ILLINOIS POLLUTION CONTROL BOARD
November 4, 2021

VILLAGE OF HOMEWOOD,	)	PCB 16-14 (Homewood)
HOMEWOOD, ILLINOIS, VILLAGE OF	)	PCB 16-15 (Orland Park)
ORLAND PARK, ORLAND PARK,	)	PCB 16-16 (Midlothian)
ILLINOIS, VILLAGE OF MIDLOTHIAN,	)	PCB 16-17 (Tinley Park)
MIDLOTHIAN, ILLINOIS, VILLAGE OF	)	PCB 16-18 (ExxonMobil)
TINLEY PARK, TINLEY PARK,	)	PCB 16-20 (Wilmette)
ILLINOIS, EXXONMOBIL OIL	)	PCB 16-21 (Country Club Hills)
CORPORATION, VILLAGE OF	)	PCB 16-22 (Noramco-Chicago)
WILMETTE, WILMETTE, ILLINOIS,	)	PCB 16-23 (INEOS Joliet)
CITY OF COUNTRY CLUB HILLS,	)	PCB 16-25 (Evanston)
COUNTRY CLUB HILLS, ILLINOIS,	)	PCB 16-26 (Skokie)
NORAMCO-CHICAGO, INC., INEOS	)	PCB 16-27 (IDOT)
JOLIET, LLC, CITY OF EVANSTON,	)	PCB 16-29 (MWRDGC)
EVANSTON, ILLINOIS, VILLAGE OF	)	PCB 16-30 (Richton Park)
SKOKIE, SKOKIE, ILLINOIS, ILLINOIS	)	PCB 16-31 (Lincolnwood)
DEPARTMENT OF TRANSPORTATION,	)	PCB 16-33 (Oak Forest)
METROPOLITAN WATER	)	PCB 19-7 (Lynwood)
RECLAMATION DISTRICT OF	)	PCB 19-8 (Citgo Holdings)
GREATER CHICAGO, VILLAGE OF	)	PCB 19-9 (New Lenox)
RICHTON PARK, RICHTON PARK,	)	PCB 19-10 (Lockport)
ILLINOIS, VILLAGE OF	)	PCB 19-12 (Crest Hill)
LINCOLNWOOD, LINCOLNWOOD,	)	PCB 19-13 (Joliet)
ILLINOIS, CITY OF OAK FOREST, OAK	)	PCB 19-14 (Morton Salt)
FOREST, ILLINOIS, VILLAGE OF	)	PCB 19-15 (Palos Heights)
LYNWOOD, LYNWOOD, ILLINOIS,	)	PCB 19-16 (Romeoville)
CITGO HOLDINGS, INC., VILLAGE OF	)	PCB 19-17 (IMTT Illinois)
NEW LENOX, NEW LENOX, ILLINOIS,	)	PCB 19-18 (Stepan)
CITY OF LOCKPORT, LOCKPORT,	)	PCB 19-19 (Park Forest)
ILLINOIS, CITY OF CREST HILL, CREST	)	PCB 19-20 (Ozinga Ready Mix)
HILL, ILLINOIS, CITY OF JOLIET,	)	PCB 19-21 (Ozinga Materials)
JOLIET, ILLINOIS, MORTON SALT,	)	PCB 19-22 (Midwest Marine)
INC., CITY OF PALOS HEIGHTS, PALOS	)	PCB 19-23 (Mokena)
HEIGHTS, ILLINOIS, VILLAGE OF	)	PCB 19-24 (Oak Lawn)
ROMEOVILLE, ROMEOVILLE,	)	PCB 19-25 (Dolton)
ILLINOIS, IMTT ILLINOIS LLC, STEPAN	)	PCB 19-26 (Glenwood)
CO., VILLAGE OF PARK FOREST, PARK	)	PCB 19-27 (Morton Grove)
FOREST, ILLINOIS, OZINGA READY	)	PCB 19-28 (Lansing)
MIX CONCRETE, INC., OZINGA	)	PCB 19-29 (Frankfort)
MATERIALS, INC., MIDWEST MARINE	)	PCB 19-30 (Winnetka)
TERMINALS LLC, VILLAGE OF	)	PCB 19-31 (La Grange)
MOKENA, MOKENA, ILLINOIS,	)	PCB 19-33 (Channahon)
VILLAGE OF OAK LAWN, OAK LAWN,	)	PCB 19-34 (CCDTH)
ILLINOIS, VILLAGE OF DOLTON,	)	PCB 19-35 (Niles)

DOLTON, ILLINOIS, VILLAGE OF GLENWOOD, GLENWOOD, ILLINOIS, VILLAGE OF MORTON GROVE, MORTON GROVE, ILLINOIS, VILLAGE OF LANSING, LANSING, ILLINOIS, VILLAGE OF FRANKFORT, FRANKFORT, ILLINOIS, VILLAGE OF WINNETKA, WINNETKA, ILLINOIS, VILLAGE OF LA GRANGE, LA GRANGE, ILLINOIS, VILLAGE OF CHANNAHON, CHANNAHON, ILLINOIS, COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS, VILLAGE OF NILES, NILES, ILLINOIS, SKYWAY CONCESSION COMPANY LLC, VILLAGE OF ELWOOD, ELWOOD, ILLINOIS, CITY OF CHICAGO, CHICAGO, ILLINOIS, VILLAGE OF CRESTWOOD, CRESTWOOD, ILLINOIS and VILLAGE OF RIVERSIDE, RIVERSIDE, ILLINOIS, Petitioners, v. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	PCB 19-36 (Skyway) PCB 19-37 (Elwood) PCB 19-38 (Chicago) PCB 19-40 (Crestwood) PCB 19-48 (Riverside) (Time–Limited Water Quality Standard) (Consolidated)

OPINION AND ORDER OF THE BOARD (by J. Van Wie)

Today, the Board issues a time-limited water quality standard (TLWQS) for chloride to 48 petitioners that discharge into the Lower Des Plaines River (LDPR) watershed and portions of the Chicago Area Waterway System (CAWS). A TLWQS is a form of temporary relief from a water quality standard that the Board may issue for a single discharger, multiple dischargers, a watershed, a water body, or a waterbody segment. Dischargers petitioning the Board for a TLWQS must demonstrate that attaining the water quality standard is infeasible for the TLWQS' proposed term because of one or more specified factors, such as human-caused conditions that cannot be timely remedied. Generally, the TLWQS consists of an interim use and interim criterion for a specific pollutant or water quality parameter that reflect the waterway's highest

attainable condition during the term of that relief. And the term must last no longer than is necessary to achieve that highest attainable condition (HAC).

In doing so, the Board recognizes the necessity for this TLWQS is driven by our Midwest winters, and the necessary use of sodium chloride – also known as road salt – to keep our sidewalks, streets, and highways free of snow and ice. This TLWQS is needed because using road salt to maintain public safety prevents Petitioners from attaining the human health water quality criterion for chloride within the LDPR watershed and portions of the CAWS watershed. Based on Petitioners' demonstrations and the Illinois Environmental Protection Agency's (IEPA) recommendation (IEPA Rec.), the Board adopts a TLWQS for chloride for 15 years, which provides Petitioners relief from the chloride Water Quality Standards (WQS) found in Sections 302.407(g)(2) and 302.407(g)(3) of the Board's water pollution regulations for discharges into the LDPR watershed and portions of the CAWS watershed. 35 Ill. Adm. Code 302.407(g)(2) and 302.407(g)(3). The Petitioners' TLWQS is subject to several conditions, including: 1) establishing a Chloride Working Group (CWG) for each watershed and requiring Petitioners' participation in the CWG corresponding to the Petitioners' discharge location or locations; 2) identifying and implementing numerous best management practices (BMPs) at Petitioners' facilities, and submitting an annual report on the efficacy of the BMPs in reducing chloride discharges; and 3) a 5-year re-evaluation of whether Petitioners are complying with the HAC for each of the watersheds. The Board believes that Petitioners' adherence to the TLWQS's requirements will put them on a path to meet the chloride water quality standard.

SUMMARY

A TLWQS is a time-limited designated use and criterion for a specific pollutant or water quality parameter that reflects the highest attainable condition during its term. While the Board has issued many water quality variances over the years, this is the Board's first issuance of a TLWQS. This matter is also significant because its 48 petitioners seek a watershed-wide TLWQS for chlorides. The purpose of the TLWQS is not to avoid compliance, but rather to create a transparent tool, as authorized under the Clean Water Act, that allows incremental progress in reducing chloride while recognizing the issues presented in our State by the use of road salt during the winter months to maintain public safety.

In granting the TLWQS, the Board considers factors outside of Petitioners' immediate control that make achieving the chloride WQS currently unattainable. However, Petitioners must continue to demonstrate – by implementing BMPs and submitting annual reports – that they are doing all they can to move the waterways closer to compliance with the chloride WQS. The Board's goal remains full compliance with the chloride WQS. However, granting a watershed-wide TLWQS allows the State and Petitioners flexibility to accomplish that goal by implementing BMPs that will evolve with the needs of the watershed.

To be granted a TLWQS, the Petitioners must prove to the United States Environmental Protection Agency (USEPA) that a TLWQS is necessary. 40 CFR § 131.21(b), *see also* 40 CFR

§ 131.10(g), 40 CFR § 131.14. To do that, the Petitioners must demonstrate that attaining the current designated use and criterion is not feasible throughout the term of the water quality standard variance based on the factors listed in 40 CFR § 131.10(g), and the TLWQS is only as long as necessary. 40 CFR § 131.10(g), 40 CFR § 131.14(b)(2)(ii). Petitioners' demonstration is discussed in further detail below. The USEPA has provided comments as part of the record in this matter and indicated support for the TLWQS conditions detailed in this Order.

This opinion and order resolves several issues raised by the participants in this proceeding. First, it determines that a watershed-wide TLWQS is appropriate, because the chloride WQS cannot be attained due to the wide-spread and necessary practice of de-icing roadways, parking lots, and walkways. Second, it finds that the HAC that must be met during the term of the TLWQS requires all covered dischargers to implement a set of BMPs and establishes the schedule to implement and report the results of the BMPs. Third, it finds that because of the watershed-wide scope of the TLWQS, the Board may require dischargers to participate in CWGs as one of the required BMPs. Fourth, it finds that to attain the TLWQS goal of meeting the chloride WQS, the Board may require the CWGs to conduct outreach and education with entities outside the TLWQS about salt-reducing methods. Fifth, it finds that salt storage facilities must use permanent or mobile berms to prevent saltwater run-off into sewers and waterways. Sixth, it establishes where and how chloride concentrations will be measured to evaluate the efficacy of the various BMPs. Seventh, it establishes the eligibility criteria that other discharges must meet to be covered under this TLWQS, including when and what offsets may be required for new chloride sources. Finally, it determines that the TLWQS requirements will be initially applied to all covered dischargers through a blanket general TLWQS permit and incorporated into individual discharger National Pollutant Discharge Elimination System (NPDES) permits as those permits come up for modification or renewal.

This opinion and order first provides a list of acronyms and abbreviations used (Pages 5 through 6). Then it sets out the legal background for a TLWQS, including the federal and state requirements to successfully petition for a TLWQS (Pages 6 through 12). Then it reviews the factual background, including the dischargers and watersheds encompassed by this TLWQS (Page 12 through 13). It then lays out the procedural background, starting with the initial WQS rulemaking, dischargers' efforts to file for variances for chloride, the conversion of those variances to TLWQS petitions under Public Act 99-937, the consolidation of the initial dockets, the addition and consolidation of further TLWQS petitioners, and the orders and hearings in this proceeding (Pages 13 through 15). Then in the discussion section, the opinion and order addresses the arguments and states the Board's findings regarding the issues described in the preceding paragraph (Pages 16 through 63). Finally, it sets out its conclusion and establishes the watershed-wide TLWQS Order to govern chloride reduction activities and effluent limits for its 15-year term (Pages 63 through 97).

ACRONYMS AND ABREVIATIONS

Act: Illinois Environmental Protection Act (415 ILCS 5/1 *et seq*. (2020)).

AWQM: Ambient water quality monitoring.

BMPs: Best Management Practices.

CAWS: Chicago Area Waterway System.

CCDTH: Cook County Department of Transportation and Highways.

CDOM: Continuous dissolved oxygen monitoring.

COD: Chemical oxygen demand.

CSOs: Combined sewer overflows.

CSSC: Chicago Sanitary and Ship Canal.

CWA: Federal Clean Water Act.

CWG: Chloride Working Group.

HAC: Highest Attainable Condition.

HOO: Hearing officer order.

IDOT: Illinois Department of Transportation.

IEPA or Agency: Illinois Environmental Protection Agency.

IERG: Illinois Environmental Regulatory Group.

JS: Petitioners' Joint Submittal.

LDPR: Lower Des Plaines River.

MS4s: Municipal separate storm sewer systems.

MWRD: Metropolitan Water Reclamation District of Greater Chicago.

NPDES: National Pollutant Discharge Elimination System.

PMP: Pollution Minimization Program.

POTWs: Publicly owned treatment works.

RO: Reverse osmosis.

TLWQS: Time Limited Water Quality Standard.

TOC: Total organic carbon.

USEPA: United States Environmental Protection Agency.

WQS: Water Quality Standard.

LEGAL BACKGROUND

The Petitioners are seeking a watershed TLWQS from the Board's chloride WQS in 35 Ill. Adm. Code 302.208(g) and 302.407(g)(3) that apply within the LDPR watershed and portions of the CAWS watershed. The Board established the chloride WQS at issue here under Section 303 of the federal Clean Water Act (CWA), 33 USC §1251(a)(2), which requires states to adopt WQSs that include designated uses and the criteria to protect such uses. *See* 40 CFR § 131.2. The Board adopted the chloride WQS in Water Quality Standards and Effluent Limitations for The Chicago Area Waterway System And Lower Des Plaines River Proposed Amendments to 35 Ill. Adm. Code 301, 302, 303, and 304, R 08-9(D) (June 18, 2015). The standards in Section 302.407(g)(2) of the Board's water pollution regulations applied from July 1, 2015 to July 1, 2018. The standards in Section 302.407(g)(3) applied beginning July 1, 2018, and replaced those in Section 302.407(g)(2). 35 Ill. Adm. Code 302.407(g)(2), (g)(3).

The water quality criteria represent "the conditions (e.g. concentrations of particular chemicals, levels of certain parameters) sufficient to restore and maintain the chemical, physical, and biological integrity of the water bodies and protect applicable designated uses." Water Quality Standards Handbook: Second Edition, Chapter 3: Water Quality Criteria, p.1 (EPA-823-B-17-001). Part 303 of the Board's rules contains water use designations which determine for a given body of water which set of Part 302 WQS applies.

> The [CAWS] and [LDPR] Waters are designated to protect for primary contact recreation, incidental contact or non-contact recreational uses (except where designated as non-recreational waters), commercial activity (including navigation and industrial water supply uses), and the highest quality aquatic life and wildlife attainable, limited only by the physical condition of these waters and hydrologic modifications to these waters. Except for the Chicago River, these

waters are required to meet the standards contained in 35 Ill. Adm. Code 302, Subpart D. 35 Ill. Adm. Code 303.204.

The chloride WQS at issue in this petition is found in Parts 302.208(g) and 302.407(g)(3). Joint Submittal (JS) at 1.3.

The following concentration for Chloride shall not be exceeded except in waters for which mixing is allowed pursuant to Section 302.102 of this Part:

Constituent	Unit	Standard
Chloride (total)	mg/L	500

35 Ill. Adm. Code 302.208(g); 302.407(g)(3).

Studies have shown that "[e]levated chloride can inhibit plant growth, impair reproduction, and reduce the diversity of organisms in streams. *See* United States Geological Survey, "Chloride Found At Levels That Can Harm Aquatic Life In Urban Streams Of Northern US." ScienceDaily, 17 September 2009. <www.sciencedaily.com/releases/2009/09/090916123513.htm>. "Use of salt for deicing roads and parking lots in the winter is a major source of chloride." *Id*.

Because the Board's chloride WQS was established pursuant to the CWA, any variation from that WQS must satisfy the CWA and the USEPA.

In 2015, the USEPA published rules under the CWA permitting variances from a WQS for a limited time period. *See* 40 CFR 131.14. A WQS variance is defined as a "time-limited designated use and criterion for a specific pollutant(s) or water quality parameter(s) that reflect the highest attainable condition during the term of the WQS variance." 40 CFR 131.3(o), *see also* 40 CFR 131.14(b)(1)(ii). The IEPA proposed rules to the Board to update its water quality variance to make them more compatible with the USEPA requirements. *See* In the Matter of: Regulatory Relief Mechanisms: Proposed New 35 Ill. Adm. Code Part 104, Subpart E, R 18-18. In the Act, the TLWQS has replaced the variance as the mechanism for seeking temporary relief from a WQS. *See* 415 ILCS 5/3.488 (2020); 415 ILCS 5/38.5 (2020); 35 Ill. Admin. Code 104.515(b). "'Time-limited water quality standard' has the meaning ascribed to the term 'water quality standards variance' in 40 CFR § 131.3(o)." *See* 415 ILCS 5/3.488 (2020).

To be approved by the USEPA, a state order granting a variance must show that attaining the designated use and criterion are not feasible throughout the term of the WQS variance because of one of the factors listed in 40 CFR 131.10(g) (10(g) Factors):

1) Naturally occurring pollutant concentrations prevent the attainment of the use; or

2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or

3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or

6) Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

40 CFR § 131.10(g), *see also* 40 CFR § 131.14(b)(2)(i)(A)(1).

The Act and Board rules, incorporating the CWA and related federal regulations, allow a discharger, or dischargers as a class, to request a TLWQS from a WQS that would otherwise apply to them. *See* 415 ILCS 5/38.5 (enacted by P.A. 99-937, eff. Feb. 24, 2017); 35 Ill. Adm. Code 104.Subpart E.

The TLWQS, once adopted by the Board and approved by USEPA, will be the applicable WQS for the Petitioners for the TLWQS term. 35 Ill. Adm. Code 104.505(d). Any limitations and requirements necessary to implement the TLWQS will be included as enforceable conditions of the NPDES permit for any permittee granted coverage under the TLWQS by the Board or Agency. *Id*. The Board will maintain, in its WQS, the underlying designated use and chloride criterion for dischargers not covered by the TLWQS, unless the Board adopts and USEPA approves a revision to the underlying designated use and chloride criterion consistent with 40 CFR 131.10 and 131.11. 35 Ill. Adm. Code 104.565(a). If a covered discharger does not conduct a re-evaluation as required and scheduled in the TLWQS or those results are not submitted to the USEPA, the TLWQS will no longer be the applicable WQS for that discharger. 35 Ill. Adm. Code 104.580(h).

A TLWQS proceeding is non-adjudicatory and not subject to the procedural requirements for rulemakings. 35 Ill. Adm. Code 101.108(a). The procedures that govern a TLWQS proceeding are found in Part 104, Subpart E of the Board's procedural rules implementing Section 38.5 of the Act, and the Federal Rules implementing the CWA. 415 ILCS 5/38.5 (2020); 35 Ill. Adm. Code 104.500 *et seq*.; 35 Ill. Adm. Code 104.Subpart E; 40 CFR § 131.

A TLWQS petition must satisfy four procedural steps to qualify for a TLWQS. First, the TLWQS petition must satisfy several content requirements, and the Board must determine whether these requirements are met before the petition may proceed to hearing. Second, the petitioner must demonstrate, through its submissions, testimony, and argument, that it meets the requirements for a TLWQS. Third, in approving a TLWQS the Board must find that the petitioner has met the requirements for a TLWQS, establish the re-evaluation schedule for TLWQS with terms longer than five years, and establish the requirements for any other discharger in the watershed to obtain coverage under the TLWQS. Fourth, the USEPA must separately evaluate whether a Board-approved TLWQS satisfies the CWA and related federal regulations. Each of these steps must be satisfied for a TLWQS to apply. The applicable statutes, regulations and rules are addressed in the following sections.

TLWQS Petition Requirements

Generally, once a TLWQS petition is timely filed,[1] the applicable WQS is stayed for that discharger until the petition is finally approved or "all rights to judicial review of the Board's order denying the petition or amended petition are exhausted." 35 Ill. Adm. Code 104.525(b), *see also* 415 ILCS 5/38.5(h)(4) (2020). The IEPA must file a response to the TLWQS petition identifying the discharger or class of dischargers, the relevant watershed, and the appropriate type of TLWQS and recommending the date by which compliant petitions are due. 415 ILCS 5/38.5(c) and (e) (2020); 35 Ill. Adm. Code 104.535. The Board must then issue an order establishing the classes of dischargers that may be covered by the TLWQS and the deadline by which petitions must be filed or amended. 415 ILCS 38.5(f) (2020); 35 Ill. Adm. Code 104.540.

After issuing the above order, the Board reviews the TLWQS petition for substantial compliance with the requirements of 40 CFR § 131.14, Section 38.5 of the Act, and the Board's Procedural Rules implementing Section 38.5 of the Act. 415 ILCS 38.5(g) (2020), *see also* 35 Ill. Adm. Code 104.530, 545(a).

[1] "Any petition for a variance from a water quality standard under Section 35 of this Act that was filed with the Board before the effective date of this amendatory Act of the 99th General Assembly and that has not been disposed of by the Board shall be converted, by operation of law, into a petition for a time-limited water quality standard under this Section on the effective date of this amendatory Act of the 99th General Assembly [February 24, 2017]." 415 ILCS 5/38.5(c) (2020).

Section 104.530 of the Board's rules specifies the content requirements of a TLWQS petition.[2] 35 Ill. Adm. Code 104.530. Section 104.530(a) lists 17 requirements that must be met by a TLWQS petition. 35 Ill. Adm. Code 104.530(a). There are two additional requirements if, as in this case, the petition is for a TLWQS covering a watershed. First, the petition must identify and document any cost-effective and reasonable BMPs for nonpoint source controls related to the pollutant of the TLWQS "that could be implemented to make progress towards attaining the underlying designated use and criterion." 35 Ill. Adm. Code 104.530(b)(1). Second, each discharger applying as a member of the TLWQS class must provide its specific information individually with the petition. 35 Ill. Adm. Code 104.530(d).

When the Board finds the TLWQS petition substantially complies as described above, the IEPA must file its recommendation regarding whether the petitioners made their demonstrations under Section 104.560, the eligibility criteria for other dischargers to be covered under the TLWQS, and the recommended term of the TLWQS. 35 Ill. Adm. Code 104.550(a).

Statutory and Regulatory Requirements for Board Hearing and Order

Illinois TLWQS Requirements

After the IEPA's recommendation is filed, the Board will give notice of and hold a public hearing on the TLWQS petition, receiving testimony and public comment. 35 Ill. Adm. Code 104.555. To meet the requirements for a TLWQS, a petitioner must demonstrate that one or more of the 10(g) Factors prevent the petitioner from attaining the WQS. *See* 35 Ill. Adm. Code 104.560(a).[3] A petitioner must also demonstrate that the TLWQS term "is the minimum necessary to achieve the [HAC]" and justify the TLWQS term "by describing the pollutant control activities required to achieve the highest attainable condition, including those activities through a Pollutant Minimization Program." 35 Ill. Adm. Code 104.560(c).

Board Opinion and Order Requirements

Where the Board finds that the petitioner has satisfied its burden of demonstrating the requirements of Section 104.560 of its procedural rules, the Board order adopting a TLWQS must then include several provisions. First, the order must identify the pollutant at issue, the watershed to which the TLWQS applies, and the entities covered by the TLWQS. 35 Ill. Adm. Code 104.565(d)(1) and (2)(A).

Second, the order must quantify the HAC as either:

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[2] Section 104.530 incorporates the requirements set out in 40 CFR § 131.14(b).

[3] 35 Ill. Adm. Code 104.560(a)(1-6) reflects the 10(g) Factors set out in the federal regulations, but part 104.560(a) also includes a 7th factor: "[a]ctions necessary to facilitate lake, wetland, or stream restoration through dam removal or other significant reconfiguration activities preclude attainment of the designated use and criterion while the actions are being implemented."

i) The highest attainable interim use and interim criterion; or

ii) If no additional feasible pollutant control technology can be identified, the interim use and interim criterion that reflect the greatest pollutant reduction achievable with the pollutant control technologies installed at the time the Board adopts the TLWQS and with the adoption and implementation of a Pollutant Minimization Program.

35 Ill. Adm. Code 104.565(d)(4)(B).

Third, the order must establish the requirements and conditions applicable throughout the TLWQS term that will represent the HAC of the watershed throughout the term and will not lower the currently attained ambient water quality. 35 Ill. Adm. Code 104.565(d)(3).

Fourth, the order must establish the TLWQS term from the date of USEPA approval or a specific date. 35 Ill. Adm. Code 104.565(d)(6). When the TLWQS term is greater than five years, the order must establish "a specified frequency [of no more than five years] to re-evaluate the highest attainable condition under Section 104.580." 35 Ill. Adm. Code 104.565(d)(7). The order must also provide that the "TLWQS will no longer be the applicable [WQS] for purposes of the Clean Water Act if the petitioner does not conduct a re-evaluation consistent with the frequency specified in the TLWQS or the results are not submitted to USEPA as required by Section 104.580." 35 Ill. Adm. Code 104.565(d)(8).

Fifth, the order must provide "[e]ligibility criteria that may be used by new or existing dischargers or classes of dischargers to obtain coverage under the TLWQS during its duration". 35 Ill. Adm. Code 104.565(d)(2)(A)(ii). The rules further state:

a) Any discharger that has not obtained a TLWQS may obtain coverage under a Board-approved TLWQS by satisfying, at the time of renewal or modification of that person's NPDES permit, or at the time the person files an application for certification under section 401 of the federal Clean Water Act, the Board-approved criteria for coverage under the TLWQS.

b) Any applicant obtaining coverage under a Board-approved TLWQS must comply with the requirements and conditions that apply throughout the term of the TLWQS established under Section 104.565(d).

c) Any applicant obtaining coverage under a Board-approved TLWQS must participate in any re-evaluations conducted under Section 104.580.

35 Ill. Adm. Code 104.575.

Federal TLWQS Requirements

Before a TLWQS becomes effective, the IEPA must submit the final, Board-approved TLWQS to the USEPA for approval in compliance with Section 303(c) of the CWA and 40 CFR §§ 131.20 and 131.21. 35 Ill. Adm. Code 104.570(a), *see also* 40 CFR § 131.14. The USEPA must either notify the State that the TLWQS is approved within 60 days or that the TLWQS are disapproved within 90 days. 40 CFR § 131.21(a). The notification of disapproval must explain why the approved TLWQS does not comply with the requirements of the CWA and related regulations and specify the changes needed to comply. *Id*.

Additionally, the federal regulations provide guidance on the impact a TLWQS would have on a petitioner's NPDES permit.

> (c) Implementing WQS variances in NPDES permits. A WQS variance serves as the applicable water quality standard for implementing NPDES permitting requirements pursuant to § 122.44(d) of this chapter for the term of the WQS variance. Any limitations and requirements necessary to implement the WQS variance shall be included as enforceable conditions of the NPDES permit for the permittee(s) subject to the WQS variance.

40 CFR § 131.14(c).

When the USEPA approves of the TLWQS, the TLWQS will be the applicable WQS for the named dischargers under its terms.[4]

FACTUAL BACKGROUND

This TLWQS proceeding addresses both the CAWS and LDPR watersheds. The CAWS watershed experiences chloride concentrations well above the 500 mg/L WQS in Section 302.208(g) during the winter months due to the application and runoff of road salt during winter weather events. "Data provided by the Metropolitan Water Reclamation District of Greater Chicago [(MWRD)] show that for the period of January 2006 through April 2017, the exceedance rate of the 500 mg/L standard, at 14 locations on the CAWS, varied from 0.0% in the Grand Calumet River up to 14.3% in the lower North Shore Channel." Joint Submittal at 1.3. "[D]ata from 2006 through 2017 show that there were no exceedances in the months of April through November, with exceedances first occurring in December and then increasing to a peak in February, and last occurring in March." *Id*. "Data for the LDPR, including Hickory Creek and its tributaries, show that for the period of February 2003 through February 2018, the exceedance rate of a 500 mg/L chloride concentration at 14 locations on the LDPR portion of the

[4] "[T]he TLWQS will no longer be the applicable water quality standard for purposes of the Clean Water Act if the petitioner does not conduct a re-evaluation consistent with the frequency specified in the TLWQS or the results are not submitted to USEPA as required by Section 104.580." 35 Ill. Adm. Code 104.565(d)(8).

Watershed, varied from 0.0% in the Des Plaines River, unnamed tributary to the Des Plaines River, and Salt Creek, up to 21% in East Branch of Marley Creek." *Id*. "The timing of these exceedances is coincident with the occurrence of cold and/or snowy weather." *Id*.

The Board defines the LDPR and CAWS watersheds 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). Homewood, PCB 16-14 (cons.), slip op. at 2 (June 8, 2017) (citation omitted), *see also* Homewood, PCB 16-14 (cons.), slip op. at 2 (April 12, 2017).

"The watershed is further clarified by the map filed as a part of [IEPA's] March 16, 2017 response." Homewood, PCB 16-14 (cons.), slip op. at 2 (June 8, 2017), *see also* Figure 1 attached.

The Board also defined "the class of dischargers potentially covered by the chloride TLWQS [to] include [] the categories of dischargers named in the Board's April 12, 2017 order within" the CAWS and LDPR watersheds. *Id*. This consolidated proceeding consists of Petitioners in the following discharger classes set by the Board:

- Public owned treatment works (POTWs)
- Communities with combined sewer overflow (CSO) outfalls
- Industrial sources
- Municipal separate storm sewer systems (MS4s)
- Illinois Department of Transportation (IDOT)
- Illinois Tollway
- Salt storage facilities

Homewood, 16-14 (cons.), slip op. at 2 (April 12, 2017).

PROCEDURAL BACKGROUND

In Docket R 08-09, the Board conducted a rulemaking proceeding regarding WQSs for the CAWS and LDPR. In Subdocket D, the Board adopted a final aquatic life WQS for the CAWS, including a concentration limit for chloride. In The Matter of: Water Quality Standards and Effluent Limitations for the Chicago Area Waterway System (CAWS) and the Lower Des Plaines River: Proposed Amendments to 35 Ill. Adm. Code 301, 302, 303 and 304, R 08-9, Subdocket D, slip op. (June 18, 2015). The rulemaking participants noted that most reaches of the CAWS and LDPR were not meeting the new chloride WQS and asserted that effluent limits based on the new WQS would be difficult or impossible to meet. These stakeholders requested

that the Board delay the application of the new WQS, so stakeholders could convene and develop options addressing these concerns while making progress in reducing chloride levels in the CAWS and LDPR. The Board granted this request, specifying that the new chloride WQS would not apply until July 1, 2018.

The stakeholders also separately petitioned the Board for a variance from the WQS within 20 days of the original effective date to secure a stay under Section 38(b) of the Act pending the disposition of the petition. 415 ILCS 5/38(b) (2014). On December 17, 2015, the Board consolidated 16 of these petitions. PCB 16-14 *et al*., slip op., Dec. 17, 2015.

On February 24, 2017, Public Act 99-937 took effect, creating Section 38.5 of the Act and converting the 16 pending petitions for WQS variances into petitions for TLWQS. 415 ILCS 5/38.5(c) (2014).

On March 16, 2017, the IEPA filed its response to the petitions.[5] On April 12, 2017, the Board established the classes of dischargers potentially covered by a watershed TLWQS for chloride under Section 38.5(f) of the Act: POTWs; communities with CSO outfalls; industrial sources; MS4s; IDOT; the Illinois Tollway; and salt storage facilities within the CAWS and LDPR watersheds. PCB 16-14 et al., slip op. at 2 (April 12, 2017). The Board also established a deadline of 90 days after the Board adopts rules under Section 38.5(k) of the Act for Petitioners to file amended or initial petitions under Section 38.5(h). 415 ILCS 5/38.5(k) (2014).

On June 8, 2017, the Board found that none of the pending TLWQS petitions were in substantial compliance with 40 CFR § 131.14. PCB 16-14 et al., slip op. at 2-3 (June 8, 2017)

On April 26, 2018, the Board adopted Part 104, Subpart E, under Section 38.5 of the Act and set a July 26, 2018 deadline to file TLWQS petitions. Regulatory Relief Mechanisms: Proposed New Ill. Adm. Code Part 104, Subpart E, R18-18, slip op. at 4 (April 26, 2018).

On July 24, 2018, the MWRD filed a joint submittal in support of the petitions for a chloride TLWQS for the CAWS and LDPR watersheds (Joint Submittal or JS). Between July 23 and August 13, 2018, all consolidated petitioners and 33 new petitioners filed individual petitions supplementing the Joint Submittal.

In August 23, 2018, the Board consolidated the additional 32 dockets[6] with the original 16, making up the 48 petitioners in this consolidated docket (Petitioners) and found the chloride

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[5] Within 21 days after any TLWQS petition is filed, the IEPA must file a response recommending the date by which compliant petitions are due and identifying the discharger or class of dischargers, the relevant watershed, and the appropriate TLWQS. 415 ILCS 5/38.5(e).

[6] Ingredion, Inc. submitted a petition (PCB 19-32) regarding a temperature TLWQS which was initially consolidated with this docket but severed in correction. Homewood, PCB 16-14 (cons.), slip op. at 2-3 (Sept. 20, 2018).

WQS stayed for all Petitioners in the caption except the villages of Crestwood and Riverside, both of which had missed the July 26, 2018 filing deadline. PCB 16-14 et al., slip op. (August 23, 2018). The Board granted deadline extensions and stays for the villages of Crestwood and Riverside on September 20 and October 4, 2018, respectively. Homewood, PCB 16-14 (cons.), slip op. at 3 (Sept. 20, 2018); Homewood, PCB 16-14 et al., slip op. (Oct. 4, 2018).

On December 20, 2018, the Board found that all petitions contain the required components for a TLWQS petition and are in "substantial compliance" with 40 CFR § 131.14, Section 38.5 of the Act, and Section 104.530 of the Board rules. Homewood, PCB 16-14 et al., slip op. (Dec. 20, 2018), *citing* 40 CFR § 131.14, 415 ILCS 5/38.5, and 35 Ill. Adm. Code 104.530.

On April 5, 2019, the IEPA filed its recommendation to adopt the proposed chloride TLWQS requests, conditioned upon implementing BMPs and Pollution Minimization Programs (PMPs). Between April 16 and April 19, 2019, 15 petitioners[7] filed responses to the IEPA's recommendation.

On July 24, 2019, the Board submitted questions to the Petitioners and IEPA. On September 23 and 24, 2019, Petitioners filed their responses.

On January 17, 2020, prefiled testimony was filed on behalf of 5 participants.[8] On February 13, 2020, both the Board and four participants pre-filed questions.[9]

On February 18, 2020, the Board held a hearing that included testimony from nine witnesses. Between March 17, 2020 and August 21, 2020, the Board received several post-

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[7] (4/16/2019) City of Oak Forest, Village of Orland Park; (4/18/2019) Village of New Lenox, City of Crest Hill, Village of Glenwood; (4/19/2019) Village of Crestwood, Village of Winnetka, IMTT, Village of Morton Grove, Village of Skokie, Morton Salt, Cook County Department of Transportation and Highways, (CCDTH), City of Lockport, MWRD, Village of Channahon.

[8] Citgo Holding, Inc., Morton Salt, Openlands, CCDTH, Village of Frankfort.

[9] Openlands, Illinois Environmental Regulatory Group (IERG), IEPA, Citgo Holdings, Inc. (CITGO)

hearing public comments[10] and reply comments.[11] On April 21, 2020, the participants submitted briefs, with reply briefs[12] submitted on August 21, 2020.

DISCUSSION

The federal and state rules, regulations, and statutes require several findings to approve a TLWQS. Further, the Board and participants have raised several issues regarding the proper provisions of a TLWQS. These issues are addressed in this Section. First, this opinion and order addresses whether the Petitioners have demonstrated that the chloride WQS cannot be currently attained and a watershed-wide TLWQS is merited (Pages 16 through 21). Second, it determines the HAC that must be met during the term of the TLWQS. Within the discussion of the HAC, the opinion evaluates the proposed PMPs and establishes the schedule to implement and report the results of the BMPs (Pages 21 through 45). The HAC section also determines what BMPs must be implemented by dischargers covered by the TLWQS, including participation in CWGs, requiring education outreach, and use of permanent or mobile berms to prevent saltwater run-off into sewers and waterways. The HAC section closes by addressing the minimum necessary term of this TLWQS. Third, this opinion and order determines the eligibility criteria that other discharges must meet to be covered under this TLWQS, including offsets that may be required for new chloride sources (Pages 45 through 54). Fourth, this opinion and order determines what measurements will be required to measure chloride concentrations and evaluate the efficacy of the various BMPs (Pages 54 through 59). Finally, this opinion and order determines how the TLWQS requirements will be initially incorporated into individual discharger NPDES permits (pages 59 through 61).

Threshold TLWQS Requirements – 40 CFR § 131.10(g) – "the 10(g) Factors"

The Petitioners cite two of the 10(g) Factors to support their proposed TLWQS request, arguing that the chloride WQS is not feasible to achieve throughout the term of the TLWQS because:

> 3. Human caused conditions or sources of pollution prevent the attainment of the designated use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
>
> * * *

[10] Chicago Salt Company, CITGO, IEPA, IERG, IMTT, Palos Heights, River Advocates, USEPA.

[11] IMTT, Morton Salt.

[12] This included a reply brief submitted by the "River Advocates" group, consisting of Friends of the Chicago River, Openlands, and the Illinois chapter of the Sierra Club.

6. Widespread economic and social impact would result from controls more stringent than those required by CWA Sections 301(b) and 306.

JS at 3.1, *citing* 35 Ill. Adm. Code 104.560(a)(3) and (6), *see also* 40 CFR § 131.10(g)(3) and (6). The Petitioners address the 10(g) Factors 3 and 6 together in their analysis, considering the environmental, financial, and social impact of several alternatives. Likewise, this opinion and order addresses these factors together.

The Petitioners argue that the "primary basis for the TLWQS [being] sought is that human-caused conditions (i.e., reliance on salt for de-icing of roadways and thoroughfares) cannot be remedied [and] prevent the attainment of the water quality standards." JS at 3.1. "The monitoring results for chloride levels in the [CAWS and LDPR] Watershed during the period of January 2006 through April 2017 indicate that many of the reaches do not consistently meet the [WQS] in the winter." JS at 2.1-4.

The Petitioners evaluate two methods to reduce winter salt loads below the 500 mg/L standard. First, they evaluate the most likely "end-of-pipe" treatment - reverse osmosis (RO). Second, the Petitioners evaluate methods of reducing chloride discharged to the sewer system, including the significant reduction or cessation of salt laying operations during cold weather events.

While the Petitioners evaluate each of the discharger classes, there is a great deal of overlap between them. POTWs are addressed first and many of the same factors apply to the other classes of dischargers.

Reverse Osmosis (RO)

POTWs employ several treatment processes, however the primary and secondary processes used at POTWs are not designed to remove chlorides. *Id*. at 2.5. Rather, additional "end-of-pipe" controls would have to be used. The Petitioners state that these controls "would likely involve installation of [RO] units at every POTW." In evaluating RO, the Petitioners note several problems. First, RO systems require a large amount of land – more than could be feasibly acquired in urban environments.[13] Second, the cost for an RO system ranges from $4-18 million per million gallons a day treated. *Id*. at 2.6. For the three major MWRD POTW facilities, the costs are estimated to be over $350 billion. *Id*. at 2.6. Third, RO facilities have high energy requirements and would impose large operational costs. Fourth, RO generates a

[13] "For the three major MWRD plants, RO would require the following amounts of land: (1) for Stickney, 298 acres (at a plant with a total land area of 570 acres); (2) for O'Brien, 93 acres (at a plant with a total land area of 97 acres); and (3) for Calumet, 89 acres (at a plant with a total land area of 470 acres)." *Id*. at 2.5.

concentrated salt brine that must be disposed of separately. Fifth, it would take an extended period to design, construct, and install the RO systems. Finally, RO systems have never been successfully designed and implemented at the size that would be required to address the large POTWs in the CAWS and LDPR watersheds. "For all those reasons, applying RO controls to the POTW's effluents, to meet the new chloride standards, is not an option that can be applied." *Id*. at 2.6.

RO systems for communities with CSO outfalls face the same land and expense problems as POTWs. *Id*. at 2.9. In addition to the above problems, RO for industrial dischargers can pose additional operational costs. The treated effluents for industrial dischargers can contain higher effluent concentrations of total organic carbon (TOC) and chemical oxygen demand (COD) that consist of polymeric byproducts of the bacteria used in a biological treatment system. *Id*. at 2.11-12. These TOC and COD components will foul RO membranes, rendering the system non-functional. *Id*. at 2.12. Additional treatment technologies will be needed to remove these components upstream of the RO units, resulting in additional costs and wastes. *Id*. at 2.12. Petitioners further state "contributions of chlorides from industrial sources are not substantial in relation to other loadings, so reductions from applying RO to those sources would not make a significant difference" in meeting winter chloride standards. *Id*. at 2.12.

For the above reasons, the Petitioners assert that RO is not a feasible option to reduce chloride loading to meet the chloride standards. *Id*. at 2.5-6. The IEPA agrees that "the [RO] option, assuming it is even technically and financially feasible, would not result in a reduction of salt usage and the associated environmental impacts." IEPA Rec. at 7. Rather, "[RO] would result in significant additional environmental damage, due to the energy usage associated with running [RO] facilities to remove salt from contaminated stormwater and trucking the residual concentrated brine." *Id*. Having concluded that end-of pipe options are not feasible, Petitioners evaluated other methods to reduce the discharge of chloride.

Potential Road Salt Alternatives

The Petitioners acknowledge that "the inability of the dischargers to the Watershed to comply with the chlorides standards established by the Board for the Watershed is driven largely by the need to maintain safe roadway conditions for travelers and safe walking surfaces for pedestrians." JS at 3.2. Petitioners considered options to substitute or reduce the use of road salt. However, Petitioners did not find immediately applicable solutions. Further, many of the options have different environmental effects and varying levels of resulting waste. They cite several studies, including "Chloride Free Snow and Ice Control Material (Minnesota Department of Transportation)." JS at 2.7 n.13. This Chloride Free Study provides analyses of various chloride and non-chloride de-icing options, including alternate chemicals, sticky materials (beet juice), and abrasives (sand). In considering these alternatives, this study acknowledges that "[t]here are no chemicals currently marketed and used in winter maintenance that do not impact lakes, rivers and wetlands." JS, Appx. 27 at 11. Organic deicers and additives are much less persistent in the water than chlorides. *Id*. However, organic deicers break down quickly and

decompose, using up the oxygen in the water, leading to low dissolved oxygen.[14] *Id*. Additives can also stimulate algae growth.[15] This study estimates the price by volume and application, the scalability, the harm to the environment, and the effect on ice of each alternative:

Deicer Category	Material	Approx. Price	Approx. cost per lane mile	Large Scale Availability (Yes/No)	Harmful to Environment* (Yes/No)	Melts Ice (Yes/No)
Acetates	Potassium Acetate	~ $4.50/gal.	~ $135	Yes	Yes	Yes
	Sodium Acetate	~ $1,900/ton	~ $190	Yes	Yes	Yes
	Calcium Magnesium Acetate	~ $1900/ton	~ $190	Yes	Yes	Yes
Formates	Sodium Formate	~ $400/ton	~ $40	No	Yes	Yes
	Potassium Formate	~ $70/gal.	~ $2,100	No	Yes	Yes
Urea	Urea	~ $490/ton	~ $49	Yes	Yes	Yes
Glycerol/ Glycol	Glycerol	~ $50/gal.	~ $1,500	Yes	Yes	Yes
	Ethylene Glycol	~ $40/gal.	~ $1,200	No	Yes	Yes
	Propylene Glycol	~ $40/gal.	~ $1,200	Yes	Yes	Yes
Succinate	Potassium Succinate	~ $2.50/gal.	~ $75	Unknown	Yes	Yes
Additives	"Beet Juice"	NA	N/A	NA	Yes	No
	Molasses	NA	N/A	NA	Yes	No
	Distiller's Solubles	NA	N/A	NA	Yes	No
	Corn Syrup	NA	N/A	NA	Yes	No
Abrasives	Sand	~ $10/ton	~ $1	Yes	Yes	No
Chlorides	Sodium Chloride	~ $70/ton	~ $7	Yes	Yes	Yes

[14] The listed acetates, formats, urea, glycerol/glycol, succinates, and additives biodegrade and use up dissolved oxygen in the water. JS, App. 27 at 9.

[15] In additional to biodegrading and using up dissolved oxygen, urea and the additives also stimulate algae and aquatic plant growth. *Id*.

Deicer Category	Material	Approx. Price	Approx. cost per lane mile	Large Scale Availability (Yes/No)	Harmful to Environment* (Yes/No)	Melts Ice (Yes/No)
	Sodium Chloride liquid	~ $0.15/gal.	~ $5	Yes	Yes	Yes
	Calcium Chloride	~ $1.40/gal.	~ $42	Yes	Yes	Yes
	Magnesium Chloride	~ $1.20/gal.	~ $36	Yes	Yes	Yes
* Whether products are considered harmful to surface or groundwater, including high turbidity, loss of habitat, high conductivity, high dissolved oxygen demand, toxicity, or nutrient loading.						

Id. at 8-9.

The Petitioners noted that none of these listed alternatives are a feasible means to comply with the chloride WQS in the Watershed, while still providing adequate public safety. JS at 3.1.

The Petitioners assert that the available studies show programs aimed at reducing chloride loading to waterways need to be developed on a watershed-specific basis. *Id*. at 2.7. While these programs have been shown to generally reduce chloride levels between 10-25%, there is a significant lag time between implementing these programs and realizing significant chloride reductions. *Id*. at 2.7-8. Thus, the Petitioners cannot employ these programs to immediately comply with the chloride WQS.

The Petitioners conclude that "[t]he only other option, stopping the use of road salt, might be feasible, but would be very dangerous to the public." *Id*. at 3.2. "Currently there are no other environmentally safe and cost-effective alternatives that work as effectively; therefore, the continued use of salt by major metropolitan regions is expected to continue as the predominant deicing agent for public safety."[16] *Id*. at 3.4.

The IEPA agreed that "an immediate, substantial reduction or cessation of road salting, while technically feasible, is not a viable option because of the increased risk of loss of human life due to icy and snow-covered roads." IEPA Rec. at 7. The IEPA briefly addresses the likely impact of aggressively reducing the use of salt to de-ice roadways:

The greatest concern with applying aggressive measures in an attempt to meet the

[16] Petitioners discuss several studies showing that "salt addition significantly improves road surface conditions and safety outcomes" and that salting roads resulted in fewer automobile crashes than using sand. JS at 3.6-7.

> chlorides standards as quickly as possible is that the seasonal largest contributor to levels of chlorides in the Watershed is the use of salt to de-ice roadways, thoroughfares, and industrial/commercial/public parking lots, walkways and working surfaces during winter months. Reduction in the salt used for this critical purpose presents public safety threats that cannot be ignored.
>
> Failure to properly salt the roads presents multiple negative and grave social impacts, including increased likelihood of accidents involving vehicles traveling on roadways as well as pedestrians traveling on roadways or maintained sidewalks. Allegations of failure to properly maintain these thoroughfares could easily result in liability for municipal, governmental, or private entities responsible for their maintenance. *Id*. at 3.2 (citations omitted).

None of the participants in this consolidated docket disagree with this claim.

10(g) Factors 3 and 6 – Analysis and Findings

After reviewing the above methods, the Petitioners concluded that the human-caused conditions cannot be remedied or would cause more environmental damage to correct than to leave in place. JS at 3.1. "Secondarily, since RO, even if feasible, would cost hundreds of billions of dollars, and stopping the use of salt would result in substantial increases in deaths and injuries due to ice-related accidents, it is clear that efforts necessary to comply with the standards are more stringent than those required by the Clean Water Act §§ 301(b) and 306, and the economic and social impact of ceasing to use of salt and would result in widespread economic and social impact." *Id*. at 3.1-2.

The IEPA "agrees with the Petitioners that attainment of the designated use and chloride [WQS] is not feasible because of human caused conditions (Factor 3) and controls would result in substantial and widespread negative economic and social impact on the public (Factor 6)." IEPA Rec. at 10. No participants in the consolidated docket have argued against these factors.

Board Findings. The Petitioners have adequately demonstrated that the human-caused condition of seasonal salt loading to reduce ice accumulation necessary to maintain public safety prevents attainment of the chloride WQS in the CAWS and LDPR watersheds. The Petitioners have further adequately demonstrated that other available anti-icing or chloride treatment alternative technologies would cause more environmental damage than the chloride loading at issue. While not required to satisfy the Board's rules, the Petitioners have also adequately demonstrated that the economic and social impact of not salting roadways during winter snow events, or devoting substantial land and funds to a reverse osmosis program, would be more stringent than required by Sections 301(b) and 306 of the CWA. Therefore, the Board finds that the Petitioners have demonstrated that both Factors 3 and 6 are applicable, satisfying 35 Ill. Adm. Code 104.560(a).

HAC Throughout the Term of the TLWQS

Where "attainment of the designated use and criterion is not feasible for the proposed term of the TLWQS," the analysis turns to the HAC during the term of the proposed TLWQS and what the term of the TLWQS will be. *See* 35 Ill. Adm. Code 104.560(a) and (c).

HAC Quantified

A TLWQS for a watershed must specify the HAC "as a quantifiable expression of one of the following:"

1) The highest attainable interim use and interim criterion; or

2) If no additional feasible pollutant control technology can be identified, the interim use and interim criterion that reflect the greatest pollutant reduction achievable with the pollutant control technologies installed at the time the Board adopts the [TLWQS] and with the adoption and implementation of a [PMP].

35 Ill. Adm. Code 104.565(d)(4)(B).

The Petitioners have not identified any pollution control technology that can be feasibly deployed to reduce chloride loading. The Petitioners have demonstrated that other existing pollution control technologies would cause more environmental damage than the chloride loading and are not economically feasible.

Instead, the Petitioners propose individual PMPs requiring each covered discharger to work in a collaborative watershed-wide, workgroup-based approach to implement BMPs identified in the Joint Submittal, which "is not expected to result in compliance with the standards" in the near future. JS at 2.4. Within six months of the effective date of the TLWQS, each covered discharger will develop a PMP detailing how the discharger will implement BMPs for its discharger class at its site. *Id*. at 7.1.

The USEPA notes that this "approach would not require an upfront evaluation of each discharger's individual ability to reduce its chloride load." USEPA Com. At 2. However, such a TLWQS does require an interim use and interim criterion at a watershed level. 35 Ill. Adm. Code 104.565(d)(4)(B). The following sections address the individual PMPs, the identified BMPs, and the interim criterion.[17]

[17] Petitioners do not propose an interim use different from the current designated aquatic life uses for CAWS and LDPR waters, and the opinion does not address one. JS at 1.5.

Individual PMPs. The Petitioners state that they will implement BMPs, perform monitoring at MWRD sampling points, and adaptively manage them through working groups "so that as results are seen (or not seen), the program can be adjusted to improve the long-term situation." JS at 2.4, 2.8. The PMP is intended to demonstrate actions being taken by each discharger to get closer to meeting the chloride WQS. The USEPA "believes this requirement is an important component to ensure that the proposed collaborative watershed approach will achieve the greatest reductions achievable," because "these plans would allow facilities to tailor their BMP implementation to the specific sources of chloride in their effluent." USEPA Com. at 5. The USEPA further "recommends that the Board include a provision . . . requiring that these discharger-specific plans represent the plan expected to achieve the greatest achievable chloride reduction for the discharger." *Id*.

The PMPs must contain discharger class-specific implementation deadlines for the full proposed 15-year term and recordkeeping, reporting, and documentation procedures. *Id*. at 9.3-11. In addition, the PMPs require filing annual progress reports with the IEPA and the working groups, including:

1) whether and to what extent cost-effective and reasonable BMPs have been implemented;
2) availability of alternative treatments;
3) any changes to a facility's NPDES treatment technologies;
4) effluent data if any exist;
5) amount of salt used;
6) proposed steps for coming year;
7) any issues encountered implementing BMPs;
8) a summary of relevant, available instream chloride monitoring data (which may reference data gathered by State or Federal agencies or other parties); and
9) a summary of relevant, available snowfall data.

Id. at 9.2-3. The IEPA proposed the following BMP implementation schedule for POTWs, communities with CSOs outfalls, MS4s communities and IDOT/Tollway:

6 MONTHS AFTER EFFECTIVE DATE[18]	Petitioner establishes a mechanism for tracking of de-icing salt usage for each facility.

[18] The USEPA states that it "supports the proposed language basing development and implementation of the PMPs on the effective date of the variance, not permit reissuance." USEPA Com. at 5.

July 1 OF EVERY YEAR (BEGINNING WITH YEAR 2)	Petitioner submits an Annual Report to IEPA and the chlorides workgroup on salt usage for deicing and steps taken to minimize salt use and makes the report publicly available. In the Annual Report, the Petitioner must discuss the following: a. A checklist for the best management practices being used. b. If annual training was completed for the entire workforce that applied chloride. c. The number or percent coverage of the best management practice, if the best management practice is not being done exclusively for the entire coverage of that entity. For example, if dry, wet, and liquids are being used, an estimate of the amount/percentage of coverage that is being used for dry deicing agents, the amount/percentage of coverage that is being used for wet deicing agents, and the amount/percentage of coverage that is being used for liquid deicing agents. d. Type of deicing agent. e. Whether, in the last year, the use of liquids was increased, and dry salt application rates were reduced. f. Application rates, how they vary for different types of weather, and how they have changed over the term of the TLWQS. g. An estimate of the annual salt use over the term of the TLWQS. h. Number of callouts. For each callout, the facility should keep the following information: i. Quantity and type of precipitation during the callout. ii. Application rate during the callout iii. Quantity of salt used for each callout.

	i. Information on salt storage, and methods to ensure good housekeeping policies are implemented (e.g., cleaned-up salt piles). j. An analysis of the BMPs that have been 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/setbacks. k. An analysis of any new technology that could be implemented by the Petitioner to reduce chloride loadings. l. Identification of necessary capital purchases and expenditures (e.g., new or retrofitted salt spreading equipment necessary to allow for pre-wetting and proper rates of application). m. Identification of additional training that is necessary. n. Explanation of why Petitioner was unable to complete the training and make all capital purchases and expenditures identified in the previous Annual Report.
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.
July 1 OF EVERY YEAR	Petitioner submits Annual Report to 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 shall be consistent with the requirements listed in Paragraph 2 above.
July 1 of YEAR 3, YEAR 8 and YEAR 13	The chlorides workgroup submits a Status Report to the IEPA which includes, an analysis of the following: a. chlorides monitoring data; b. 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; c. identification of any new BMPs, treatment technology, and salt alternatives;

	d. identification of the impediments and potential solutions of those impediments faced by Petitioners 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; e. identification and description of any assistance (financial, technical, or otherwise) that the chloride workgroup may be able to provide.
YEAR 4 ½.	Chlorides workgroup submits to the Board its first proposed re-evaluation pleading consistent with the Board's order granting the TLWQS.
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.
YEAR 9 ½.	Chlorides workgroup submits to the Board a second proposed re-evaluation pleading consistent with the Board's order granting the TLWQS or the Board's order adopting the first re-evaluation.
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.
YEAR 14 ½.	Chlorides workgroup submits to the Board a notice of whether the chlorides water quality standards have been met, or whether the Petitioners will seek a new TLWQS.

IEPA Rec. at 22-24.

The River Advocates argue that the TLWQS should require the PMPs to be developed through a public process and that "the PMPs should be included as enforceable conditions of each permit within at least six months of the variance's effective date" to "ensure that the PMPs are subject to public scrutiny as part of modifying each NPDES permit." River Advocates Com. at 16.

The MWRD disagrees with this approach, arguing that the "BMPs have already been subjected to extensive opportunities for public comment, through the TLWQS process" and "require[ing] each individual PMP to go through public comment would be duplicative, and would destroy much of the benefit to developing this TLWQS on a watershed-wide level for each source category." MWRD Bf. at 9. Instead, the MWRD recommends that "the Board language clearly state that once the PMP is developed, it must be made available to the public, and that that can be done through inclusion of the PMP on the web site of the work group." MWRD offers that this "can be done through adding the following language at the end of Section 3(a) [of the TLWQS]: 'Dischargers must make their Pollutant Minimization Plans publicly available (which may be done through inclusion of the plans on the workgroup's website.'" *Id*. "[I]f someone believes that a PMP does not comply with the requirements of the TLWQS, they are free to bring that to the attention of IEPA, which can take appropriate enforcement action." *Id*.

Board Findings. The Board agrees with the USEPA and finds that the order must contain language requiring that each discharger must provide a PMP expected to achieve the greatest achievable chloride reduction. The Board also finds that the approach recommended by the MWRD is more consistent with a watershed TLWQS, and that the PMPs must be made public. This can be accomplished by putting the Petitioners' individual PMPs on the CWG website. The Board, however, rejects the River Advocates' request that PMPs be subject to additional public comment, because the BMPs are already subject to public comment. The Board finds that adopting and implementing the PMPs in this manner satisfies 35 Ill. Adm. Code 104.565(d)(4)(B)(2).

BMPs. The BMPs represent the actions that each individual petitioner must undertake to help the watershed get closer to the goal of achieving the chloride WQS. Granting the watershed-wide TLWQS represents the collective agreement of the Petitioners to implement actions required to work toward that goal.

The Petitioners state that chloride that flows through POTWs comes from the runoff from municipalities and industries that discharge into the tributary sewer system, and snow removal and deicing activities at the POTW itself. JS at 2.5. Because chloride is not removed in the POTW's primary and secondary treatment processes, the Petitioners maintain that "any reductions of chloride can only be achieved from both the tributary and on-site snow removal and deicing activities, prior to entry to the treatment processes." *Id.* The Petitioners state that reducing chloride entering the sewer system may be achieved "through implementation of practices that reduce use of road salt during the winter, including, where appropriate, substitution of other materials to manage ice and snow on the roads." *Id.*

The Petitioners note that "a mix of chloride BMPs for the Watershed has been developed, in consultation with the Salt Institute" as a part of the proposed TLWQS. JS at 2.8. These BMPs, the Petitioners contend, "can be reasonably implemented by dischargers to the Watershed, [and] should lead, over the long term, to significant progress toward compliance with

the chlorides [WQS] for the Watershed." JS at 2.4. However, as described above, the Petitioners state that implementation of the proposed BMPs is not expected to result in compliance with the WQS in the near future. *Id.*

The IEPA agrees "that implementation of the BMPs must be done across the watershed by as many dischargers as possible to eventually comply with the chlorides water quality standard." IEPA Rec. at 13. However, the IEPA recommends certain modifications to the Petitioners' proposed BMPs, including the addition of two BMPs that apply to all covered dischargers: 1) participation in chloride workgroups; and 2) requiring all salt storage working areas to be bermed and/or sloped to allow snow melt and stormwater to drain away from the area or be collected for future use or later discharge. IEPA Rec. at 14, 16.

The order enumerates 18 BMPs (BMP 1-18) applicable to POTWs, industrial sources, CSO outfalls, MS4s, and the IDOT / Illinois Tollway. Fifteen BMPs apply to all five discharger categories. Two BMPs only apply to CSO outfalls, MS4s and the IDOT/Illinois Tollway. One BMP only applies to CSO outfalls and MS4s. The order also identifies 10 BMPs (BPM A-J) that only apply to salt storage facilities.

The opinion first addresses 3 BMPs proposed by the IEPA on which the participants could not agree: BMP 1, requiring all covered dischargers to participate in CWGs; and BMPs 16 and H, requiring berms in salt storage working areas to allow snow melt and stormwater to drain away from the working area. Then the opinion addresses the remaining BMPs on which the participants largely agree.

Chloride Workgroups (CWGs). The Petitioners recognize the necessity of a workgroup to work collectively on certain activities required under the proposed TLWQS. JS at 9.2, fn. 41, and at 10.2, fn. 42. The Joint Submittal states that all dischargers covered by the TLWQS would be required, as a condition of the TLWQS, to participate in a CWG that re-evaluates the HAC. JS at 10.1 -10.2 citing fn. 42.

The IEPA recommends making participation in the CWGs a BMP requirement for all covered dischargers. Its recommendation also clarifies the number of CWQs that must be formed under the TLWQS as well as their responsibilities. MWRD, along with several other petitioners, oppose some of the provisions of the CWG proposed by IEPA. Most notably, MWRD questions whether the IEPA or Board could require the Petitioners to join a CWG and whether CWGs must engage in outreach to and education of other entities, including nonpoint sources and MS4s. Tr. at 14-16. The USEPA supports IEPA's recommendations. USEPA Com. at 2-3.

In its recommendation, the IEPA proposed a new TLWQS BMP requiring all Petitioners, and any source who later seeks coverage under the TLWQS, to participate in a CWG. IEPA Rec. at 34. IEPA proposed actions that each discharger would need to take as part of their CWG:

4. Chloride Workgroups (CWG)

a) The dischargers covered by this TLWQS must participate in a chloride workgroup whose main goals are working toward the reduction of chloride in the receiving stream and gathering information for the reevaluation.

b) The dischargers must participate in the workgroup(s) associated with the watershed in which the discharge is located.

c) Workgroups must convene at least semi-annually and continue meeting throughout the term of the TLWQS.

d) By the deadlines listed in Table 4, the workgroup must submit a Status Report to IEPA and make the report publicly available. The Status Report must compile and analyze the individual discharger Annual Reports into an [*sic*] watershed-wide report and include the following:

1) Chlorides monitoring data.

2) Workgroup's outreach strategy, including efforts to include other dischargers under the TLWQS, and outreach and training for nonpoint sources.

3) New BMPs and treatment technologies to reduce chloride loading to the environment.

4) Impediments faced by dischargers under the TLWQS that prevent them from completing the training and making all capital purchases necessary to implement the required BMPs.

5) Possible solutions to impediments listed in (4)(d)(4).

6) Identification and description of any financial, technical, or other assistance the workgroup may be able to provide individual dischargers to overcome the impediments described in (4)(d)(4).

7) Results of criteria measurement and compliance demonstration with the highest attainable condition under Item 5.

e) Workgroups must prepare outreach and educational materials to create awareness about the environmental impacts of chlorides. Workgroups must share these materials with other users of road salt in their local area,

including residents, road salt applicators, elected officials, and businesses. Outreach and education materials may include various forms of social media, incentives for chloride reduction, support for community-based training of commercial road salt spreaders, training for residents and other entities that apply road salt, and funding or other support to implement chloride BMPs in communities where new equipment is not affordable.

f) Workgroups must coordinate with IEPA to identify communities located in the TLWQS watersheds who have Municipal Separate Storm Sewer System (MS4) permits. Workgroups must reach out to the MS4 communities to remind them of the general permit special condition requiring participation in a watershed chloride workgroup and provide information on participating in their workgroup. Additionally, workgroups must provide MS4 communities with their education materials.

g) Workgroups must coordinate with IEPA to identify different nonpoint source categories beginning in year seven of the TLWQS term. Workgroups must work with IEPA to prioritize and implement education outreach efforts for nonpoint sources based on their road salting practices and proximity to surface waters.

h) Workgroups must identify all sampling points and sampling frequency in a sampling plan to demonstrate compliance with the highest attainable condition as delineated in Item 5.

7/24/2019 Hearing Officer Order (HOO), Attachment 1 at 14-15.

Depending on the location of the discharge, the IEPA proposes that all Petitioners, and any source who later seeks coverage under the TLWQS, should be required to participate in either the CAWS CWG or the LDPR CWG.[19] IEPA Rec. at 14-15. The IEPA states that the CWGs must convene at least semi-annually throughout the term of the TLWQS to evaluate and implement measures identified by the Board. *Id.* at 15. The CWGs must also "summarize the yearly progress in the watershed by compiling and analyzing each participant's annual report." *Id.*

Additionally, the IEPA recommends that CWGs "should also target BMPs to be achieved in areas outside of their individual and immediate jurisdiction to support watershed improvements as a whole… by creating awareness about the environmental impacts of chloride through education, outreach, and other activities to local residents, applicators, elected officials,

[19] The IEPA states that a discharger into both watersheds would only need to participate in one chloride working group. IEPA Resp. to 7/24/2019 HOO at 7.

and businesses and further supported by creating education materials or incentives for other organizations to distribute." IEPA Rec. at 15. "Additional opportunities could include training of citizens or private companies that remove snow and apply salt, helping communities (that cannot afford new equipment) implement BMPs to reduce chlorides, or supporting community-based requirements that commercial salt spreaders receive training." *Id*. The IEPA further states that the workgroup outreach strategy must include working with the MS4 communities, industries, CSO communities, and nonpoint source categories to inform them of General NPDES Permit No. ILR40 Special Condition D that requires participation in a watershed group formed to reduce chlorides. IEPA Rec. at 15-16.

The River Advocates argue that the proposed TLWQS must allow organizations other than dischargers, as well as the public, to participate in the CWGs and include any related analyses or studies in the workgroup status report. 8/21/20 River Advoc. Rep. at 5-6, Ex. A at 16. They note that, "[w]hile the River Advocates are not dischargers and therefore not Petitioners under the TLWQS, they have participated as interested parties in these proceedings to advance the public interest, lend science-based technical expertise and advocate for water quality standards that are fully protective of existing and attainable aquatic life uses. There is no legal basis the River Advocates can find to prevent such a requirement." *Id*. at 6.

Mandatory Participation in CWG. MWRD and other Petitioners object to several CWG requirements recommended by the IEPA. "[I]t is not appropriate, or within the Board's authority, to impose additional obligations on the workgroups" beyond those initially proposed by the Petitioners. MWRD Resp. to 7/24/2019 HOO at 9-10. These provisions include: semi-annual convention of the workgroup; efforts to include other dischargers in the TLWQS; conducting outreach to provide education and training for nonpoint sources and MS4 communities; and to provide any financial, technical or other assistance to individual dischargers. MWRD Br. At 4-5, *see also* IERG Com. At 3. IMTT also argues that the proposed provisions lack both a specific goal for the work groups and procedures governing the groups' activities. IMTT Resp. to 7/24/2019 HOO at 2-4. The Illinois Environmental Regulatory Group (IERG) similarly argues that the IEPA should not expand the scope of the proposed workgroup requirement beyond "the requirements for data gathering, submittal of annual reports, and reevaluation [as] a group effort." IERG Com. At 3.

The IEPA states that it "could not find anything suggesting the [IEPA] does or does not have the authority" to propose the contested requirements. IEPA Com. at5. IEPA adds that the Petitioners have neither cited any statute that prohibits adopting the proposed workgroup provisions, nor provided an alternative option to assist with the collaborative approach to watershed management. IEPA Reply Com. At 5. The IEPA also states "a workgroup is necessary to provide the justification that the [TLWQS] should be extended beyond the first five years," because "for a watershed [TLWQS] to work, there is a need for a showing of a [sic] point and nonpoint source reductions." Tr. at 145-47. Finally, the IEPA notes that "it is the [IEPA]'s understanding a workgroup is needed, so that USEPA will approve the [TLWQS]" and "the [IEPA] believes, as well as USEPA, that these are essential components needed for a successful watershed TLWQS." IEPA Resp. to 7/24/2019 HOO at 5; IEPA Com. 5 at 7. "[T]he workgroup

requirement is related to the [HAC] and because the [HAC] is needed for the TLWQS the Board can require this." IEPA Rep. Com. At 5.

The USEPA agrees with IEPA that a collaborative watershed workgroups approach would be appropriate and effective to address the widespread pollution problems where numerous point and nonpoint sources contribute to the chloride loading. USEPA Com. at 2. In response to "commentors question[ing] the authority of the Board to require dischargers to conduct these activities," the USEPA states that this approach "would represent the [HAC] for the affected waterbodies if the variance contains enforceable conditions necessary to ensure that each entity is in fact participating in the watershed workgroup and implementing the actions recommended by the workgroup that are necessary to reduce chlorides to the greatest extent feasible." Id. at 2-3. The USEPA further supports "adding requirements at [paragraph 3(B)(xxix) of the order] requiring each discharger to report annually on the actions 'that the discharger took to participate in a chloride workgroup,' and [paragraph 4(D)(viii) of the order] requiring the chloride workgroup's Annual Report to assess 'whether there has been adequate participation in the workgroup by the dischargers authorized under this TLWQS.'" *Id*. at 3.

IMTT argues that, under this proposed TLWQS, "participation [in a workgroup] would be mandatory under state and federal law." IMTT Resp. to IEPA Rec. at 3. The IEPA and the USEPA disagree with IMTT's statement. When a discharger does not wish to work within the workgroup, the IEPA states that discharger's recourse is to file an individual TLWQS where "the burden is quite a bit different." Tr. at 150, 152. The USEPA bluntly concludes, "[d]ischargers that are not willing to accept such conditions should not be eligible for coverage under the proposed TLWQS and so would instead be subject to Illinois' unvaried chlorides criteria unless they seek and obtain an individual variance." USEPA Com. At 3.

Board Findings. The Board finds that it has the authority under Section 104.565(d)(3) of its rules to include in all orders adopting a TLWQS the requirements and conditions that apply throughout the term of the TLWQS and represent the HAC of the watershed. 35 Ill. Adm. Code 104.565(d)(3). Under that authority, the Board finds that mandatory participation in a CWG is necessary to: ensure progress under the TLWQS, not lower the current ambient water quality, and represent the HAC of the CAWS and LDPR watersheds.

As noted by the USEPA, the collaborative effort of the CWGs is an essential aspect of the HAC for the affected CAWS and LDPR watersheds. IEPA's recommended requirements under Condition 4 of the draft TLWQS order ensure that the CWGs work toward reducing chloride discharges in the CAWS and LDPR watersheds in a timely and effective manner to achieve the HAC. *See* IEPA Com., Attach A. This TLWQS is granted on a watershed-wide basis, and the BMPs need to work on that level. The Board agrees that full participation by the covered dischargers will be necessary to achieve HAC. Collaboration is necessary to ensure that BMPs are implemented and that all participants share knowledge of what is working to reduce chloride concentrations. It is appropriate to require participation in CWGs because of their importance in meeting these goals and requirements. As part of its authority to include requirements and conditions in the terms of the TLWQS, the Board finds that it is appropriate to

require that covered dischargers participate in CWGs, but declines to rigidly dictate how the CWGs will function. Therefore, the Board finds that it is appropriate to require that covered dischargers meet with their CWG meets semi-annually and throughout the term of the TLWQS.

The Board also agrees with the River Advocates that non-governmental organizations should be given the opportunity to be a part of the CWGs. The Board finds that non-dischargers should be allowed to participate in the CWGs. The Board expects that these non-dischargers may be particularly helpful to the CWG for outreach and education.

CWG Education and Outreach and Financial/Technical Assistance provisions. The Petitioners challenge this proposed CWG requirement as more properly a job for the IEPA. IERG states that, "[w]hile petitioners voluntarily proposed the creation of a workgroup for completion of specific tasks," "the other tasks envisioned for the proposed workgroup(s), including education and outreach functions, are seemingly ones that [the IEPA] could and should perform, but instead has decided to delegate its statutory duties to petitioners." IERG Com. at 4. IMTT asserts that public education and outreach are tasks that the General Assembly usually assigns to the IEPA. IMTT Resp. to IEPA Rec. at 3. IERG argues that "the Board should leave the details regarding participation in, self-organization, and requirements of the workgroup up to the workgroup itself." IERG Com. at 5. MWRD states that "the workgroup members may decide that the workgroup will conduct and/or fund some of these activities." MWRD Bf. at 5. While MWRD acknowledges that these activities might help to reduce chloride discharges, it argues that "there should not be any kind of uniform requirement for the Petitioners to all take measures in this area." Tr. at 14-15. Rather, "Petitioners should be required to make best efforts to achieve loading reductions," which "may include doing outreach and educating their own residents," but "should not be required of the group or of individual dischargers." *Id*. IMTT asserts that this proceeding shows that the Petitioners can effectively work together voluntarily without being in a mandated workgroup structure. IMTT Com. At 4.

In response, the IEPA notes USEPA's position that "required outreach and education by the CWG are 'essential components needed for a successful watershed TLWQS.'" IEPA Com. at 7-8. The IEPA states "that outreach and education is a proven BMP." Tr. at 128. The IEPA and Citgo testified about other workgroups with outreach and education programs, including the Salt Creek Watershed Group, the Lower Des Plaines Workgroup, and the DuPage River Salt Creek Work Group. Tr. at 83, 148. The IEPA "stressed to the [P]etitioners that this is their TLWQS and the [P]etitioners need to be doing these things." IEPA "understands the importance of this for the TLWQS to succeed and will assist as much as the [IEPA] can." IEPA Rep. Com. at 5.

The USEPA adds that the recommended outreach and education and financial and technical assistance are necessary elements of the workgroup activities. USEPA Com. at 2. "Given the number of entities involved and the widespread nature of the problem, such activities appear to be important components of a successful collaborative chloride reduction strategy and [the US]EPA agrees that it is important to include these requirements as conditions of the variance." *Id*. at 4. The USEPA maintains that these "conditions help strengthen the proposed

collaborative watershed approach, and therefore would help ensure that any variance ultimately adopted by the IPCB would satisfy the [HAC] requirements of 40 C.F.R. § 131.14 by ensuring that the necessary information is available to assess whether dischargers are satisfying their requirement to participate in the chloride workgroup under Section 4(a)." *Id*. at 1-2.

Board Findings. Under the Board's authority in 35 Ill. Adm. Code 104.565(d)(3), the Board also finds that the education and outreach as well as financial and technical assistance requirements are reasonable for a watershed-based TLWQS with multiple dischargers and sources of chloride pollution. 35 Ill. Adm. Code 104.565(d)(3). The Board agrees that outreach and education must be a part of the dischargers' required CWG activities and that "these are essential components needed for a successful watershed TLWQS." IEPA Com. at 5, *see also* Tr. at 83-84. The authority to require outreach and education is again supported by the watershed-wide nature of this TLWQS. Further, the Board finds that education and outreach must be an integral part of the TLWQS to ensure employees and contractors of affected dischargers are adequately trained in the BMPs regarding winter maintenance operations. In addition, the Board notes that the USEPA indicates that the proposed TLWQS will not be approved without the IEPA's recommended workgroup conditions.

Educating employees and citizens and communicating with nonpoint sources on reducing chloride loading into the CAWS and LDPR watersheds will benefit the watersheds and dischargers covered by the TLWQS. The Board declines to dictate specific outreach and education actions because dischargers through their CWG should decide what actions make the most sense for the watersheds, and where efforts will make the biggest improvement. However, the record does not justify having dischargers remind MS4 permit holders of their permit obligations to participate in watershed-wide workgroups. Therefore, the Board strikes that requirement from the proposed BMPs.

The Board also finds that each discharger must ensure that the CWG explores financial and technological assistance as part of its BMPs. The Board, however, does not require any discharger to provide any financial and technological assistance. Rather, the Board encourages each discharger through their CWG to examine ways to reduce the chloride load into the LDPR and CAWS watersheds, and to assist others to implement them.

Based on the factors above, the Board finds that the IEPA's recommended CWG requirements under Condition 4 are necessary for achieving the HAC. The Board accepts the IEPA's recommended requirements with the following revisions (bolded double strikethrough are deletions and bolded and double underlined are additions):[20]

CWGs

a) The dischargers covered by this TLWQS must participate in a chloride workgroup whose main goals are working toward the reduction of chloride in the receiving stream and gathering information for the reevaluation.

[20] The numbering will be changed in the order to reflect the Board's numbering convention.

b) The dischargers must participate and must offer interested non-government organizations an opportunity to participate in the workgroup(s) associated with the watershed in which the discharge is located.

c) ~~**Workgroups**~~ **Each discharger** must **ensure that their CWG** convene**s** at least semi-annually and continue meeting throughout the term of the TLWQS.

d) By the deadlines listed in Table 4, ~~**the workgroup**~~ **each discharger** must **ensure that their CWG** submit**s** a Status Report to IEPA and make the report publicly available. The Status Report must compile and analyze the individual discharger Annual Reports into a watershed-wide report and include the following:

1) Chlorides monitoring data and any related analyses or studies;

2) ~~**Workgroup**~~**CWG**'s outreach strategy;~~**, including efforts to include other dischargers under the TLWQS, and outreach and training for nonpoint sources**~~

3) New BMPs, ~~**and**~~ treatment technologies**, and salt alternatives** to reduce chloride loading to the environment;

4) Impediments faced by dischargers under the TLWQS that prevent them from completing the training and making all capital purchases necessary to implement the required BMPs;

5) Possible solutions to impediments listed in (4)(d)(4);

6) Identification and description of any financial, technical, or other assistance the ~~**workgroup**~~**CWG** may be able to provide to individual dischargers to overcome the impediments described in (4)(d)(4);

7) Results of criteria measurement and compliance demonstration with the ~~**highest attainable condition**~~**HAC** under ~~**Item**~~**Paragraphs 2 and** 5; and

8) An assessment of whether there has been inadequate participation in the CWG by any discharger authorized under this TLWQS.

e) ~~**Workgroups**~~ **Each discharger** must **ensure that their CWG** prepare**s** outreach and educational materials to create awareness about the environmental impacts of chlorides. ~~**Workgroups**~~ **Each discharger** must **ensure that their CWG** share**s** these materials with other users of road salt in their local area. Outreach and education materials may include various forms of social media, incentives for

chloride reduction, support for community-based training of commercial road salt spreaders, training for residents and other entities that apply road salt, and funding or other support to implement chloride BMPs in communities where new equipment is not affordable.

~~**f) Workgroups must coordinate with IEPA to identify communities located in the TLWQS watersheds who have Municipal Separate Storm Sewer System (MS4) permits. Workgroups must reach out to the MS4 communities to remind them of the general permit special condition requiring participation in a watershed chloride workgroup and provide information on participating in their workgroup. Additionally, workgroups must provide MS4 communities with their education materials.**~~

~~g)~~**f)** ~~**Workgroups**~~ **Each discharger** must **ensure that their CWG** coordinate**s** with **the** IEPA to identify different nonpoint source categories beginning in year seven of the TLWQS term. ~~**Workgroups**~~ **Each discharger** must **ensure that their CWG** work**s** with **the** IEPA to prioritize and implement education outreach efforts for nonpoint sources based on their road salting practices and proximity to surface waters.

~~h)~~**g)** ~~**Workgroups**~~ **Each discharger** must **ensure that their CWG** include all sampling points and sampling frequency in a sampling plan to demonstrate compliance with the highest attainable condition as delineated in ~~**Item**~~**Paragraphs 2 and** 5.

Berm and/or Slope for Salt Storage Areas (BMP 16 and BMP H).

The IEPA recommends that all dischargers covered by the TLWQS be required to berm and/or slope all salt storage working areas. This proposed requirement is intended to: (1) drain snowmelt or stormwater away from the area where salt is untarped because it is being moved or loaded onto trucks in preparation for salt spreading, or (2) channel the water to a collection point such as a sump, holding tank or lined basin. IEPA Rec. at 16, 20. The IEPA maintains that these BMPs[21] ensure consistency with individual salt storage NPDES permits. *Id*. at 16. The IEPA recommended the following identical requirements as BMP 16 to all discharger categories and BMP H for salt storage facilities.

> Working areas should be bermed and/or sloped to allow snow melt and stormwater to drain away from the area. In some cases, it may be necessary to channel water to a collection point such as a sump, holding tank or lined basin for collection. *Id*. at 16.

[21] The IEPA also suggests amending BMP C to include berm requirements. The Board addresses this suggestion in the salt storage BMP section below.

Instead of requiring berms in working areas, Ozinga suggests an analysis to determine whether they are necessary or effective. 4/21/20 Ozinga Br. at 4. The Cook County Department of Transportation and Highways (CCDTH) also opposed BMP 16 because, "[a]part from being technically infeasible and economically unreasonable, it is not clear from the language of the BMP when channeling water to a collection point would be required, how and by whom that determination would be made, and how dischargers would be informed of such a determination." 4/21/20 CCDTH Br. At 3. In response, the IEPA proposed the following revisions to BMPs 16 and 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, ~~In some cases, it may be necessary to~~ 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/or use for make-up water for brine should be considered. IEPA Com. at 6.

The IEPA maintains that its proposal is not prescriptive and provides flexibility to dischargers to keep stormwater and snowmelt away from the working areas. *Id.* at 5. The IEPA clarifies that the BMP does not require treating runoff water, but to retard the flow into waterways to reduce the peak of the chloride concentration in the waterway. *Id.* The facility could evaluate using the collected water as make-up water for a brine solution.

Morton Salt Company (Morton) questions the IEPA's revisions to BMP H, which is the same as BMP 16 but applies to salt storage facilities. PC 12 at 3. Morton requests that BMP H be modified to "include an element of feasibility regarding the channeling of water to collection points", adding "if feasible" to the end of the BMP because collecting and storing water is not feasible for a bulk salt storage operation such as Morton's. *Id.*

Board Findings. The Board agrees with the IEPA that proposed BMPs 16 and H are intended to keep stormwater and snowmelt from working areas and dampen any spike in chloride level in the receiving stream. The Board finds that the proposed language allows flexibility to the dischargers by providing several options to keep snowmelt and stormwater away from working areas. Not all options may require extensive storage. The Board accepts BMPs 16 and H as proposed by the IEPA and declines to make the change proposed by Morton.

BMPs for POTWs, Industrial Sources, CSO Communities, MS4s, IDOT and Tollways.
The Petitioners propose thirteen BMPs for onsite reduction of chloride runoff from snow removal and deicing practices at POTWs, industrial sources, CSO communities, MS4s, IDOT and Tollway dischargers. JS at 2.5, 2.14.

1. All salt will be stored on an impermeable pad.

2. Pads must be constructed to avoid drainage onto the pad, and a collection point must be constructed for drainage.

3. Salt piles shall be covered at all times except when in active use, unless stored indoors.

4. Good housekeeping practices must be implemented at salt piles and during salt loading/unloading operations.

5. All salt spreading equipment must be calibrated at least annually. Records of the calibration results must be maintained for each piece of spreading equipment.

6. Road salt will be pre-wetted 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.

7. Equipment will be purchased and utilized to measure the pavement temperature.

8. Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.

9. Salt quantity used and storm conditions will be tracked during each storm and recorded.

10. A plan must be developed for implementation of anti-icing, with milestones. The plan should consider increased use of liquids (e.g., carbohydrate products).

11. Employees involved in winter maintenance operations must undergo annual training in best practices in the use of road salt in such operations (including the practice of plowing first, and applying salt only after snow has been cleared).

12. Where deicing practices are contracted out, contractors will be managed appropriately, including holding them to compliance with the permittee's own BMPs and training programs.

13. An Annual Report must be completed.

JS at 2.8-2.9.

The Petitioners propose that the Annual Report include: whether and to what extent cost-effective and reasonable BMPs have been implemented; availability of alternative treatments;

any changes to a facility's NPDES treatment technologies; effluent data if any exist; amount of salt used; proposed steps for the coming year; any issues encountered implementing BMPs; a summary of relevant, available instream chloride monitoring data (which may reference data gathered by State or Federal agencies or other parties); and a summary of relevant, available snowfall data. JS at 9.2-9.3.

The IEPA recommends adding CWGs as BMP 1 and combining Petitioners' proposed BMPs 1 and 2 as BMP 2. IEPA Com., Attach. A, Table 3. The IEPA also suggests: 1) making the good housekeeping practices in BMP 4 more specific by listing activities such as 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; 2) requiring annual calibration of salt spreading equipment in BMP 5 to be done by November 30th of each year; 3) clarifying BMP 7 to state that dischargers are not required to purchase and use equipment to measure the pavement temperature if that equipment has already been installed on salt spreading vehicles; 4) requiring the deicing plan in BMP 10 to make implementing anti-icing practices a priority, beginning with critical locations such as bridges over streams; 5) requiring the annual employee training under BMP 11 be completed by November 30th of each year; 6) modifying the proposed BMP 12 so that the permittee is responsible to implement BMPs even if deicing activities are contracted out; and 7) requiring the Annual Report completed under BMP 13 to be submitted to the IEPA and the CWG. IEPA Rec. at 17-20.

After Petitioners' comments, the IEPA revised the proposed language for BMP 4 to require that the annual inspections and repairs be done when practical and not before the winter season. The IEPA modified the tarping requirement to apply only to trucks transporting bulk chloride. IEPA Com. at 7.

The IEPA also recommends a new BMP 17 requiring POTWs, industrial sources, CSO communities, MS4s, IDOT and Illinois Tollway dischargers to buy and install the equipment necessary to implement the other BMPs.

> 17. Equipment necessary to enable implementation of 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) shall be obtained and in place. IEPA Rec., Attach. 3 at 3.

Board Findings. The Board finds the proposed BMPs for the POTWs, industrial sources, CSO communities, MS4s, IDOT and Illinois Tollway dischargers with the IEPA's revisions are appropriate to reduce onsite chloride runoff from snow removal and deicing practices. Adding a non-exclusive list of "good housekeeping practices" to BMP 4 and a specific date to BMPs 5 and 11 helps dischargers implement those BMPs. In BMP 10, requiring dischargers to make anti-icing practices on bridges over streams a priority acknowledges the greater runoff potential of those areas. Clarifying that permittees are responsible for the salt application practices of their contractors is appropriate where many entities contract out those

actions. In BMP 13, requiring the Annual Report to be submitted to the IEPA and the CWG is a helpful clarification. In BMP 17, requiring dischargers to buy and install the equipment necessary to implement the other BMPs is a reasonable and necessary requirement. Therefore, the Board finds that these BMPs as modified are appropriate, and the Board includes them in Table 3 of the Board's order.

BMPs for IDOT and Illinois Tollway Dischargers. In addition to the thirteen BMPs for POTWs, the Petitioners propose two BMPs for IDOT/Illinois Tollway Dischargers:

> 14. Equipment to measure the pavement temperature will be installed on the winter maintenance fleet for a sufficient number of vehicles to provide sufficient information to adjust application rates for the most efficient levels. A plan to equip the winter maintenance fleet must be developed, and must be completely implemented by the end of the initial TLWQS period.
>
> 15. By the end of the initial TLWQS period, a method must be developed to determine whether each truck in fleet applied salt at the recommended rate, why any variations occurred, and ensure that a variation occurs only when strictly necessary.

Jt. Sub at 2.11. The IEPA suggests modifications to BMPs 14 and 15. In BMP 14, to avoid any confusion, the IEPA proposes that the pavement temperature measurement equipment be installed before the first re-evaluation rather than "by the end of the "initial TLWQS period", as proposed by the Petitioners. *Id.* Regarding BMP 15, the IEPA recommends this BMP be expanded to require the discharger to develop a method to conduct a post-winter review to identify successes and improvements and complete the review each year by spring or early summer. *Id.*

Board Findings. The Board finds the additional proposed BMPs applicable to only the CSO communities, MS4s, IDOT and Illinois Tollway dischargers as modified by the IEPA can be reasonably implemented and should reduce chloride loading on the watersheds. Therefore, the Board finds that these two BMPs are appropriate, and the Board includes them in Table 3 of the order.

BMPs for MS4s and CSO Communities. The Petitioners propose an additional BMP 18 only for MS4s and CSO communities. IEPA Rec. at 19.

> 18. Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities. IEPA Com. at Table 3.

BMP 18 would require all MS4 and CSO communities covered by the general permit (ILR40) to use deicing material storage structures. *Id.* at 20. The IEPA explains that, under the general permit, the MS4 and CSO communities were required to have permanent structures for deicing material by March 1, 2018. *Id.*

Board Findings. The Board finds that BMP 18 requiring MS4 and CSO communities to use material storage structures protects salt storage piles from the elements and mitigates storm runoff. The Board finds that BMP 18 is appropriate and includes it in Table 3 of the order.

BMPs for Salt Storage Facilities. The Petitioners state that salt storage facilities can contribute chloride to the waterways. When precipitation reaches salt stockpiles, it can cause runoff or infiltrate groundwater. JS at 2.19. They propose the following BMPs A-F to reduce chloride discharge from salt storage facilities:

A. Salt must be stored on an impermeable pad at all times; temporary storage on permeable surfaces is not allowed.

B. Pads must be constructed so that rainwater or other precipitation does not drain onto the pad; any rain that falls on the pad must be drained to a collection point.

C. Outdoor salt piles not stored under permanent cover must be covered by well-secured tarps at all times except when in active use.

D. Good housekeeping practices must be in place for when salt is being placed into storage and moved from storage into trucks. Any spilled salt shall be swept up and returned to storage in a timely manner.

E. Annual training must be conducted for employees.

F. An Annual Report must be completed.

Id. The contents of the Annual Report are the same as those for POTWs and industrial dischargers. JS at 9.2-9.3.

The IEPA suggests modifications to BMPs A, D and F that correspond to the IEPA's suggested changes to BMPs 1, 2, 4, and 13. *Id.* at 20-21. The IEPA's recommended changes are shown in bolded double strikethrough for deletions and bolded and double underlined for additions:

A. **~~Salt must~~ <u>All salt will</u>** be stored on an impermeable pad **~~at all times; temporary storage on permeable surfaces is not allowed.~~<u>that must be constructed to ensure that minimal stormwater is coming into contact with salt.</u>**

D. Good housekeeping **~~practices must be in place for when salt is being placed into storage and moved from storage into trucks. Any spilled salt shall be swept up and returned to storage in a timely manner~~ <u>policies to prevent or reduce salt runoff, including cleanup of salt at the end of each day or conclusion of a storm event, tarping of trucks, maintaining the pad and equipment, good practices during unloading and loading, cleanup of</u>**

loading and spreading equipment after each snow/ice event, written inspection program for storage facility, structures and/or work area, removing surplus materials from the site when winter activity finished where applicable, annual inspection and repairs completed prior to winter season, proper disposal of wash water from trucks/spreaders, etc., must be implemented at salt piles and during salt loading/unloading operations.

F. An Annual Report must be completed, **standardized in excel, and submitted through Agency website.**

The IEPA also recommends modifying BMPs B, C and E. The IEPA recommends that BMP B, which addresses the impermeable pad, to be revised to be more consistent with the NPDES permit requirements. The IEPA's recommended changes are shown in bolded double strikethrough for deletions and bolded and double underlined for additions:

B. Pads must be constructed ~~**so that rainwater or other precipitation does not drain**~~ **to avoid drainage** onto the pad~~**; any rain that falls on the pad must be drained to a collection point**~~. Any drainage that enters the pad should be directed to a stormwater retention pond. IEPA Rec. 21.

For BMP C, the IEPA suggests a revision to be more consistent with the NPDES permit requirements. The IEPA's recommended changes are shown in bolded double strikethrough for deletions and bolded and double underlined for additions:

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 shall be incorporated around non-working face to minimize stormwater contact. The permittee shall stage tarp when starting final lift and tarp over the edge of the berm/pad where possible.** *Id*.

For BMP E, the IEPA recommends clarifying language to ensure all employees involved with salt handling are given annual training. The IEPA's recommended changes are shown in bolded double strikethrough for deletions and bolded and double underlined for additions:

E. Annual training must be conducted for employees **responsible for loading/unloading/handling at docks and trucks at the facility**. *Id.*

In addition to the Petitioners' proposed BMPs, the IEPA proposes a new BMP G to clarify that the CWG requirement applies to salt storage facilities:

G. Participate in a Chlorides workgroup for the CAWS and LDPR. IEPA Rec., Attach. 3 at 5.

The IEPA also proposes three new BMPs H, I, and J to clarify how the slope and berm BMPs apply to salt storage facilities. *Id*. at 20.

H. Working areas should be bermed and/or sloped to allow snow melt and stormwater to drain away from the area. In some cases, it may be necessary to channel water to a collection point such as a sump, holding tank or lined basin for collection.

I. The Permittee shall make use of fixed and mobile berms where appropriate to redirect flow and taper over the edge of the pad where possible to minimize stormwater contact.

J. The Permittee should consider the retention of stormwater which contacts the salt from a 25 year/24-hour storm event where feasible. Such retention could be either within the berm, in a separate basin or store the impacted stormwater and use it as pre-wetting brine.

Id. at 5-6.

BMP H is addressed in the berms section above. Morton Salt offered the only comments opposing these BMPs. It asserted that BMPs I and J should not be included in any form in the final order because they are missing from both the Board's proposed order and the IEPA's revised Table 3. Morton Com. at 2. Morton Salt argues that omitting BMPs I and J "expresses the IEPA and the Board's apparent intent, in light of the discussions throughout the proceeding, to remove BMPs I and J altogether from the proposed BMPs." *Id*.

Board Findings. The Board has addressed BMP H above. The Board finds that the salt storage facility BMPs properly focus on preventing storm and ground water from coming into contact with the salt piles. The Board further finds that the IEPA's proposed revisions clarify these requirements. Therefore, the Board finds that BMPs A-F as modified by the IEPA, and the BMPs G and H proposed by the IEPA will be included in the order in Table 3.

The Board disagrees with Morton Salt that BMPs I and J should be excluded. The IEPA's recommendation clearly specifies that BMPs I and J are applicable to salt storage facilities. *See* IEPA Rec. at 20. The Board notes that a typographical oversight is not a good reason for excluding these BMPs. While Table 3 may have inadvertently omitted BMPs I and J, IEPA's recommendation clearly indicated that they would apply to these facilities. Morton Salt's arguments do not persuade the Board to exclude BMPs I and J. The Board finds that the TLWQS will retain BMPs I and J as proposed by the IEPA and inserts them in Table 3 of the Board's order.

Interim Criterion. Under Section 104.565(d)(4)(B)(ii) of the Board's rules, the HAC must be quantified with the adoption and implementation of a PMP. This Section also requires the Board to establish the "interim use and interim criterion that reflect the greatest pollutant reduction achievable with the pollutant control technologies installed at the time the Board adopts the [TLWQS]." 35 Ill. Adm. Code 104.565(d)(4)(B)(ii). The Petitioners propose an interim criterion for the first five years of their proposed 15-year TLWQS, after which the criterion will be reassessed as part of the required re-evaluation. *See* 35 Ill. Adm. Code 104.580(a)(4). Petitioners do not propose an interim use different from the designated aquatic life uses for CAWS and LDPR waters. JS at 1.5.

Based upon the studies referred to in the Joint Submittal and the winter chloride loads over the previous five years, the Petitioners propose a 3 to 7 percent reduction of the winter seasonal average chloride load from that of the previous five years. This proposal yields a target

five-year winter season average chloride concentration of 269 to 280 mg/L.[22] *Id*. at 8.2. This 10% to 25% chloride reduction reflects community road salt reduction programs, time to realize those reductions, and the unknown severity of future weather. *Id*.

The IEPA agrees with the proposed interim criterion, but recommends that the Petitioners use a 4-year seasonal average for the first re-evaluation period. IEPA indicates that this will ensure that the data are available in time to submit a proposed re-evaluation to the Board. IEPA Rec. at 12. The IEPA further cautions that it "does not intend to recommend a lower [HAC], but rather the [IEPA] wants to inform the Board of the enormity of the task ahead of the workgroup to get chloride users to perform [BMPs] throughout the watershed." *Id*. at 12. The USEPA agrees that "the proposed collaborative watershed approach would represent [HAC] for the affected waterbodies." USEPA Com. At 3. However, the USEPA conditions its agreement on whether the TLWQS "contains enforceable conditions necessary to ensure that each entity is in fact participating in the watershed workgroup and implementing the actions recommended by the workgroup that are necessary to reduce chlorides to the greatest extent feasible." *Id*.

The River Advocates questioned relying on only two sampling points and initially argued for additional sites and frequency. River Advocates Rp. Bf. at 3-6. MWRD argues that additional monitoring could be helpful in assessing trends, but it should not be used in assessing compliance. MWRD Bf. at 7. MWRD adds that, "[t]he only effective way in this situation to measure overall progress toward standards attainment is the way proposed in the Joint [Submittal]: to look at long-term trends at two monitoring stations at the bottom of the watershed, where the cumulative impacts of Petitioners' BMP efforts can be assessed." *Id*. The Board addresses additional monitoring below. Ultimately, the River Advocates support an interim four-year seasonal (December through April) average criterion of 280 mg/L based on sampling from Lockport and Channahon. Riv. Ass. Rep. Bf. At Ex. A.

Board Findings. So that data are available in time for re-evaluation, the Board finds that an appropriate interim criterion for the first five years of the TLWQS will be a four-year winter seasonal average for the months December through April of 280 mg/L based on the Lockport and Channahon sampling points. This criterion will apply in place of the current 500 mg/L chloride concentration WQS, which is not to be exceeded at any time except in waters for which mixing is allowed pursuant to 35 Ill. Adm. Code 302.102. *See* 35 Ill. Adm. Code 302.407(g)(3). This criterion will be revisited as part of the five-year re-evaluation. *See* 35 Ill. Adm. Code 104.580(a)(4).

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[22] The chloride WQS at issue in this petition is a concentration of 500 milligrams per liter (mg/L) not be exceeded at any time except in waters for which mixing is allowed pursuant to Section 302.102 of this Part. J. Sub. at 1.3; *see* 35 Ill. Adm. Code 302.407(g)(3). The proposed criterion would be a four-year seasonal average based upon the Lockport (CAWS) and Channahon (LDPR) sampling points.

TLWQS Term

The Petitioners must demonstrate that the term of the TLWQS will only be as long as necessary to achieve the HAC. 35 Ill. Adm. Code 104.560(c). This demonstration must justify the term of the TLWQS by describing the pollutant control activities required to achieve the HAC, including those activities through a PMP. *Id*. For a TLWQS with a term greater than five years, "[t]he re-evaluation must occur no less frequently than every five years after both the Board and USEPA approve the TLWQS." 35 Ill. Adm. Code 104.565(d)(7), *see also* 40 CFR § 131.14(b)(1)(v).

The Petitioners request a fifteen-year TLWQS term, with re-evaluations every 5 years, because the chloride reduction BMPs will take several years to show demonstrative progress. JS at 10.1-2. "Progress cannot be accurately assessed until those BMPs have been fully put into operation and then implemented over a period of years – particularly given that chloride usage, and resulting discharges, will vary from year to year based on weather differences." *Id*. at 10.1. Much of the first five years will involve setting up these BMPs. *Id*. at 10.1. The Petitioners further note that "even with full implementation of the proposed BMP programs, the conditions that are the subject of this TLWQS – ambient chloride levels that exceed the winter [WQSs] – are likely to continue to occur throughout this entire 15-year time period in most, if not all, of the reaches in the Watershed." *Id*. at 10.1.

The IEPA agrees with the proposed fifteen-year term and asserts "that implementation of the BMPs must be done across the watershed by as many dischargers as possible to eventually [comply] with the chlorides [WQS]." IEPA Rec. at 13. The IEPA "recommends the Petitioners implement an adaptive management approach . . . . [where] the Petitioners will have to continually adjust their salt application practices as directed by the Board in the re-evaluation process. *Id*. at 12. The IEPA "believes that at least 15 years will be necessary for the benefits [of] an adaptive management approach to be measurable in the waterbodies." *Id*. at 13.

Noting that the BMPs identified in the Joint Submittal "should all be completed and in place within approximately six years," the USEPA recommends that CWGs be required to identify new BMPs. USEPA Com. at 3. It also recommends requiring dischargers to implement PMPs which reduce chlorides in the effected waterways to the greatest extent achievable. *Id*. at 4. The USEPA states that these requirements would ensure that TLWQS conditions for each discharger continue to be updated based on new information and that covered dischargers will continue to reduce chlorides throughout the 15-year TLWQS term. *Id*.

Board Findings. The Board finds that the Petitioners have adequately demonstrated that 15 years is the minimum necessary term to implement and adequately measure the chloride reducing effect of the BMPs, the individual PMPs, and the adjusted practices resulting from the re-evaluation process. The record shows that the chloride exceedance is watershed-wide. Both the IEPA and the USEPA state that individual PMPs within a workgroup-based adaptive management approach would work best. The Petitioners have also adequately demonstrated that

the covered dischargers and CWGs will require this 15-year period to implement and evaluate the efficacy of the identified BMPs. Both agencies agree that for this approach to result in compliance with the chloride WQS, the BMPs must be implemented by as many dischargers in the watershed as possible. The IEPA also states that 15 years will be necessary to see measurable results in the watersheds. Therefore, the Board finds that the Petitioners have adequately demonstrated that the 15-year term of the TLWQS is the minimum necessary to achieve the HAC and have satisfied the requirements of 35 Ill. Adm. Code 104.560(c).

This TLWQS, once adopted by the Board and approved by USEPA, will be the applicable WQS for the 15-year term. 35 Ill. Adm. Code 104.505(d). Whenever a covered discharger's NPDES permit is modified or renewed, any limitations and requirements necessary to implement the TLWQS will be included as enforceable conditions. However, this change is only temporary and only for those dischargers covered by the TLWQS. The Board will maintain, in its WQS, the underlying designated use and chloride criterion for all other dischargers, unless the Board adopts and USEPA approves a revision to the underlying designated use and chloride criterion consistent with 40 CFR 131.10 and 131.11. 35 Ill. Adm. Code 104.565(a).

The Board also finds that the proposed TLWQS complies with the 5-year and 10-year re-evaluation process required by the Board rules. *See* 35 Ill. Adm. Code 104.565(d)(7). If any petitioner does not conduct a re-evaluation as required and scheduled in the TLWQS or those results are not submitted to the USEPA, the TLWQS will no longer be the applicable WQS for that discharger. 35 Ill. Adm. Code 104.580(h).

Other Discharger Coverage Under TLWQS

A TLWQS order must provide "[e]ligibility criteria that may be used by new or existing dischargers or classes of dischargers to obtain coverage under the TLWQS during its duration." 35 Ill. Adm. Code 104.565(d)(2)(A)(ii). Both the IEPA and the USEPA have expressed a need to expand the watershed TLWQS to as many dischargers as possible. "Until most chloride users located within the watershed have coverage under the proposed chlorides TLWQS, are participating in the chlorides watershed group and are performing the BMPs, chloride reductions will not achieve the desired goals." IEPA Rec. at 12. "Given the number of entities involved and the widespread nature of the problem, [efforts to include other dischargers under the TLWQS, and outreach and training for nonpoint sources] appear to be important components of a successful collaborative chloride reduction strategy and [US]EPA agrees that it is important to include these requirements as conditions of the variance." USEPA Com. At 3.

Under Section 104.575(a) of the Board's rules, "any discharger that has not obtained a TLWQS may obtain coverage under a Board-approved TLWQS by satisfying . . . . the Board-approved criteria for coverage under the TLWQS" "when it renews or modifies its NPDES permit, or at the time the person files an application for certification under section 401 of the

[CWA]."[23] 35 Ill. Adm. Code 104.575(a). That discharger would then be required to comply with the requirements and conditions of the Board-approved TLWQS and participate in any re-evaluations. *See* 35 Ill. Adm. Code 104.575(b) and (c).

Section 104.550(b)(1)(C) of the Board's Rules requires that the IEPA's recommendation in response to a TLWQS petition must include eligibility criteria for dischargers who are not currently a petitioner, but who may want coverage under the Board-approved TLWQS at a future date. 35 Ill. Adm. Code 104.550(b)(1)(C). The IEPA states that any discharger belonging to one of the identified classes of dischargers, located in the designated watershed, and committed to performing the BMPs required for that class of dischargers should be allowed to participate if it meets these criteria. The IEPA emphasized that, to achieve optimal chloride reductions in the watershed, "[n]ew participants . . . must meet the [BMPs] that have been implemented or are being implemented by those dischargers that are already participating in the chloride TLWQS." IEPA Rec. at 27. The IEPA also stated, but did not include as a criterion, that "any discharger with a new source of chloride must offset at least their additional loading before receiving coverage under the TLWQS." *Id*.

The Board proposed two additional criterion: (1) requiring the IEPA to notify the discharger within 90 days whether it will be covered under the TLWQS; and (2) adding "[t]he discharger, if a new source of chloride, must offset at least their additional loading before receiving coverage under the TLWQS." 7/24/2019 HOO, Attachment 1 at 11.

In its post-hearing comments, the IEPA incorporated the Board's proposal, but with a 120-day time period[24] in proposed Eligibility Criteria 1(i). IEPA also added a new requirement that a new source of chloride would have to "offset at least their additional loading before receiving coverage under the TLWQS"[25] in proposed Eligibility Criteria 1(c). IEPA Com. at 11. The IEPA's revised proposed eligibility criteria are as follows:

1. Eligibility Criteria

    a) A discharger must be located in the Chicago Area Waterway System (CAWS) or Lower Des Plaines River (LDPR) watersheds as identified by the Board pursuant to Section 104.565(d)(2)(A)(i).

    b) The discharger must belong to one of the classes identified by the Board pursuant to 35 Ill. Adm Code 104.540.

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[23] Under Section 401 of the CWA, the State agency "shall establish procedures for public notice in the case of all applications for certification by it and, to the extent it deems appropriate, procedures for public hearings in connection with specific applications." 33 USC § 1341(a)(2).
[24] The IEPA stated that it would not be able to meet the 90-day time limit because of NPDES notice requirements. IEPA Resp. to 7/24/2019 HOO at 9.

[25] Chloride offsets are addressed in the New Sources section below.

c) The discharger, if a new source of chloride, must offset at least their additional loading before receiving coverage under the TLWQS.

d) The discharger must have joined and will be participating in either the CAWS chlorides workgroup or the LDPR chlorides workgroup.

e) The discharger is committed to implementing a pollutant minimization program which includes all the Best Management Practices (BMP) identified by the Board's order granting the TLWQS.

f) The discharger is committed to implementing any required BMP not currently being implemented within 12 months.

g) The discharger must commit to participating in the re-evaluation proposal pursuant 35 Ill. Adm. Code Section 104.580.

h) The discharger must submit the following information to the [IEPA]:

1) the location of the discharger's activity and the location of the points of its discharge;

2) identification of discharger's NPDES permits;

3) identification and description of any process, activity, or source that contributes to a violation of the chlorides water quality standard, including the material used in that process or activity;

4) a description and copy of all Pollutant Minimization Plans that are currently being implemented or were implemented in the past; and

5) identification of any other BMPs being implemented to reduce chloride in the discharge that are not identified by the Board's order granting the TLWQS.

i) Within 120 days, IEPA must notify the discharger of IEPA's intention for the discharger to be covered under this TLWQS.

Id.

With the addition of subsection (i), the IEPA has an acceptable list of eligibility criteria for sources that wish to seek coverage under the Board-approved TLWQS. However, the Board and Petitioners raise additional questions of the IEPA regarding offsets and whether discharger must implement all BMPs within 12 months. These are addressed below.

Offsets

The Board and Petitioners have raised several questions to the IEPA regarding whether offsets can be required, when new sources of chloride will be required to seek coverage under the Board-approved TLWQS, and how the offsets will work.

Statutory Support for Offsets. The IERG asked the IEPA witness, Mr. Twait, whether there was "any specific authority in the Act or Board regs to require site-specific off-sets." IERG Com. at 5. Mr. Twait explained that "rather than introducing . . . a chloride load that would be counter to what the workgroup is trying to achieve," "we thought it was only fair to the current workgroup participants that if there was a new source of chlorides that we would make them offset their new chloride loading to the receiving stream." Tr. at 154.

Yet, the IEPA also states that "new and existing sources must achieve no net loading of chloride in the CAWS and LDPR watersheds." IEPA Resp. to 7/24/2019 HOO at 8. This "no net loading" to the watershed reflects the federal requirement that a WQS variance "shall not result in any lowering of the currently attained water quality, unless a WQS variance is necessary for restoration activities, consistent with paragraph (b)(2)(i)(A)(2) of this section." 40 CFR § 131.14(b)(1)(ii), *see also* 35 Ill. Adm. Code 104.565(d)(3)(b). To be consistent with 40 CFR § 131.14(b)(1)(ii), the USEPA stated that the offset requirements included in Section 1(c) of the Eligibility Criteria should ensure that extending coverage under the variance to new sources of chloride would not result in a lowering of water quality with respect to chloride. The USEPA stated that the IEPA's requirement for a new source of chloride to offset its additional loading to be eligible for coverage under the TLWQS is consistent with the requirements of a WQS variance under the federal regulations. 3/16/2020 USEPA Com. at 4.

What Discharges Must be Offset. The IEPA states that "[t]he issue of offsets puts greater weight upon when a discharger seeking coverage under the TLWQS is considered a 'new source of chloride.'" IEPA Resp. to 7/24/2019 HOO at 8. The ultimate goal of the chloride TLWQS is to achieve the chloride [WQS] in the CAWS and LDPR watersheds. The Petitioners are implementing chloride BMPs to attempt to make incremental improvements in the receiving waters. . . . [and] the new and existing sources must achieve no net loading of chloride in the CAWS and LDPR watersheds. *Id*.

However, the Petitioners questioned what would qualify as a "new source of chloride" and whether the IEPA would apply a "significant" threshold for new chloride sources so that it would not require offsets for de minimis chloride additions.

Facilities Potentially Subject to Offset. Mr. Twait testifies that, under proposed eligibility criteria 1(c), "new source of chloride" means "a new loading of chloride from a facility that does not exist or a source that does not currently exist." Tr. at 156. Mr. Twait does not clarify how it would determine whether a discharger was "a new source of chloride," triggering an obligation to offset.

Applying the requirement that "new and existing sources must achieve no net loading of chloride in the CAWS and LDPR watersheds," "a new source of chloride" under eligibility criteria 1(c) would be a chloride addition to one or both of the watersheds regardless of whether the discharger was currently under the TLWQS. There are three types of dischargers that could be "a new source of chloride" and need to offset their additional chloride load.

First, a new facility that did not discharge chloride into the CAWS or LDPR watershed before the granting of this watershed TLWQS would increase the net chloride load in that watershed by all of the chloride it plans to discharge. For such a facility to obtain coverage under this watershed TLWQS, it would have to offset all of its chloride discharge.

Second, an existing facility not covered by the TLWQS that increases its discharge over its historical amount would increase the net chloride load in that watershed by that additional discharge amount over the historical discharge. For such a facility to obtain coverage under this watershed TLWQS, it would have to offset this additional discharge amount.

Third, an existing facility already covered by the TLWQS that increases its discharge over historical amounts would increase the net chloride load in that watershed by that additional discharge amount over the historical discharge. For such a facility to maintain coverage under this watershed TLWQS, it would have to offset this additional discharge amount.

Significant Chloride Discharges. The IEPA's recommended eligibility criteria 1(c) does not provide for any threshold for a new source of chloride, above which an offset will be required. However, Mr. Twait testifies that, "if [dischargers] just have a de minimus [sic] amount, then the off-sets would be rather minor. So, I am not quite sure that – that I could give a definition of 'significant.'" Tr. at 157. Mr. Twait then opines how the IEPA will address potential offsets: "I think we will do it on a case-by-case basis, because if somebody puts in a small parking lot, . . . it may not need the scrutiny of somebody that was putting in a new salt storage facility." Tr. at 157. Mr. Twait states that, [i]f there is a new discharger, they are going to have to go through anti-deg[radation]," in which the IEPA considers site-specific offsets for their chloride contributions. Tr. at 154. The new discharger is "going to have to come up with some proposals [to] work. . . out during the permitting process." *Id*.

MWRD comments that, "[i]f offsets are required as to new sources of chloride, petitioners believe that this requirement should not apply to minor discharges." MWRD Response to 7/24/2019 HOO at 11. MWRD proposes that the Board modify subsection 1(c) to state that "[t]he discharger, if a *significant* new source of chloride, must offset at least their additional loading before receiving coverage under the TLWQS." [emphasis added] MWRD Resp. to HOO, Attachment at 1.

MWRD clarifies that "significant should be determined on a case-by-case basis by [the IEPA]. There is not a single numeric threshold value that can be used to define 'significance.'" Tr. at 16. At the hearing, MWRD witness, Mr. Andes, states, "we think that if you are going to have a new source of chlorides, that the [IEPA] could certainly require you to notify them, and we think that would probably be required anyway. . . . over time it's likely that the [IEPA] could begin to define certain types of sources that are clearly not significant sources." Tr. at 19.

Board Findings. The Board finds that offsets are necessary for significant new sources and existing sources seeking coverage under the Board-approved TLWQS. The Board believes that offsets would protect progress being made by current TLWQS members in the watersheds. If a discharger is a significant new source of chloride to the CAWS or LPDR watershed, then it must be required to offset at least its additional loading before receiving coverage under the Board-approved TLWQS. If a discharge is truly de minimis, then it need not be offset.

The IEPA must consider what a discharger does on a case-by-case basis and determine the best way for it to reduce its chloride discharges so they will not endanger the progress under the TLWQS. The IEPA is in the best position to determine what is *de minimis* and what is significant because it will have information about the discharger's chloride loading. The IEPA must use its resources and expertise when considering whether a new source's discharges may be considered *de minimis* - and therefore potentially not subject to offsetting its additional loading before receiving coverage under the Board-approved TLWQS – or significant, which would require offsetting. Therefore, the Board finds that adding "significant" to eligibility criteria 1(c) is appropriate. The Board also finds that the IEPA must inform a discharger within 120 days of petitioning to be covered under this TLWQS whether the discharger is considered a significant new source of chloride required to offset.

How New Contributions Can Be Offset. As stated above, significant new sources of chloride to the watershed seeking coverage under the Board-approved TLWQS will be required to offset at least their additional loading to the watershed. *See also* IEPA Rec. at 29. The IEPA offers guidance regarding ways that a new discharger could offset its additional chloride load to the watershed, and it rejects specific offset strategies proposed by the Petitioners.

First, the IEPA offers a list of offset strategies that a new discharger might employ to offset its additional chloride load to the watershed:

> The new contribution from an existing or new source could be offset by one of many ways:
>
> - Innovative approaches/controls.
> - Non-chloride based de-icing chemicals.
> - Non-chloride treatment controls to minimize loading.
> - Contribution to, or hosting training programs for:
>   - Professionals
>   - Salt contractors
>   - Homeowner Associations
>   - Private building owners
>   - Individuals
> - Controls of chlorides.
> - Reduction from sources, practices, and controls not part of Board's established categories as part of the TLWQS.
> - Upstream reductions outside of the watershed.

IEPA Resp. to 7/24/2019 HOO at 8-9. The MWRD supplemented this list, suggesting that a new discharger could fund additional chloride reductions for other dischargers to offset the new discharger's additional load on the watershed. Tr. at 158-9.

Second, the MWRD stated that, "[i]f an offset requirement is included as to new sources, then . . . trading of credits should be allowed," "offsets should be obtainable from currently covered dischargers that have made quantifiable and verifiable reductions," and the "IEPA should be tasked with developing a trading system, in consultation with stakeholders." MWRD Resp. to 7/24/2019 HOO at 11. In the February 13, 2020 Hearing Officer Order, the Board asked the IEPA to comment on whether it intends to develop a system for trading chloride offsets. If so, the Board asked when the trading platform would be available. If not, the Board asked whether a discharger could meet the offset requirement on a case-by-case basis. 2/13/2020 HOO, Attachment 1 at 2.

The IEPA responded that "the [IEPA] is not suggesting or proposing a trading system." It added that "offsets should be achieved by actions that are not considered part of the [TLWQS] [BMPs]." IEPA Resp. to 7/24/2019 HOO at 8; Tr. at 129, 159. The IEPA further argues against allowing new discharges to obtain offsets from currently covered dischargers, stating "[d]ischargers will not be able to receive offsets from dischargers currently covered by the TLWQS[, because t]his would impact the available reductions that someone currently covered by the TLWQS would be able to make in the next round of BMPs mandated by the TLWQS." *Id*. at 9. Mr. Twait notes "[t]he goals of the [TLWQS] will only work if they are making continuous improvements." Tr. at 152-53. Otherwise,

> The watershed groups wouldn't have made improvements and then all those improvements be erased by a large chloride discharger or salt spreader. The

> watershed group is needed to comply with the [WQSs], comply with the BMPs, and ensure that the variance – and the off-sets ensure that the variance is achieving the [WQSs].
>
> * * *
>
> [Allowing offsets to be] obtainable from currently covered dischargers that have made quantifiable and verifiable reductions . . . . would impact the available reductions that someone currently covered by the [TLWQS] would be able to make in the next round of BMPs mandated by the [TLWQS]. Tr. at 152-53, 157-58.

The USEPA agrees with the IEPA that such a condition on the offsets would be important to ensuring that such offsets are not allowing a lowering of water quality with respect to chloride. USEPA Com. at 4. Requiring significant new sources and existing sources to offset their chloride load before being granted coverage under the TLWQS protects current TLWQS members. It also ensures that reductions are truly being made and maintained throughout the life of the TLWQS.

Board Findings. The Board agrees with the IEPA and finds that offsets are necessary for significant new sources and existing sources seeking coverage under the TLWQS. The Board is persuaded that offsets protect the progress being made by the current TLWQS members in the watersheds. The Board finds that offsets can be made through the actions identified in the IEPA's responses to the Board's questions - Innovative approaches/controls; Non-chloride based de-icing chemicals; Non-chloride treatment controls to minimize loading; Contribution to, or hosting training programs for: professionals, salt contractors, home owner associations, private building owners, and individuals; Controls of chlorides; Reduction from sources, practices, and controls not part of Board's established categories as part of the TLWQS, and upstream reductions outside of the watershed. IEPA Resp. to 7/24/2019 HOO at 8-9.

The Board also finds that the offsets must not come from current TLWQS members. The Board believes that this would create a negative incentive for current members to reduce their chloride discharges because of the possible financial reward of trading them away as offsets. The Board notes IEPA's suggestion that a new source or existing source could seek an offset by financing reductions within the community. The Board trusts that IEPA will thoroughly review any such requests to ensure that financing is appropriate and will improve the relevant watershed.

Late Joining Discharger – Implementing BMPs

The Board's rules provide that any applicant obtaining coverage under a TLWQS "must comply with the requirements and conditions that apply throughout the term of the TLWQS

established under Section 104.565(d)." 35 Ill. Adm. Code 104.575(b). However, the rules do not provide a compliance deadline.

The IEPA proposes that, "[t]he discharger is committed to implementing any required BMP not currently being implemented within 12 months" as part of its eligibility criteria. IEPA Rec. at 26. The MWRD suggested in its response that a "late joining" discharger be required to make "substantial progress" within 12 months, but not compete implementing all BMPs within 12 months, stating:

> MWRD supports the concept that late joiners should be required to make expeditious progress in implementing the BMPs. However, in most situations, it will simply not be possible to complete all of the BMPs in that short time span. [Rather, the] schedule for implementing BMPs for current Petitioners recognizes, appropriately, that it will take a number of years to put all of the required measures in place. MWRD Response to IEPA Recommendation (MWRD Resp. to IEPA Rec.) at 4.

MWRD argues that "a hard deadline of 12 months is simply not feasible." *Id*. MWRD suggests instead that "the late joiners should be required to begin implementing the BMPs immediately, and should be required to make "substantial progress" within 12 months." *Id*. When the late joiner has "not completed all of the BMPs within those 12 months, their annual reports should explain the reasons, and should set forth a schedule for completion of the BMPs." *Id*.

The IEPA rejected MWRD's position, stating:

> the [IEPA] believes twelve months is enough time for a new discharger covered under a [TLWQS] to catch up with the other dischargers since that participant will be getting the benefit of the [TLWQS]. If twelve months is not long enough, the discharger should plan ahead before seeking coverage under the [TLWQS]. IEPA Resp. to 7/24/2019 HOO at 5.

The Board notes that the current Petitioners will be required to implement the BMPs not already being implemented within 12 months of the approval of the TLWQS by the USEPA. The Board is persuaded that late joining entities – those that request coverage under the TLWQS after issuance – must be held to a similar standard. However, the Board agrees that if any new source fails to implement a required BMP within 12-months, then its Annual Report must explain the reasons for failing to do so and set a schedule for completing those BMPs. A 12-month requirement will encourage new sources to implement BMPs expeditiously.

Board Findings. The Board finds that late joining entities must be held to a similar standard as current Petitioners and implement the required BMPs within 12 months after joining the TLWQS. If the late joining discharger is unable to implement the required BMPs within 12

months, then their Annual Report must explain the reasons for failing to do so and set forth a schedule to implement the BMPs.

Additional Monitoring

A re-evaluation of any TLWQS with a term over 5 years "must assess the [HAC] using all existing and readily available information." 35 Ill. Adm. Code 104.580(a)(4), *see also* 35 Ill. Adm. Code 104.580. The Board finds that BMPs are a necessary part of the HAC. Petitioners have chosen implementing BMPs as the primary means of reducing chloride discharges into the CAWS and LDPR watersheds under the proposed TLWQS. They note that the effectiveness of the proposed BMPs "can only be determined through implementation of the BMPs and general monitoring of the [w]atershed." JS at 2.4. Therefore, measuring the efficacy of these BMPs is relevant to assessing the HAC.

The Petitioners propose two representative downstream locations in the watershed to monitor chloride levels: for the CAWS, the Chicago Sanitary and Ship Canal at Lockport; and for the LDPR, at Channahon. JS at 10.1-10.2. The monitoring results will be used to evaluate compliance with the HAC for the watershed at the end of the first 5-year period of the TLWQS. *Id.*

IEPA Position

The IEPA agrees with the Petitioners' characterization of the HAC as well as the monitoring locations in the CAWS and LDPR. However, the IEPA argues that Petitioners must clearly identify the sampling locations and sampling frequencies in a sampling plan. IEPA Rec. at 11. The IEPA maintains that the proposed downstream extent of the chloride TLWQS watershed at the confluence of the Des Plaines River and the Kankakee River is appropriate. The IEPA notes that chloride data from Ambient Water Quality Monitoring (AWQM) Network station D-23 in the Illinois River at Marseilles indicate no chloride violations between January 2012 and June 2018. *Id.* at 29 citing Attachment 4. The IEPA proposes the following requirements under Condition 5 ("Criteria Measurement and Compliance Demonstration") of the draft TLWQS to specify the monitoring locations:

> Measurements for the interim winter criterion for CAWS must be based on instream water quality sampling at Lockport Forebay on the [Chicago Sanitary and Ship Canal (CSSC)] (RM 290.9) upstream of the confluence with the Des Plaines River.
>
> Measurements for the interim winter criterion for LDPR must be based on instream water quality monitoring at the [United States Geological Survey (USGS)] gage 05539670 in Channahon, IL. *Id.* (citations omitted)

River Advocates Position

For the interim winter criterion, the River Advocates agree with these measurement locations. However, the River Advocates maintain that municipalities and other dischargers in

the chloride workgroup cannot rely on the proposed adaptive management approach without specific information connecting existing uses, chloride concentrations, and BMPs. RA Com. at 5. The River Advocates argue that monitoring at two downstream locations will not provide sufficient data on upstream segments with higher aquatic life use designations. *Id*. at 7. The River Advocates assert that chloride discharges can cause spikes upstream that may be mixed and diluted by the time they reach the monitoring stations located miles downstream. *Id*. They maintain that measurement at multiple points is necessary to determine progress and to direct future efforts if the Petitioners are to be bound by a variance with an adaptive management approach. RA Rep. Br. at 4. Further, the River Advocates maintain that MWRD's commitment to continuing the ongoing monthly chloride monitoring throughout the CAWS "will not on its own suffice to provide the workgroups with adequate data to engage in a true adaptive management approach to reducing chloride levels in the subject waters." *Id*. Instead, they assert that the TLWQS must require the dischargers through CWGs to conduct trend analysis for chloride levels to understand the relationship between the BMPs implemented and chloride levels in the CAWS and LDPR watersheds. *Id*.

Therefore, the River Advocates propose a new TLWQS provision that requires developing an equation describing the relationship between conductivity and chloride levels by using the hourly conductivity monitoring data collected at eight MWRD continuous dissolved oxygen monitoring (CDOM) stations and the monthly chloride, hardness, and temperature data from MWRD's AWQM stations. *Id.* at 5, citing Figure 2. The River Advocates contend that "workgroups or their consultants could then model or use existing flow data to create chloride loadings and annual flow-normalized chloride concentrations at each of the [eight] CDOM locations, allowing them to compare annual flow-normalized chloride concentrations over time to indicate whether the BMPs are in fact reducing chloride concentrations." *Id.* The River Advocates propose the several additions to IEPA's draft TLWQS order language following under Condition 3(B)(xxvi):

a. The workgroups will either conduct a chloride trends analysis or engage an independent third-party organization, which will facilitate a stakeholder group responsible for finding, selecting, and coordinating with a consultant to conduct a chloride trends analysis in the CAWS and LDPR.

b. The consultant or workgroup will create an equation describing the relationship between conductivity and chlorides (using hourly conductivity monitoring at the red- and blue-circled MWRD Continuous Dissolved Oxygen Monitoring (CDOM) stations in Figure 2, in addition to monthly chloride data from the accompanying Ambient Water Quality Monitoring (AWQM) stations, including hardness and temperature readings) and convert hourly conductivity to chloride according to the equation at each monitoring station. The consultant or workgroup will also determine whether more monitoring points are necessary to capture the effectiveness of BMPs to reduce chlorides in the waterways and where additional points should be located.

c. The consultant or workgroup will model or use existing flow data or another comparable metric to create chloride loadings and annual flow-

normalized chloride concentrations at each circled CDOM station in Figure 2.

d. The consultant or workgroup will compare annual flow-normalized chloride concentrations over time to indicate whether BMPs are in fact reducing chloride concentrations over a 10-year period.

e. The consultant or workgroup will study past conductivity and chloride data to establish an initial trends report that will be updated each year for 10 years, including the number of hours and four-day periods per year when acute and chronic chloride targets are exceeded, expressed in absolute terms and flow-normalized terms. The consultant or workgroup will also present data needed to interpret these trends and exceedances at each monitoring location, including hardness and temperature readings, where available, from the CDOM or AWQM stations.

See River Advocates Rep. Br., Exhibit A.

MWRD Response

MWRD responded that it is willing to commit to increased monitoring of chloride levels, beyond the monitoring at two locations proposed in the Joint Submittal. MWRD Br. At 6. MWRD states that chloride data is collected on a monthly basis at 14 stations in the CAWS and a weekly basis at one station located at Lockport. These 15 stations are part of MWRD's AWQM program. MWRD Rep. Br. At 5. MWRD notes that conductivity data is collected on an hourly basis at a series of CDOM stations, nine of which are located near an AWQM station that collects chloride data. *Id.*, *citing* Exhibit A. To address the River Advocates' concerns, MWRD agrees to derive hourly chloride estimates by using the hourly conductivity data from the nine CDOM stations, the chloride data from the nearby AWQM stations, and a linear regression model. *Id.* However, MWRD notes that sampling may be affected by factors including weather conditions, mechanical issues, or safety issues. MWRD adds that "a sampling location may need to be moved to a new location, due to construction of a bridge or some other logistical issue, and sampling may need to be reduced temporarily due to extreme financial concerns." *Id.*

MWRD states that it will include the hourly chloride estimates for the nine CDOM stations in its Annual Report filed under the TLWQS. MWRD proposes to include the following monitoring requirement in the TLWQS order:

> In its Annual Report, MWRD will include the following information: (1) chloride data that it collects on a monthly basis at 14 stations in the CAWS that are part of its Ambient Water Quality Monitoring (AWQM) program; (2) chloride data that it collects on a weekly basis at one AWQM station, located at Lockport; and (3) hourly chloride estimates, based on conductivity data that it collects on an hourly basis at 9 Continuous Dissolved Oxygen Monitoring (CDOM) stations. The relevant AWQM and CDOM stations are indicated on the attached map (with an asterisk identifying the relevant CDOM stations). This requirement is subject to the following conditions: Weather, mechanical issues, or safety issues may

> prevent sampling; a sampling location may need to be moved to a new location, due to construction of a bridge or some other logistical issue; and sampling may need to be reduced temporarily due to extreme financial concerns. If any of those situations occurs, MWRD shall notify IEPA, and the issue will be noted in the Annual Report. Summaries of the chloride information provided by MWRD in its Annual Reports will be included in the Status Reports submitted by the [CWGs]. *Id.* at 5-6.

Board Findings.

The Board agrees with the River Advocates that the chloride data from two downstream locations will not be sufficient to evaluate the effectiveness of the BMPs implemented by the dischargers. While chloride data from the proposed monitoring locations may indicate the impact of the BMPs on chloride levels in the watershed as a whole, it will not be sufficient to evaluate the effectiveness of BMPs being implemented in the upstream segments. Additional chloride data from different locations in the watershed are necessary to understand the effects of BMPs implemented throughout the watershed. Because the proposed TLWQS is based on an adaptive management approach, it is important to identify whether and where BMPs are achieving chloride reductions to assist the dischargers, if necessary, to adjust or modify practices to reduce chloride discharges to comply with the HAC.

The Board finds that the additional monitoring requirements proposed by MWRD in its reply brief adequately address these factors. The hourly chloride level estimates at nine CDOM stations derived under the MWRD's proposal will provide individual dischargers as well as CWGs segment-specific chloride data to evaluate the effectiveness of BMPs. The Board finds there is no need to add the additional requirements proposed by the River Advocates for the chloride workgroups to develop similar information.

The Board requires MWRD to collect hourly conductivity data at the following nine CDOM stations: Foster, Addison, Michigan, Loomis, Cicero, B & O, Halsted, and Lockport. *See* MWRD Rep. Br., Exhibit A. Further, MWRD must estimate hourly chloride data at the nine CDOM stations using the hourly conductivity data, the monthly chloride data from the nearby AWQM stations, and a linear regression model. The Board's TLWQS order will also require MWRD to submit the following data in its Annual Report: the monthly chloride data from 14 AWQM; the weekly chloride data from the AWQM station located at Lockport; and the hourly chloride estimates for the nine CDOM stations.

The Board finds the monitoring exceptions proposed by MWRD to be reasonable, except for "extreme financial concerns". While the Board agrees that MWRD needs flexibility to address weather, safety, and construction issues, the Board finds the exception related to financial concern is vague, and inappropriate as an exception to the TLWQS. If MWRD is unable to conduct chloride monitoring due to "extreme financial concerns", MWRD must seek to amend the TLWQS, justifying any changes to the chloride monitoring requirements. Therefore, the Board declines to include the exception related to financial concerns. The Board will add MWRD's proposed chloride monitoring requirement under Condition 3(C) of the Board's final TLWQS order as follows:

C. Additional chloride monitoring requirements for MWRD.

i. MWRD must collect hourly conductivity data at the following nine Continuous Dissolved Oxygen Monitoring (CDOM) stations, which are also identified on the map in Attachment A of this order: Foster, Addison, Michigan, Loomis, Cicero, B & O, Halsted, and Lockport.

ii. MWRD must collect chloride data at all 15 Ambient Water Quality Monitoring (AWQM) stations identified in Attachment A of this order:

a. on a weekly basis at one AWQM station, located at Lockport; and

b. on a monthly basis at the other 14 AWQM stations.

iii. The requirements of subsections (C)(i) and (C)(ii) are subject to the following conditions:

a. weather, mechanical issues, or safety issues may prevent sampling.

b. a sampling location may need to be moved to a new location, due to construction of a bridge or some other logistical issue.

c. If any of the situations in subsections (C)(iii)(a) or (b) occurs, MWRD must notify the IEPA, and the issue must be noted in the Annual Report.

iv. MWRD must derive hourly chloride estimates for the nine CDOM stations by using the hourly conductivity data from the nine CDOM stations, the chloride data from the AWQM stations located near the CDOM stations, and a linear regression model.

v. MWRD will include the following information in its Annual Report submitted under Condition 3(b) of this order:

a. hourly conductivity data collected under subsection (C)(i);

b. weekly and monthly chloride data collected under subsection (C)(ii); and

c. hourly chloride estimates derived under subsection (C)(iv) for nine CDOM stations.

The Board also amends Condition 3(B)(xxvi) to require dischargers to include MWRD's chloride monitoring data in their Annual Reports. The Board's changes from the IEPA's recommendation are in bolded double underline.

> xxvi. 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 MWRD in its Annual Report.**

These changes are reflected in the Board's Order below.

Permitting After Approval of TLWQS

After of the Board and USEPA approve the TLWQS, the Petitioners will be subject to the conditions of the TLWQS rather than the chloride standards at Sections 302.407(g)(2) and 302.407(g)(3) of the Board's rules, or their NPDES permits limits. 35 Ill. Adm. Code 302.407(g)(2) and 302.407(g)(3). Federal regulations provide that any limitations and requirements necessary to implement the TLWQS shall be included as enforceable conditions of the NPDES permit for the covered discharger. *See* 40 CFR § 131.14(c).

Both the IEPA and Petitioners suggested ways to modify the dischargers' NPDES permits. For the reasons below, the Board agrees with the IEPA that, once the TLWQS has been approved by the Board and the USEPA, a general permit will be used to incorporate the conditions of the TLWQS, the BMPs in Table 3, and the implementation schedule in Table 4 into Petitioners' NPDES permits.

Initially, the IEPA suggested that the specific requirements of the TLWQS could be incorporated into permittees' NPDES permits as Petitioners' NPDES permits require renewal or modifications. Tr. at 136-137. The IEPA stated that it would notify the affected permittees of its intent to implement the TLWQS within 120 days of the USEPA's approval but update the permit only when an affected permit requires renewal or modification. PC#5 at 8, citing Attach. A, Table 4. The CWA specifies that NPDES permits may not be issued for a term longer than five (5) years.[26] However, if a petitioner's NPDES permit was recently issued or renewed, and there is no other reason to modify it, then it may take as long as five years for the terms of the TWLQS to be added to its NPDES permit. The Board disagrees with the IEPA's initial suggestion because the TLWQS requirements must be included in a Petitioners' NPDES permit as soon as feasible after Board and USEPA approval.

After the hearings on this matter, the IEPA revised its position to a general permit:

> Based on conversations after the hearing with Environmental Groups and Participants, the [IEPA] believes the best approach would be to issues [sic] a

[26] NPDES Permit Basics, USEPA website - https://www.epa.gov/npdes/npdes-permit-basics

> general overlay permit for the TLWQS for chlorides. The general overlay permit would be a general permit that would be applicable only for chlorides and would replace any wintertime chloride requirements in the existing NPDES permit. All of the requirements, except for chlorides, in the current NPDES permit would continue to be applicable. Once the Board issues the Order for the TLWQS, that Order will have the BMPs established. The [IEPA] will then begin working on the general overlay permit. The Order will then be submitted to USEPA for approval of the TLWQS. Once approved by USEPA, the [IEPA] will place the draft permit on public notice, where public comments will be accepted on the BMPs and any other information that is contained in the draft permit. IEPA Com. at 5-6.

The IEPA further notes that the USEPA "seemed receptive to this approach." *Id*. This approach allows Petitioners' NPDES permits to be updated with the TLWQS requirements soon after Board and USEPA approval.

In its post-hearing briefs, MWRD stated that it "believes that the simplest procedure would be for the IEPA, once the TLWQS has been approved, to reopen all of the Petitioners' permits for the limited purpose of adding the chloride standard and the TLWQS conditions." MWRD Br. at 10. While the Board recognizes that this suggestion would put the TLWQS requirements into each Petitioners' NPDES permit quickly, the Board disagrees that this is the simplest procedure as it would require significant IEPA resources to modify nearly 50 NPDES permits at the same time.

Board Findings. The Board agrees with the IEPA and finds that the most efficient way to make the chloride standard and TLWQS requirements part of Petitioners' NPDES permits is for the IEPA to develop a general overlay permit solely to add the Board approved TLWQS requirements. This method promptly makes the requirements part of NPDES permits without taxing the IEPA's resources. When a Petitioner's NPDES permit is subsequently renewed or modified, the TLWQS requirements can then be integrated into the Petitioner's specific NPDES permit.

Exception - Citgo Holding, Inc.'s Lemont Refinery NPDES Permit

Citgo's Lemont refinery NPDES permit (No. IL0001589) (Citgo's NPDES permit) requires implementation of BMPs reducing salt use to offset total dissolved solids (TDS) contributions by the wet gas scrubber when the Chicago Sanitary & Ship Canal exceeds 1,500 mg/L for TDS. Citgo PFT at 5-6. Specifically, Citgo's NPDES permit requires a 77-ton reduction in chloride. Tr. at 92. At hearing, Citgo specifically requested guidance from the Board on what would be the appropriate chloride reduction strategy given that it already has a TDS requirement to make a 77-ton reduction in chloride in its current NPDES permit. Tr. at 92.

In the 2/13/2020 HOO, the Board requested comment on how the IEPA would implement the TLWQS with respect to Citgo's permit. 2/13/2020 HOO, Attachment 1 at 3. The IEPA states that the permit condition will remain in Citgo's NPDES permit until the Board adopts the chloride [TLWQS], at which point the IEPA will discuss with Citgo what requirements, including TLWQS requirements, need to be in the permit. Tr. at 134-35.

Board Findings. The Board agrees with the IEPA and finds that the specific chloride reduction condition in Citgo's NPDES permit will remain in effect until the chloride TLWQS is adopted by the Board and approved by the USEPA. After approval, Citgo's NPDES permit will be reopened to allow the IEPA to compare and evaluate Citgo's existing TDS BMPs, and determine how to modify the permit to incorporate the specific TLWQS conditions, BMPs, and implementation schedules.

Satisfaction of Section 104.565(d)

The Board's order intends to meet each of the requirements of Section 104.565(d) of the Board's rules. The following table identifies the sections of the order that satisfy each requirement in Section 104.565(d).

Section of 35 Ill. Adm. Code 104.565(d).	**Part of order**
1) Identification of the pollutant or water quality parameter	Introductory paragraph.
2) Applicability	
A) Watershed, Water Body, Waterbody Segment and Multiple Discharger	
i) Identification of the watershed, water body, or waterbody segment to which the TLWQS applies;	Paragraph 1.A, Figure 1
ii) Eligibility criteria that may be used by new or existing dischargers or classes of dischargers to obtain coverage under the TLWQS during its duration; and	Paragraph 1.B
iii) The list of persons covered under the TLWQS at the time of the Board's adoption.	Table 2
3) The TLWQS requirements and conditions that apply throughout the term of the TLWQS:	
A) Will represent the highest attainable condition of the watershed, water body, or waterbody segment applicable	Introductory paragraph.

	throughout the term of the TLWQS based on petitioner's demonstration required by Section 104.560; and	
B)	Will not result in any lowering of the currently attained ambient water quality, unless the petitioner demonstrates that a TLWQS is necessary for restoration activities under Section 104.560(a)(7).	Introductory paragraph.
4)	The highest attainable condition of the water body or waterbody segment as a quantifiable expression of one of the following: * * * B) For a TLWQS applicable to a watershed, water body, or waterbody segment: ii) If no additional feasible pollutant control technology can be identified, the interim use and interim criterion that reflect the greatest pollutant reduction achievable with the pollutant control technologies installed at the time the Board adopts the TLWQS and with the adoption and implementation of a Pollutant Minimization Program.	Paragraph 5.A
5)	A statement providing that the requirements of the TLWQS are either the highest attainable condition identified at the time of the adoption of the TLWQS, or the highest attainable condition later identified during any re-evaluation consistent with Section 104.580, whichever is more stringent.	Paragraph 6.F
6)	The term of the TLWQS, expressed as an interval of time from the date of USEPA approval or a specific date.	Paragraph 7.A
7)	For a TLWQS with a term greater than five years, a specified frequency to re-evaluate the highest attainable condition under Section 104.580. The re-evaluation must occur no less frequently than every five years after both the Board and USEPA approve the TLWQS.[ ]	Paragraph 7.C
8)	A provision that the TLWQS will no longer be the applicable water quality standard for purposes of the Clean Water Act if the petitioner does not conduct a re-evaluation	Paragraph 7.D

consistent with the frequency specified in the TLWQS or the results are not submitted to USEPA as required by Section 104.580.	

CONCLUSION

Today, the Board grants Petitioners' request for a chloride TLWQS in the CAWS and LDPR watersheds. The Board-approved TLWQS order, with figures, attachments, and tables, is incorporated into this Board opinion and order. Under Section 104.570 of the Board's rules, "[b]efore a TLWQS becomes effective for Clean Water Act purposes, the IEPA must submit the TLWQS to the USEPA and obtain the USEPA's approval in compliance with Section 303(c) of the Clean Water Act and 40 CFR 131.20 and 131.21." *See* 35 Ill. Adm. Code 104.570. Upon issuance of this order, the IEPA must submit the Board-approved TLWQS for USEPA approval consistent with Section 104.570.

This TLWQS, once adopted by the Board and approved by USEPA, will be the applicable WQS for each covered discharger for the 15-year term. 35 Ill. Adm. Code 104.505(d). The limitations and requirements necessary to implement the TLWQS will be included as enforceable conditions of the overlay permit, and upon modification or renewal the NPDES permit for any permittee granted coverage under the TLWQS by the Board or the IEPA. *Id*. The Board will maintain, in its WQS, the underlying designated use and chloride criterion for all dischargers not covered by this TLWQS. 35 Ill. Adm. Code 104.565(a). If any petitioner does not conduct a re-evaluation as required and scheduled in the TLWQS or those results are not submitted to the USEPA, the TLWQS will no longer be the applicable WQS for that discharger. 35 Ill. Adm. Code 104.580(h).

Under Section 104.525 of the Board's rules, the stay of effectiveness of the chloride WQS remains in effect until the USEPA either approves the TLWQS or disapproves the TLWQS for failure to comply with 40 CFR 131.14. *See* 35 Ill. Adm. Code 104.525(a) and (b)(1)(B).

ORDER

Time-Limited Water Quality Standard for Chloride

For the waterways listed in Table 1 and the watershed defined in paragraph 1.A and depicted in Figure 1; the Board grants a Time Limited Water Quality Standard (TLWQS) for chloride that applies for the term of the variance for the purposes of developing permit limits and conditions. The requirements and conditions that apply throughout the term of this TLWQS represent the highest attainable condition (HAC) of the watersheds as defined in this order and will not result in any lowering of the currently attained ambient water quality.

1. Applicability

   A. The applicable watershed is 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 depicted in Figure 1.

   B. Each discharger listed in Table 2 will be subject to the conditions specified in paragraphs 2 through 6. Any other discharger in the watershed depicted in Figure 1 will be subject to the permit limits and conditions necessary to ensure compliance with the water quality standards (WQS) for chloride under 35 Ill. Adm. Code 302.208 and 302.407.

   C. Any discharger requesting coverage under this TLWQS not listed in Table 2, must meet the criteria listed below in (C)(i) – (viii), to be granted coverage under the TLWQS by the Illinois Environmental Protection Agency (IEPA). The discharger must comply with the conditions specified in Paragraphs 2 through 6. Any discharger requesting coverage under this TLWQS will be notified within 120 days of the request if the discharger has satisfied the coverage requirements in this subsection, including whether the discharger is considered a significant new source of chloride under (C)(iii) below. Upon notice of meeting the criteria listed below, subsequently, the IEPA will modify the permit with the conditions specified in Paragraphs 2 through 6.

      i. A discharger must be located in the waterways listed in Table 1 and the watershed depicted in Figure 1.

      ii. The discharger must belong to one of the classes identified by the Board pursuant to 35 Ill. Adm Code 104.540

a. Public owned treatment works (POTWs)

b. Communities with combined sewer overflow (CSO) outfalls

c. Industrial sources

d. Municipal separate storm sewer systems (MS4s)

e. Illinois Department of Transportation (IDOT)

f. Illinois Tollway

g. Salt storage facilities.

iii. The discharger, if a significant new source of chloride, must offset at least their additional loading before receiving coverage under the TLWQS.

iv. The discharger must have joined and will be participating in either the Chicago Area Waterway System (CAWS) chlorides workgroup (CWG) or the Lower Des Plaines River (LDPR) CWG.

v. The discharger will implement a pollutant minimization program which includes all the Best Management Practices (BMP) identified by the Board's order granting the TLWQS.

vi. The discharger will implement any required BMP not currently being implemented within 12 months of the National Pollutant Discharge Elimination System (NPDES) permit being modified or issued. If the discharger is unable to implement any required BMP within that time period, the discharger must explain the reasons in its Annual Report and provide a schedule for completion of the BMP.

vii. The discharger must commit to participating in the re-evaluation proposal pursuant 35 Ill. Adm. Code 104.580.

viii. The discharger must submit the following information to the IEPA Division of Water Pollution Control, Permit Section:

a. the location of the discharger's activity and the location of the points of its discharge;

b. identification of discharger's NPDES permits;

c. identification and description of any process, activity, or source that contributes to a violation of the chlorides WQS, including the material used in that process or activity;

d. a description and copy of all Pollutant Minimization Plans (PMP) that are currently being implemented or were implemented in the past; and

e. identification of any other BMPs being implemented to reduce chloride in the discharge that are not identified by the Board's order granting the TLWQS.

2. Best Management Practices

A. A discharger listed in Table 2 and any additional discharger granted coverage under this TLWQS, by the IEPA, under paragraph 1(C) must prepare and implement a pollutant minimization program to reduce chlorides into the CAWS and LDPR to the greatest extent achievable using all of the BMPs currently identified in Table 3 and BMPs specified by the Board following any re-evaluation required by Paragraph 6 according to the Implementation Schedule in Table 4.

3. Individual Discharger Requirements

A. By the deadline listed in Table 4, each discharger must each prepare a PMP for their own operations to reduce chlorides into the CAWS and LDPR to the greatest extent achievable utilizing the currently identified BMPs in Table 3 and BMPs specified by the Board following any re-evaluation required by Paragraph 6 that it will implement along with the applicable monitoring, recordkeeping and reporting procedures, and the relevant schedule for implementation as provided in Table 4.

B. By the deadlines listed in Table 4, each discharger must submit an Annual Report to the IEPA and the appropriate CWG on the discharger's prior year's usage of deicing agents, steps taken to minimize chloride use, and participation in the CWG. Each discharger must make the report publicly available and include the following:

BMPs

i. List of the BMPs being used and to what extent.

ii. 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.

iii. 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

iv. 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).

v. Estimate of the amount of chloride salt usage in the past year and over the term of the TLWQS.

vi. Estimates of relative amounts applied and relative percent coverage achieved by the following types of deicing agents: dry, wet, and liquid.

vii. Application practices used (cleared using pre-wetted salt; cleared using anti-icing).

viii. 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).

ix. Description of how application rates varied for different types of weather and how they have changed over the term of the TLWQS.

x. Whether the use of liquids was increased, and dry chloride salt application rates were reduced.

xi. Callouts:

a. Summary of snowfall data.

b. Number of callouts.

c. Quantity and type of precipitation during the callout.

d. Application rate for each type of deicing agent during the callout.

e. Quantity of chloride salt used for each callout.

Training

xii. Annual training that was completed for the entire workforce that applied chloride-based deicing salts.

xiii. Identification of additional training that is necessary.

xiv. Explanation of why discharger was unable to complete the training identified in the previous Annual Report.

Deicing and Snow Removal Equipment

xv. 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).

xvi. Description of equipment washing as well as wash water collection and disposal or reuse for making brine.

Salt Storage

xvii. Number of chloride salt storage areas.

xviii. Number of chloride salt storage areas in fully enclosed structures.

xix. Number of chloride salt storage areas on an impervious pad.

xx. Number of chloride salt storage areas without a fully enclosed storage structure or impervious storage pad.

xxi. Information on salt storage methods used to ensure good housekeeping policies are implemented (e.g., cleaned-up salt piles).

Purchases

xxii. 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).

xxiii. Explanation of why discharger was unable to make all capital purchases and expenditures identified in the previous Annual Report.

Environmental Monitoring Data

xxiv. Any changes to a facility's NPDES treatment technologies.

xxv. NPDES effluent data, if any, for chloride discharges.

xxvi. 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

xxvii. Proposed steps for the coming year.

xxviii. 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.

CWG Participation

xxix. Description of action that the discharger took to participate in a CWG.

C. Additional chloride monitoring requirements for MWRD.

i. MWRD must collect hourly conductivity data at the following nine Continuous Dissolved Oxygen Monitoring (CDOM) stations, which are also identified on the map in Attachment A of this order: Foster, Addison, Michigan, Loomis, Cicero, B & O, Halsted, Cicero and Lockport.

ii. MWRD must collect chloride data at all 15 Ambient Water Quality Monitoring (AWQM) stations identified in Attachment A of this order:

a. on a weekly basis at one AWQM station, located at Lockport; and

b. on a monthly basis at the other 14 AWQM stations.

iii. The requirements of subsections (C)(i) and (C)(ii) are subject to the following conditions:

a. weather, mechanical issues, or safety issues may prevent sampling; and

b. a sampling location may need to be moved to a new location, due to construction of a bridge or some other logistical issue.

c. If any of the situations in subsections (C)(iii)(a) or (b) occurs, MWRD must notify the IEPA, and the issue must be noted in the Annual Report.

iv. MWRD must derive hourly chloride estimates for the nine CDOM stations by using the hourly conductivity data from the nine CDOM stations, the chloride data from the AWQM stations located near the CDOM stations, and a linear regression model.

v. MWRD will include the following information in its Annual Report submitted under Condition 3(B) of this order:

a. hourly conductivity data collected under subsection (C)(i);

b. weekly and monthly chloride data collected under subsection (C)(ii); and

c. hourly chloride estimates derived under subsection (C)(iv) for nine CDOM stations.

4. CWGs

A. Each discharger listed in Table 2, and any additional discharger granted coverage under the TLWQS by the IEPA, under paragraph 1(C) must participate in a CWG whose main goals are working toward reducing chloride in the receiving stream and gathering information for the re-evaluation.

B. Each discharger must participate in the CWG associated with the watershed in which its discharge is located. If a discharger has discharges to both the LDPR and CAWs watersheds, then it may choose one CWG in which to participate.

C. Each discharger must convene in their CWG at least semi-annually and continue meeting throughout the term of the TLWQS.

D. By the deadlines listed in Table 4, each discharger must ensure that their CWG submits a Status Report to the IEPA and make the report publicly available. The Status Report must compile and analyze the individual discharger's Annual Reports into a watershed-wide report and include the following:

i. Chloride monitoring data;

ii. CWG's outreach strategy;

iii. New BMPs, treatment technologies, and salt alternatives to reduce chloride loading to the environment;

iv. Impediments faced by any discharger under the TLWQS that prevent them from completing the training and making all capital purchases necessary to implement the required BMPs;

v. Possible solutions to impediments listed in (4)(D)(iv);

vi. Identification and description of any financial, technical, or other assistance the CWG may be able to provide an individual discharger to overcome the impediments described in (4)(D)(iv);

vii. Results of criteria measurement and compliance demonstration with the HAC under paragraphs 2 and 5; and

viii. An assessment of whether there has been adequate participation in the CWG by any discharger authorized under this TLWQS.

E. Each discharger must ensure that their CWG prepares outreach and educational materials to create awareness about the environmental impacts of chlorides. Each discharger must ensure that their CWG share these materials with other users of road salt in their local area. Outreach and education materials may include various forms of social media, incentives for chloride reduction, support for community-based training of commercial road salt spreaders, training for residents and other entities that apply road salt, and funding or other support to implement chloride BMPs in communities where new equipment is not affordable.

F. Each discharger must ensure that their CWG coordinates with the IEPA to identify different nonpoint source categories beginning in year seven of the TLWQS term. Each discharger must ensure that their CWG works with the IEPA to prioritize and implement education outreach efforts for nonpoint sources based

on their road salting practices and proximity to surface waters in CAWS and LDPR watersheds.

G. Each discharger must ensure that their CWG identifies all sampling points and sampling frequency in a sampling plan to demonstrate compliance with the HAC as delineated in Paragraphs 2 and 5.

H. Each discharger must ensure that their CWG collects sufficient data in the receiving stream to perform the re-evaluation.

5. Criteria Measurement and Compliance Demonstration

A. The chloride HAC for the first 5-year term of this TLWQS is the interim winter criterion of 280 mg/L for the months of December through April. Compliance is to be assessed as an average of the measurements during the months of December through April at the end of the first five-year term, using a 4-year seasonal average for the first reevaluation period, and then every five years thereafter.

B. Measurements for the interim winter criterion for CAWS must be based on instream water quality sampling at Lockport Forebay on the Chicago Sanitary and Ship Canal (CSSC) (RM 290.9) upstream of the confluence with the Des Plaines River.

C. Measurements for the interim winter criterion for LDPR must be based on instream water quality monitoring at the United States Geological Survey (USGS) gage 05539670 in Channahon, IL.

6. Re-evaluation

A. By the deadlines listed in Table 4, each discharger must ensure that their CWG submits a proposed re-evaluation under 35 Ill. Adm. Code 104.580, which assesses the HAC using all existing and readily available information.

B. Each discharger must ensure that their CWG evaluates whether the chloride sampling plan and data collection needs to be expanded or otherwise modified.

C. At each re-evaluation, each discharger must ensure their CWG evaluates each required BMP, analyzes its effectiveness, and provides a recommendation about whether it must be continued as is, modified to improve its effectiveness, or eliminated. Each discharger must ensure that their CWG evaluates and provides recommendations for any BMPs that were identified in the Annual Reports required by Section 3(B). Each discharger must ensure that their CWG evaluates and provides recommendations for any new or innovative technology that could improve water quality if implemented and identifies all such technologies. The

BMPs that are adopted by the Board will be fully implemented during the next five years.

D. As required by 35 Ill. Adm. Code 104.580 (b) and (c), the Board will make the information submitted in Section (6)(C) available to the public and provide an opportunity for any person to submit information about additional BMPs and new or innovative technologies that could improve water quality if implemented.

E. Based on the information provided in sections (6)(C) and (D) or any other information available to the Board, the Board will identify any updates to Table 3 needed to achieve the greatest chloride reduction achievable for the whole watershed. For each discharger category, the Board will identify all additional BMPs and new or innovative technologies that are achievable for any discharger in the category and issue an order updating Table 3 to include any such BMPs or technologies for the entire category except that, if any such BMP or technology is achievable for some but not every discharger within a discharger category, the Board may identify in Table 3 sub-categories of each discharger for whom the BMP or technology is not practicable.

F. As required by 35 Ill. Adm. Code 104.580(e)(1), if any re-evaluation yields a more stringent HAC, that HAC becomes the applicable interim TLWQS for the remaining duration of the TLWQS.

7. TLWQS Term

A. The term of the TLWQS expires 15 years after USEPA approval.

B. During the 15-year term, a re-evaluation of the HAC must be submitted to the Board and subsequently to the USEPA six months before the end of each five-year TLWQS period. The dischargers identified in Table 2 must participate in the CWG that conducts and submits this re-evaluation.

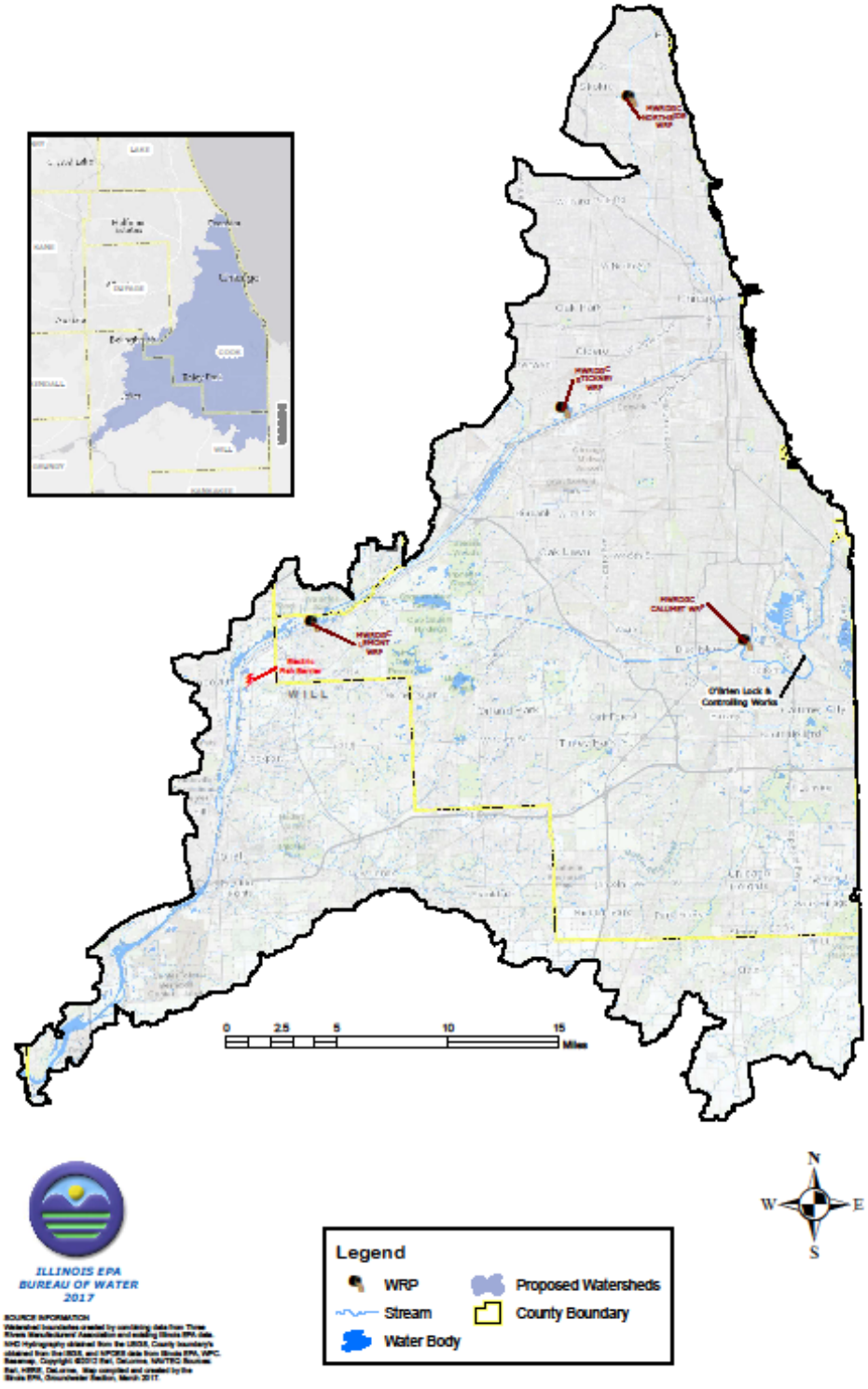
C. If the chloride WQS is not attained at the re-evaluation, then each discharger covered by this TLWQS must comply with paragraph 6.

D. The TLWQS will no longer be the applicable WQS for purposes of the Clean Water Act if the Petitioners do not conduct a re-evaluation consistent with the frequency specified in paragraph 7(B) or the results are not submitted to the USEPA as required by this paragraph. The IEPA is directed to craft a general overlay permit for the limited purpose of adding the Board-approved TLWQS requirements. The IEPA is directed to integrate upon permit modification or renewal the TLWQS requirements into the NPDES permits for each discharger listed in Table 2, and any additional discharger granted coverage under this TLWQS by the IEPA, under paragraph Section 1(C) that incorporate the

conditions of this TLWQS, the BMPs in Table 3, and the implementation schedule in Table 4.

Figure 1

CHLORIDE WATERSHEDS



Attachment A

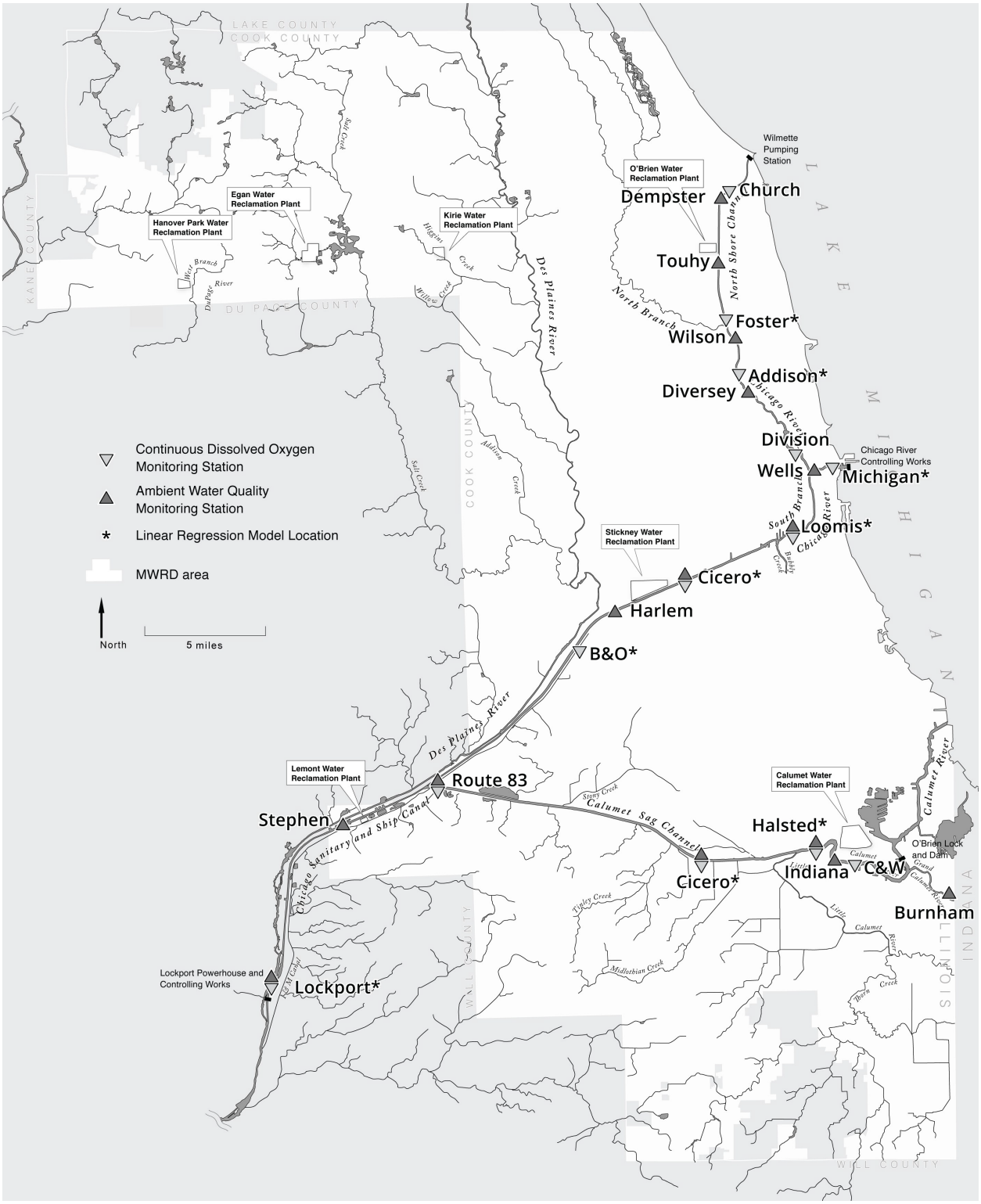


Table 1: Receiving Waters, Use Designations and Generally Applicable Water Quality Standards for Chloride

Receiving Water		Use Designation	HUC Code	IEPA Segment Code	Generally Applicable Chloride Water Quality Standard
Chicago Area Waterway System	**CAWS**				
Upper Northshore Channel from Wilmette Pumping Station to North Side WRP	Upper NSC	CAWS Aquatic Life Use A	071200030104	HCCA-02	302.208(g) 500 mg/L Chloride Year-Round
Lower NSC from North Side WRP to confluence with NBCR	Lower NSC	CAWS Aquatic Life Use A	071200030104	HCCA-04	302.407(g)(3) 500 mg/L Chloride Year-Round
North Branch of the Chicago River	NBCR	CAWS Aquatic Life Use A	071200030106	HCC-02 HCC-08	302.407(g)(3) 500 mg/L Chloride Year-Round
Chicago River (from Lake Michigan to confluence with NBCR and SBCR)	CR: Lake Michigan - NBCR & SBCR	General Use	071200030107	HCB-01	302.208(g) 500 mg/L Chloride Year-Round
South Branch of the Chicago River	SBCR	CAWS Aquatic Life Use A	071200030107	HC-01	302.407(g)(3) 500 mg/L Chloride Year-Round
Chicago Sanitary and Ship Canal	CSSC	CAWS and Brandon Pool Aquatic Life Use B	071200030107 071200040705	GI-03 GI-06 GI-02	303.449 May-Nov. 500 mg/L Chloride Dec.-Apr.

Receiving Water		**Use Designation**	**HUC Code**	**IEPA Segment Code**	**Generally Applicable Chloride Water Quality Standard**
					Acute 990 mg/L Chronic 620 mg/L
Cal-Sag Channel	CSC	CAWS Aquatic Life Use A	071200030403 071200040702	H-02 H-01	302.407(g)(3) 500 mg/L Chloride Year-Round
Grand Calumet River	GCR	CAWS Aquatic Life Use A	071200030407	HAB-41	302.407(g)(3) 500 mg/L Chloride Year-Round
Lake Calumet	LC	CAWS Aquatic Life Use A	040400010603	IL_RHO	302.407(g)(3) 500 mg/L Chloride Year-Round
Lake Calumet Connecting Channel	LCCC	CAWS Aquatic Life Use A	040400010603	NA	302.407(g)(3) 500 mg/L Chloride Year-Round
Calumet River from Lake Michigan to its confluence with GCR and LCR	CR	CAWS Aquatic Life Use A	040400010603	HAA-01	302.407(g)(3) 500 mg/L Chloride Year-Round
Little Calumet River from its confluence with CR and GCR to its confluence with CSC	LCR	CAWS Aquatic Life Use A	071200030407	HA-05 HA-04	302.407(g)(3) 500 mg/L Chloride Year-Round
Lower Des Plaines River	**LDPR**				
Des Plaines River from Kankakee River to the I-55 Bridge	DPR: KR-I-55 Bridge	General Use	071200040705	IL_G-03 IL_G-11	302.208(g) 500 mg/L Chloride Year-Round

Receiving Water		**Use Designation**	**HUC Code**	**IEPA Segment Code**	**Generally Applicable Chloride Water Quality Standard**
Des Plaines River from the I-55 Bridge to Brandon Road Lock and Dam	DPR: I-55 Bridge – BRLD	Upper Dresden Island Pool Aquatic Life Use	071200040705	IL_G-11	302.407(g)(3) 500 mg/L Chloride Year-Round
Des Plaines River from the Brandon Road Lock and Dam to confluence with CSSC	DPR : BRL D – CSS C	CAWS and Brandon Pool Aquatic Life Use B	071200040705	IL_G-12 IL_G-23	302.407(g)(3) 500 mg/L Chloride Year-Round
Des Plaines River from confluence with the CSSC to the Will County Line	DPR: CSSC-Will County Line	General Use	071200040705 071200040706	IL_G-24 IL_G-39	302.208(g) 500 mg/L Chloride Year-Round
Hickory Creek	HC	General Use	071200040601 071200040603	IL_G-04 IL_G-06 IL_G-22	302.208(g) 500 mg/L Chloride Year-Round
Union Ditch	UD	General Use	071200040601	IL_GG-FN-A1 IL_GG-FN-C1	302.208(g) 500 mg/L Chloride Year-Round
Spring Creek	SC	General Use	071200040602	IL_GGA-02	302.208(g) 500 mg/L Chloride Year-Round
Marley Creek	MC	General Use	071200040603	IL_GGB-01	302.208(g) 500 mg/L Chloride Year-Round
East Branch of Marley Creek	EBMC	General Use	071200040603	NA	302.208(g) 500 mg/L Chloride Year-Round

Table 2: Individual Dischargers and Receiving Waters

PCB	PERMIT HOLDER	FACILITY LOCATION	RECEIVING WATER	PERMIT NUMBER	DISCHARGER CATEGORY
16-14	**Village of Homewood**	2020 Chestnut Re., Homewood, IL 60430	CalR & LCR	ILR400357 – Cook County	MS4
16-15	**Village of Orland Park**	Orland Park, Cook and Will Counties, IL	CSC HC SC MC	ILR400414	MS4
16-16	**Village of Midlothian**	14801 S. Pulaski, Midlothian, IL 60445	CSC	ILR400387	MS4
16-17	**Village of Tinley Park**	16250 S. Oak Park Ave., Tinley Park, IL 60477	CalR & LCR	ILR400460	MS4
16-18	**ExxonMobil Joliet Refinery, ExxonMobil Oil Corp.**	25915 South Frontage Rd, Channahon, IL 60410	DR-KR	IL0002861 ILR10	IS
16-20	**Village of Wilmette**	711 Laramie Ave., Wilmette, IL 60091	NBCR NSC	MS4 ILR40-0473	
16-21	**City of Country Club Hills**	4200 West 183rd St., Country Club Hills, IL	CalR & LCR	ILR400177	MS4
16-22	**Noramco-Chicago, Inc.**	12228 New Ave., Lemont, IL 60439	CSSC	NA (Pending permit application IL0001309)	SSF

PCB	PERMIT HOLDER	FACILITY LOCATION	RECEIVING WATER	PERMIT NUMBER	DISCHARGER CATEGORY
16-23	**INEOS Joliet, LLC**	23425 Amoco Road, Channahon, IL 60410	DPR: KR-WC	IL 0001643	IS
16-25	**City of Evanston**	2100 Ridge Ave., Evanston, IL 60201	NSC	ILM580 036 (CSO) ILR400 335 (MS4)	MS4 CSO
16-26	**Village of Skokie**	5127 Oakton St., Skokie, IL	NSC	ILM5800 36 (CSO) ILR4004 47 (MS4)	MS4 CSO
16-27	**IDOT**	2300 S. Dirksen Pkwy, Springfield, IL	**CAWS** CR NBCR SBCR CSSC CSG GCR LC LCCC CalR & LCR NSC **LDPR** DPR: KR-WC HC UD SC MC EBMC	ILR00493	IDOT/IT

PCB	PERMIT HOLDER	FACILITY LOCATION	RECEIVING WATER	PERMIT NUMBER	DISCHARGER CATEGORY
16-29	**Calumet WRP, MWRDGC**	400 E. 130th St., Chicago, IL 60628	CSC CalR & LCR	IL0028061 ILR003177	POTW
	Lemont WRP, MWRDGC	13 Stephen St., Lemont, IL	CSSC	IL0028070	POTW
	Lockport Powerhouse, MWRDGC	2400 South Powerhouse Rd., Lockport, IL 60441	CSSC	IL0077305	IS
	Stickney WRP, MWRD GC	6001 W. Pershing Rd., Cicero, IL 60804- 4112	SBCR CSSC	IL0028053 ILR003183	POTW
	Terrence J. O'Brien (North Side) WRP, MWRDGC	3500 W. Howard St., Skokie, IL 60076	NBCR NSC	IL0028088	POTW
16-30	**Village of Richton Park**	4455 Sauk Trail, Richton Park, IL 46071	CalR & LCR	IL3012550 ILR40 (MS4)	MS4 SSF
16-31	**Village of Lincolnwood**	6900 N. Lincoln Ave., Lincolnwood, IL 60712	NSC	ILR400218 ILM580034	MS4 CSO
16-33	**City of Oak Forest**	15440 S. Central Ave., Oak Forest, IL 60452	CSC CalR & LCR	ILR400408	MS4
19-7	**Village of Lynwood**	21460 E Lincoln Hwy, Lynwood, IL 60411	CalR & LCR	ILR40-0380	MS4 SSF
19-8	**CITGO Petroleum Corp. – Lemont Refinery**	135th Street and New Avenue, Lemont, IL 60439	CSSC	IL0001859	IS

PCB	PERMIT HOLDER	FACILITY LOCATION	RECEIVING WATER	PERMIT NUMBER	DISCHARGER CATEGORY
19-9	**Village of New Lenox – STP #1, STP #2, STP #3**	1 Veterans Pkwy, New Lenox, IL 60451	DR-KR HC SC	IL0020559 IL0046264 IL0075957 ILR400397	POTW MS4
19-10	**Lockport Sewage Treatment Plant**	425 W. Division St., Lockport, IL 60441	DPR: KR-WC	IL0029611 (Lockport) IL0021261 (BBFM) ILR40 (MS4)	POTW MS4
19-12	**Crest Hill East Sewage Treatment Plant, Crest Hill MS4**	1610 Plainfield Rd., Crest Hill, IL 60403	DPR: KR-WC	IL0064998 (NPDES) ILR40 (MS4)	POTW MS4
19-13	**City of Joliet**	150 W. Jefferson St., Joliet, IL 60432	DPR: KR-WC HC SC	IL0022519 (NPDES) IL0033553 (NPDES) ILR10	POTW CSO MS4 SSF
19-14	**Morton Salt, Inc.- Chicago, IL-Calumet site**	3443-3461 East 100th Street, Chicago, IL 60617	CalR & LCR	ILR00 (General Permit)	SSF
19-15	**City of Palos Heights Public Works**	7607 West College Dr., Palos Heights, IL 60463	CSC	ILR400417 (MS4)	MS4 SSF
19-16	**Village of Romeoville**	615 Anderson Dr, Romeoville, IL	DPR: KR-WC	ILL048526 ILR400436 (MS4)	POTW MS4
19-17	**IMTT Illinois LLC, Joliet Facility**	24420 W Durkee Road, Joliet, IL 60410	DPR: KR-WC	IL0063061	IS
		13589 Main St., Lemont, IL 60439	CSSC	IL0005126 IL0061182	

PCB	PERMIT HOLDER	FACILITY LOCATION	RECEIVING WATER	PERMIT NUMBER	DISCHARGER CATEGORY
19-18	**Stepan Millsdale, Stepan Company**	2250 Stepan Drive, Elwood, IL 60421	DPR: KR-WC	IL0002453	IS
19-19	**Village of Park Forest Storm Sewer System**	350 Victory Drive, Park Forest, IL	CalR & LCR	ILR400421 (MS4)	MS4
19-20	**Ozinga Ready Mix Concrete, Inc.**	2525 Oakton St., Evanston, IL 60202	NSC	ILR004480	IS
		1818 East 103rd St., Chicago, IL 60617	CalR & LCR	ILR003588	IS
		12660 Laramie Ave., Alsip, IL 60803	CSC	ILR006916	IS
		11400 Old Lemont Rd., Lemont, IL 60439	CSSC	ILR005770	IS
			SBCR	ILR003584	IS
		2255 South Lumber St., Chicago, IL 60616	HC	ILR003587	IS
		18825 Old La Grange Rd., Mokena, IL 60448	NBCR	ILR005319	IS
		2001 North Mendell St., Chicago, IL 60642	DPR: KR-WC	ILR005865	IS
		504 Railroad St., Joliet, IL 60436			

PCB	PERMIT HOLDER	FACILITY LOCATION	RECEIVING WATER	PERMIT NUMBER	DISCHARGER CATEGORY
19-21	**Ozinga Materials, Inc.**	13100 South Ashland Ave., Calumet Park, IL 60827	CSC CalR & LCR	Permit Pending	IS
19-22	**Midwest Marine Terminals, LLC**	11701 South Torrence Ave., Chicago, IL 60617	CalR & LCR	ILR006553	IS
19-23	**Village of Mokena**	WTP: 11400 W. 191st St., Mokena, IL 60448 MS4: 11004 Carpenter St., Mokena, IL 60448	EBMC HC EBMC	IL0024201 ILR40	POTW MS4
19-24	**Village of Oak Lawn, Public Works**	5550 and 5532 West 98th St., Oak Lawn, IL	CSC	ILR400409 ILR400712	MS4 SSF
19-25	**Village of Dolton**	14122 Chicago Rd., Dolton, IL 60419	CalR & LCR	ILR400182 (MS4) ILM580017 (CSO)	CSO
19-26	**Glenwood Public Works Department, Village of Glenwood**	19100 Glenwood/Chicago Heights Rd., Glenwood, IL	CalR & LCR	ILR400344	MS4 SSF
19-27	**Village of Morton Grove, Public Works**	7840 Nagle Ave., Morton Grove, IL	NBCR	ILR400391 (MS4) ILM580005 (CSO)	CSO MS4 SSF
19-28	**Village of Lansing**	3141 Ridge Road, Lansing, IL 60438	CalR & LCR	ILR400373 ILM580027	CSO MS4

PCB	PERMIT HOLDER	FACILITY LOCATION	RECEIVING WATER	PERMIT NUMBER	DISCHARGER CATEGORY
19-29	**Village of Frankfort Regional WWTP**	20538 South La Grange Rd., Frankfort, IL	HC	IL0072192	POTW
19-30	**Village of Winnetka**	1390 Willow Road, Winnetka, IL 60093	NBCR	ILR400476	MS4
19-31	**Village of La Grange**	320 East Avenue, La Grange, IL 60525	CSSC	ILM580009 (CSO) ILR400364 (MS4)	CSO MS4 SSF
19-33	**Village of Channahon STP**	26221 S. Blackberry Lane, Channahon, IL 60410	DPR: KR-WC	IL0069906	POTW
	Village of Channahon, MS4	Various	DPR: KR-WC	IL400623	MS4
19-34	**Cook County Department of Transportation and Highways**	Cook County	**CAWS:** NBCR CSSC CSC CalR & LCR NSC **LDPR:** HC	ILR400485 UD SC MC EBMC	MS4
19-35	**Village of Niles**	6849 West Touhy Ave., Niles, IL 60714	NBCR	ILR400398	CSO MS4 SSF
19-36	**Chicago Skyway Toll Bridge, Skyway Concession Company, LLC**		CalR & LCR	ILR400739 (MS4)	MS4

PCB	PERMIT HOLDER	FACILITY LOCATION	RECEIVING WATER	PERMIT NUMBER	DISCHARGER CATEGORY
19-37	**Village of Elwood – Deer Run STP**	26550 Elwood International Port Road, Elwood, IL 60421	DPR: KR-WC	IL0074713	POTW
19-38	**City of Chicago, Department of Water Management**	1000 East Ohio Street, Chicago, IL 60611	CR NBCR SBCR CSSC LCCC CalR & LCR	ILR400173	MS4
		1000 East Ohio Street, Chicago, IL 60611	CR NBCR SBCR CSSC CSC CalR & LCR NSC	IL0045012	CSO
19-40	**Village of Crestwood**	13840 S. Cicero Ave., Crestwood, IL	CSC	ILR400320	MS4
19-48	**Village of Riverside, Salt Storage Facility**	3860 Columbus Blvd., Riverside, IL 60546	CSSC	ILM580015	SSF
	Village of Riverside, CSOs	3860 Columbus Blvd., Riverside, IL 60546	CSSC	ILM580015	CSO

TABLE KEY

Discharger Category
POTW – Publicly Owned Treatment Works
IS – Industrial Source
IDOT/IT – Illinois Department of Transportation/Illinois Tollway
SSF – Salt Storage Facility
CSO – Community with Combined Sewer Overflow Outfalls
MS4 – Municipal Separate Storm Sewer System

Discharge Locations / Receiving Waters
CAWS – Chicago Area Waterway System
CR – Chicago River
NBCR – North Branch of the Chicago River
SBCR – South Branch of the Chicago River
CSSC – Chicago Sanitary and Ship Canal
CSC – Cal-Sag Channel
GCR – Grand Calumet River
LC – Lake Calumet
LCCC – Lake Calumet Connecting Channel
CalR & LCR – Calumet River and Little Calumet River
NSC – North Shore Channel

LDPR Lower Des Plaines River
DPR – Des Plaines River
KR – Kankakee River
WC – Will County Line
HC – Hickory Creek
UD – Union Ditch
SC – Spring Creek
MC – Marley Creek
EBMC – East Branch of Marley Creek

Table 3: Best Management Practices

	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway	Salt Storage Facilities
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	
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	X	X	X	X	X	

	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway	Salt Storage Facilities
	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.						
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	
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	

	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway	Salt Storage Facilities
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	

	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway	Salt Storage Facilities
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	
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	

	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway	Salt Storage Facilities
18.	Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.			X	X		

	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway	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
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

	Best Management Practice	POTWs	Industrial Sources	CSO Communities	MS4 Communities	IDOT / Tollway	Salt Storage Facilities
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

Table 4: Schedule for Implementation

1.	6 MONTHS AFTER EFFECTIVE DATE:	Petitioner establishes a mechanism for tracking of de-icing salt usage for each facility.
2.	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. In the Annual Report, the Petitioner must discuss the following:
		a. A checklist for the best management practices being used.
		b. If annual training was completed for the entire workforce that applied chloride.
		c. The number or percent coverage of the best management practice, if the best management practice is not being done exclusively for the entire coverage of that entity. For example, if dry, wet, and liquids are being used, an estimate of the amount/percentage of coverage that is being used for dry deicing agents, the amount/percentage of coverage that is being used for wet deicing agents, and the amount/percentage of coverage that is being used for liquid deicing agents.
		d. Type of deicing agent.
		e. Whether, in the last year, the use of liquids was increased, and dry salt application rates were reduced.
		f. Application rates, how they vary for different types of weather, and how they have changed over the term of the TLWQS.
		g. An estimate of the annual salt use over the term of the TLWQS.

		h. Number of callouts. For each callout, the facility must keep the following information:
		i. Quantity and type of precipitation during the callout.
		ii. Application rate during the callout
		iii. Quantity of salt used for each callout.
		iv. Information on salt storage, and methods to ensure good housekeeping policies are implemented (e.g., cleaned-up salt piles).
		j. An analysis of the BMPs that have been 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/setbacks.
		k. An analysis of any new technology that could be implemented by the Petitioner to reduce chloride loadings.
		l. Identification of necessary capital purchases and expenditures (e.g., new or retrofitted salt spreading equipment necessary to allow for pre-wetting and proper rates of application).
		m. Identification of additional training that is necessary.
		n. Explanation of why Petitioner was unable to complete the training and make all capital purchases and expenditures identified in the previous Annual Report.
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.

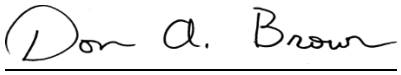
4.	July 1 OF EVERY YEAR:	Petitioner submits an Annual Report to the IEPA and the chlorides workgroup on salt usage for deicing and steps taken to minimize salt use and makes the report publicly available. The Annual Report must be consistent with the requirements listed in Paragraph 2 above.
5.	July 1 of YEAR 3, YEAR 8 and YEAR 13:	The chlorides workgroup submits a Status Report to the IEPA which includes, an analysis of the following:
		a. chlorides monitoring data;
		b. 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;
		c. identification of any new BMPs, treatment technology, or salt alternatives;
		d. identification of the impediments and potential solutions of those impediments faced by Petitioners 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
		e. identification and description of any assistance (financial, technical, or otherwise) that the chloride workgroup may be able to provide.
6.	YEAR 4 ½:	Chlorides workgroup submits to the Board its first proposed re-evaluation pleading consistent with the Board's order granting the TLWQS.
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.

8.	YEAR 9 ½:	Chlorides workgroup submits to the Board a second proposed re-evaluation pleading consistent with the Board's order granting the TLWQS or the Board's order adopting the first re-evaluation.
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.
10.	YEAR 14 ½:	Chlorides workgroup submits to the Board a notice of whether the chlorides water quality standards have been met, or whether the Petitioners will seek a new TLWQS.

IT IS SO ORDERED.

Any person adversely affected or threatened by this final Board order may obtain judicial review of the order by filing a petition for review within 35 days after the date the Board order was served on the person affected by the order, under the provisions of the Administrative Review Law, and the rules adopted under it, except that review will be afforded directly in the appellate court for the district in which the cause of action arose and not in the circuit court. For purposes of this judicial review, a person is deemed to have been served with the Board's final order on the date on which the order is first published by the Board on its website. 415 ILCS 5/38.5(j) (2020); 35 Ill. Adm. Code 104.585. Within 35 days after receiving this final Board order, any participant to this Board proceeding may file a motion asking the Board to reconsider or modify the order. 35 Ill. Adm. Code 101.520, 104.565(e). Filing a motion to reconsider this final Board order is not a prerequisite to appealing the order. 35 Ill. Adm. Code 101.902.

I, Don A. Brown, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on November 4, 2021, by a vote of 4-0.



Don A. Brown, Clerk
Illinois Pollution Control Board