Chloride Pollutant Minimization Plan for [ORGANIZATION NAME]

[DATE]

Prepared by [ORGANIZATION NAME]



[ORGANIZATION NAME] is a member of the Chicago Area Waterways Chloride Workgroup/Lower Des Plaines Watershed Group

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1. **Introduction to Chloride Issue in CAWS/LDPR**

This Pollutant Minimization Plan (PMP) has been prepared by [AGENCY or FACILITY NAME] to reduce the environmental impacts from the organization’s chloride related operations. [AGENCY or FACILITY NAME] is a discharger covered under the Time Limited Water Quality Standard for Chloride for the Chicago Area Waterways System and Lower Des Plaines River watersheds. This PMP has been prepared to meet the requirements laid out in the Time Limited Water Quality Standard (TLWQS) for Chloride. The term of this PMP covers the first 5-years of the TLWQS period and will be updated following the re-evaluations at Years 4 ½, 9 ½, and 14 ½.

Chloride is a permanent pollutant. It does not degrade over time and continues to accumulate in the environment. Proactive measures to reduce the amount of chloride discharged can help reduce the impacts from chloride on receiving waterways and the environment. Chloride impacts aquatic life, vegetation, and infrastructure. As the chloride concentrations increase and our waters become saltier, aquatic and plant biodiversity decreases and native species are overtaken by salt tolerant invasive species.

Chlorides are commonly found in road salt, fertilizers, water softeners, dust suppressants, and certain industrial processes. Chloride-based deicers, like rock salt, are used on parking lots, sidewalks, and roads to provide safe surfaces to the public during the winter months. These deicers are one of most common sources of chloride in the Chicago region.

The water quality standard for chloride for the Chicago Area Waterway System (CAWS) was updated as part of the rulemaking process related to changing the designated use of the CAWS. The chloride standard was updated from 1,500 mg/L during the winter and 500 mg/L during the summer to 500 mg/L all year round. The change in the chloride water quality standard took effect in 2018. Because portions of the CAWS were not going to meet this new standard due to the need to maintain public safety on roads, highways, sidewalks and parking lots during the winter months, a joint submittal and supporting individual petitions were submitted between 2015 and 2018 to the Illinois Pollution Control Board for a variance from the chloride standard. The joint petition laid out best management practices that can be achieved by the petitioners to reduce their chloride use while maintaining public safety during winter storms. In addition to the CAWS, portions of the Lower Des Plaines River watershed were included as it receives water from the CAWS.

On November 4, 2021, the IPCB issued an Opinion and Order for a Time Limited Water Quality Standard (TLWQS) for Chloride for portions of the CAWS and Lower Des Plains River watersheds. The TLWQS for Chloride watersheds are defined in the Opinion and Order as the Des Plaines River watershed from the Kankakee River to the Will County Line (except for the DuPage River watershed) and the CAWS watershed (except the North Branch Chicago River watershed upstream of the North Shore Channel and those portions of the watershed located in Indiana). This is a watershed-based approach to reduce the chloride concentrations in the CAWS and Lower Des Plaines River. The TLWQS for Chloride requires all dischargers covered under the TLWQS for Chloride to create PMPs and implement specific best management practices based on their operations to reduce their chloride discharges.

1. **Organization Info, Facilities’ Specific Info**

**2.1 Facility overviews/descriptions**

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| --- |
| Agency Name: |
| Facility Name: | Permit Number: |
| Facility Address: |
| City: | State: | Zip Code: |

Provide a brief description of your facility (or facilities) or community.

-MS4/CSO/IDOT/TOLLWAY – Be sure to include the number of actual lane miles maintained within your jurisdiction as part of your description. Include any salt storage facilities and capacities.

**2.2 Chloride Sources**

Identify and describe your known chloride sources in this section. Winter road maintenance? Salt Storage? Industrial Process? Water softening?

Provide a description of your operations:

-Describe the type of winter maintenance you do, this would include a brief description of road, parking lot, sidewalk maintenance.

-Describe any salt storage activities.

-Describe any OTHER uses of salt (i.e. Industrial processes, water softening, radon reduction, etc.)

**2.3 Level of Service for Winter Maintenance Activities**

Describe level of service for winter maintenance within community/organization. This can be brief and should reference your snow and ice plan.

1. **Chloride Monitoring Data**

Chloride monitoring data will be collected for the CAWS and Lower Des Plaines River watersheds per the IPCB order. The data will be maintained by the workgroups. Chloride data for the CAWS will be collected by MWRD for the CAWS watershed and provided to the workgroups as part of the annual reporting as required by the IPCB order. The Lower Des Plaines Watershed Group also maintains a USGS monitoring station in the Des Plaines River at Channahon, IL that collects continuous conductivity data to estimate chloride concentrations.

Briefly describe any additional monitoring data available for chlorides from your agency.

1. **Chloride Reduction BMPs for POTWs, MS4s, CSOs, Industrial Sources, IDOT/Tollway**

As part of the Chloride TLWQS, specific BMPs were identified for POTWs, MS4s, CSOs, Industrial Sources, and IDOT/Tollway to reduce the chloride impact on the watershed. These BMPs will be implemented over the 15-year term and additional BMPs evaluated at 5-year intervals during the 15-year term. Further details about winter maintenance practices currently being implemented by [AGENCY NAME or FACILITY NAME] are included in the snow and ice plan, which is included as Appendix [#]. The BMPs identified are outlined below:

**Workgroup BMP**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variance BMP** | **Currently Implementing** | **Will Implement (Target Year)** | **Agency Description of Current Implementation** |
| 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** |  | [AGENCY NAME] has been a member of the Lower Des Plaines Watershed Group/Chicago Area Waterways Chloride Workgroup [choose the applicable workgroup(s) and delete the other, if you participate in both, include both] since [YEAR JOINED]. Provide brief details about your agency’s participation (staff attended meetings, etc). |

**Salt Storage and Handling BMPs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variance BMP** | **Currently Implementing** | **Will Implement (Target Year)** | **Agency Description of Current Implementation** |
| 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. | ***Example*** |  | *Example Text: All salt stored by [AGENCY NAME] is stored in a permanent dome structure on a concrete pad to prevent contact with stormwater.* |
| Cover salt piles at all times except when in active use, unless stored indoors.  |  |  |  |
| 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. |  |  |  |
| **MS4/CSO Only** - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities. |  |  |  |
| 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 transportation of 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.
 |  |  |  |

**Winter Maintenance Operations BMPs**

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| --- | --- | --- | --- |
| **Variance BMP** | **Currently Implementing** | **Will Implement (Target Year)** | **Agency Description of Current Implementation** |
| 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.  |  |  |  |
| 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.  |  |  |  |
| Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles. |  |  |  |
| Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.  |  |  |  |
| Track and record salt quantity used and storm conditions from each call-out.  |  |  |  |
| Develop a written plan for implementation of anti-icing, with milestones. The plan should consider increased use of liquids (e.g., carbohydrate products) beginning with critical locations such as bridges over streams. |  |  |  |
| 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.  |  |  |  |
| Be responsible for complying with all applicable BMPs even when deicing practices are contracted out and ensure that contractors are property trained and comply with all applicable BMPs.  |  |  |  |
| Complete an annual report, as required by paragraph 3(B) of this order, which is standardized in an electronic format and submitted to the IEPA’s website and to the watershed group. |  |  |  |
| 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. |  |  |  |
| **MS4/CSO/IDOT/TOLLWAY Only -** 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. |  |  |  |
| **MS4/CSO/IDOT/TOLLWAY Only -** 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 should occur annually in the spring/early summer following each winter season. |  |  |  |

**Additional BMPs Identified for Agency/Facility**

If your agency currently does any other BMPs for chlorides specific to your operations (for industrial members – this may include any BMPs related to chlorides in your processes), list them out in the table below and provide details about how you are currently implementing those BMPs. If you don’t use any additional BMPs, feel free to delete this section.

|  |  |  |
| --- | --- | --- |
| **BMP** | **Currently Implementing** | **Agency Description of Current Implementation** |
|  |  |  |
|  |  |  |
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1. **Plan to Implement BMPs**

List BMPs that will be implemented from the above tables, these are the BMPs your agency is currently not already doing. List out the BMP to be implemented and describe your plan to implement that BMP with measurable goals and what the timeline/schedule for the implementation will be. Also describe any barriers to implementing the BMPs (financial, etc). The plans and schedule should be detailed enough to reflect what your agency needs to do to implement the BMP. See the highlighted example below.

 [AGENCY/FACILITY NAME] will implement the following BMPs to take steps towards compliance with chloride standards for the watershed.

**BMP: *Copy and Paste the BMP needing to be implemented from Section 4.***

**Plan to Implement BMP:** *Describe the plan/actions your agency will take to implement the BMP.*

**Schedule for Implementation:** *Describe the anticipated schedule for implementing the BMP.*

***EXAMPLE***

***BMP:*** *EXAMPLE - 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.*

***Plan to Implement BMP:*** *EXAMPLE - [Agency Name] will budget for and plan to purchase [number] mirror mounted pavement temperature sensors for the winter maintenance fleet each fiscal year until all vehicles are equipped. Due to the expense of equipping the entire fleet at once, [number] vehicle(s) will be outfitted at a given time to buffer the additional expense across several years, but will still provide for pavement temperature information to make decisions regarding application rates of deicer during winter storms. Replacement trucks will be spec’d to include mirror mounted temperature sensors.*

***Schedule for Implementation:*** *EXAMPLE - Start budgeting for the sensors in fiscal year 2022. Anticipate all fleet will be equipped by end of fiscal year 2026.*

**6.0 Other Chloride TLWQS Required Milestones**

[AGENCY/FACILITY NAME] will implement these specific milestones (not included in the above BMPs) as outlined by the Chloride TLWQS.

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| --- | --- | --- |
| Milestone | Agency Completion Date | Agency Completion Details |
| 6 MONTHS AFTER EFFECTIVE DATE: Petitioner establishes a mechanism for tracking of de-icing salt usage for each facility. | Date your agency met this milestone, or anticipate meeting this milestone (specify if it’s a completed date or anticipated date) | Provide details regarding documentation practices for tracking deicing salt usage |
| July 1st OF EVERY YEAR (BEGINNING WITH YEAR 2): Discharger must submit an Annual Report for the previous year beginning on May 1 and ending on April 30 of the following year to the Agency and the chlorides workgroup on. The report shall be on salt usage for deicing and steps taken to minimize salt use and makes the report publicly available.  | By July 1 of each year, beginning in Year 2 [insert year]. | [AGENCY/FACILITY NAME] will submit an annual report to the workgroup and IEPA. |
| July 1st of YEAR 3, YEAR 8 and YEAR 13: The chlorides workgroup submits a Status Report to the IEPA which includes an analysis on the following: chlorides monitoring data; report on the chloride workgroup’s outreach strategy, which includes outreach efforts to expand coverage of the TLWQS, and outreach and training for nonpoint sources; identification of any new BMPs, treatment technology or salt alternatives; identification of the impediments and potential solutions of those impediments faced by dischargers and those granted coverage under the TLWQS that prevent them from completing the training and making all capital purchases necessary to implement the required BMPs; and identification and description of any assistance (financial, technical, or otherwise) that the chloride workgroup may be able to provide.  | By July 1 of year 3 [insert year], the workgroups will submit a Status Report to the IEPA. |  |
| July 1st OF YEAR 4 ½: Chlorides workgroup submits to the Board its first proposed re-evaluation pleading consistent with the Board’s order granting the TLWQS.  | By July 1 of year 4 ½ [insert year], the workgroups will submit a re-evaluation to the IEPA and IPCB. |  |

**Appendix 1 – Snow and Ice Plan/Policy For your Agency**

**Appendix 2 – Any other chloride related plans from your agency**