

Smart About Salt Program Supports Source Protection Policies

Purpose of this Paper

Ontario's *Clean Water Act* has mandated the preparation of Source Protection Plans to protect existing and future drinking water sources. Road salt has been identified as a drinking water threat that needs to be managed. The Smart About Salt Program is a tool that is currently available to help reduce the salt related impacts from existing and future facilities. This paper was requested by one Source Protection Planning team. It explains the Smart About Salt Program and suggests possible Source Protection Policies that use the benefits of the Smart About Salt Program.

What is "Smart About Salt"?

Smart About Salt is an award winning **not-for-profit** program designed to promote improved safe snow and ice control practices on parking lots and sidewalks in an effort to reduce the amount of road salt entering the environment.

Companies in the snow and ice control business and **Facilities** that have been certified under the Smart About Salt Program are dedicated to using proven practices that will create safe winter site conditions while using only the amount of salt needed to do the job.

Personnel carrying out snow and ice control can become **Accredited Operators** by successfully completing the Smart About Salt training program and passing the exam.

The Smart About Salt Program received the prestigious Educational Achievement Award from the Transportation Association of Canada.

What is the "Smart About Salt" Council?

It is a not-for-profit corporation set up to deliver the Smart About Salt Program. The founding members of the Council are:

- **The Regional Municipality of Waterloo** (RMOW) – the creator of the Smart About Salt Program. RMOW created the program as part of an aggressive strategy to reduce salt loadings to its groundwater because of alarming increases in chloride and sodium in its well water.
- **Landscape Ontario** (LO) – the organization representing many of the companies that carry out snow and ice control on parking lots and sidewalks. LO sees the Smart About Salt Program as important to improving the professionalism of its member companies with respect to snow and ice control practices. The Smart About Salt Program is seen as an excellent tool in managing the risks associated with snow and ice control.
- **Building Owners & Managers Association Ottawa** (BOMA) – the organization representing large private building owners and managers in the Ottawa region. BOMA Ottawa sees the Smart About Salt Program as an essential part of its green buildings program.

In addition to these founding members, the **Ontario Goods Roads Association** (OGRA) has endorsed the program and joined the Council. The OGRA has been very active in salt management on municipal roads and sees the Smart About Salt Program as an important tool in improving salt management at municipal facilities.

Program Objectives

- To maintain safe conditions
- To reduce salt use by:
 - Promoting proactive strategies
 - Promoting best management practices
 - Reducing icing conditions
- To reduce liability through:
 - Improved snow and ice control practices
 - Better record keeping

How Can Smart About Salt Help Protect Drinking Water?

The Smart About Salt Program was designed specifically to protect drinking water from the excessive use of road salt on sidewalks and parking lots.

Provincial and municipal road authorities have been operating under Environment Canada's *Code of Practice for the Environmental Management of Road Salts*¹ since 2004. This Code of Practice was designed to address the use of salts on roadways. It was not intended to deal with parking lots and sidewalks like those you see at commercial, industrial and institutional facilities. **It is estimated that close to 40% of the salt used in urban areas is place on these parking lots and sidewalks.**

One Smart About Salt Certified company has reduced its salt application rate by 50% by applying the techniques taught in the training program.

Any effort to reduce salt loading to drinking water must address both the salt placed on roads and the salt placed on parking lots and sidewalks. The Smart About Salt Program is the only program of its kind in Canada dedicated to attacking the parking lot and sidewalk salting issue.

Salt used for snow and ice control dissolves in the water created by melting snow or from rain and seeps into the ground or flows to nearby creeks, rivers, ponds and lakes. In addition, salt that is stored unprotected can be washed into the environment by rain or snow. As well, snow that is plowed to the sides of parking lots contains salt. Sometimes this snow needs to be removed and hauled to snow disposal sites – thus transporting the salt it contains to other areas where it will eventually enter the environment.

¹ <http://www.ec.gc.ca/nopp/roadsalt/en/index.cfm>

The Smart About Salt Program addresses the first two aspects of salt management by:

1. Promoting ice minimization strategies and best salt management practices; and
2. Promoting proper salt storage and handling practices.

Possible Source Protection Policies

The following discusses possible salt management policies using the Smart About Salt Program that could be incorporated into Source Protection Policies.

Application of Salt

The choices for managing the use of salt, particularly in vulnerable areas must take into account the potential human safety consequences. Salt use could be banned but facilities within these banned areas will have lost a significant tool for maintaining safe winter conditions.

A more flexible management practice that would allow existing facilities to continue and even permit new facilities is to require that these facilities are **Smart About Salt**. Possible wording of policies are:

All existing facilities within the designated protection areas using more than X² tonnes of salt annually must be Smart About Salt Certified and must use a Smart About Salt Certified company to carry out its snow and ice control.

All new facilities proposed within the designated protection areas having more than 50³ parking spaces that will use salt for snow and ice control must submit a Risk Management Plan and must commit to becoming Smart About Salt Certified and using a Smart About Salt Certified company to carry out its snow and ice control.

These policies could apply to industrial, commercial, institutional sites as well as condominiums where there is a condominium corporation that can be bound by the policies.

Storage of Salt

Many large facilities will have bulk salt storage on site to ensure that those maintaining the site have easy access to salt and not have to leave the site to get more salt before snow and ice control operations are complete. The Smart About Salt Program requires that if salt is kept on site, then it must be properly stored. This means that it is on impermeable pads and covered – preferably with a permanent roof. Liquid de-icing chemicals must be stored on impermeable pads in tanks with collision protection. These are all certification requirements under the Smart About Salt Program. Therefore the draft policies under “Application of Salt” above should be sufficient. It also is possible that small facilities will have bulk salt storage. Therefore the following wording modification could be considered:

² Each SPP could specify the tonnage limit.

³ Each SPP could specify number of parking spaces or lot area.

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All existing facilities within the designated protection areas using more than X² tonnes of salt annually or storing more than 1 tonne of bulk salt must be Smart About Salt Certified and must use a Smart About Salt Certified company to carry out its snow and ice control.

All new facilities proposed within the designated protection areas having more than 50³ parking spaces annually that will use salt for snow and ice control or storing more than 1 tonne of bulk salt must submit a Risk Management Plan and must commit to becoming Smart About Salt Certified and using a Smart About Salt Certified company to carry out its snow and ice control.

What is Expected of a Smart About Salt Certified Company?

A company that sells snow and ice control services must evaluate 10 aspects of their operations using the Smart About Salt workbook. Each aspect is evaluated on a scale of 1 (worst) to 4 (best) using specified criteria. The aspects are:

<ul style="list-style-type: none"> Equipment Calibration – Important for ensuring that salt is being properly measured. 	<ul style="list-style-type: none"> Material Application Rates – Important for ensuring only the needed amount of salt is used. 	<ul style="list-style-type: none"> Material Tracking – Needed to properly manage the operation – Sample tracking forms are provided.
<ul style="list-style-type: none"> Use of Liquids – A technique for improving safety with less salt. 	<ul style="list-style-type: none"> Use of Low or Non-chloride Materials – Encouraging chloride reduction. 	<ul style="list-style-type: none"> Salt Storage Sand/salt Mix Storage Liquid Storage Promotes proper storage practices. Discourages storage over the summer.
<ul style="list-style-type: none"> Plowing – Mechanical removal is an important salt management tool. Plowing is encouraged. 	<ul style="list-style-type: none"> Salt Management Training – It is important that all personnel are properly trained in good practices. Companies are required to have salt management training programs. 	<p>Each company must report annual salt use and area serviced so that the application rate can be computed.</p>

To be certified initially, a company must meet certain standards at the time of application. They must also have a plan for improving those aspects of their operations that fall short. They must renew their certification each year. After year 1 they need to show improvement to a specified level. By the second renewal they must have achieved the top level on all applicable aspects. Their Annual Renewal is reviewed to ensure that the expected improvement is being made. An Audit Program will be implemented to further ensure program compliance.

Many snow and ice control companies already meet the certification standards so little effort is needed to become certified.

Once a company is certified they are permitted to promote themselves as Smart About Salt, to use the Smart About Salt Logo and are advertised on the Smart About Salt Website – www.smartaboutsalt.com.

What is Expected of a Smart About Salt Certified Facility?

A facility is a site with parking lots and/or sidewalks that are salted in the winter. There is very little that a facility must do to be Smart About Certified. They must review their operations using the Smart About Salt workbook. The goal of the review is to identify high salt use areas and to develop improvements to reduce the need for so much salt. An example of a high salt use area is where site drainage runs onto paved areas and freezes requiring continual salting to melt the ice. By correcting this drainage issue, this excessive use of salt can be avoided and a liability eliminated. Facility managers are also encouraged to close areas that are not needed during the winter because they are seasonal. There is no need to maintain these areas if they are not being used in the winter.

The key requirement for a facility to be Smart About Salt is to use a Smart About Salt Certified Contractor to maintain the site thereby ensuring that best salt management practices are used. If a facility uses its own people to maintain the site then they must become certified as if they are a snow and ice control company.

Benefits of the Smart About Salt Program

1. The Smart About Salt Program is dedicated to reducing the environmental effects of road salt – particularly on source water and fills an important gap in the ongoing work to improve road salt management in Canada.
2. The Smart About Salt Program is already established and has been running in the Region of Waterloo for 2 years.
3. The Smart About Salt Program can be referenced in policies at no cost to the Source Water Protection Program.
4. The Smart About Salt Program is not-for-profit.
5. The snow and ice control industry through Landscape Ontario endorses the Smart About Salt Program.
6. Building owners and managers support the Smart About Salt Program through BOMA Ottawa.
7. The insurance industry sees the Smart About Salt Program as an important tool in managing snow and ice risk and liability.
8. The benefits of the program were recognized by Transportation Association of Canada through its Education Council.

For More Information Contact Us at Smartaboutsalt@bell.net, phone 647-722-5699 or visit www.smartaboutsalt.com.