

Annual Report for Year 2 (2023-2024) of the Time Limited Water Quality Standard for Chloride

6/26/24

Prepared by IMTT Illinois LLC Joliet



IMTT Illinois LLC Joliet is a member of the Chicago Area Waterways Chloride Workgroup/Lower Des Plaines Watershed Group



1.0 Introduction to Chloride Issue in CAWS/LDPR

This Pollutant Minimization Plan (PMP) has been prepared by IMTT Illinois LLC Joliet to reduce the environmental impacts from the organization's chloride related operations. IMTT Illinois LLC Joliet 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 Plaines 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.

2.0 Organization, Facility Information

Agency Name: IEPA		
Facility Name: IMTT Illinois LLC Joliet		Permit Number: ILG103033
Facility Address: 2442 Durkee rd		
City: Joliet	State: Illinois	Zip Code: 60410

2.1 Level of Service for Winter Maintenance Activities

IMTT contracts with a single snow removal contractor to manage the snow at Lemont. The contractor is providing the following data:

- Date
- Snow Fall Amount
- Air Temperature
- Ground Temperature
- Salt Applied
- Other chemicals applied.

These parameters are evaluated at the end of each season and will be compared to previous years to determine how to optimize salt used.

3.0 Best Management Practices

Details regarding IMTT Illinois LLC Joliet implementation of the best management practices (BMPs) identified as part of the TLWQS for Chloride are included below.

Workgroup BMP

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
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.	The CAWs meeting are being attended by an IMTT representative.

Salt Storage and Handling BMPs

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
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.	The salt is contained in a sealed container to eliminate the water getting in contact with stored salt. The salt containing trailer is located on concrete/asphalt and drainage is directed to an internal ditch. Additional bags of salt which are utilized to spread salt on smaller areas, such as walkways and entry doors, are stored inside warehouse building.

<p>Cover salt piles at all times except when in active use, unless stored indoors.</p>	<p>The salt is stored in a covered and closed container. Salt bags are stored in the warehouse building</p>
<p>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.</p>	<p>Site has a retention pond to hold all all stormwater. Individual tank farms have secondary containment.</p>
<p>MS4/CSO Only - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.</p>	
<p>Good housekeeping practices must be implemented at the site, including:</p> <ul style="list-style-type: none"> • 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; 	<p>At the completion of the salt dispersal, the area around the closed dumpster is cleaned and closed.</p> <p>The truck is tarped.</p> <p>All trucks go back to the contractor’s shop and cleaned at their location.</p> <p>Contractor leaves the salt inside the container.</p> <p>Contractor is maintaining storage container.</p>

<ul style="list-style-type: none"> • annual inspection and repairs completed when practical; • evaluate the opportunity to reduce or reuse the wash water. 	
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Winter Maintenance Operations BMPs

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
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.	Performed by contractor
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.	Contractor uses liquid pre-treatment before a snow event so the salt usage is minimized.
Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	Performed by contractor Temperature is taken at two locations, one at the gate house and one at the scale house and averaged.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	The ambient temperature, pavement temperature and the amount of snow/ice is utilized to determine how much salt is applied.
Track and record salt quantity used and storm conditions from each call-out.	The contractor keeps track of the amount of salt and deice utilized and records weather condition.
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.	Currently collecting data to analyze trends.
Provide employees involved in winter maintenance operations	Annual training was conducted for the entire staff in November 2023. Additional training was provided to

<p>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.</p>	<p>all employees who use bag salt to educate them in how salting works, the amount of salt to utilize and the benefits of using minimal amounts of salt.</p>
<p>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.</p>	<p>The contractor is being overseen by EHS personnel</p>
<p>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.</p>	<p>2022 report completed and submitted.</p>
<p>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.</p>	<p>Will be implemented by contractor</p>
<p>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.</p>	
<p>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.</p>	

<p>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.</p>	
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Additional BMPs Identified for Agency/Facility

BMP	Agency Description of Current Implementation

3.1 Analysis of BMPs Implemented

Additional training was provided to all employees who use bag salt to educate them in how salting works, the amount of salt to utilize and the benefits of using minimal amounts of salt. Current BMP’s have yielded results increased awareness.

3.2 Analysis of Alternative Treatments or New Technology

Deicer use has been increased in current year, however, need more data to check for effectiveness. On one occasion, pre-treatment was performed but the storm never came resulting in waste of material as the storm did not arrive.

4.0 Deicing/Anti-Icing Agents Used

Materials used by Illinois LLC Joliet for the 2022-2023 winter season are included as Appendix 1.

4.1 Application Rates

4.1.1 Application Rate Analysis

In the process of obtaining the application rates

4.2 Application Practices

Illinois LLC Joliet uses the following practices to apply deicing and anti-icing materials:

- Contractor truck with specifically designed for salt spreading and dispensing deicer liquid.

4.3 Call Outs

A total of 17.4 inches of snow was reported in IMTT Illinois for the 2023-2024 winter. There were 6 freezing rain event(s) and 31 snow event(s) for the 2023-2024 winter. IMTT-Illinois had 18 call outs during the 2023-2024 winter. A log of all call outs completed by IMTT-Lemont are included as A log of all call outs completed by Illinois LLC Joliet are included as Appendix 3.

4.4 Use of Liquids

See Appendix 4 data. The use of liquids increased year over year, Salt usage remained same year over year.

5.0 Training

Illinois LLC Joliet completed annual training for 22. Employees who are part of the materials storage, loading, unloading, and/or handling operations on 11/17/23 (Lemont). A few employees were outside this window because of sickness or vacation. A list of annual training topics by type of employee is attached as Appendix 1.

6.0 Deicing and Snow Removal Equipment and Maintenance

Illinois LLC Joliet uses equipment listed in Appendix 5 during winter maintenance activities.

6.1 Description of Equipment Washing and Wash Water Collection

All equipment washing and wastewater is collected into an onsite Retention Pond.

7.0 Material Storage

Illinois LLC Joliet maintains 2 storage area(s). Information regarding the storage area(s) is included in Appendix 4.

8.0 Capital Purchases

Identified capital purchases from Illinois LLC Joliet 's PMP to implement the BMPs and reduce chlorides in our operations over the first 5-year term of the Chloride TLWQS are included as Appendix 7.

8.1 Explanation of Capital Purchases Unable to Be Made According to the Reported Plan

9.0 Environmental Monitoring Data

Chloride monitoring data is collected for the CAWS and Lower Des Plaines River watersheds per the IPCB order. The data is maintained by the workgroups. Chloride data for the CAWS is 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.

Chloride monitoring data reports are posted to <https://www.cawswatershed.org/reports/> and <https://ldpwatersheds.org/about-us/lower-des-plaines-watershed-group/our-work/chloride-tlwgs/>.

9.1 Organization Specific Chloride Monitoring Data

Illinois LLC Joliet collects chloride monitoring data as part of its NPDES effluent data and the data is included as Appendix 8.

9.2 Changes to the Facility's NPDES Treatment Technologies for Chloride

None, changes will be made if Chloride levels exceed limit.

10.0 Program Evaluation

10.1 Proposed Steps for the Coming Year

IMTT will continue to do the annual training for all employees and continue to stress the importance of utilizing the least amount of salt to get the job needed.

11.0 Workgroup Participation

A member of the IMTT professional staff attends and participates in the Chloride Group's meetings on a regular basis. IMTT professional and the contractor attended Winter Deicing workshops.

Chloride TLWQS Annual Report
 Appendix 1 - Deicing/Anti-Icing Agents Used

Material or Product	Dry, Pre-Wet, Pretreated, or Liquid	Lane Miles Treated with the Product for 2022-2023	Parking Lot and Sidewalk Area (Sq. Ft.) Treated with the Product for 2022-2023	Lane Miles Treated with the Product for 2023-2024	Parking Lot and Sidewalk Area (Sq. Ft.) Treated with the Product for 2023-2024	Total Amount used for 2022-2023 (Year 1) in Tons or Gallons	Total Amount used for 2023-2024 (Year 2) in Tons or Gallons	Total Amount used for 2023-2024 (Year 3) in Tons or Gallons	Total Amount used for 2023-2024 (Year 4) in Tons or Gallons	Total Amount used for 2023-2024 (Year 5) in Tons or Gallons	Total Amount Used Over First 5-Year Term
Salt (tons)	Pretreated		48								0
Deicer (gal)	Liquids		930								0
											0
											0
											0
											0
											0
											0
											0
											0
											0

Estimates of Relative Material Amounts Applied and Coverage Achieved

Year	Total Lane Miles Maintained	Total Parking Lot and Sidewalk Area (Sq. Ft.) Maintained	Percent of Total Lane Miles Treated with Dry Materials	Percent of Total Lane Miles Treated with Pre-Wet or Pretreated Materials	Percent of Total Lane Miles Treated with Liquids	Percent of Total Parking Lot and Sidewalk Area Treated with Dry	Percent of Total Parking Lot and Sidewalk Area Treated with Pre-wet or Pretreated Materials	Percent of Total Parking Lot and Sidewalk Area Treated with Liquids			
2022-2023	3.4	31,300	100%	100%	100%	100%	0%	0%			
2023-2024	3.4	31300	0%	0%	0%	0%	0%	0%			

Appendix 1 - Callouts

Joliet						
Season	#call outs	<u>Snow Fall</u> Amount, in	<u>Air Temp</u>	<u>Ground Temp</u>	<u>Salt Applied,</u> tons	<u>Chem</u> <u>Applied,</u> gal
23-24	15	22.2	29.67	29.99	50.5	855
22-23	15	20.2	27.75	30.31	50.5	930
21-22	17	32.8	28.06	27.97	62.5	2000
% change 23-24 to 22-23		9%	6%	-1%	0%	-9%
% change 22-23 to 21-22		-62%	-1%	8%	-24%	-115%

call out #	DATE	<u>Snow Fall</u> Amount	<u>Air Temp</u>	<u>Ground Temp</u>	<u>Salt Applied,</u> tons	<u>Chem</u> <u>Applied,</u> gal
1	11/25/2023		35	37.1		75
2	12/30/2023		29.6	31.1		85
3	1/5/2024		33	36		80
4	1/8/2024		35.1	35		70
5	1/9/2024		31	33.2	2	
6	1/11/2024		32	32.5		70
7	1/12/2024		35	30.4	2	
8	1/13/2024	Ice			2	
9	1/15/2024	Salt	2	3.5	2	
10	1/17/2024	Pre Treat	29	33.4		60
11	1/18/2024		28.1	29		60
12	1/19/2024	Salt	7	12.9	2	
13	1/21/2024		21.4	23.3		65
14	1/22/2024		31	31.5	2	
15	1/23/2024		34.1	30.3	2	

Appendix 4- Annual Training

	A	B
1	Role in Winter Operations	Training Topics Covered
2	Responsibilities	Introduction of amount of snow, contractor and IMTT personnel. responsibilities.
3	Education	Excessive use of salt damages
4	Education	Illinois water quality
5	Contractor expectations	Contractor requirements and Salt Smart Certification
6	Salt minimization education	Best Techniques for Manual Snow Removal
7	Salt minimization education	Salting Guidelines
8	Salt minimization education	Salt Spreading Techniques
9	Salt minimization education	Clean up after the storm

Type of Equipment	Equipment/Vehicle Number	Type of Spreader (mechanically controlled, computer controlled, etc.)	Type of Material Used with Equipment (Dry, Pre-Wet, Pretreated, Liquids)	Any Other Important Equipment Information
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Location of Storage Area	Material Stored (Rock Salt, Salt Brine, etc)	Amount of Material Stored 2022-2023	Amount of Material Stored 2023-2024	Material stored under permanent cover? (yes/describe other)	Material stored in a fully enclosed structure? (yes/describe other)	Material stored on an impervious pad? (yes/describe other)	Good housekeeping practices followed at storage area? (yes/describe other)
Trailer	Salt		60	Yes	Yes	Yes	Yes
Warehouse	Salt bags		4900	Yes	Yes	Yes	Yes

Organization Name: IMTT-Illinois Joliet Chloride TLWQS Annual Report
Appendix 7 - Capital Purchases

Capital Purchase Description	Plan/Schedule for Purchase
None	None

Joliet Chloride Concentration in Effluent

	2022	2023	2024
Month	Chloride Conc (mg/L)	Chloride Conc (mg/L)	Chloride Conc (mg/L)
January	10	90	153
February	12	3080	N/A
March	111	130	179
April	98	190	76
May	312	199	
June	110	100	
July	108	80	
August	20	32	
September	56	23	
October	76	38	
November	303	N/A	
December	240	101	

Materials

Dry

Pre-Wet

Pretreated

Liquids