

Time-Limited Water Quality Standard for Chlorides – Order Highlights

Chicago Area Waterways Chloride Workgroup & Lower Des Plaines Watershed Group

On November 4, 2021, the Illinois Pollution Control Board issued an Opinion and Order on the petition for a Chloride TLWQS for the Chicago Area Waterway System and the Lower Des Plaines River watersheds. Requirements of the Chloride TLWQS begin on Page 65 of the [Illinois Pollution Control Board's Opinion and Order Document](#). On January 6, 2022, the Illinois Pollution Control Board issued an [order clarifying the November 4, 2021 opinion and order for the Chloride TLWQS](#). The workgroups strongly encourage petitioners to read the November 4, 2021 order and the January 6, 2022 clarifying order for the exact language and requirements related to the Chloride TLWQS.

Key Highlights from the Order for Petitioners:

- The term of the TLWQS expires 15 years after USEPA approval. **The Chloride TLWQS will be effective upon approval of the USEPA.**
- **Each petitioner must participate in a Chloride Workgroup for their watershed.** If your agency falls into both watersheds, your agency may choose one of the Chloride Workgroups to participate in.
- **Each petitioner must prepare a Pollutant Minimization Plan for their own operations to reduce chlorides using all the identified BMPs (see the table of BMPs for the list of identified BMPs),** along with applicable monitoring, recordkeeping, and reporting procedures. The workgroups are preparing a framework to assist their members with this item. **The PMP is due 6 months after USEPA approval.**
- **Petitioners/covered facilities must implement all applicable best management practices (BMPs) within 12 months of the effective date of the Chloride TLWQS (see the table of BMPs for the list of identified BMPs).**
- Each petitioner must **submit an Annual Report to IEPA and the Chloride Workgroup each year by July 1 starting with July 1 of Year 2.** A summary of the items that must be included in the Annual Report:
 - BMPs
 - List of the BMPs being used and to what extent.
 - Analysis of BMPs that the discharger has implemented over the term of the TLWQS, including a discussion of the effectiveness and environmental impact of the BMPs, and any hinderances or any unexpected achievements or setbacks.
 - Analysis of any alternative treatments or new technology that could be implemented by the discharger to reduce chloride loadings to the waterways.
 - Deicing Agents Used
 - Types of deicing agents used and whether they are used as dry, pre-wetted, or liquid (e.g., sodium chloride rock salt, calcium chloride, magnesium chloride, calcium magnesium acetate, potassium acetate, potassium chloride, abrasives, urea, organics).
 - Estimate of the amount of chloride salt usage in the past year and over the term of the TLWQS.
 - Estimates of relative amounts applied and relative percent coverage achieved by the following types of deicing agents: dry, wet, and liquid.

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- Application practices used (cleared using pre-wetted salt; cleared using anti-icing).
- Application rates (pounds/lane mile, gallons/lane mile, pounds/square foot, gallons/square foot) by deicing agent type and storm event (e.g. 1- inch storm event; long duration freezing rain event).
- Description of how application rates varied for different types of weather and how they have changed over the term of the TLWQS.
- Whether the use of liquids was increased, and dry chloride salt application rates were reduced.
- Callouts:
 - Summary of snowfall data.
 - Number of callouts.
 - Quantity and type of precipitation during the callout.
 - Application rate for each type of deicing agent during the callout.
 - Quantity of chloride salt used for each callout.
- Training
 - Annual training that was completed for the entire workforce that applied chloride-based deicing salts.
 - Identification of additional training that is necessary.
 - Explanation of why discharger was unable to complete the training identified in the previous Annual Report.
- Deicing and Snow Removal Equipment
 - Types and numbers of snow and ice removal equipment used (e.g., snowplows as well as mechanically controlled spreaders and computer- sensor-controlled spreaders for dry solids, pre-wetted solids, or liquids).
 - Description of equipment washing as well as wash water collection and disposal or reuse for making brine.
- Salt Storage
 - Number of chloride salt storage areas.
 - Number of chloride salt storage areas in fully enclosed structures.
 - Number of chloride salt storage areas on an impervious pad.
 - Number of chloride salt storage areas without a fully enclosed storage structure or impervious storage pad.
 - Information on salt storage methods used to ensure good housekeeping policies are implemented (e.g., cleaned-up salt piles).
- Purchases
 - Identification of necessary capital purchases and expenditures over the next three years to reduce de-icing chloride salt applications, focused on increased use of liquids and reducing chloride salt application rates as well as cleaning up salt piles. (e.g., new storage structures; new or retrofitted salt spreading equipment necessary to allow for pre-wetting and proper rates of application).
 - Explanation of why discharger was unable to make all capital purchases and expenditures identified in the previous Annual Report.
- Environmental Monitoring Data
 - Any changes to a facility's NPDES treatment technologies.

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- NPDES effluent data, if any, for chloride discharges.
- Summary of relevant, available instream chloride monitoring data for local waterway (which may reference data gathered by State or Federal agencies or other entities), including summaries of the relevant chloride information provided by the Metropolitan Water Reclamation District of Greater Chicago (MWRD) in its Annual Report.
- Projections
 - Proposed steps for the coming year.
 - Description of how each discharger will implement an adaptive, iterative management approach based on reviewing Annual Reports to adjust salt application practices to achieve further chloride reductions in the coming year.
- Chloride Workgroup Participation
 - Description of action that the discharger took to participate in a Chloride Workgroup.

The workgroups will assist with:

- Developing chloride related Education and Outreach Materials for workgroup members
 - There are already some Education and Outreach materials available and ready for members to use on <https://saltsmart.org/outreach/> and <https://ldpwatersheds.org/outreach/salt-smart/>
- Work with the Salt Smart Collaborative to create a Parking Lots and Sidewalks Winter Maintenance Training and Certification Program for petitioners, contractors, and others
- PMP framework development for use by workgroup members to prepare their individual PMPs
- Documentation/Salt Use Tracking template development for use by workgroup members
- Support regional winter maintenance training workshops for petitioners and others to attend
- Annual reporting support for workgroup members
- Submittal of Workgroup Status Reports by July 1 of Years 3, 8, and 13 that compiles all annual reports from workgroup members.
- Submittal of Re-evaluation to the Board at Years 4 ½, 9 ½, and 14 ½.

Important Chloride TLWQS Milestones:

1.	6 MONTHS AFTER EFFECTIVE DATE:	Petitioner establishes a mechanism for tracking of de-icing salt usage for each facility. Prepare a Chloride Pollutant Minimization Plan specific to your operations.
2.	WITHIN 12 MONTHS AFTER EFFECTIVE DATE:	Discharger must fully implement all best management practices (BMPs) pursuant to the individual PMP and Table 3.
3.	November 30 OF EVERY YEAR (BEGINNING WITH YEAR 2):	Petitioner completes annual training of all salt applicator personnel, including both employees and contractors, on best practices in minimizing the use of salt in deicing. All salt spreading equipment is calibrated.

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4.	July 1 OF EVERY YEAR (BEGINNING WITH YEAR 2):	Petitioner submits an Annual Report to the IEPA and the chlorides workgroup on salt usage for deicing and steps taken to minimize salt use and makes the report publicly available. The Annual Report must be consistent with the requirements listed above.
7.	YEAR 5 THROUGH YEAR 9:	Petitioners implement an adaptive management approach, which may include new or modified BMPs, and those BMPs required by the Board after the first re-evaluation. The Annual Reports during this time period must describe the Petitioner's iterative process in developing new BMPs and describe operational changes, capital purchases and training necessary to implement new BMPs.
9.	YEAR 10 THROUGH YEAR 14:	Petitioners implement an adaptive management approach, which may include new or modified BMPs, and those BMPS required by the Board after the second re-evaluation. The Annual Reports during this time period must describe the Petitioner's iterative process in developing new BMPs and describe operational changes, capital purchases and training necessary to implement new BMPs.

Tables of Required BMPs:

Table 3: Best Management Practices

	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway
Permittees and entities covered under the Time Limited Water Quality Standard for Chloride (PCB 16-14 (Consolidated)) must implement the following Best Management Practices as applicable and indicated below for each discharger type:						
1.	The permittee must participate in a Chlorides workgroup for the CAWS or LDPR, depending on the watershed within which the facility's discharge is located.	X	X	X	X	X
2.	Store all salt on an impermeable pad that must be constructed to ensure that minimal stormwater is coming into contact with salt unless the salt is stored in a container that ensures stormwater does not come into contact with the salt.	X	X	X	X	X
3.	Cover salt piles at all times except when in active use, unless stored indoors.	X	X	X	X	X

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	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway
4.	Good housekeeping practices must be implemented at the site, including: cleanup of salt at the end of each day or conclusion of a storm event; tarping of trucks for transporting bulk chloride; maintaining the pad and equipment; good practices during loading and unloading cleanup of loading and spreading equipment after each snow/ice event, a written inspection program for storage facility, structures and work area; removing surplus materials from the site when winter activity finished where applicable, annual inspection and repairs completed when practical; evaluate the opportunity to reduce or reuse the wash water.	X	X	X	X	X
5.	Calibrate all salt spreading equipment at least annually before November 30th. Records of the calibration results must be maintained for each piece of spreading equipment.	X	X	X	X	X
6.	Pre-wet road salt before use, either by applying liquids to the salt stockpile, or by applying liquids by way of the spreading equipment as the salt is deposited on the road.	X	X	X	X	X
7.	Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	X	X	X	X	X
8.	Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	X	X	X	X	X
9.	Track and record salt quantity used and storm conditions from each call-out.	X	X	X	X	X

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	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway
10.	Develop a written plan for implementing anti-icing, with milestones. The plan must consider increased use of liquids (e.g., carbohydrate products) beginning with critical locations such as bridges over streams.	X	X	X	X	X
11.	Provide employees involved in winter maintenance operations with annual training before November 30th on best management practices in the use of road salt in operations, including the practice of plowing first and applying salt only after snow has been cleared.	X	X	X	X	X
12.	Be responsible for complying with all applicable BMPs even when deicing practices are contracted out and ensure that contractors are properly trained and comply with all applicable BMPs.	X	X	X	X	X
13.	Complete an Annual Report, as required by paragraph 3(B) of this order, which is standardized in an electronic format and submit to the IEPA's website and the watershed group.	X	X	X	X	X
14.	Install equipment to measure the pavement temperature on the winter maintenance fleet for a sufficient number of vehicles to provide sufficient information to adjust application rates for the most efficient levels. Develop and complete a plan to equip the winter maintenance fleet before the first re-evaluation.			X	X	X
15.	Before the first re-evaluation, develop a method for conducting a post-winter review to identify areas of success and areas in need of improvement. Items to be completed as part of the review must include, but are not limited to, an evaluation of each salt spreader's application rate, variations in application rates, and discussion of the variation compared to the recommended rates. Once developed, the review must occur annually in the spring/early summer following each winter season.			X	X	X

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	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway
16.	For working areas, provide berms and or sufficient slope to allow snow melt and stormwater to drain away from the area. If snow melt and stormwater cannot be drained away from the working area, channeling water to a collection point such as a sump, holding tank or lined basin for collection, discharge at a later time, use for prewetting, and use for make- up water for brine must be considered.	X	X	X	X	X
17.	Obtain and put into place equipment necessary to implement all salt spreading/deicing measure specified in this BMP, such as any new or retrofitted salt spreading equipment necessary to allow for pre- wetting and proper rates of application.	X	X	X	X	X
18.	Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.			X	X	

	Best Management Practice	Salt Storage Facilities
A.	All salt will be stored on an impermeable pad constructed to ensure that minimal stormwater comes into contact with salt.	X
B.	Pads will be constructed to direct stormwater away from the salt pile. The permittee must consider directing any drainage that enters the pad to a collection point where feasible.	X
C.	Outdoor salt piles not stored under permanent cover must be covered by well-secured tarps at all times except when in active use. While working on the pile, fixed or mobile berms must be incorporated around non- working face to minimize stormwater contact. The permittee must stage tarp when starting final lift and tarp over the edge of the berm/pad where possible.	X
D.	Good housekeeping practices must be implemented at the site, including cleanup of salt at the end of each day or conclusion of a storm event; tarping of trucks for transporting bulk chloride; maintaining the pad and equipment; good practices during loading and unloading cleanup of loading and spreading equipment after each snow/ice event, a written inspection program for storage facility, structures and work area; finished where applicable, annual inspection and repairs completed when practical; evaluate the opportunity to reduce or reuse the wash water.	X

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	Best Management Practice	Salt Storage Facilities
E.	Annual training must be conducted for employees responsible for loading/unloading/handling at docks and trucks at the facility.	X
F.	An Annual Report must be completed as required by paragraph 3(B) of this order. The report must be standardized in excel, and must be submitted to the IEPA and to the watershed group.	X
G.	The Permittee must participate in a Chlorides workgroup for the CAWS or LDPR, depending on the watershed within which the facility's discharge is located.	X
H.	For working areas, provide berms and or sufficient slope to allow snow melt and stormwater to drain away from the area. If snow melt and stormwater cannot be drained away from the working area, channeling water to a collection point such as a sump, holding tank or lined basin for collection, discharge at a later time, use for prewetting, and use for make-up water for brine must be considered.	X
I.	The Permittee must make use of fixed and mobile berms where appropriate to redirect flow and tarp over the edge of the pad where possible to minimize stormwater contact.	X
J.	The Permittee must consider retaining stormwater which contacts the salt from a 25-year/24- hour storm event where feasible. Such retention could be either within the berm or in a separate basin, or the impacted stormwater could be stored and used as pre-wetting brine.	X

Watershed Group Contacts:

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