanding Dense Non-Aqueous Phase Liquids (DNAPLs)' to provide further guidance to staff implementing significant threat policies under Part IV of the *Clean Water Act*.

This guidance addresses the complexities of assessing threats and provides a listing of industrial processes and products that are associated with these chemicals. It also clarifies that Risk Management Inspectors may make judgement calls about the need for Risk Management Plans, including:

- "That risk management officials should use their judgement and local knowledge to determine whether or not an activity meets all the circumstances that make it a significant drinking water threat"; and,
- "there has to be potential for a spill to contaminate groundwater or surface water. This
 portion of the circumstance gives the risk management official the authority to use their
 judgement in deciding if there is an activity taking place that needs to be managed
 through the risk management plan."

Using available Source Protection Municipal Implementation Funding, the MOECC guidance enabled a more thorough examination of possible DNAPL threats in the wellhead protection areas of Westport, Merrickville, North Grenville and Mississippi Mills. The project was initiated in September 2016, and included the steps outlined in this report.

DNAPL Threat Assessment Project

Phase 1 – September to December 2016

- A desktop and windshield survey was conducted in the four WHPAs to determine the land use for each parcel of land
- Dillon Consulting reviewed the land use and categorized the properties into a high, medium or low risk of handling or storing DNAPLs or Organic Solvents
- Most properties were classified as low risk, with some medium and very few high
- After completing this inventory, it seemed there was a potential for there to be DNAPL chemicals stored and handled within the WHPAs

Phase 2 – May to August 2017

- Outreach to municipal staff and council presentations in several affected Municipalities in June 2017
- DNAPL educational materials were developed to be used during site visits
- Site visits (65) were conducted to determine what products were being used at the medium and high ranked businesses, and to create a product list inventory
- Site visits were used as an opportunity to build relationships with business owners and provide initial educational information
- Some products, mainly aerosol cans in the automotive industry were identified
 - These products were found to be in small quantities at approximately 22 sites
 - Sites included retail stores, and automotive repair shops and stores selling automotive products
 - There is a high concentration of sites in North Grenville (16 of the 22)
 - The currently policy states any quantity is viewed to be a threat to the drinking water

Next steps

The DNAPL threat assessment project has contributed to an increased understanding of the nature of chemical handling and storage in the Mississippi-Rideau Source Protection Region, specifically in the WHPAs in Westport, Mississippi Mills, North Grenville and Merrickville-Wolford. It has enabled risk management staff to understand the quantities and types of products commonly being used in the WHPAs, and allowed them to begin to build relationships with these business owners and increase awareness of the vulnerable areas among businesses. Staff have visited identified businesses and provided initial information about the municipal drinking water systems, about DNAPLs and about spill response procedures.

Staff will continue with this awareness work by delivering a letter to businesses in the automotive industry that currently are using or have the potential to use products that behave as DNAPLs. The letter will:

- a. Inform businesses that they may be using or have the potential to use these products in small quantities;
- b. Provide a list of some alternative products that they could use instead; and,
- c. Provide suggestions for best management practices and spill response planning.

Risk management staff feel that beginning with an educational approach is a good option for working with these businesses, in particular emphasizing the substitution of these products for alternatives and spills response planning. This will allow the quick distribution of information to

the affected businesses by the end of the year, and open opportunities to continue to work with these businesses on appropriate risk management measures, where necessary.

Under the Source Protection Plan, Risk Management Plans for existing activities are to be in place within three years of the plan coming into effect. By delivering initial information by the end of this year, risk management staff will have initiated the process with businesses using these chemicals within the four WHPA.

It is important to note that the MOECC guidance indicates that DNAPLs stored in bulk (drums or tanks) have a higher chance of contaminating groundwater or surface water than those stored in small portable containers, and that no bulk storage of DNAPLS was identified during this project.

Risk management staff hope to discuss the potential handling and storage of these chemicals in the remaining WHPAs in the Mississippi-Rideau Source Protection Region with municipal staff for municipalities with wellhead protection areas that were not included in this project.

As part of upcoming work, and in light of potential changes to the Provincial Tables of Circumstance that may affect the DNAPL and organic solvent threat categories, it may be appropriate to carry out an evaluation of the policy approach in the Mississippi-Rideau Source Protection Plan.

Attachments: Proposed letter to businesses

Education and outreach materials

Date

** DRAFT for review **

Contact Name Business name Address Town, ON A0A 0A0

This letter is being provided to you to ensure you are aware that your property is located within a Wellhead Protection Area for the [Municipality] municipal drinking water system.

Based on our information, collected during a site visit with you in July or early August of 2017, your business may use or store products, that may contain certain chemicals of concern that could impact the drinking water source. These chemicals (dense non-aqueous phase liquids or DNAPLs), if released to the environment, will sink below the water table making them extremely difficult and costly to detect and remove (see attached InfoSheet for more information). A list of products that are of concern is included in the attached table. Please note that this list is not exhaustive.

We ask that you review and consider implementing the attached risk management measures, if you are not already doing so, to reduce the risk to the Municipal drinking water system. Please note that we may be in contact with you in the future to discuss further risk management measures for your business.

If the type or amount of chemicals that your business uses changes, please contact us to discuss potential applicable risk management measures.

Thank you for helping to protect our local sources of drinking water.

For more information, please visit <u>www.mrsourcewater.ca</u> or contact me if you have any questions.

Thank you,

Brian Stratton, Risk Management Official Mississippi-Rideau Source Protection 3889 Rideau Valley Drive, Manotick ON 613-692-3571 ext. 1148 brian.stratton@mrsourcewater.ca

Attachments: 1. InfoSheet: Dense Non-Aqueous Phase Liquids

2. Table of products and alternatives

3. InfoSheet: Best Management Practice Suggestions



What Is Source Water Protection?

Source water is the water that is used for drinking that is taken from wells, lakes or rivers. Source Water Protection protects drinking water sources from contamination and overuse. It is the first step in a multi-barrier approach to protecting drinking water from source to tap in Ontario.

The Ontario *Clean Water Act*, 2006 requires locally developed and watershed-based source protection plans that outline possible threats and policies to protect municipal drinking water sources.

For more information on the Mississippi-Rideau Source Protection Plan visit: www.mrsourcewater.ca

Living And Working In The Drinking Water Protection Zone

Drinking water supplies must be protected from possible contaminants. The areas that are sensitive to possible contamination are the Drinking Water Protection Zones.

Drinking Water Protection Zones are separated into municipal wells (Wellhead Protection Areas) and surface water intakes (Intake Protection

Zones). Contaminants spilled within these zones can reach a municipal well or water intake, causing a threat to the drinking water supply. If you live or work within a zone, you need to help to protect the drinking water source. You have an important role to help keep contaminants out of drinking water sources.



Wellhead Protection Area (WHPA



Intake Protection Zone (IPZ)

Contact Us

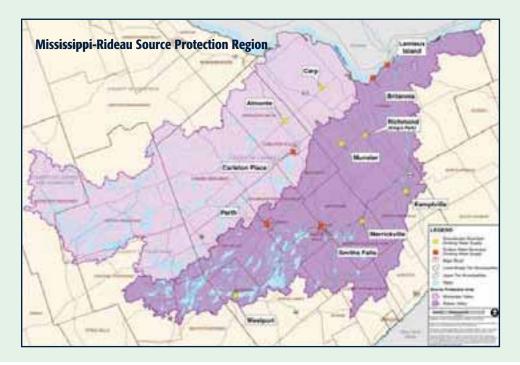
Mississippi-Rideau Source Protection Region

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SOURCE WATER



The Mississippi-Rideau Source Protection Plan outlines how to protect drinking water sources from threats. There are seven Wellhead Protection Areas and five Intake Protection Zones.

Chemical Threats

Dense Non-Aqueous Phase Liquids (DNAPLS)

What are dense non-aqueous phase liquids?

Dense non-aqueous phase liquids (pronounced dee-napples) are chemical compounds that are more dense than water, meaning that they are heavier than water and will sink. They are also slightly soluble, meaning that they do not break down in water. If DNAPL chemicals are released to the environment, they will sink below the water table, which makes them hard to detect and remove. These chemicals can be found in liquid products that may be stored at your home or business.

For Source Water Protection in Ontario, the following are Chemicals of Concern for DNAPLs:

- 1,4-Dioxane
- Tetrachloroethylene (PCE) or Perchloroethylene (PERC)
- Trichloroethylene (TCE) or another DNAPL that could degrade to Trichloroethylene
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Vinyl chloride or another DNAPL that could degrade to vinyl chloride

What are Organic Solvents?

Organic solvents are carbon based substances that can dissolve or disperse other substances from a solution.

For Source Water Protection in Ontario, the following are Chemicals of Concern for Organic Solvents:

- Carbon Tetrachloride
- Chloroform
- Methylene Chloride (Dichloromethane)
- Pentachlorophenol

Where are DNAPLS and Organic Solvents Found?

These chemicals are most commonly used in commercial and industrial operations. They can be found in: dry cleaning chemicals, paints, paint strippers, degreasing and cleaning agents, lubricants, adhesives and may be used in the production of dyes, plastics, textiles, printing inks and pharmaceuticals.

Why Are They a Threat to the Drinking Water Supply?

Small amounts can be harmful to human health and the environment. Prevention is the best way to protect drinking water sources, so that source water does not become contaminated. If spilled, DNAPLs are extremely difficult and very costly to clean up. They form pools that do not mix with water and defy conventional clean-up methods. These pools can last for decades or centuries, meaning that it is possible that the drinking water source could no longer be used.

How Can You Protect Your Drinking Water Supply?

It is important to store and handle chemicals safely to lower the risk that contamination could occur. The *Mississippi-Rideau Source Protection Plan* requires that these chemicals be stored and handled in a way that ensures that they do not pose a risk to drinking water sources. If you have these chemicals on site, you may need to develop a risk management plan.

To protect your drinking water supply:

- Develop a spill response plan
- Ensure staff are properly trained on the storage and handling of these chemicals

SOURCE WATER

- · Dispose of hazardous wastes properly
- Keep containers sealed and in a secondary spill containment
- Report any spill to the Spills Action Center immediately at 1-800-268-6060
- Replace DNAPLs and organic solvents with other (more eco-friendly!) products when possible

Risk Management Plans

What Is A Risk Management Plan?

A Risk Management Plan is a document that outlines what measures are in place to reduce or eliminate the risk that a certain activity will contaminate municipal drinking water.

- The plan focuses on prevention it allows activities that are important to residents and business owners to carry on within vulnerable drinking water areas while at the same time ensuring the municipal drinking water source is protected.
- The plan is site-specific it is customized to suit the nature of the property, activity or business and can address multiple activities if necessary.
- The plan includes and accounts for measures that are already in place

 some people will only need to document what they are already
 doing to protect drinking water.

Risk Management Plans are one of the requirements of the *Mississippi-Rideau Source Protection Plan* and are made mandatory under Section 58 of the *Clean Water Act,* 2006 for certain activities taking place on properties that are close to a municipal well or close to a river up stream of a water treatment plant.

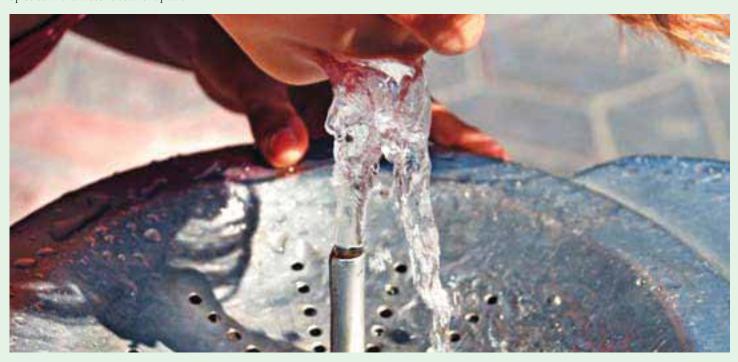
How is a Risk Management Plan Created?

The Risk Management Inspector or Official (similar to a Building Inspector or Official) works with the person engaging in the activity to decide what should be in the Risk Management Plan.

- The process provides opportunity for discussion, flexibility and agreement.
- The person engaging in the activity receives recognition of previous efforts and good stewardship actions.
- The Risk Management Official receives formal assurance that effective measures to protect the drinking water source are and will continue to be in place.

Do I Need A Risk Management Plan?

You may need a Risk Management Plan if you are located in a wellhead Protection Area or Intake Protection Zone and are storing chemicals for commercial use such as pesticides, degreasers, dry cleaning fluids, industrial cleaners or solvents.



Automotive Products that contain DNAPLs and Alternative Options

Company	DNAPL Product	Alternative Product
	Non-flammable brake and parts cleaner	Würth Brake Cleaner
Kleen-Flo	Brake Kleen (Deodorized) - Non-flammable, stock #303	Würth Brake & Parts Kleen (Non- Chlorinated)
Kleen-Flo	Brake Cleaner (Deodorized) no vocs, stock #313R	
Kleen-Flo	Brake & electrical contact kleen	N/A
Kleen-Flo	White Grease (aerosol)	Kleen-Flo White Grease -tube not aerosol or MototMaster White Grease aerosol
Kleen-Flo	PWD non-flammable with PTFE	Kleen-Flo PWD
Kleen-Flo	Roadside Assistance Emergency Tire Seal	N/A
Kleen-Flo	Drive Belt Clean	N/A
CRC	Brakleen Brake Parts Cleaner, 539 grams	CRC Brakleen Non-Chlorinated Brake Parts Cleaner
Carquest	Brake Parts Cleaner	Non-Chlorinated Brake Parts Cleaner
JIG-A-LOO INC	Invisible All Around Lubricant	Wynn's Viscotene Multi-Functional Lubricant, Unival multi-purpose lubricant, Liquid Wrench lubricant
JIG-A-LOO INC	Garage Door Lubricant	N/A
JIG-A-LOO INC	White lithium	Liquid Wrench White Lithium Grease, Lubrimatic White Lithium Grease, MotoMaster White Grease
Gunk	Brake Parts Cleaner - Chlorinated	Brake Parts Cleaner - Non-Chlorinated
JOHNSEN'S	Non-Flammable Brake Parts Cleaner	Johnsen's Non-Chlorinated Brake Parts Cleaner
Certified	Brake Cleaner	Certified Non-chlorinated brake cleaner
Liquid Wrench	Super Lubricant (nonflammable with Cerflon)	Liquid Wrench Super lubricant/lubricating oil, Liquid Wrench Lubricant

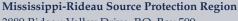


Best Management Practice Suggestions — Chemical Threats

- **Replace** hazardous products with other, less hazardous alternatives (avoid those that are solvent-based, have a specific gravity greater than 1.0, are insoluble in water, or contain chlorinated solvents)
 - For example, switch to non-chlorinated brake cleaners
- Keep an accurate and up-to-date inventory that lists all
 hazardous products stored on-site, their use, their locations in work
 areas and their storage locations
- **Keep an up-to-date MSDS** for each hazardous product
- Store hazardous products in clearly identified areas and follow these guidelines:
 - Away from precipitation or runoff
 - Minimize the risk of collisions with vehicles, equipment, or other hazards that could cause spills
 - Keep displays out of high traffic areas, and keep a limited quantity of hazardous products on retail shelves. Keep most of the product in a secure storage location and limit access to only authorized and trained personnel
 - **Store away** from floor drains, cracks, or any other potential pathways to groundwater where possible
 - Keep storage areas clean and dry
 - **Inspect storage areas regularly** for leaks and spills, on a schedule and keep a log of inspections
- Dispose of old, leaky or damaged containers and make sure products have legible labels
- Do preventative maintenance to ensure all storage areas and equipment are in proper working order
- **Use drip pans** underneath vehicles and equipment when doing maintenance or when using products that may drip or spill
- Sweep floors free of solid waste before washing shop floors and do not mop or spray clean floors with large amounts of water (use a minimal amount of water if mopping is needed and do not push or squeegee dirty water out of shop doors)
- Have an up to date Spill Response Plan and post a site plan:
 - Contact the Spills Action Centre to report a spill at 1-800-268-6060

- Include **specific procedures** to be followed in the event of a spill
- Maintain a spill kit with appropriate materials at all times to respond to spills of any reasonable size
- Post the site plan in a prominent, accessible location and include: the location of hazardous product storage and handling areas, spill kits (contents and location) and containment trays, drains, and site-specific details related to drainage, wells, septic systems, ditches and depressions. Include contact information for the Spills Action Centre (1-800-268-6060)
- Procedures and forms for recording and reporting details about a spill event
- Include details of the frequency of spill response training to be completed by staff (train staff to understand the plan, the kit and its contents)
- If safe to do so, respond immediately to clean up spills using appropriate materials.
- Dispose of any contaminated spill clean-up materials
 appropriately based on the product that was spilled. Consult an
 approved waste hauler if needed. Launder shop rags by a suitable
 commercial laundry facility or dispose of them appropriately.
- Train employees:
 - On new procedures, equipment and products
 - Give basic information about the vulnerable area, Source Water Protection and the local drinking water source and their role in helping to protect it
- Inspect hazardous product storage areas periodically, on a schedule, and keep records (such as a checklist log) of these inspections including:
 - Date and person responsible for the inspection
 - Condition of all items inspected
 - Quantities in storage
 - Condition of leak detection and spills prevention systems, if applicable (valves, overfill protection secondary containment, etc.)

Contact Us



3889 Rideau Valley Drive, P.O. Box 599 Manotick, ON K4M 1A5 **T** 613-692-3571 | **F** 613-692-0831







Spills Response Guide

Introduction

This table is meant to provide guidance on spill response including what is considered a major or minor spill, a sample spill response plan including contents and suggested spill response actions as well as suggested spill kit contents. It is not meant to ensure your business meets any regulations, and expert advice may be recommended.

Minor and Major Spills

A spill is considered **minor** when it:

- does not (or is not likely to) enter a watercourse or storm sewer directly or through drains/cracks
- is cleaned up immediately

A spill is considered **major** when it:

- is released to the natural environment
- enters a drain / municipal sewer system
- · spill leaves footprint of building or extends off-property

Sample Spill Response Plan

Instructions: the facility's Spill Response Plan should include the following (check all that apply)

Site plan documenting locations of:	
☐ chemical product/waste storage areas	☐ specific instructions regarding clean up
☐ storm drains & slope towards them	☐ specific instructions regarding clean up procedures and MSDS sheets
☐ spill response kits/other spill control equipment (if present)	\Box a summary of the plan posted at relevant locations in the facility
	☐ annual update and review
Recommended Actions Following a Spill	•

Recommended Actions Following a Spill

- 1. **IDENTIFY** the spill, **INFORM** appropriate facility manager
- 2. ASSESS the risk of the spilled material (refer to WHMIS labels or MSDS) and other potential hazards
- 3. **STOP** the source, if possible.
- 4. CONTAIN/ABSORB as much of the spilled product as possible to prevent spilled material from entering drains and/or the natural environment.
- 5. REMOVE soil/gravel/fill and used sorbent materials that have come into contact with the spilled material and place in empty drums/totes for disposal by a MOECC licensed waste hauler
- 6. **DOCUMENT** the following information:
 - Contact information (name and number) of designated person in charge of spill
 - Name of company/individual responsible for the spill
 - Time, location, type and quantity of the spill (if known)
 - Status of the spill including actions taken to control/clean up the spill
- 7. REPORT the spill to appropriate authorities within 24 hours, if required for a major spill:
 - Ministry of Environment and Climate Change Spills Action Center (1-800-268-6060)
 - Local municipality's environmental monitoring / pollution prevention unit

SUGGESTED SPILL KIT CONTENTS

Instructions: the following is a suggested list of contents for a spill kit. Check all that apply to the facility's spill kits:

Spill Response Plan
Salvage drums/containers (e.g., high density polyethylene (HDPE) or polypropylene sheet lined steel)
Polyethylene disposal bags or equivalent
Personal protective equipment (i.e., gloves, safety goggles)
Polypropylene scoop/dust pan
Broom or brush with polypropylene bristles
Shovels or other soil removal equipment
Absorbent pads and containment booms stored in a waterproof container
Granular or powdered materials for neutralizing solvents
Floor signs "Danger Chemical Spill – Keep Away"
Hydrophobic floor drain plugs or neoprene floor drains covers

7.0 Risk Management Agreements

Date: November 2, 2017

To: Mississippi-Rideau Source Protection Committee

From: Bonnie Boyd, Project Manager

Recommendation:

That the Rideau Valley Source Protection Committee receive for information this staff report about the ongoing Part IV Risk Management Agreements.

Background

Some policies in the Mississippi-Rideau Source Protection Plan regulate significant drinking water threats using Part IV of the *Clean Water Act*. Municipalities are responsible for administering these Part IV policies however they have the option of transferring their enforcement authority to another body (e.g. health unit, Conservation Authority).

In the Mississippi-Rideau Source Protection Region, all municipalities, except the City of Ottawa transferred their Part IV enforcement authority to the Source Protection Authorities (Conservation Authorities) in 2014. Part of their provincial Source Protection Municipal Implementation Funding has been used by the Conservation Authorities to cover costs.

Part IV Enforcement Transfer Agreements

In late 2013 and early 2014, the Source Protection Authority worked with municipalities to put Enforcement Transfer Agreement documents in place. Three versions of this type of agreement were approved by councils in the Mississippi-Rideau Region, with slight differences.

Staff are negotiating an extension of these agreements with interested municipalities, including an update of a background document and communications protocol to be more consistent and simplify communications requirements. The agreements are being renewed where possible at the discretion of the municipality, on an ongoing basis.

City of Ottawa Source Protection Support Agreement

In early 2017, City of Ottawa staff approached the Source Protection Authority seeking assistance in implementing Part IV policies for the establishment of Risk Management Plans within the vulnerable areas in Ottawa. The assistance is similar in nature to the Part IV services provided to other municipalities in the Region, but does not represent a full delegation of the Part IV Enforcement responsibilities under the *Clean Water Act*.

This assistance includes:

- Comprehensive threats verification for all existing threats identified in the Assessment Reports and listed in the agreement;
- Negotiation and establishment of Risk Management Plans for verified existing significant drinking water threats in collaboration with the City of Ottawa Risk Management Official, and:
- Management of data and final reporting related to the above.

The Source Protection Support Agreement includes a clear outline of fees for the specified work, timelines and a summary of the existing threats included. It was negotiated and finalized in June 2017, and includes services similar to those provided to other municipalities through the Part IV Enforcement Transfer Agreements.

Future Work

Source Protection Staff will continue to work with municipal partners to ensure that significant drinking water threats under Part IV of the *Clean Water Act* are assessed and managed where needed. Staff will continue to work with landowners affected by these policies.

It is anticipated that once existing activities are managed, there will likely be a limited amount of new work to be completed, depending on the outcome of the phase 2 technical changes. Renewing the Enforcement Transfer Agreements will enable staff to continue to complete this implementation work.

8.0 Proposed Near Surface Disposal Facility at Chalk River

Laboratories

Date: November 2, 2017

To: Mississippi-Rideau Source Protection Committee

From: Bonnie Boyd, Project Manager

Mississippi-Rideau Source Protection Region

.....

Recommendation:

That the Mississippi-Rideau Source Protection Committee receive for information this report about the proposed Near Surface Nuclear Waste facility at Chalk River.

Background

The Canadian Nuclear Safety Commission (CNSC) is currently considering comments received on the proposed Near Surface Disposal Facility (NSDF) at the Chalk River Laboratories site by the Canadian Nuclear Laboratories.

The proposal is for an engineered disposal facility for radioactive waste (primarily low-level waste, with some specific intermediate-level and mixed waste). The proposed site is in Renfrew County, approximately 200 kilometres northwest of Ottawa, in the town of Deep River.

The site would have an operating life of at least 50 years and would be consisting of multiple disposal cells, a wastewater treatment plant, and supporting infrastructure. An Environmental Assessment (EA) under the *Canadian Environmental Assessment Act, 2012* is required and is underway. More detailed information on the project is available on the Canadian Environmental Assessment Agency website.

Timeline

A public consultation period on the draft Environmental Impact Statement (EIS) ended in August 2017. A final EIS is expected in January 2018, and then an EA report is expected in the spring of 2018. Following the EIS, there will be a comment period on the draft report, along with a public intervention period, before a final decision statement is issued.

Construction is anticipated to begin in 2018 (or when permits and approvals are in place), and the site is expected to be operational between 2020 and 2070.

Comments by the City of Ottawa

In August, the City of Ottawa submitted comments on the proposed project. The comments highlight the Ottawa River as the source of drinking water, and point to discussion in the *Assessment Report* of the risk of tritium contamination. They ask the proponent to pay close attention to emergency response planning and provide detailed information in case of a spill. A copy of the comments is attached to this report. Ottawa Public Health submitted comments as well, similar to the City of Ottawa comments regarding emergency response and the drinking water source, with additional remarks related to public health.

Attachment: City of Ottawa comments on proposed Near Surface Disposal Facility at Canadian

Nuclear Laboratories site at Chalk River



August 2nd, 2017

Nicole Frigault
Environmental Assessment Specialist
Canadian Nuclear Safety Commission
P.O. Box 1046 Station B
280 Slater Street
Ottawa (ON) K1P 5S9

RE: City of Ottawa comments on proposed Near Surface Disposal Facility at Canadian Nuclear Laboratories site at Chalk River

To Ms. Nicole Frigault,

The Ottawa River is the source of drinking water for 875,000 residents in the City of Ottawa. For more than 100 years, the Ottawa River has provided an abundant and natural source of water for our citizens. As such, the City maintains a strong interest in any project or operation that might impact the Ottawa River in the future.

Drinking Water Source Protection in Ontario is legislated under the Clean Water Act, 2006. The Assessment Report for the Rideau Valley Source Protection Area (December 19, 2011) was prepared in accordance with the Act and provides the scientific foundation for source protection planning for the City's municipal intakes in the Ottawa River. One of the objectives of the Assessment Report is to identify activities that would be significant drinking water threats, as well as issues and concerns related to drinking water source protection. The Chalk River Laboratories (CRL) are located outside the designated vulnerable area (Intake Protection Zone) for the City's intakes, however the Assessment Report explicitly identifies the CRL (specifically tritium) as a concern for the City's drinking water supply due to its upstream location and the lack of capacity to remove tritium from source water. The City mirrors the concerns for the protection of its drinking water source related to the CRL.

To identify potential issues related to the presence of the CRL site upstream, the City currently conducts routine radiological monitoring of the Ottawa River at the intake locations for both of its Water Purification Plants.

As a matter of due diligence in terms of protecting our source water, City staff have reviewed the Environmental Impact Statement Report (Golder Associates - March, 2017)

for the proposed Near Surface Disposal Facility (NSDF) and would like to provide the following comments/concerns:

- 1) Engineered storage facility in principle, we are supportive of an engineered storage facility for the identified low and intermediate level radioactive wastes currently stored onsite. We feel that a carefully designed and operated storage solution is more safe and secure than leaving the waste materials in-situ. We understand that CNL is operating a legacy site with waste materials accumulated over decades of research and site operations. Furthermore, we expect and urge that the proposed NSDF will utilize best engineering practices for the design, management and environmental monitoring of the facility throughout its 50-year expected operation and beyond.
- 2) Leachate or liquid wastes we understand that the NSDF will store primarily solid waste materials, however we are concerned about the storage, management and handling of liquid effluents or leachate from the site. Liquid waste effluents would have the greatest potential for contamination of the Ottawa River, and eventually our drinking water supply. How will these waste streams be transported to the on-site wastewater treatment facility located near the river shoreline? What measures will be put in place to minimize the risk of a spill during transport and treatment?
- 3) Storm water collection during the operational phase of the "open" storage facility, we are concerned about the handling of storm water. Given the increased frequency of extreme weather events in recent years, we would request that the facility be designed to handle 1-in-100 year storm events as a minimum in order to safely contain, transport, and process the liquid effluents that accumulate.
- 4) Notification of spill or emergency events we request that a formal notification protocol be put in place to notify downstream users such as the City of Ottawa of any potential spill or impact on the Ottawa River. This gives us time to inform our residents and activate our own emergency response plans. In the past, the City of Ottawa has received notification of environmental discharges or spill events, but not consistently. We would strongly urge CNL to maintain and update the notification protocol annually for transparent and timely notification to the City of Ottawa as a major stakeholder. Specifically, we would like to know how will this be accomplished.

Any response or clarification to the concerns noted above would be very much appreciated and can be sent directly to the contact listed below. Additionally, if you have any questions or would like clarification of our comments, please contact:

Tessa Di Iorio, M.Sc., P.Geo. Risk Management Official/Inspector, Hydrogeologist City of Ottawa, 110 Laurier Avenue West Ottawa (ON) K1P 1J1 (Mail Code 01-14) 613-580-2424 x17658

As part of the public commenting process, we appreciate the opportunity to raise our concerns related to the proposed storage facility.

Yours sincerely,

Stephen Willis, General Manager

Planning, Infrastructure and Economic Development

tessa.diiorio@ottawa.ca

Luc Gagne for/

Kevin Wylie, General Manager

Public Works and Environmental Service

CC: Chair Chernushenko